

Status Report

2014 – 2017

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A. History of the Institution

A. A Short History of the Institution

The Max Planck Institute for Research on Collective Goods was founded in 1997 as a temporary project group “Common Goods: Law, Politics and Economics” and transformed into a permanent institute in 2003. Its mission is to study the law, economics, and politics of collective goods, defined to encompass all those goods whose provision and enjoyment are treated as community concerns.

In the early years, the institute had teams of lawyers and political scientists, led by Christoph Engel (who leads the *Behavioral Law and Economics Group*) and Adrienne Héritier. When Adrienne Héritier left in 2003 to accept a joint chair at the European University Institute and the Schuman Centre in Florence, the Max Planck Society appointed economist Martin Hellwig to replace her. After Martin Hellwig’s retirement in 2017, Matthias Sutter, an experimental economist, succeeded him as new co-director and established the *Experimental Economics Group*. At this point, therefore, the institute consists mainly of lawyers and applied economists.

In addition, there is a small group of psychologists. Initially brought in by Christoph Engel to support his *behavioral law-and-economics* approach to institutional analysis, in 2007 this turned into the first independent Research Group *Intuitive Experts*, led by Andreas Glöckner and run until 2013. Today, the institute hosts three independent Research Groups, led by Anna Baumert (*Moral Courage*), Susann Fiedler (*Economic Cognition*), and Fabian Winter (*Mechanisms of Normative Change*).

From the beginning, the work of the institute had three main goals: It aimed to better understand collective-goods problems, to find better solutions, and to understand the political, legal and economic processes of defining problems and choosing solutions. In the years of the project group, major research efforts concerned

- the law and politics of waste management,
- the governance of the Internet, and
- the transformation of the nation state into a multi-level system of governance.

Martin Hellwig and his group have mainly focused on the mechanism design foundations of the theory of collective goods, and on the analysis and mitigation of the financial crisis.

Today, the major research efforts of the institute are concerned with

- the analysis of incentive problems in public-good provision,
- behavioral law and economics,
- the analysis of credence goods markets and how to design better institutions,
- the experimental investigation of the development of economic preferences in childhood and adolescence.

The different lines of research show that the institute aims at striking a balance between fundamental research and applied work with practical implications for society. Research objectives and strategies are laid out in this report.

B. The Overarching Framework

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Air, atmosphere, the ozone layer, climate, water, the world's oceans, soil, landscape, fauna and flora, genetic diversity: the policy challenge of protecting and giving access to such natural resources was the impetus for the Max Planck Society's decision to establish a new research center in the humanities section. However, even in the process of establishing the center, it became clear that man-made goods pose structurally related challenges. The protection of our cultural heritage, language, streets, energy networks, the liquidity and stability of markets, the provision of publicly accessible education: all these pose very similar problems. This was the reason that the Max Planck Society did not establish an institute for environmental law or environmental policy, but deliberately founded a project group for research on collective goods.

The document on the founding of the then project group describes the problem that needs to be solved as follows: "While, on the one hand, these goods need protection, on the other hand, it is necessary for human life that they remain accessible and are used. This gives rise to a multilayered governance problem: of no slight significance here is an elementary distribution problem, indeed one both between groups or individuals and between states. The common – judicial – characteristic of the natural resources is that they can be placed under the power of disposition of individual legal subjects only to a limited extent. Even when property rights are established, the larger community has the responsibility to suitably proportion the maintenance and use of these goods and to suitably distribute the related costs and benefits. [...] The research task of the project group will thus have a public policy orientation."

The multilayered governance problem mentioned in that document arises because collective goods always concern numerous people simultaneously, sometimes the community as a whole, including future generations. Were the dealings with collective goods, their provision and financing, left solely to the decentralized decisions of individuals, it is to be feared that the common dimension would be neglected; insofar, collective decision-making mechanisms are necessary. Paradigmatic for this view is the economic concept of non-excludable public goods. The individual who merely attends to his own use of the public good neglects the use that others draw from it, insofar contributing less to the cost of providing this good than is socially desirable. To take one example, according to this argumentation scheme, the dangers to the natural environment because of human activity, including the well-known "tragedy of the commons", arise because individuals give their own use of the environment priority over the maintenance of the environment, which, as a public good, benefits everyone.

The concept of collective goods is, however, more encompassing than the economic concept of public goods. It is in principle possible to make the use of the services of law, schooling, or even streets, excludable, but because open access to these goods is thought superior, it is viewed as a constitutive element of the community. The use of other goods, such as the services of the large networks of telecommunications and the post, the energy industry and the railways, is tied to the payment of user fees; here too, however, regulations on non-discriminatory access and the universality of services are to ensure that the communal dimension is accounted for. Finally, in a further class of cases, the concern is with the quality of the services and relations, which are in principle left to the decentralized decision-making of individuals in the markets; here, the communal interest, for example in the reliability of financial transactions or, more generally speaking the honesty in the provision of credence goods, can aim to protect both the parties involved and the system, which can hardly function without reciprocal trust in one another.

The negative assertion that the community dimension will be neglected if the dealings with collective goods, their provision and financing remain solely in the hands of decentralized decision-makers still gives us no positive content: It provides no indication of how the community dimension is to be properly dealt with, or

which advantages and disadvantages are implicit in the various institutions and rules for dealing with collective goods. In principle, every system for dealing with collective goods faces the difficulty that the required information is not readily available. Insofar as the assessment of the involved parties is relied upon, a dilemma arises: the individual has an incentive to downplay the value that the common good has for him if he expects that he will be required to pay for it, while he has an incentive to exaggerate the value that it has for him if he expects that it will not cost him anything. This dilemma also occurs for purely private goods, but it plays a subordinate role there if the good is provided in a competitive market, in which the individual has no power to influence prices. This mechanism is not available for common goods; the greater and more anonymous the involved community is, the greater the magnitude of the described dilemma.

There are no one-size-fits-all solutions for this dilemma. It is rather necessary to determine in detail which advantages and disadvantages the rules and institutions under discussion have for each of the various collective goods. Under consideration are governmental activities, i.e., political or administrative decision-making, market-based, contractual solutions, or arrangements based on individuals' decisions, yet under the influence of state-determined norms about minimal standards, liability laws, etc. The relative advantages and disadvantages of the various alternatives do not only depend upon the behavioral reactions to incentives provided in the different alternatives, but they also depend on which characteristics the collective goods under discussion possess and what precisely determines the communal dimension of the good in question.

The institute combines basic research and practical applications, for one, by dealing with the theory of collective goods and their provision under diverse abstractly formulated general conditions, and, for another, by developing concrete proposals for the design of (legal and extra-legal) institutions for the provision of collective goods. This is of necessity an interdisciplinary endeavour. Economists are needed to understand and structure the allocation and incentive problems that arise. Political scientists are needed to understand the mechanisms of political decision-making used for these goods. Psychologists are needed to examine how humans can get motivated and engaged in the provision of collective goods. And lawyers are needed to develop proposals for the design of rules and institutions in light of concrete legal norms, so that they fit the legal order. The selective reception of results of the neighbouring disciplines is not enough. Especially in the analysis of concrete problems, it is important that all four disciplines are intensively engaged with one another.

C. Research Program

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C.I Behavioral Law and Economics

Director: Prof Dr Christoph Engel

Postdocs

Phil Brookins, Ph.D. (economics, joined in 2016 from Florida State University)
Claudia Cerrone, Ph.D. (economics, joined in 2016 from Royal Holloway)
Dr Stefanie Egidy (law, joined in 2016 from Würzburg and Yale Universities)
Dr Jens Frankenreiter (law, joined in 2017 from ETH Zurich)
Dr Dr Hanjo Hamann (law and economics, joined as postdoc in 2016)
Dr Yoan Hermstrüwer (law, joined as postdoc in 2017)
Dr Michael Kurschilgen (economics, left in 2015 for Technical University Munich)
Prof Aniol Llorente-Saguer, Ph.D. (economics, left in 2013 for Queen Mary)
Dr Dr Alexander Morell (law and economics)
Prof Dr Niels Petersen (law, left in 2015 for Münster University)
Dr Pedro Robalo (economics, joined in 2014 from University of Amsterdam, left in 2017 for the Portuguese Antitrust Authority)
Prof Dr Dr Armin Steinbach (law and economics, joined in 2014, left in 2017 for becoming Ministerialrat at Bundesministerium für Wirtschaft und Energie)
Dr Franziska Tausch (economics, joined in 2014, left in 2017 for Sydney University)
Prof Dr Emanuel Towfigh (law, left in 2016 for EBS Universität für Wirtschaft und Recht Wiesbaden, Law School and Department for Management and Economics)

Part time

Prof Dr Andreas Glöckner (psychology, and Hagen University)
Prof Dr Sebastian Goerg (economics, and Florida State University)
Prof Dr Sebastian Kube (economics, and Bonn University)

Doctoral Students

Konstantin Chatziathanasiou (law) 2014
Lars Freund (economics) 2015
Svenja Hippel (economics) 2014
Leonhard Hoefft (law) 2014
Dr Marco Kleine (economics, Dr rer. pol. in 2015)
Dr Dr Pascal Langenbach (law and economics; Dr jur. in 2016, Dr rer. pol. in 2017, currently intern)
Dr Monika Leszczynska, née Ziolkowska (law, Dr jur. in 2016)
Dr Isabel Marcin (economics, Dr rer. pol. in 2017)
Dr André Schmelzer (economics, Dr rer. pol. in 2017)
Cornelius Schneider (economics) 2016
Marcel Schubert (economics and computer science) 2017
Maj-Britt Sterba (economics) 2017
Eugenio Verrina (economics) 2016
Prof Dr Lilia Zhurakhovska (economics, Dr rer. pol. 2014)

At Cologne University, but attached to IMPRS

Carina Hausladen (economics)
Lisa Lenz (economics)
Alexander Schneeberger (economics)

The core mission of the group is research on behavioral law and economics. Hence in its core the work is interdisciplinary. Since the group is headed by a lawyer, this report is written from a legal angle. But much of the work in the group could also be interpreted as contributions to behavioral institutional economics, or to behavioral economics more broadly. The primary market for former postdocs in law is German law schools. To be considered in this market, postdocs must pass their *habilitation* and must have a portfolio that matches demand. To a lesser extent this constraint also affects doctoral students in law. This constraint explains why the lawyers in the group cannot exclusively focus on law and economics (whether behavioral or not), and must in particular be more plural in the methods they use, including doctrine. For the group, this framework condition is not only a limitation. It explains why it is, for each legal scholar in the group, important to find her personal way of combining rigorous empirical analysis with a substantial legal topic of obvious relevance for the discipline. What holds the group together is the commitment to serious empirical analysis, rather than one single legal topic.

The work of the group largely benefits from cooperation with the experimental economics group, the former economic theory group, with the three independent research groups, and with emeritus professor Werner Güth. Where the links are particularly prominent, this report hints at them. All PhD students are part of the International Max Planck Research School. Since 2016, PhD students in economics are jointly hired with the Cologne Graduate School. Students participate in both programs. Despite the fact that three students are paid by Cologne University, their work is covered by this report, since in practice there is deliberately no distinction according to formal attachment to either Cologne University or the institute.

From the vantage point of law, the group publishes on six issues: defining normative problems that call for legal intervention (1), understanding the effect of legal intervention (2), applications to specific areas of law (3), rule generation and rule application (4), empirical methods (5), and, last but not least, translations of empirical findings into the legal discourse (6).

C.I.1 Normative Problems that Call for Legal Intervention

Any legal intervention curtails individual freedom. Under German constitutional law, this statement even implies that any legal intervention is constructed as an interference with a constitutionally protected right; if no more specific right is applicable, the intervention falls under the purview of the general clause in Art. 2 I Basic Law. Consequently, any legal intervention needs justification. Under the principle of proportionality, it must pursue a legitimate aim, it must be conducive to achieving this aim, it must be the least intrusive intervention, and it may not be out of proportion, given the intensity of the intervention, on the one hand, and the pursued goal, on the other hand. While other constitutions are less encompassing, they also enshrine the principle of "teleological" interpretation: ambiguous legal rules should be interpreted such that they foster the goal the rule is meant to achieve. Even without invoking the constitution, this doctrinal principle follows from an interpretation of legal rules as attempts at governing society. In this perspective, interpretation should be attentive to the social purpose the rule is supposed to serve.

Any of these doctrinal approaches builds a bridge between interpreting the law and policy-making. It turns doctrine into a subsidiary exercise in legal policy-making. It is a technology for empowering administrative agencies and courts. This is why legal orders are differently upfront about this aspect of doctrine. But even if the language is more cautious (as, in particular, in the originalist school of US constitutional law), a certain dose of policy-making by adjudication is hard to avoid.

Whenever a legal scholar, explicitly or implicitly, engages in policy-making, she must get the facts right. In the first place, is there a normative problem that calls for legal intervention? In which precise ways can this problem be defined? In essence, this boils down to the law making a causal claim. There is a social ill. It

originates in the behavior of discernible individuals. As long as this behavior goes unchecked, the social ill will persist, or aggravate for that matter.

The classic illustration is what is in the name of the institute. Society faces a “**collective-goods** problem”. If one borrows the assumption of “standard preferences” from (welfare) economics, the normative problem can be precisely defined. The explanatory model makes two interconnected assumptions: Individuals only care about their own utility, and they expect everybody else to do the same. If payoffs are such that (a) every individual makes the highest profit if all others cooperate and she defects and (b) every individual makes the lowest profit if she cooperates and all others defect, the situation can be modeled as a prisoner's dilemma. The game is dominance-solvable, meaning that the individual does not need beliefs about the choices of her (possibly unknown) interaction partners. Whatever they do, she is best off defecting. This feature of the game constitutes the dilemma. Multiple situations that have indeed met with legal intervention can be analyzed with this model, including most environmental problems, contributions to the provision of infrastructure, police and the military, or financial stability. In the past, all parts of the institute have analyzed many of these problems. The group has chiefly done so from a behavioral angle. It has aimed at understanding in which contexts and under which framework conditions the predictive power of the standard economic model is less good. In which cognitive and motivational ways must the standard model be modified? How robust are these qualifications (for a summary account, see Engel 2016c)?

In the years covered by this report, the group has continued to work on these issues. An experiment shows that, empirically, a classic 2x2 prisoner's dilemma with a binary action space constitutes a game of multiple motives. Individual profit, beliefs about choices of others (optimism), gains from cooperation (efficiency), aversion against advantageous inequity (social preferences), and risk and loss aversion are simultaneously needed to rationalize choices (Engel and Zhurakhovska 2016). This explanation is consistent with, but qualifies, the claim that most individuals are “conditionally cooperative”: they cooperate if they know or expect enough others to cooperate as well.

The standard test implements a very clean situation: all members of a randomly composed group are in the same boat. Many real-life dilemmas are of a different nature. Cooperation is good for a group of insiders, but bad for outsiders. A classic illustration is oligopoly. If an industry consists of a small number of suppliers, they may well succeed in overcoming the “competition dilemma” among them. But if they do and charge monopoly prices, the demand side of the market suffers. In an experiment, such a negative externality on passive outsiders reduces cooperation among insiders (Engel and Zhurakhovska 2014). Another experiment, however, finds that only a minority of insiders is willing to forego a large gain for themselves if this imposes serious harm on outsiders (Bland and Nikiforakis 2015). A conditionally cooperative individual needs information about the willingness of others to behave in a socially desirable way. This is where the theory of conditional cooperation from behavioral economics matches with the broken windows theory from the field of criminology. A paper uses reanalysis of a huge set with data from multiple public-goods experiments to test this claim (Engel, Beckenkamp et al. 2014). A follow-up paper manipulates first impressions. It turns out that selective information about cooperativeness only influences choices if it is surprising. If the context was cooperative in the first place, individuals become less cooperative if they receive bad information. If the context was uncooperative in the first place, individuals become more cooperative if they receive good information (Engel, Kube et al. 2016). Multiple contributions from other parts of the institute come under this rubric. How do conditional cooperators react if the size of the relevant population is unknown (Hillenbrand and Winter 2017)? Does heterogeneity of the relevant population make it more difficult for individuals to overcome the dilemma (Winter 2014; Dorrough, Glöckner et al. 2016; Bruttel and Güth 2017)? In which ways does imposing structure, by imposing a network in the sense of graph theory, affect cooperation (Angelowski, Di Cagno et al. 2017)?

Legal policymakers want to understand the cause of a social problem. In principle, lab experiments are excellent tools for the identification of causal effects. The experimenter may randomly draw participants

from a population, and may randomly expose some of them to a manipulation. If the choices of these participants substantially and significantly differ from the choices of other participants who have not been exposed to the manipulation, the causal effect of the manipulation is established. If the manipulation is sufficiently close to the legal intervention in question, legal policymakers learn whether this intervention is worthwhile (provided, obviously, that one trusts the experiment to be sufficiently externally valid). More often than not, this is the most an empirical legal scholar can achieve. In the spirit of program evaluation, she measures the effect of some legal intervention in terms of some well-defined outcome variable. But with this exercise, the legal scholar remains agnostic about driving forces. This makes it difficult to design alternative interventions that might be even more effective, less intrusive, less costly, or normatively more desirable. This explains why some of the work of the group has been devoted to isolating the behavioral forces that determine whether, to which degree, and under which framework conditions a social problem originates.

As a rule, isolating the effect of an intervention, and isolating a behavioral force that explains why an intervention is effective, cannot be achieved with the same manipulation. For the former research question, it is important that the experimental manipulation be sufficiently analogous to a potential legal rule. For the latter research question, it is important that the manipulation rules out competing explanations. A paper interested in the effectiveness of an institution tests the hypothesis that some intervention "works", i.e., effectively affects some outcome variable of normative interest. This hypothesis will often be theoretically motivated. But the paper cannot strictly test this theory. This is what can be done in experiments designed in the latter vein. This distinction explains why some of the work in the group has been focused on isolating behavioral driving forces, rather than the more complex situations that arguably call for legal intervention.

If one wants to isolate a behavioral effect, one must simplify the situation. Arguably many social problems originate in **selfishness**. Yet obviously in many contexts many individuals resist the temptation of making selfish choices. It is important for legal policy-making to understand these contextual variables better. An excellent tool for studying such variables is the dictator game. It takes out any strategic element. The dictator just has to trade off a smaller payoff for herself against a more balanced distribution of payoffs. Two experiments have investigated how inequity aversion is affected by uncertainty. In the field, donors can often not be sure whether a recipient really needs their help. It turns out that such uncertainty makes donors even more generous. They are averse against the risk of leaving the recipient with a (very) small payoff (Engel and Goerg 2016). In the field, donors can often not be sure either whether their donation truly reaches the intended recipient. An experiment shows that they are willing to pay extra money for making sure that the donation is effective. If such insurance is available, they become more likely to make a donation in the first place (Buijze, Engel et al. 2017). By contrast, giving the recipient a voice is not in her best interest. If she asks for more than the dictator would have been willing to give, this does not help her. But if she asks for less, the dictator happily reduces the transferred amount (Kleine, Langenbach et al. 2016). One might have thought that prisoners give less in the dictator game. Prison inmates are very likely guilty of serious crime. Criminals might be less socially minded than the average person in the street. Yet actually they give as much as students in the lab, and they give even more to a charity than to another prison inmate. Obviously selfishness is not a systematic cause of crime (Chmura, Engel et al. 2017). Work undertaken in the experimental economics group nicely complements this line of research: Which is the effect of risk attitudes and time preferences on the choices of dictators (Angerer, Glätzle-Rützler et al. 2015)? Do individuals become more generous when they decide as a team (Balafoutas, Kerschbamer et al. 2014)?

Further experiments revolve around the effect of uncertainty. Do individuals attach excessive weight to new information about a risk if they had to pay for this information (Robalo and Sayag 2017)? Does the option to share a risk with others make individuals more risk-seeking (Tausch, Potters et al. 2014)? Are individuals less willing to share risk if the level of risk is voluntarily chosen, rather than randomly allocated (Cettolin and Tausch 2015)?

A prominent criminological theory claims that an important determinant of criminal action is a lack of **self-control**. This makes it paramount for the law to understand this trait better. Arguably, group influence is important. It is easier to exert self-control if one's peers do the same. If the task has a deadline, this creates a strategic game. Theory predicts that the peer effect could be beneficial (Cerrone 2016). Previous theories also predicts that individuals who are aware of their self-control problems are better able to avoid them, but in the lab the opposite is found (Cerrone and Lades 2017). Once more, there is complementary work from the experimental economics group (Sutter, Yilmaz et al. 2015).

When legal scholars first hear about standard economic models, their reaction is usually skeptical. The assumption that individuals care exclusively about their personal well-being does not match their experiences. In recent years, behavioral economics has become more and more interested in understanding, modeling, and testing this concern. An important part of the research undertaken in the group contributes to this endeavor. If individuals are asked to elaborate their personal injunctive **norm**, this makes their choices more socially minded, but only if they are asked to define the lower bound of acceptable behavior, rather than the normative ideal (Engel and Kurschilgen 2015). In the lab, participants are willing to follow arbitrary costly rules. This willingness is even more pronounced if they can condition their own choice on the willingness of their peers to follow the same rule (Desmet and Engel 2017). In his PhD thesis, Leonhard Hoeft establishes the link to legal philosophy. Alexander Schneeberger tries to disentangle the effects of social preferences and of following rules. Eugenio Verrina wants to test the power of narratives in triggering rule-guided behavior. There is a strong link to the work undertaken by Fabian Winter and Amalia Alvarez on the effect, diffusion, and stability of social norms against hate speech, and to the work undertaken by Anna Baumert, Mengyao Li and Julia Sasse on the willingness of individuals to stand up against norm violations even if this is costly or risky for them.

An individual who maximizes expected profit chooses the level of investment into a possibly profitable activity by assessing anticipated returns. Investment in education is an application. A model shows that **disappointment aversion** may lead to severe underinvestment, calling for policies that help future students with expectation management (Anderberg and Cerrone 2017).

Many legal rules can be interpreted as interventions aiming at keeping an **anticommons** problem in check. A classic illustration is a piece of land jointly owned by multiple heirs. If each of them tries to squeeze out most of the surplus, the land never trades. Two experiments investigate the psychological forces behind this problem. It turns out that the incentive problem is indeed critical, while the endowment effect does not play a substantial role (Glöckner, Tontrup et al. 2015).

If this increases her expected profit, in the economic textbook individuals would be happy to **lie**. A substantial literature shows that this is not how typical experimental populations behave. But this literature largely neglects "white lies". An experiment shows that participants in their majority prefer to lie about the attractiveness of another participant if this may lead to hard feelings. If, however, the assessment is given anonymously, they report truthfully (Gneezy, Gravert et al. 2017). This finding has obvious implications for the design of institutions for quality assessment. The work on lying aversion ties into research undertaken in the behavioral economics group (Volz, Vogeley et al. 2015) and in the psychology group (Hochman, Glöckner et al. 2016).

Informed consent is a standard legal technology for creating justification. But quite often individuals prefer not to know. They would want their doctor to decide upon the appropriate treatment, rather than explaining to them in detail the potentially lethal risks involved. If they are lagging behind, they would prefer not to learn their rank so as to maintain their courage. Employers might commit to not investigating personal circumstances, like the age of the applicant, to avoid being biased. As a first step, a paper with a taxonomy of the desire not to know has been published (Hertwig and Engel 2016). It will be followed by a

week-long high-level conference in 2019, convoked under the auspices of the Frankfurt Institute for Advanced Studies.

C.I.2 Behavioral Analysis of Legal Intervention

From a textbook law-and-economics perspective, legal intervention shapes the opportunity structure. While often thought-provoking, this perspective can be questioned from a behavioral angle. One prominent application is the **Coase theorem**. It posits that efficiency obtains, irrespective of the original allocation of property rights, if the following four conditions are fulfilled: (1) property rights are well defined, (2) contracts can be enforced, (3) preferences are common knowledge, (4) the transaction cost is zero. Under appropriate conditions (that are always fulfilled in the two-person case), the theorem can even be strengthened by dropping the first condition. In an experiment, this claim has been put to the test. There is some inefficiency, resulting from a clash of fairness norms. But the degree of inefficiency does not depend on the presence of property rights (Bar-Gill and Engel 2016). This result stands in an interesting tension with a finding from the behavioral economics group: the more credible the protection of property rights is in a country, the more individuals are willing to exert productive effort (Ahn, Balafoutas et al. 2016). Interestingly, a seemingly straightforward extension of the first experiment reveals a qualification. If individuals are allowed to take a foreign good against (differently high) compensation, efficient outcomes are still frequent. But this socially desirable effect does not result from trading away the take option. Rather, takers show respect for the fact that the original owner had to earn the commodity in a real-effort task. Deals frequently fail since fairness preferences are heterogeneous, with choices either reflecting threat points, or favoring the equal split, or showing the more respect for ownership the smaller the compensation is when the good is taken (Bar-Gill and Engel 2017).

Common law and continental law have different convictions about the conditions for creating legal commitment. In principle, on the continent a mere promise may bind in law. By contrast, common law requires "consideration". A **promise** is legally binding only if it has been given in exchange for a counterpromise, or another valuable good or service. When push comes to shove, the differences between both legal families are relatively small. But doctrine also serves an expressive function. It guides how the law's subjects see the issue. An experiment tests the resulting moral intuitions in the lab. If consideration is required, participants believe that all participants make more ambitious promises. But they themselves make a more cautious promise. These two effects cancel out, so that promises are not more likely to be kept with consideration (Engel and Schmelzer 2017). A further experiment is motivated by the debate in behavioral economics over the motive for keeping promises. The experiment shows that guilt aversion is critical, but that it matters much more in narrow social circumstances (Morell 2015). From an incentive perspective, a tenured contract that may be terminated at will and a fixed term contract that is regularly renewed are equivalent. Yet, if both options are made available to experimental participants, the fixed-term contract is considered as less kind and triggers less effort (Cromwell, Goerg et al. 2016). Contractual lawyers believe that written form prevents individuals from entering unwise contractual obligations. An incentivized experiment proves this belief to be well founded (Leszczynska 2016b).

Under common law, the standard **remedy** for breach of contract is expectation damages. Under continental law, the standard is specific performance. The common law solution is ex-post efficient. But is it also ex-ante efficient? This question is tested experimentally. The design excludes aversion against others willfully breaking their promises. Nonetheless there is less trade if specific performance is not guaranteed, provided the preference for the traded commodity is sufficiently pronounced (Engel and Freund 2017). There is a close link to an experiment from the experimental economics group on the efficient breach of contract doctrine (Bigoni, Bortolotti et al. 2017). Another experiment shows that stipulating liquidated damages can

have a downside akin to the hidden cost of control. The contractual partner interprets the clause as a sign of distrust, and reduces productive effort (Depoorter, Freund et al. 2017).

A public-goods experiment is used to investigate whether the expectation of having to pay compensation deters socially undesirable behavior. This effect is a precondition for tort law being a tool for governing behavior, for instance to curb environmental damage. In the experiment, compensation rules are such that a participant who maximizes profit would not be deterred from keeping her entire endowment. Nonetheless, participants contribute more to the public good, in particular if the amount to be paid or the probability of having to pay this amount are relatively high (Eisenberg and Engel 2014). A further experiment unpacks the behavioral mechanisms behind the effect. Merely clarifying socially optimal behavior already has a beneficial effect. There is an additional effect if participants are blamed for violating this norm, even if this has no pecuniary consequences. There is a further effect if blaming comes with a non-deterrent obligation to compensate the victim (Eisenberg and Engel 2016).

Punishment is a standard legal intervention against socially undesirable behavior. Putting the sanctioning effect of the obligation to pay damages aside, it can be rooted in either criminal or administrative law. A public-goods experiment shows that, in a heterogeneous population, sanctions are even instrumental if their expected value is too low to deter a selfish individual. The beneficial effect results from conditionally cooperative individuals who are not sufficiently averse to exploiting others (Engel 2014b). The criminology literature claims that, when it comes to deterring crime, certainty is more important than severity. An experiment replicates this finding from the field only if the expected value of the sanction is strong enough to deter a selfish individual. In criminal law practice, this condition is rarely fulfilled (Engel and Nagin 2015). A further experiment shows that there is a substantial difference between the reaction to the level of certainty or severity, and changes in either dimension of punishment. Even if one regime initially works better, policymakers cannot simply go back to it. These two findings suggest an explanation for the ratcheting up of criminal sanctions in many countries (Engel 2016b). There is a related paper from the experimental economics group (Lergetporer, Angerer et al. 2014).

In the lab, the willingness of bystanders to engage in costly punishment is pronounced. A field experiment on littering in Cologne's main railway station shows that this also happens in a naturalistic setting, and with one-shot interaction. However, only a minority of individuals exhibit this behavior. That said, individuals are more prepared to withhold help in response to perceived violations of social norms (Balafoutas, Nikiforakis et al. 2014; 2016). Withholding help also proves an effective sanction in the lab (Nikiforakis and Mitchell 2014). Third-party punishers run a serious risk of counter-punishment (Balafoutas, Grechenig et al. 2014). The ability of groups to overcome a social dilemma without central intervention is also severely reduced if induced valuations for a public good are heterogeneous (Gangadharan, Nikiforakis et al. 2017).

Auctions are a classic topic at the intersection of law and economics. Standard theory points to a trade-off: while the second-price auction is incentive-compatible, it is prone to collusion. If auction designers dread the risk of collusion more than paying a somewhat excessive price, they may prefer to run a first-price auction. An experiment points to a hitherto overlooked concern. During the negotiations over bid-rigging, bidders signal information that distorts beliefs of their counterparts. This is why, in the experiment, a first-price auction is as susceptible to collusion as a second-price auction (Llorente-Saguer and Zultan 2017). A further experiment investigates how auction outcomes are affected by bidders lacking information about the valuations of their competitors (Brookins and Rykin 2014). There is a link to work by the experimental economics group on behaviorally informed market design (Kirchler, Huber et al. 2015).

For normative reasons, many valuable goods are not exchanged against money. Classic illustrations are donor organs, college admission, or the assignment of clerks to prestigious internships. In economics, the design of **mechanisms** that achieve allocation without compensation is an active field. Yet, thus far, legal scholarship has paid little attention. Two experiments cast light on the behavioral qualifications of mecha-

nisms that are equivalent when assuming standard preferences. A first challenge is cognitive. For the mechanism to be strategy-proof, individuals must see through it. This is easier with random serial dictatorship than with top trading cycles (Schmelzer 2017). A second challenge is motivational. All mechanisms require randomness. Yet, those who have had a bad draw prefer to get a second chance, even if this implies that, in expectation, their chances of receiving a commodity that is high up on their preference list is somewhat reduced (Schmelzer 2016).

In previous years, the institute had been very interested in understanding the power of behaviorally motivated legal interventions, and **defaults** in particular (see the *habilitation* thesis by Bechtold 2010). An experiment points to an important behavioral downside: default rules create an endowment effect (Marcin and Nicklisch 2017). The interest of the group in "soft" interventions has also triggered a field experiment by a former researcher from Martin Hellwig's group on "Nudges at the Dentist" (Altmann and Traxler 2014).

For quite a while, behavioral law and economics scholars have been interested in the "**expressive function**" of the law. One aspect of this function concerns the construction of the situation. An experiment shows how important this can be. While making one individual a leader mitigates a social dilemma if this dilemma is framed as a give-some game, the effect vanishes if the same game is framed as a take-some game (Frackenpohl, Hillenbrand et al. 2016).

From the standard law-and-economics perspective, legal intervention is effective because it changes the opportunity structure. This line of argument presupposes that the law's subjects calculate the cost and benefit of following versus breaking the law whenever they happen to be in a situation regulated by law. For many choices under the purview of the law, this behavioral assumption is strong. Arguably most of the time most individuals do not even consider the option of breaking the law. They just follow the law because this is their **routine**. While routinization is thus highly beneficial for governance by law, there is a downside. The law is permanently under construction because it reacts to changes in the environment, or to shifts in the normative assessment of some course of behavior. Legal reform then requires more than a change in rules. The law's subjects must unlearn their previous routine and develop a new one. An experiment shows that this concern is real, but that participants adapt much faster and much better if they can observe role models (Betsch, Lindow et al. 2015).

C.I.3 Applications

Antitrust has been one of the first topics for close collaboration between lawyers and economists. A meta-study organizes collusion experiments undertaken during more than half a century, and demonstrates in which ways this evidence can inform the decision about clearing a merger (Engel 2015b). Experiments further increase the available evidence. In the field, it is rare that isolated individuals compete with each other. Usually competitors are firms. One behaviorally important difference is the possibility of outsiders to second-guess decision-making within a competing firm. If experimental participants have this information and the competing teams are similar, they become less aggressive (Kurschilgen, Morell et al. 2017). By contrast, if bidders in a contest are not informed about the number of competitors, they bid more aggressively than predicted by standard theory (Boosey, Brookins et al. 2017). These results generalize: whether participants act cooperatively (which in an oligopoly context would imply that they try to collude) or competitively critically hinges on the construction of the situation. An experiment shows that this construction is open to purposeful intervention. If an otherwise identical 2x2 prisoner's dilemma with binary action space is presented without a frame, framed as a joint project, or framed as defending against a joint enemy, the results are indistinguishable. Participants are quite willing to run the risk of cooperation. By contrast, if the game is framed as competition, cooperation rates drop (Engel and Rand 2014). This is good news for

antitrust. The risk of collusion looms not as large as the interpretation of oligopoly as a prisoner's dilemma might have suggested.

Insurance is a quintessential industry constructed by law. An experiment points to a hitherto overlooked business opportunity. When given a chance, experimental participants are willing to pay substantial amounts to insure against the possibility that a donation might not reach the intended recipient. In the field, this is a pervasive concern. Offering this product is also desirable from a welfare perspective: If the insurance option is provided, many more participants decide to make a donation to a charity (Buijze, Engel et al. 2017). Interestingly, after the working paper was published, Munich Re approached the institute since they were considering to offer such an insurance as a commercial product. The insurance industry runs the risk of fraud. An experiment isolates a determinant. One might have thought that fraud is more frequent if the insurance is compulsory. After all, individuals did not have a chance to decide freely whether insuring against the risk is worthwhile. Interestingly, the opposite result obtains. Those intended to exploit the insurance company self-select into taking out insurance (Freund and Tausch 2017). This closely ties in with work undertaken by the experimental economics group. In a field experiment, they show that providers of computer repair services are significantly more likely to sell unnecessary services if they know the customer to be insured (Kerschbamer, Neururer et al. 2016). This is part of a line of research on the provision of credence goods (Beck, Kerschbamer et al. 2014; Kerschbamer, Sutter et al. 2017).

Even if lawyers do not normally use language from behavioral economics, they have always been attentive to behavioral effects in **business to consumer** relations. An experiment shows that one behavioral concern is well founded: Rollback rebates are "sticky" and allow providers to prevent customers from shifting to competitors (Morell, Glöckner et al. 2015).

The group has also worked on questions of **corporate law**. An experiment shows that merely declaring that a manager should balance shareholder interests with stakeholder interests is not effective if such choices run against the manager's incentives (Fischer, Goerg et al. 2015). This casts doubt on so-called social enterprise legislation. Another experiment probes the effectiveness of European Union legislation aimed at protecting investors. It shows that the mere use of company logos on rate of return declarations biases choice in favor of prominent stocks (Hillenbrand and Schmelzer 2015). Recent legislation aims at increasing the number of females on executive boards. An experiment tests a claim frequently made by policymakers: Gender diversity will increase productivity. In the experiment, the opposite holds true (Dorrough, Leszczyńska et al. 2016). However, an experiment from the experimental economics group shows that gender-based quotas are frequently chosen endogenously and do not negatively affect efficiency (Balafoutas, Davis et al. 2016).

A lab-in-the-field experiment shows that Chinese participants in the role of **employers** discriminate wages by the province of origin of migrant workers (Chmura, Goerg et al. 2016). This is related to a cross-national experiment from the psychology group. Participants from six countries play a sender-receiver game with participants from other countries. They are asked about beliefs and choices. Both dependent variables show pronounced nationality stereotypes (Dorrough and Glöckner 2016).

Two experiments look at the relationship between an employee and her employer. This is a prototypical principal-agent problem, since the principal is usually not in a position to observe the agent's effort perfectly. One possibility to overcome the problem is to just ask. In the experiment, this turns out to be a poor intervention. Agents frequently overreport effort. This creates distrust, both between the employer and the employees and among the employees. The characteristic gift exchange logic is impaired (Kleine and Kube 2015). Legal orders vary widely when it comes to accepting non-compete clauses. The rationale of such clauses is a concern employers may have: Employees may obviate the employer's investment in their human capital, or may deprive the employer of valuable customer relations. But value for the employer typically results from matching effort by the employee, for instance in extending the customer base. One

might therefore expect employees to react to the clause by reducing effort in the first place. In an experiment, interestingly, no detrimental effect on employee effort was observed (Bünstorf, Engel et al. 2016).

The traditional law and economics interpretation of **intellectual property** rests on the claim that intellectual achievements are (pure) public goods. Others can put them to productive use without reducing their value. In this logic, the legal order introduces a temporal monopoly to establish a quid pro quo: the inventor may exclude others from using the achievement as long as they have not paid for it. This creates incentives for the inventor to engage in socially productive innovation in the first place. This line of argument neglects that appropriating foreign innovations is rarely free of charge. In a lab experiment, introducing a positive cost of appropriation almost perfectly removes the incentive problem. This even holds if appropriation reduces the profit the inventor makes from her own innovation (Engel and Kleine 2015). In the US, the incentive interpretation also dominates the copyright discourse. European law thinks otherwise. It sees the main motive for protecting intellectual creativity in the author's self-esteem. She wants to be recognized also, but not exclusively, by a chance for making money with her work. In a field experiment, photo artists are presented with a series of second-price auctions to elicit their willingness to trade the possibility of a buyer to use their work without mentioning their name, to alter the work, or to destroy it. In their large majority, participants are unwilling to trade these rights in the first place. If they are happy to grant either right, they ask for very high prices (Bechtold and Engel 2017).

Tax evasion is a prominent application of compliance with legal rules that is hard to enforce merely by a threat with sanctions. For some kinds of income, detection is conspicuously difficult. This is why interventions aiming at fostering voluntary tax compliance are of high practical relevance. Two PhD students plan to work on this. Eugenio Verrina wants to investigate the framework conditions for voluntary tax compliance. Cornelius Schneider wants to understand how tax compliance depends on the match of tax policies with prevalent redistribution preferences. This line of research strongly benefits from work undertaken in other parts of the institute: Do attempts at tax evasion reduce the efficiency of markets for credence goods (Balafoutas, Beck et al. 2015)? Is tax compliance systematically more pronounced in some countries than in others (Andrighetto, Zhang et al. 2016; Zhang, Andrighetto et al. 2016)?

Legal orders are united in their fight against **corruption**, but they are divided in the legislative reactions. One group of legal orders exposes private parties who approach a public official, and the public official who accepts such offers, to equally severe sanctions. A second group of legal orders punishes officials more harshly. This asymmetry can be justified on deontological grounds. Transforming public office into a source of personal income is even more blameworthy. However, an experiment points to an overlooked downside of this approach. The prospect of at most being punished lightly provides the private party with a cheap technology for enforcing the corrupt deal (Engel, Goerg et al. 2016). Again, there is related work from other parts of the institute. How does the prevalence of corruption in a country affect the performance of firms (Hanousek and Kochanova 2016)? How can a culture of corruption in a country be changed (Zhang 2015)?

Legal orders differ in their construction of **privacy**. While it is essentially regarded as a property right in the US, it is regarded as an inalienable moral right in most of Europe. But both families of legal orders agree in their considering privacy as a private good. A conceptual paper challenges this perspective and demonstrates why, in the age of big data even more than before, a person's privacy is not only her personal affair. The more information she makes publicly available, the more parties that are interested learn about others. This not only holds for individuals with whom a person interacts. Rich personal information also makes it possible for machine-learning algorithms to gain ever more reliable generic knowledge about cues that have strong predictive power. This is why privacy should be constructed as a public good (Fairfield and Engel 2015). An experiment shows how easy it is to induce individuals to give up their privacy rights. Merely making the consent option salient suffices (Hermstrüwer and Dickert 2017).

The experimental work on punishment has already been covered in an earlier section. It builds a natural link to **criminal law** (for a survey of experimental criminal law, see Engel 2016a). An experiment uses a public good to test one of the standard institutions of criminal law. Many convicts, in particular first offenders, are put on probation, rather than directly being incarcerated. Yet, preserved individual liberty is conditional on not committing further crime during the probation period. Otherwise the criminal sanction for the first and the second convictions compound. The experiment shows that probation substantially weakens deterrence. While they are on probation, individuals are indeed cautious not to violate the norm. But as soon as the probation period expires, they start to misbehave again (Engel, Hennig-Schmidt et al. 2015).

Thus far, **scientific disintegrity** has not yet triggered targeted legal interventions. But a series of prominent scandals and the replication crisis have put the problem back on the screen of institution designers. A theory paper analyses the problem with the toolbox of public-goods models (Engel 2015a). It complements multiple contributions of the psychologists at the institute to test the replicability of findings and to improve the situation for the future (Collaboration 2015; Kidwell, Lazarević et al. 2016; Bouwmeester, Verkoeijen et al. 2017).

C.I.4 Rule Generation and Rule Application

Legal rules are not out there. They are purposeful creations. The group has been interested in behavioral effects that play themselves out in the process of making new law. Constitutions use different **voting schemes**. A theory paper compares unanimity with majority rule that is combined with veto power. The latter turns out to be superior under wide conditions (Bouton, Llorente-Saguer et al. 2015). This prediction also finds support in the lab (Bouton, Llorente-Saguer et al. 2017). Another experiment shows that approval voting outperforms the plurality rule as a technology for the aggregation of distributed information (Bouton, Castanheira et al. 2016). A further experiment creates a conflict between the socially optimal sharing of private information and private gains from lying. It finds a majority of naive participants who tell the truth, while they are exploited by more sophisticated participants who lie (Le Quement and Marcin 2016).

Democracy is **government** of the people, **by the people**, for the people, as Abraham Lincoln so aptly put it. Yet to bring this vision to life, the people must engage with governing their country. At the least, they must vote. Since chances to be pivotal are negligible in large constituencies, it is "rational" for them not to go. An experiment shows that individuals with pronounced social preferences are indeed more likely to go voting (Robalo, Schram et al. 2017). Direct democracy involves citizens more directly into the process of rule-making. A vignette study exploits the fact that many of the German *länder* have recently strengthened direct democratic elements in their local constitutions. Participants are asked to rate the degree of acceptance for a series of currently prominent decisions, provided they were either taken by the local parliamentary assembly, or by referendum. The difference in procedure only matters if the individual declares that the respective issue is of high importance for her personally (Towfigh, Goerg et al. 2016). While Parliament has power to repeal any statute introduced by earlier parliamentary assemblies, it is rare that it exercises this power. Most of the statutes continue to be in force, even if those who have voted for them passed away long ago. In an experiment, the fact that a rule meant to overcome a social dilemma has been introduced by a previous group of participants does not help current participants achieve more efficient outcomes, while rules they have adopted themselves do have this beneficial effect (Langenbach and Tausch 2017).

The legal discourse predominantly treats rules as arbitrary choices. The decision about their contents "has to be taken politically". Constitutional law first and foremost contains these choices by procedural rules.

Even in countries like Germany, with an encompassing constitutional order and a powerful constitutional court, "gouvernement des juges" is seen as a serious mistake. This stands in contrast to welfare economics. The goal is precisely defined: allocative efficiency. The aim is finding procedures, **mechanisms** that is, that promise to come as close as possible to this goal. Interestingly, behavioral analysis is only just starting to touch this enterprise. An experiment makes a contribution. It puts participants into the role of a ruler and manipulates whether this ruler has to live with an audience that may misrepresent their types, whether the ruler knows that the rule will be applied to herself, and whether she knows her own valuation of the public good when choosing the rule. Rulers are strikingly overoptimistic regarding the willingness of participants to reveal their types (Engel and Hippel 2017). This highlights a behavioral challenge for democratic governance. A related experiment shows that designated punishment authorities abuse their power by themselves undercutting the behavioral norm they impose on their group in a public good (Hoeft and Mill 2017).

In a governance perspective, legal rules are tools for social betterment. Political science has long pointed to the risk of an implementation deficit. It is not enough for the rule to address a social ill effectively that it is in force; it must also be implemented. Consequently the **diffusion of legal innovation** cannot be taken for granted. A paper exploits the fact that Israel has recently introduced class-action, and that a registration requirement gives access to complete data. These data show that the new remedy has taken several years to become widely used. The adoption curve is almost perfectly exponential. The paper demonstrates that social influence (merely copying what other law firms do), social learning (reacting to the fees other law firms have received), and individual learning (reacting to previous success or failure of this one law firm) independently explain the decision to file a new class-action suit (Engel, Klement et al. 2017).

Judges enjoy constitutionally protected **independence**. From a rational choice perspective, this could be troubling news. If the constitution removes constraints, why do judges not simply maximize personal well-being, at the expense of a society that pays for their services? An experiment shows that the fact of having been assigned an office, and a clear task that requires impartiality, has a strong motivating force (Engel and Zhurakhovska 2017). Another experiment shows that prosecutors are significantly more willing to put aside their personal advantage if the incentive structure is framed as criminal procedure (Engel and Reuben 2015). But a paper using a new comprehensive dataset about decision-making by the European Court of Justice shows that judges appointed to the ECJ by an integration-friendly Member-State government are more likely to cite judgments authored by judges from a similar political background (Frankenreiter 2017b). Advisory opinions issued by the advocates general are related to the integration preferences of their countries of origin (Frankenreiter 2017a). A provocative paper has posited that the outcome of criminal procedure in Israel depends on whether decisions are made before or after lunch. Using simulation, a paper from the psychology group shows that the effect must be heavily overestimated, if it exists at all (Glöckner 2016). Judges routinely have to decide knowing that the evidentiary basis remains incomplete. A theory paper models their choice as satisficing, rather than maximizing, based on subjective definitions of the state space and subjective probabilities (Engel and Güth 2015).

The behavioral analysis of judicial decision-making is a topic with a considerable history, not so much in law and economics, but in law and psychology. By contrast, the behavioral analysis of the decisions made by **regulators** and administrators is much less advanced. One experiment focuses on regulatory agencies. They are endowed with strong intervention rights to countervail the risk that dominant firms will abuse power, to the detriment of demand. These powers create an opportunity for regulatory micromanagement. Both conceptually and empirically, there are good reasons to doubt that micromanagement is normatively desirable. A seemingly elegant technique for cutting the Gordian knot is price cap regulation. The statute constrains regulatory intervention to rare moments in time. Until the next moment for intervention arrives, regulated firms may be sure that the price cap will be in force. An experiment shows a downside. Experimental regulators are overly cautious, for fear of being responsible for experimental firms making a very small profit or no profit at all (Engel and Heine 2017).

Behavioral effects are also important on the opposite side of an **administrative relationship**. An experiment measures the attitude of the addressee of administrative intervention towards the administrator by an unannounced, subsequent dictator game that gives the addressee an opportunity to reward the administrator. Rewards are significantly higher if the addressee had the opportunity to express herself before the administrator decides (the addressee decides before she learns the administrator's decision) (Kleine, Langenbach et al. 2014). Another experiment shows that the obligation for an experimental authority to justify their punishment decisions in a public good makes punishment more effective, but only if those reasons are made public (Engel and Zhurakhovska 2013). Punishment is also more effective if the experimental authority has been voted into office, rather than being randomly assigned to it (Marcin, Robalo et al. 2016). This shows a behavioral effect of procedural legitimacy.

Legal academia can be seen as a subsidiary actor for the generation and application of rules. In Germany, the link between legal academia and legislation, the judiciary, and administration is particularly strong. Two empirical papers investigate aspects of German legal academia. The analysis of a large-scale dataset suggests that the state exam is biased against female students (Towfigh, Traxler et al. 2014). The second paper exploits the fact that, as a practical matter, becoming a law professor in Germany requires one to pass a *habilitation*. A time series of all (published) habilitation theses since 1960 reveals a "hog cycle". If eight years ago there were too few candidates for professorship on the market, eight years later there are too many, and vice versa (Engel and Hamann 2016).

C.1.5 Methods

Lab **experiments** are natural tools for identifying behavioral effects. Usually the group follows the experimental economics tradition, and in particular the ban on cheating, and incentivizes choices whenever possible. Another practice in experimental economics is also motivated by generating clean data. The typical economic experiment is stripped of context. Participants do not learn the research question, but are just exposed to a naked incentive structure. An experiment shows that this comes at a price. In the baseline, participants face a naked 2x2 prisoner's dilemma. Treatments add frames. If the interaction is framed as a joint project, or defending oneself against a joint enemy, results are not distinguishable from the baseline. But cooperation drops if the game is framed as competition. This shows that decontextualisation is a double-edged sword. Participants must make sense of the design. If it comes without an explicit frame, participants frame the game for the experimenter. Paradoxically, a design feature meant to increase control reduces experimental control (Engel and Rand 2014).

Legal argument tends to be multifaceted. This richness is hard to capture with a classic experimental design. In the interest of cleanly identifying the effect of interest, the situation is simplified such that confounds are ruled out. **Eye-tracking** offers the possibility to maintain a much greater degree of the characteristic multidimensionality. The following project is an application: According to the prevalent dual process theory of moral decision-making, deontological decisions should feature a relatively shorter and less complex decision process, while utilitarian decisions should require more information search and deliberation (Rahal, Hoefft et al. 2017). A further method for tracing the development of legal discourse is **citation analysis** (Hamann 2014a), and **computer linguistics** as applied to legal text; this is what Hanjo Hamann uses in a project financed by the Heidelberg Academy.

The credibility of experimental findings rests on **statistical** testing. While the focus of the group is applied, it occasionally has contributed to statistical questions as well. The typical data from public-goods experiments exhibits patterned heterogeneity. While the majority is more or less willing to cooperate, a substantial minority behaves as predicted by economic textbooks and completely free-rides. Capturing this heterogeneity by a Tobit regression is not fully satisfactory. One assumes that participants who have not made a

positive contribution to the public project would even have taken money away from the remaining members of the group if the design had not made this impossible. An alternative statistical approach is a double hurdle model. It assumes that there can be two reasons why a participant does not contribute to the project: she may be of a selfish type, or she may react to circumstances that she considers to be insufficiently promising. A paper not only introduces the theory behind this estimator, but also offers software to use it in Stata (Engel and Moffatt 2014).

Standard economic models assume risk neutrality. Empirically, the majority of experimental populations are risk-averse, while a non-negligible minority are even risk-seeking. This explains why, after the main experiment, risk aversion is measured routinely. This is usually done using the test developed by Holt and Laury. It asks participants to make 10 choices between two lotteries. If participants are consistent, at one point they switch from the lottery with the smaller to the lottery with the larger spread. Usually the switching point, or its translation into a score of constant relative risk aversion, is then used for explanation. This approach does not work for participants who switch more than once. The standard approach in the literature is to drop observations from such participants altogether. Using data from a pertinent experiment, a paper shows that and why this procedure creates bias, and discusses alternative statistical approaches (Engel and Kirchkamp 2016).

When working with observational data, identification of causal effects is often challenging. One popular way out is exploiting "**natural experiments**". One compares a treatment group that has been exposed to a random shock with a control group that has not been affected. An experiment shows that this seemingly elegant solution can be problematic. One measures how a population reacts to a change in circumstances, rather than its level. However, the ultimate research question is often the level effect. In the experiment (using a stealing game with differences between certainty and severity), the difference between levels and changes is pronounced (Engel 2016b).

To a large degree, the empirical legal movement is fueled by lawyers applying these established empirical methods from the social sciences to legal research questions. This is a highly successful endeavor. Yet, as the field matures, it is time to discuss autonomous **empirical methods for the law**. A conceptual paper contrasts the characteristic normative research questions of legal scholars with the philosophy of frequentist statistics. Frequently, for the law, the avoidance of false positives (in the parlance of frequentist statistics, having a sufficiently low p-value) is of lesser importance than avoiding false negatives. A classic case in point is the precautionary principle. This calls for adjusting the significance level (obviously only if better evidence is not to be had). An even deeper challenge originates in the fact that legal problems are rarely well-defined. This prevents the researcher from formulating a clear hypothesis. Quite often, the law is ultimately not interested in explanation, but in prediction. This invites machine-learning techniques. Finally, as soon as legal choices are regularly based on empirical evidence, the law has to be prepared for attempts at strategically perturbing this evidence. A potential remedy might be to pit evidence against counter-evidence, in the spirit of the adversarial principle (Engel 2017). In a related exercise, the (legal) PhD thesis by Hanjo Hamann defines the conditions for "evidence-based law" (Hamann 2014b).

C.I.6 Translation

At its core, the group contributes to empirical legal scholarship, and to behavioral research more generally. Papers are written with the intention of submitting them to good peer-reviewed journals. This requires that they live up to the expectations of these journals. Usually this implies adequate technical sophistication. But these papers are not intended to be self-reflective voices from the ivory tower. They are meant to inform the legal discourse. Now most legal scholars do not see themselves as social scientists. They have no training in modeling and data analysis. Of course, the more technical papers present the research question, the key

findings, and the discussion of broader implications in plain English. But this need not necessarily suffice to reach the legal audience. Acknowledging this challenge, in some way or other, all lawyers from the group have been engaged with translation.

A book edited by Emanuel Towfigh and Niels Petersen **introduces lawyers to the toolbox of economics**. The book has come out in the second edition in German (Towfigh and Petersen 2017) and in the first edition in English (Towfigh and Petersen 2015). A handbook entry introduces lawyers to empirical methods for behavioral analysis (Engel 2014a). A further paper zeroes in on the advantages of the experimental method for law (Chatziathanasiou and Leszczynska 2017). Another paper defines the scope for empirical input into legislation (Steinbach 2015b). Yet another book offers a systematic account of economic arguments in public international law (van Aaken and Steinbach 2017). A legal PhD thesis structures the emerging field of evidence-based law (Hamann 2014b). Papers that have been published in first-rate law journals argue for taking empirical claims more seriously (Towfigh 2014; Hamann and Hoefft 2017).

During the period covered by this report, four legal scholars passed their *habilitation*. All of them have written books that strongly benefit from the interdisciplinary context of the institute. But rightly all these books speak to the legal community, and largely do so without technical jargon. Since they want to address the legal discourse, these books take much more context into consideration than would be advisable for a peer-reviewed publication. In a way, these books contextualize the social science work undertaken by the group. Niels Petersen asks whether constitutional courts have (ab)used the proportionality principle as a technique for self-empowerment. Using a comprehensive dataset of cases from Germany, South Africa, and Canada, he finds hardly any evidence for this frequently made claim (Petersen 2015). An English version of the book has been published with Cambridge University Press (Petersen 2017b). Emanuel Towfigh is concerned that political parties have become so good at winning elections that they become dysfunctional for striking the democratic balance between striving for power and integrating society (Towfigh 2015). Jörn Lüdemann is convinced that the mainstream of German public law is on the wrong track if it aims at distilling legal principles of ever greater generality. He calls for taking the specifics of the concrete problem the law wants to address much more seriously (Lüdemann 2016). Armin Steinbach observes a cacophony of "rationality" arguments in legal discourse and offers a more principled, systematic view (Steinbach 2017b). Similar considerations motivate ongoing *habilitation* projects. Alexander Morell aims at grounding the procedural doctrine of prima facie evidence in a better understanding of empirical evidence. Stefanie Egidy plans to study strategic litigation, using empirical observations from the German constitutional court. Hanjo Hamann wants to investigate the proper scope for demoscropy in the application of private law standards. Yoan Hermstrüwer wants to readjust the constitutional borderline between tax and non-tax levies, with a specific eye on behavioral effects.

In their **PhD theses**, lawyers can be more upfront about social science methods. Still they are well advised to flesh out the implications for the mainstream legal discourse, which usually encompasses doctrinal implications. In that spirit, Yoan Hermstrüwer uses behavioral insights to define the need for legal intervention in the interest of protecting privacy (Hermstrüwer 2016). Pascal Langenbach investigates the effect of the addressee being heard in administrative procedure, exploiting findings from two experiments he has run (Langenbach 2017). Monika Leszczyńska combines an experiment on quota rules with a doctrinal piece, and another experiment on the duration of contracts with top managers with a legal policy piece (Leszczyńska 2016a). Konstantin Chatziathanasiou relies on a decontextualised experiment to back up his interpretation of Art. 146 GG. The fact that the German constitution makes itself explicitly open to abolition could have contributed to its remarkable stability. Leonhard Hoefft uses several experiments to find out whether the legal theory by H. L. A. Hart can be grounded in behavioral data.

Multiple essays published in good law journals strengthen these translation efforts. They are covered by the individual research portraits of the lawyers in the group. The following have been published in particularly

esteemed journals: Hamann 2014c, Morell 2014, Petersen 2014, Steinbach 2015a, Steinbach 2016a, Steinbach 2016b, Morell 2017, Petersen 2017a, and Steinbach 2017a.

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C.II Experimental Economics

Preliminary remark. Prof Sutter started his position as co-director of the institute on 1 August 2017, and his group members started to join the institute on 1 October 2017. For this reason, the following report is not a genuine account of the group's past aims and achievements, but rather an illustration of the main interests of Prof Sutter over the past four years and a description of his main plans for the future and how his group members contribute to these plans.

Director: Prof Dr Matthias Sutter

Postdocs

Stefania Bortolotti, PhD (joined in October 2017 from the University of Cologne)
Dr Zwetelina Iliewa (joined in January 2018 from ZEW Mannheim)
Angelo Romano, PhD (psychology) (joined in October 2017 from the University of Amsterdam)
Dr Sebastian Schneider (joined in December 2017 from the University of Göttingen)

Doctoral Students

Zvonimir Basic (final year, joined in October 2017 from the University of Bonn)
Nathan Maddix (joined in November 2017 from Harvard University)
Sofia Monteiro (joined in October 2017 from the University of Cape Town)
Matthias Praxmarer (final year, joined in October 2017 from the University of Cologne)
Shambhavi Priyam (joined in October 2017 from the Poverty Action Lab in Bangalore)
Daniel Salicath (joined in October 2017 from the University of San Francisco)
Anna Untertrifaller (final year, joined in October 2017 from the University of Cologne; funded by the Diligentia Foundation, Cologne)
Claudia Zoller (final year, joined in October 2017 from the University of Cologne)

The “Experimental Economics Group” (EEG) uses experimental methods – both in the lab and in the field – to study what the group considers to be important questions for society. Its focus is therefore on applied questions (rather than on contributions to experimental methods). The group covers a broad variety of fields with its research – including topics in finance, tournament theory, labor economics, industrial organization, group decision-making, cooperation and coordination, and economic policy issues, such as nudging, to name just a few. In fact, Professor Sutter has worked in all of the mentioned fields in the past few years, and he and his group are also open to integrating new areas of research in the future. Given the interdisciplinary nature of the MPI with its research groups in law (Professor Engel), sociology (Dr Winter) and psychology (Dr Baumert and Dr Fiedler), the EEG will also expand its research into these areas through collaboration with the other groups.

Despite its breadth in the areas of research, the EEG will focus on three main areas of research in the coming years: (1) economic decision-making of children and teenagers; (2) team decision-making; (3) credence goods markets. Professor Sutter has been working in these areas over the past few years, and the following description of the areas concentrates on his contributions over the past four years.

C.II.1 Economic Decision-making of Children and Teenagers

The success of experimental economics as a field has largely been driven by providing an opportunity to analyze human behavior under controlled conditions, thus examining whether human behavior matches standard game-theoretic and decision-theoretic predictions, and thereby providing insights for improving theoretical models. By now, it is firmly established that standard classical predictions are, at times, a poor predictor of actual human behavior, because factors such as social preferences, intentions, or even emotions, also affect human behavior in many situations. However, such insights from experimental economics have for a long time been based on evidence from university students in their early 20s. Fairly little has been known whether children’s behavior is better or less well accounted for by standard predictions and how children’s behavior develops with age. Learning about children’s behavior is therefore important, and for several reasons. First, studying the behavior of children and teenagers can reveal whether economic behavior develops in characteristic patterns in the course of life. Similar to psychological research on the development of moral judgments, for instance, economic research has become interested in whether fairness preferences, risk attitudes, impatience, rational choice behavior or competitive preferences develop in certain ways. Knowing more about such a potential development is a precondition for possible policy interventions that mark the second important reason why research on economic preferences of children and teenagers has become a hot topic even in core economics journals. Policy interventions – in particular interventions in school curricula – may promote particular types of behavior that are widely considered to be influential for success in life, such as patience with respect to attaining education, competitiveness to succeed on the labor market, or avoiding conflicts through a mutual understanding of fairness norms. Third, from the viewpoint of economic theory, it is interesting to study whether children and teenagers are sophisticated decision-makers who make rational decisions and are capable of applying fundamental game-theoretic concepts (such as backward induction or mixed strategy play) in their behavior.

Matthias Sutter has contributed to all three aspects of why research with children and teenagers is important. In a paper on gender differences, the willingness to compete – which has been found to be one explanatory factor for large gender differences in labor market outcomes – he has shown (in Sutter and Glätzle-Rützler, 2015) that women are less likely to choose competitive payment schemes already at the age of three years, and that this gender gap persists into early adulthood (of 18-year-old adolescents). This strong gender difference in the willingness to compete holds even for tasks where stereotypes favor women and where women objectively perform better. This finding is sometimes invoked in the public debate as the basis for affirmative-action programs that are intended to promote women. Related to the second reason,

Matthias Sutter has published work on how experimental choices on intertemporal decision-making and on risk-taking are related to teenagers' field behavior, including healthy lifestyle (with respect to smoking, drinking, and obesity), grades in school, and financial savings in real life. In Sutter et al. (2013 AER), he has found that experimental choices are closely related to field behavior, in particular that more patient teenagers in the experiment were less likely to drink alcohol or smoke and more likely to save some of their pocket money, and that they have better grades and less disciplinary referrals in school. In Sutter et al. (2015 EL), he has shown that the patience of kindergarten kids can be influenced by simply changing the default settings for saving for the future in contrast to consuming earlier.

The third reason for research with children and teenagers – testing economic theory – has been addressed in Czermak et al. (2016 JEBO), where they studied the strategic sophistication of children and teenagers in simple games, finding that 10-year-olds play the Nash equilibrium as often as 18-year-olds. Hence, there is no development in game-theoretic sophistication in the teenage years.

Besides those studies, Matthias Sutter has investigated the emergence of discrimination across different language groups in a bilingual town (see Angerer et al., 2016, 2017), or how third-party punishment already works in childhood to improve cooperation rates in a prisoner's dilemma game (Lergetporer et al., 2014).

Overall, Matthias Sutter is motivated by the deep desire to understand the fundamental issues of preference formation, which have been neglected in economics for a long time. Currently, he is working on a project with families in Bangladesh, in which he studies the relationship of mothers' and fathers' economic preferences with their children's economic preferences.

From a methodological point of view, Matthias Sutter has developed many new experimental designs to study the economic behavior of children and teenagers. These designs have been repeatedly used by subsequent authors to study related topics. One method-oriented paper on experiments with children and teenagers is Angerer et al. (2015 JESA), where the authors compare two different methods to measure the time preferences of children.

C.II.2 Group Decision-making

A decision-maker in an economics textbook is usually modeled as an individual whose decisions are not influenced by any other person; but of course, human decision-making in the real world is typically embedded in a social environment. Households and firms, as well as common decision-making agents in economic theory, are typically not individuals either, but groups of people—in the case of firms, often interacting and overlapping groups. Similarly, important political or military decisions, as well as resolutions on monetary and economic policy, are often made by configurations of groups and committees rather than by individuals. Economic research has developed an interest regarding group decision-making – and its possible differences with individual decision-making – only rather recently. Camerer (2003) concludes his book on *Behavioral Game Theory* with a section on the Top Ten open research questions for future research, listing as number eight “how do teams, groups, and firms play games?” Potential differences between individual and group decision-making have been studied over the past ten to fifteen years in a large set of games in the experimental economics literature. This literature is still relatively young (albeit older than the literature on the formation of economic preferences of children and teenagers), and it has advanced mainly through experiments in the laboratory¹ that have compared individual decision-making to group decisions, and to individual decisions in situations with salient group membership. In a

1 The evidence from laboratory experiments has the advantage of allowing for a clean and controlled analysis of group decision-making and group membership effects, because subjects are randomly assigned to making a choice individually or as a group member. This is more difficult with field data, as self-selection effects are hardly avoidable there.

nutshell, the bottom line emerging from economics research on group decision-making is that groups are more likely to make choices that follow standard game-theoretic predictions, while individuals are more likely to be influenced by biases, cognitive limitations, and in particular social considerations. In this sense, groups are generally less “behavioral” than individuals. An immediate implication of this result is that individual decisions in isolation cannot necessarily be assumed to be good predictors of the decisions made by groups. More broadly, the evidence casts doubts on traditional approaches that model economic behavior as if individuals were making decisions in complete isolation.

Matthias Sutter has contributed significantly to this literature over the past 10 years. In recent years, he has pioneered two hitherto neglected issues in the group decision-making literature. In Maciejovsky et al. (2013, *Management Science*), the authors have shown that the experience of group decision-making (in rationality tasks) has long-lasting effects on subsequent individual decision-making. This insight reinforces the importance of group decision-making, as it shows that it has positive externalities on individual decision-making. In Cooper and Sutter (forthcoming, 2018), they present a new experiment on group decision-making, in which group members have to take over different roles in the group, where the challenge is to assign group members optimally to the different tasks. Surprisingly, this works very well, although giving the group members too much say in task allocation can backfire. This paper is the first to have endogenous role assignment in groups where different members have different tasks, and as such it is much more relevant for organizational economics than previous papers on group decision-making, in which all group members always had the same task to do.

Overall, with his research on group decision-making, Matthias Sutter has started to open up an exciting new field, which has important implications for our understanding of how group decisions shape and are shaped by companies, politics, and, more generally, society as a whole.

C.II.3 Economics of Credence Goods

In many important markets – as in those for healthcare, repair and legal services, as well as in those for financial advice and fund management – consumers (patients, clients, or private investors) are unable to identify the quality of a good, service, or asset that best fits their needs. They may even be unable to verify the quality that they have actually received. In contrast, doctors, mechanics, and legal or financial experts are typically better informed regarding the appropriate quality of service provision. As this information asymmetry between trading partners often persists even after a trade has been concluded and the buyer has consumed the good or service, such goods and services are referred to as credence goods. The volume of trade on credence goods markets is huge. For instance, healthcare expenditures account for about 10% of GDP in the OECD countries alone (www.oecd-library.org). A significant portion of these expenditures is caused by the provision of medical treatments where the prescribing physicians have a large informational advantage over their patients who might not only be uninformed about the most efficient type of treatment, but who may even be unable ex post to distinguish a cheap from an expensive drug infusion. Repair services are also a multi-billion-dollar industry. In the EU, car repairs alone are worth about 100 billion Euro per annum (ec.europa.eu/eurostat), with a significant proportion of car repairs being regarded as unnecessary, probably in part because mechanics exploit their superior information about the appropriate service. Moreover, ex-post inspection by the customer may fail to distinguish a replaced part from a repaired part. Also, the finance sector is one of the biggest industries worldwide. Its share of the GDP has increased threefold over the past 50 years in major Western economies, from an average of 3% to about 9%. The complexity of its products has created severe informational asymmetries between advisors and clients. Moreover, the inherent conflict between two tasks performed by financial advisors – prospecting for customers and advising on the product’s “suitability” for the specific needs of

customers – has created misaligned incentives. This implies that clients are exposed to potentially malign behavior of financial professionals in the form of unsuitable product provision.

In general, the informational asymmetries between expert sellers and their customers on any market for credence goods create strong material incentives for misbehavior on the side of the seller. If not contained by institutional remedies or moral constraints, these misaligned incentives translate into large efficiency costs for society as a whole. For this reason, it is important to investigate the provision of credence goods to get a better understanding of the determinants of misbehavior of sellers and of the factors that can promote a more efficient provision of credence goods.

Matthias Sutter has published both lab and field experiments on the provision of credence goods and the efficiency of credence goods markets. In particular, his field experiments have created attention in the scientific community because of the new designs and technical aspects of the studies. In Balafoutas et al. (2013 REStud; 2017 EJ), the authors have studied how the presumed informational disadvantage of taxi passengers is exploited by taxi drivers. Using a GPS logger, the authors were able to account for both overtreatment (taking detours) and overcharging (charging too much) in the market for taxi rides. If passengers are presumed to have little knowledge about the local conditions, they are taken on detours which account for about 5-8% of the average trip length. Passengers who seem to be unaware of the tariff conditions have to pay extra, but unjustified, charges of about 25% of the average fare. In Kerschbamer et al. (2016 PNAS), the authors have studied how insurance coverage affects the provision of credence goods. In this field experiment, the authors manipulated (with the help of their IT department) the hardware of new computers and brought them to repair shops. In one condition, the authors mentioned they had an insurance; in the other, they did not. As a consequence, repair prices differed dramatically. When insurance is mentioned, prices are about 80% higher than in a control condition without insurance. About one third of this increase is due to completely unnecessary repairs (which were assessed by the IT department), and two thirds are due to outright fraud by writing more hours for the repair. In several lab experiments, Matthias Sutter has shown that social preferences of expert sellers do play a role for the honesty in the provision of credence goods (see Kerschbamer et al., 2017 EJ, Balafoutas et al., 2015 JPubE, Beck et al., 2014 JEBO), which might be the underlying reason for the large heterogeneity of honest provision of credence goods in the field.

Overall, Matthias Sutter's designs to study credence goods markets (both in the lab and in the field) are becoming the standard vehicle for analyzing credence goods markets, and he has been the first to provide cost estimates as a consequence of fraudulent behavior in a field setting.

C.II.4 Other Areas

Besides these three main research areas, Matthias Sutter has been active in several other fields, like in the experimental analysis of equilibrium selection in networks (Charness et al., 2014 ECMA), the value of property rights for efficient production in an economy (Ahn et al., 2016 JPubE), the dynamics of contests when there are multiple winners (Dutcher et al., 2015 GEB), the analysis of how markets affect moral behavior (Kirchler et al., 2016 Management Science), or the assessment of the economic consequences of a Tobin tax on financial markets (Huber et al., 2017 EJ).

C.II.5 Plans for the Future

In the fall of 2017, Matthias Sutter started with his new group at the MPI. Several of his new research group members have already worked – or are working – with children and teenagers (Zvonimir Basic, Sofia Monteiro, Angelo Romano, Anna Untrifaller, and Claudia Zoller). They are going to become engaged in new projects with children and teenagers. These projects focus on the emergence of cooperation, on the one hand, and on the importance of grit to be successful in education, on the other. In large project in Bangladesh – briefly alluded to above already – we are going to study the formation of economic preferences within families. Shambhavi Priyam will get involved in the fieldwork of this project. Related to experimental work with children and teenagers is a new research agenda on the intergenerational interaction and its economic consequences. This new agenda is intended to investigate how diversity in age can affect interactive decision-making (such as in cooperation games, network games, or games of competition). Stefania Bortolotti and Matthias Praxmarer have been involved in an ongoing pilot study and will continue to contribute to this new agenda.

One new focus of research will relate to financial literacy and how it affects economic preferences. While financial literacy has been found to help avoid costly mistakes in financial decision-making, the channel through which it works has largely remained unclear. In the summer of 2017, Matthias Sutter studied a project with 9th- and 10th-graders to study the effects of financial literacy on economic preferences, with the hypothesis being that financial literacy reduces risk aversion and increases patience in economic decision-making. Anna Untertrifaller and Zwetelina Iliewa are going to work on financial literacy projects. Sebastian Schneider will contribute the theoretical underpinnings of how to measure higher-order risk preferences (like prudence).

The research field on group decision-making will be further developed by studying how internal conflicts in groups affect the quality of decision-making. Matthias Praxmarer has already worked on group decision-making in his PhD thesis and will continue to contribute to this research area, while Daniel Salicath has expressed a strong interest in working in this area for his PhD.

Finally, Nathan Maddix will strengthen the group's expertise in the area of nudging. He has been working with Cass Sunstein – one of the conceptual founding fathers of nudging – on various projects with relation to nudging, and he is going to continue in this area. Given that Matthias Sutter is member of the Austrian nudging unit (called Insights Austria), he is going to increase the time and effort devoted to projects about human nudging behavior.

Publications over the Past Four Years

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Balafoutas, L., Kerschbamer, R., Kocher, M., Sutter, M. (2014), Revealed distributional preferences: Individuals vs. teams. *Journal of Economic Behavior and Organization*, 108, 319–330

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Maciejovsky, B., Sutter, M., Budescu, D., Bernau, P. (2013), Teams make you smarter: How exposure to teams improves individual decisions in probability and reasoning tasks. *Management Science*, 59(6), 1255–1270

2. Children and teenagers

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Czermak, S., Feri, F., Glätzle-Rützler, Sutter, M. (2016), How strategic are children and adolescents? Experimental evidence from normal-form games. *Journal of Economic Behavior and Organization*, 128, 265–285

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3. Credence goods

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Balafoutas, L., Kerschbamer, R., Sutter, M. (2017), Second degree moral hazard in a credence goods market. *Economic Journal*, 127 (599), 1–18

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Balafoutas, L., Beck, A., Kerschbamer, R., Sutter, M. (2015), The hidden costs of tax evasion – Collaborative tax evasion in markets for expert services. *Journal of Public Economics*, 129, 14–25

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4. Other topics

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C.III Public Goods, Taxation, and Incentive Mechanisms; Financial Stability and Monetary Policy

C.III.0 Preface

This chapter gives an account of work done by Martin Hellwig and his group over the past four years. As in previous periods, this work had a foundational part and an applied part. In past reports, the foundational part was presented in Chapter C.I of this Report, the applied part in Chapter C.III, with sub-chapters C.III.1 on network industries, competition policy and sector-specific regulation and C.III.2 on financial stability and banking regulation. Over the past four years, hardly any work was done on network industries. Therefore this chapter reports only on work done on the foundations of public economics and on financial stability and regulation. Work on foundations of public economics is reported in sub-chapter C.III.1, work on financial stability in sub-chapter C.III.2. Work on foundations of public economics was much enhanced by having Felix Bierbrauer return to the institute as a visitor in 2015–16.

C.III.1 The Mechanism Design Approach to Public-Good Provision and Taxation

An important part of the research programme since 2004 concerned the conceptual framework for the normative analysis of public-goods provision when decision makers cannot be presumed to have the information needed to properly assess the amount of resources that should be devoted to such goods, in particular, when decision makers cannot be presumed to know the values that the different decision makers attach to the different public goods.

Our approach has the following distinct features:

- Whereas most of the literature considers the problem of public-good provision with private information in the context of small-economy models, in which each participant has the power to affect aggregate outcomes, we consider large economies, in which any one individual is too insignificant to affect the level of public-good provision aggregate outcome.
- We consider incentive problems associated with coalition formation as well as individual incentive compatibility.
- We look at public-goods provision and taxation in an integrated manner. The problem of how to pay for public goods is intimately related to the problem of what is an appropriate system of taxes and prices for public services.

Our research and research interests in this area can be roughly divided into three broad topics:

- Development of a conceptual and formal framework that is suitable for dealing with issues that concern the revelation, communication and use of private information in a large economy.
- Development of an overarching conceptual and formal framework that can be used to integrate the theory of public-goods provision with the rest of normative economics, in particular, the theories of public-sector pricing and of taxation.
- Development of a conceptual and formal framework that is suitable to address issues concerning incentives and governance on the supply side of public-good provision and can also be used to integrate the analysis of such issues with the more conventional analyses of demand and funding.

C.III.1.1 Public Goods versus Private Goods: What is the Difference?

To fix semantics, define a public good to be one that exhibits *nonrivalry* in the sense that one person's "consumption" of this good does not preclude another person from "consuming" it as well. When several people "consume" the public good, there may be external effects, e.g. negative externalities from crowding or positive externalities from mutual entertainment, but there is not the kind of rivalry in consumption that one has with private goods where one person's eating a piece of bread precludes another person's eating it as well.

We focus on nonrivalry as the key characteristic because this property is at the core of the allocation problem of public-good provision. Because of nonrivalry, it is efficient for people to get together and to coordinate activities so as to exploit the benefits from doing things jointly. Other characteristics, such as nonexcludability, affect the set of procedures that a community can use to implement a scheme for public-good provision and finance, but such considerations seem secondary to the main issue that nonrivalry is the reason why public-good provision is a collective, rather than individual concern.

The mechanism design approach to public-goods provision asks how a community of n people can decide how much of a public good should be provided and how this should be paid for. If each person's tastes were publicly known, it would be easy to implement an efficient provision level. If tastes are private information, the question is whether and how "the system" can obtain the information that is needed for this purpose. Because this information must come from the individuals who hold it, the question is whether and how these individuals can be given incentives to properly reveal this information to "the system".

The bottom line of the previous literature is that it is always possible to provide individuals with the incentive to reveal their preferences in such a way that an efficient level of public-good provision can be implemented. For this purpose, financial contributions must be calibrated to individuals' expressions of preferences for the public good in such a way that there are neither incentives to overstate preferences for the public good in the hope that this raises the likelihood of provision at the expense of others nor incentives to understate preferences for the public good in the hope that this reduces one's payment obligations without too much of an effect on the likelihood of provision. The mechanism design literature shows that one can always find payment schemes which satisfy this condition.¹

However, there usually is a conflict between incentive compatibility, feasibility, i.e., the ability to raise sufficient resources for public goods, and voluntariness of participation. In some instances, it may be impossible to have a public good provided efficiently on the basis of voluntary contracting. Some coercion may be needed for efficiency. The original idea of Lindahl (1919) that the theory of public goods provides a contractarian explanation of the role of government and the state would then be invalid. Samuelson's (1954) conjecture that private, spontaneous arrangements for efficient public good provision are not available would be vindicated. Samuelson (1954) stresses the difference between public and private goods, suggesting that private goods can be efficiently provided by markets and contracts and public goods cannot.

On this issue, the mechanism design literature is unclear. If we consider an economy with n participants with independent private values,² we get the same kinds of impossibility theorems for private and for public goods: On the basis of voluntary participation and in the absence of a third party providing a subsidy to "the system", it is impossible to have a decision rule that induces an efficient allocation under all circum-

1 This is shown by Clarke (1971) and Groves (1973) for implementation in dominant strategies and by d'Aspremont and Gérard-Varet (1979) for Bayes-Nash implementation.

2 Independent private values: If one person is known to have a high preference for the good in question, this contains no information about any other person's preference for this good. Preferences of different people are stochastically independent.

stances, unless the information that is available *ex ante* is sufficient to determine what the allocation should be.³ If coercion is allowed, there is no problem in achieving efficiency for either kind of good.

To find a difference between public and private goods, one must look at the behaviour of such systems as the number of participants becomes large. For private goods, a larger number of participants means that there is more competition. This reduces the scope for dissembling, i.e., acting as if one cared less for a good than one actually does, in order to get a better price. With competition from others, attempts to dissemble are likely to be punished by someone else getting the good in question. Hence, there are approximation theorems showing that, for private goods, there are incentive mechanisms that induce approximately efficient allocations, even with a requirement of voluntary participation, if the number of participants is large.⁴

For public goods, there is no such competition effect. An increase in the number of participants has two different effects. On the one hand, there are more people to share the costs. On the other hand, the probability that an individual's expression of preferences affects the aggregate decision is smaller; this reduces the scope for getting a person to contribute financially, e.g., by having an increase in financial contribution commensurate to the increase in the probability that the public good will be provided. The second effect dominates if individual valuations are mutually independent and if the cost of providing the public good is commensurate to the number of participants, e.g., if the public good is a legal system whose costs are proportional, or even more than proportional, to the number of parties who may give rise to legal disputes. In this case, the expected level of public-good provision under *any* incentive mechanism that relies on voluntary participation must be close to zero.⁵

Samuelson's view about public goods versus private goods, the latter being efficiently provided by a market system, the former not being efficiently provided at all by a "spontaneous decentralized" solution, thus seem to find its proper place in a setting with many participants where, on the one hand, the forces of competition eliminate incentive and information problems in the allocation of private goods, and, on the other hand, incentive and information problems in the articulation of preferences for a public good make it impossible to get the public good financed.

However, in the transition from a finite economy to a large economy, the question of what is the proper amount of resources to be devoted to public-goods provision is lost, at least in the independent private values framework that has been used by this literature. In this framework, a version of the law of large numbers implies that cross-section distributions of public-goods valuations are commonly known. Given this information, the efficient amount of public-goods provision is also known. The only information problem that remains is the assignment problem of who has a high valuation and who has a low valuation for the public good. This assignment problem matters for the distribution of financing contributions but *not* for the decision on how much of the public good to provide.

C.III.1.2 Do Correlations Make Incentive Problems Disappear?

If one wants to avoid the conclusion that the proper amount of resources to be devoted to public-goods provision is known *a priori* because the cross-section distribution of valuations for the public good is pinned down by the law of large numbers, one must assume that the public-goods valuations of different people are correlated so that the law of large numbers does not apply. However, for models with correlated valuations, the impossibility theorems mentioned above are no longer valid. Indeed, for models with

3 For private goods, see Myerson and Satterthwaite (1983), for public goods, Güth and Hellwig (1986), Mailath and Postlewaite (1990).

4 See, e.g. Wilson (1985).

5 See Mailath and Postlewaite (1990), Hellwig (2003).

private goods, Crémer and McLean (1988) and McAfee and Reny (1992) have shown that one can use the correlations in order to prevent people from obtaining “information rents”, i.e., benefits that they must be given if they are to be induced to properly reveal their information. For public goods, Johnson, Pratt, and Zeckhauser (1990) and d'Aspremont, Crémer, and Gérard-Varet (2004) show that, generically, incentive schemes that use correlations to harshly penalize deviations when communications from different people are too much in disagreement, can be used to implement first-best outcomes – with voluntary participation and without a third party providing a subsidy, at least in expected-value terms.

Incentive schemes in these analyses are not very plausible. They look more like artefacts of the mathematics than anything that might be used in reality. But then the question is what precisely is deemed to be implausible about them.

One answer to this question has been proposed by Neeman (2004) and Heifetz and Neeman (2006). In their view, the results of Crémer and McLean (1988) presume that an agent's preferences for a good can be inferred from the agent's beliefs about the world. In Crémer and McLean (1988), beliefs are implicitly defined as conditional expectations where the information on which expectations are conditioned consists of the agents' preference parameters and moreover, this information can only take finitely many values. Generically, preference parameters can be inferred from beliefs, and the differences in attitudes towards bets, i.e., state-contingent payment schemes, which go along with differences in beliefs, can be used to extract all surplus. According to Heifetz and Neeman (2006), such surplus extraction is impossible if a given belief about the world might be compatible with different values of preference parameters, say a value of zero and a value of ten for the good in question. Because the person with a value of ten has the same beliefs as the person with a value of zero, it is then not possible to make the person with a value of ten reveal the high valuation and at the same time surrender the benefit that he obtains if he can enjoy the good; after all, this person could always act as if his value was zero. Neeman (2004) uses a version of this argument in order to extend the Mailath-Postlewaite (1990) theorem on the impossibility of public-good provision in a large economy with voluntary participation to a setting with correlated values. Heifetz and Neeman (2006) argue that, in the set of relevant incomplete information models, with information variables taking more than finitely many values, the “Beliefs Determine Preferences” (BDP) property of Crémer and McLean is in fact negligible.

Gizatulina and Hellwig (2010, 2014, 2017) suggest that this line of argument fails. Gizatulina and Hellwig (2010) showed that the uniform violation of BDP in Neeman (2004) is incompatible with the notion that when there are many agents, each individual agent is *informationally small*.⁶ Gizatulina and Hellwig (2014) observed that Heifetz and Neeman (2006) did not actually study the BDP property as a property of belief functions but as a property of priors and that Heifetz and Neeman (2006) did not take account of the role belief functions as conditional distributions. For incomplete-information models with given finite-dimensional abstract type spaces, Gizatulina and Hellwig (2014) used a version of the well-known embedding theorem for continuous functions to show that the set of continuous belief functions exhibiting the BDP property is a residual subset of the set of all continuous belief functions when this space is given the topology of uniform convergence. They also showed that this genericity result for the BDP property can be extended to vectors of belief functions (for the different agents) that are compatible with common priors.

For incomplete-information models with abstract type spaces, Gizatulina and Hellwig (2017) show under fairly general conditions, not only the BDP property but also the McAfee-Reny (1992) necessary and sufficient condition for full surplus extraction (FSE) is generic. The result rests on the insight that the McAfee-Reny condition can be interpreted as a strengthening of the BDP condition, namely, if one knows an agent's beliefs, then one also knows that the agent himself knows his type, i.e., his beliefs cannot come from a non-degenerate mixture of types, and one can infer the type from the beliefs. An initial version of this result was already reported on in the last report of the Institute. The final version has two important

6 See, e.g. Palfrey and Srivastava (1986).

generalizations: First, it allows for beliefs to be arbitrary measures on the space of states of nature (and other agents' characteristics); initially we only had a result for beliefs that have continuous densities with respect to some fixed measure.

Second, we allow for the space of beliefs to have any topology that is induced by a metric that is a convex function. This condition allows not only for the usual topology of weak convergence of probability measures but also for the topology that is induced by the total-variation norm. This generalization is important because it pre-empts the criticism that the topology of weak convergence of probability measures is too weak to provide for the continuity properties of strategic behaviour that are deemed to be desirable.⁷

Gizatulina and Hellwig (2017) also provide an answer to the question that was posed in the last report of how the analysis of genericity of BDP or FSE belief functions in an abstract type space setting relates to the analysis of strategic behaviour in the universal type space, i.e. space of hierarchies of agents' characteristics, agents' beliefs about other agents' characteristics, agents' joint beliefs about other agents' characteristics and beliefs about other agents' beliefs, etc. In the last report, we had argued that, in the context of the universal type space, it does not make sense to talk about properties of belief functions because belief functions in the universal type space are trivially given as projections from universal types to belief hierarchies (or to the measures on other agents' type spaces that are induced by the belief hierarchies). The question of how beliefs are generated, what information they reflect, and whether the information can be inferred from the beliefs cannot be addressed as a question about belief functions.

To overcome this objection, we introduce the concept of an *information-based subset of the universal type space*, i.e. a subset of the universal type space that is obtained as the image of an abstract-type space (with given belief functions) under the natural mapping that uses the vector of belief functions in the abstract-type space model to generate the hierarchy of beliefs of an agent. Given this concept, we show that the set of subsets of the universal type space for which full surplus extraction is feasible contains a set that is residual in the set of compact information-based subsets of the universal type space when this set is given the Hausdorff topology.

The underlying topology on the space of belief hierarchies can be any topology that is metrizable by a convex metric. This condition is not only satisfied by the product topology but also by the (stronger) uniform topologies proposed by Dekel et al. (2006) and Chen et al. (2010) in order to allow for the possibility that, as in Rubinstein's (1989) e-mail game, beliefs of arbitrarily high orders in the hierarchies can be strategically important. Our genericity results are thus much stronger than analogous results in Chen and Xiong (2011, 2013), which deal with common priors on belief-closed subsets of the universal type space works when that space has the product topology; their analysis relies on the denseness of finite models in the product topology, which in turn rests on the fact that the product topology assigns ever smaller weight to ever higher-order beliefs.

Whereas the universal type space involves beliefs in terms of hierarchies of beliefs of different orders, the McAfee-Reny condition for full surplus extraction treats beliefs as probabilities over other agents' characteristics. From Mertens and Zamir (1985), it is well known that hierarchies of beliefs can be mapped into beliefs over other agents' belief hierarchies and that this mapping is a homeomorphism if the space of belief hierarchies is given the product topology and the spaces of beliefs all have the topology of weak convergence of probability measures. Hellwig (2016) proves the analogous result when the space of belief hierarchies has the uniform strategic topology of Dekel et al. (2006) or the uniform weak topology of Chen et al. (2010). The homeomorphisms theorems play an important role in the Gizatulina-Hellwig (2017)

7 See Dekel et al. (2006), Chen et al. (2010). Grafenhofer and Kuhle (2016) show that the analysis of Rubinstein's e-mail game changes dramatically if, in addition to their own information, the participants can also observe noisy signals of the other agents' observations; this modification of Rubinstein's game always has an equilibrium in which agents co-ordinate on a change of actions, e.g. the co-ordinated "attack" in Rubinstein's military example, whenever the fundamentals are such that this change is Pareto-superior to passivity.

analysis of the genericity of full surplus extraction in a universal-type-space approach. A 2017 revision of Hellwig (2016) provides a considerable strengthening of the homeomorphism theorem, relying on some new mathematical results in Hellwig (2017).

Our results on the genericity of full surplus extraction should not be interpreted as saying that we regard Crémer-McLean or McAfee-Reny mechanisms as plausible, or that we consider the mechanisms of Johnson, Pratt, and Zeckhauser (1990) and d'Aspremont, Crémer, and Gérard-Varet (2004) as an appropriate basis for tackling social choice problems involving public goods. They should instead be interpreted as saying that assessments of genericity or sparseness do not provide a good basis for criticizing these mechanisms. To be effective, a criticism must dig deeper.

C.III.1.3 Robustness and Large Economy Models: Samuelson Vindicated

The ability to exploit correlations between valuations requires precise information not just about the joint distribution of the different participants' public-good valuations, but also about the different participants' beliefs about the other agents' valuations, the other agents' beliefs about the other agents' valuations, etc. It seems implausible that a mechanism designer should have this information. Ledyard (1979) and Bergemann and Morris (2005) have proposed a *robustness requirement* that would eliminate the dependence of an incentive scheme on this kind of information. According to Bergemann and Morris, a social choice function, e.g. in the public-good provision problem a function mapping cross-section distributions of valuations into public-good provision levels and payment schemes, is *robustly implementable* if, for each specification of "type spaces", in particular, for each specification of beliefs that agents hold about each other, one can find an incentive mechanism that implements the outcome function in question.

In public-good provision problems with quasi-linear preferences, robust implementability is, in fact, equivalent to *ex post* implementability and to implementability in dominant strategies. This eliminates all social choice functions whose implementation would involve an exploitation of correlations and agents' beliefs about correlations. In particular, social choice functions with first-best outcomes are not robustly implementable. The mechanisms for first-best implementation in Johnson et al. or d'Aspremont et al. make essential use of information about beliefs, beliefs about beliefs, etc.

Given these findings, Bierbrauer and Hellwig (forthcoming) argue that the robustness criterion of Ledyard (1979) and Bergemann and Morris (2005) provides the proper setting for understanding the essence of the difference between public and private goods. All findings from the independent-private-values case carry over to robust implementation with correlated values. In particular, (i) for private goods, approximately efficient implementation is possible with voluntary participation if the number of participants is large, and (ii) for public goods with provision costs commensurate to the number of participants, hardly any provision at all is possible with voluntary participation if the number of participants is large. These results confirm Samuelson's (1954) suggestion that private, contractual arrangements for efficient public good provision are not available and that an increase in the number of participants is likely to make the problems worse rather than better.⁸

If voluntary participation is not required, a very different conclusion is obtained. In the absence of participation constraints, one can use Groves mechanisms to implement first-best outcomes. However, with a finite number of participants, it is not possible without generating a surplus or a deficit of the public budget in some contingencies. Clarke-Groves mechanisms never yield deficits but they sometimes involve surpluses. The reason is that each agent's payments must be calibrated precisely to the externalities he imposes in

⁸ In contrast, if robustness is not imposed, with correlated values, the results of Gizatulina and Hellwig (2017) imply that, generically, first-best allocations can be implemented with voluntary participation, in models with public goods as well as in models with private goods.

those circumstances, where he is pivotal and has a significant effect on the level of public-good provision. This calibration can be compatible with budget balance in some circumstances but not in all.

In contrast to the problems posed by voluntary participation, the difficulties that robust, or dominant-strategy, incentive compatibility poses for budget balance become less important when there are more participants, and they disappear altogether in a large economy, with a continuum of agents. In a large economy, no agent is ever pivotal, i.e. no agent ever has a significant effect on the level of public-good provision. Robust incentive compatibility reduces to the requirement that each agent's payment be independent of what the agent communicates to "the system" about his valuation for the public good. Thus, Bierbrauer and Hellwig (2015) show that, in a large economy, first-best implementation with budget balance can always be obtained. The result holds regardless of what is being assumed about correlation structures, so that, in contrast to the independent-private-values case, it encompasses models with aggregate, as well as individual uncertainty in which the question of how much of the public good should be provided is non-trivial.

Along the same lines, Bierbrauer's (2014) study of the interdependence of public-good provision and income taxation with aggregate uncertainty about public-good preferences shows that, if a robustness condition is imposed, the standard procedure of having separate analyses of public-good provision and income taxation, effectively neglecting the information problems in public-good provision,⁹ can be vindicated, at least if preferences are additively separable between consumption and leisure. In this case, the arguments given in Bierbrauer and Hellwig (2015) imply that, in a large economy, it is always possible to induce truth-telling about public-good preferences by having payments be independent of reported preferences; moreover, incentive-compatibility conditions do not depend on people's beliefs about each other, i.e. they hold robustly. Given the financing needs that arise from efficient public-goods provision, an optimal income tax schedule can be determined along the lines of Mirrlees (1971) or Hellwig (2007).

The analysis of large economies with aggregate as well as individual uncertainty involves difficult technical problems. If one thinks about uncertainty in the large economy as involving a mixture of individual and aggregate shocks, one needs an appropriate mathematical framework. The issue is how to formalize the notion of a continuum of conditionally independent random variables in such a way that cross-section distributions are well defined.

For this purpose, Hellwig (forthcoming) develops a formulation of incomplete-information games with a continuum of agents in which there is both aggregate and individual uncertainty. At the level of aggregates, individual uncertainty cancels out. This is formally derived from a (conditional) law of large numbers. However, in any such model, one must deal with the conundrum that, at least in standard formulations, there is no such thing as a continuum of non-trivial (conditionally independent random variables; more precisely, while one can use Kolmogorov's extension theorem to construct such an object, the cross-section sample realizations, e.g. the assignments of public-good valuations to individual agents are non-measurable with probability one, so that cross-section distributions are not even well defined. Drawing on Sun's (2006) notion of a rich Fubini extension of a product of probability spaces, Hellwig (forthcoming) shows how these difficulties can be overcome, even in a game-theoretic context where one is not just interested in the realization of the uncertainty for one randomly drawn agent but one is interested in the cross-section sample realization as a whole because that determines the constellation of actions chosen by the different agents.

In this setting, a condition of *anonymity in payoff functions* guarantees that agents only care about the cross-section distribution of other agents' actions. A further condition of *anonymity in beliefs* ensures that agents treat other agents' characteristics as (essentially pairwise) exchangeable random variables. Under this condition, by a version of De Finetti's theorem, the decomposition of uncertainty into an aggregate

9 See, e.g., Boadway and Keen (1993).

component and an individual component arises naturally in that, conditionally on the cross-section distribution of agent characteristics, individual characteristics are (essentially pairwise) independent and identically distributed with a conditional probability distribution equal to the cross-section distribution. Given this decomposition of uncertainty, the cross-section distribution of actions depends only on the cross-section distributions of characteristics and the cross-section distribution of strategies (functions mapping characteristics into actions). A coherence condition ensures that a given belief function is compatible with some prior (which may be agent-specific) and that the belief function exhibits anonymity in beliefs at all “types” of the agent if and only if, under the prior, the different agent’s characteristics types are (essentially pairwise) exchangeable random variables.

With anonymity in beliefs, all relevant aspects of an agent’s belief function are contained in his *macro belief function*, which maps the agent’s characteristics into probability measures over cross-section distributions of the other agents’ types. Every coherent macro belief function is compatible with an agent-specific prior, but not necessarily compatible with a common prior. Building on Hellwig (2011), the paper ends by giving necessary and sufficient conditions under which a coherent macro belief function is compatible with a common prior.

C.III.1.4 Coalition Proofness and Voting

Whereas the above-cited result in Bierbrauer and Hellwig (2015) shows that in a large economy, first-best public-good provision rules with budget balance can be implemented robustly, we are not convinced that, in the absence of participation constraints, first-best implementation is realistic. As we have argued in previous reports, we consider it reasonable to impose an additional requirement of *coalition proofness*. In the context of a large economy, such a requirement had originally been introduced in Bierbrauer’s (2009) analysis of the interference between preference revelation for public-good provision and for consumption-leisure choices. Bierbrauer and Hellwig (2015, 2016) adapt the idea to the public-good provision problem on its own.

The requirement of coalition proofness is motivated by the observation that robust implementation of first-best allocation rules may have to rely on people giving information that they would be unwilling to give if they appreciated the way it is being used. The above-cited result in Bierbrauer and Hellwig (2015) relies heavily on the fact that, in a large economy, where no one individual has a significant impact on the level of public-good provision, individual incentive compatibility conditions are trivially met if payments are insensitive to people’s communications about their preferences. This kind of implementation, however, abuses the notion that, if a person’s communication about his or her preferences does not make a difference to anything, then the person is indifferent between all messages and therefore may as well communicate the truth. If there was just the slightest chance that a person’s communication would make a difference, at least some people would strictly prefer *not* to communicate the truth.

To see why this might happen, observe that first-best implementation relies on information concerning the intensities of people’s preferences. If there is a large number of people whose benefits from the public good are just barely less than their share of the cost, first-best implementation may require that the public good be provided because the large benefits that the public good provides to a few other people are more than enough to outweigh this small shortfall. If, instead, the people who oppose the public good draw no benefit at all from it, first-best implementation may require that the public good should not be provided because the shortfall of their benefits relative to their costs is not compensated by the net benefits that are available to others. In this constellation, the overall outcome depends on the information that can only be obtained from people who don’t want the public good to be provided at all, namely whether their opposition is mild or strong. Truthtelling is individually incentive compatible because nobody believes that the

information he provides makes a difference. However, truth-telling is not coalition-proof: If someone was to organize a coalition of opponents so as to coordinate on a manipulation of the information they provide, the overall incentive mechanism would no longer be able to provide for first-best implementation.

Work on this issue started a long time ago, and we have reported on previous versions in previous reports, see, e.g. Bierbrauer and Hellwig (2011/13). Relative to these previous versions, Bierbrauer and Hellwig (2015) contains several innovations. In particular, the condition of coalition proofness is weakened. Whereas in previous versions, we had imposed a condition of robust coalition proofness, which requires the stipulated incentive mechanism to be immune to collective deviations on all type spaces, we now impose a condition of immunity to robust collective deviations. Under the earlier concept, a deviating coalition was taken to know the environment; if the type space was a singleton, i.e. a single assignment of public-goods valuations to agents, this meant that the deviating coalition had complete information, including full information about the public-good valuations of people who were not part of the deviating coalition. By imposing a robustness condition on the collective deviations themselves, we disallow any conditioning on such information about people who are not coalition members. A robust collective deviation must be advantageous, or at least not disadvantageous to all coalition members, regardless of what the type space may be and regardless of what the characteristics of people outside the coalition may be. For a collective deviation to block the implementation of a social choice function in such a robust manner is much more restrictive than blocking with conditioning on the type space. The set of social choice functions that can be implemented by robustly incentive mechanisms that are immune to robust collective deviations might therefore be presumed to be larger than the set of social choice functions that can be implemented by robustly incentive-compatible and robustly coalition-proof mechanisms.

Within the class of monotonic social choice functions, this intuition turns out to be false. We say that a social choice function is monotonic if the level of public-good provision it stipulates does not go down and may go up if the distribution of public-good valuations in the population is shifted “to the right” in the sense of first-order stochastic dominance. Bierbrauer and Hellwig (2015) prove that, if the public good can be provided at the level zero or the level one, then a monotonic social choice function can be implemented by a robustly incentive-compatible mechanism that is immune to robust collective deviations if and only if (i) the payments people must make are independent of their own characteristics and depend only on the level at which the public good is provided and (ii) the level at which the public good is provided depends only on the population shares of the set of proponents and the set of opponents of provision, i.e. the set of people whose valuations exceed the difference between the payments at the two outcomes and the set of people whose valuations fall short of that difference. Such social choice functions can in fact be implemented by *voting mechanisms*, i.e. by asking people who is for and who is against the provision of the public good and providing the public good if the votes for provision exceed a specified threshold (not necessarily 50%).

Whereas Bierbrauer and Hellwig (2011/13) considered only the case of two provision levels, Bierbrauer and Hellwig (2015) allow for an arbitrary number of provision levels with non-decreasing marginal provision costs. We introduce the additional condition that, if all participants claim to have either the minimal possible or the maximal possible valuation for the public good, then, as the population share of the people claiming the maximum goes from zero to one, the public-good provision level stipulated by the social choice function goes from zero to n , taking all the values $0, 1, \dots, n-1$, n in between. A social choice function that satisfies this condition, in addition to monotonicity and equal cost sharing, can be implemented by a robustly incentive compatible mechanism that is immune to robust collective deviations if and only if there exists a non-decreasing sequence of thresholds such that the public good is provided at level k if and only if, in a binary vote between levels $k-1$ and k , the threshold for the higher level is met and, in a binary vote between levels k and $k+1$, the threshold for the higher level is not met.

If the additional condition the social choice function is not imposed, it still is the case that robustly incentive-compatible mechanisms that are immune to robust collective deviations must be voting mechanisms, but

these mechanisms can have more complex structures. Preliminary investigations indicate that the same is true if public-good provision involves decreasing, rather than increasing marginal costs. (The conjecture in our previous report that decreasing marginal costs may give rise to voting paradoxes seems to be false.)

We consider these results to be important because they provide a link between welfare economics/mechanism design and political decision making, bridging a gap that has in the past caused a complete disconnect between economics and political science, and even between public economic theory and political economy. From the perspective of welfare economics, or of public economic theory, voting mechanisms have always been suspect, or even an object of scorn, because they pay no attention to intensities of preferences. Thus it is easy to show that voting can lead to inefficient outcomes, for example if there are many yea-sayers who do not really value very much and a few nay-sayers who care a great deal. The scorn is misplaced however if information about preference intensities cannot be obtained in a reliable manner. Our results indicate that, if communication about preference intensities is vulnerable to distortions by coalitions, then indeed voting mechanisms may be the only ones one can use.

In the editorial process for Bierbrauer and Hellwig (2011/13), we had been asked to show that our analysis also applies to large finite economies. Once we had done so – for robustly implementable and robustly coalition-proof mechanisms – the referees and the editor asked us to drop the large-economy part altogether. The referees were experts in mechanism design and social choice and could not have cared less about the economics of public-good provision, let alone the need to have a large-economy approach that would allow us to integrate public-good provision with standard analyses of income taxation and of commodity taxation in competitive markets, which presume a continuum of agents. Thus, Bierbrauer and Hellwig (2016) contains the result that, in a model with finitely many participants and two levels of the public good, robustly incentive-compatible and robustly coalition-proof mechanisms must be voting mechanisms and, conversely, any voting mechanism is robustly incentive-compatible and robustly coalition-proof.

Relative to this result for finite economies, the large-economies result in Bierbrauer and Hellwig (2015) has several advantages: First, the concept of coalition proofness is weaker, so the finding that coalition proofness implies use of a voting mechanism is more surprising. In Bierbrauer and Hellwig (2016), coalitions that condition on complete-information type spaces play a key role. Second, Bierbrauer and Hellwig (2016) have to assume that coalitions do not use side payments between members. In the large-economy analysis of Bierbrauer and Hellwig (2015), we actually show that side payments in a coalition must be zero. However, since robustness in the transition from finite to large economies is important, we will have to come back to this issue for the weaker concept of coalition proofness in Bierbrauer and Hellwig (2015).

C.III.1.5 Taxation

In past work, we had addressed the role of taxes as a source of funding for public goods. In particular, Hellwig (2004/2009) had argued that the traditional three-way split between the theory of mechanism design and public-good provision, the theory of public-sector pricing under a government budget constraint, and the theory of redistributive taxation (income taxation) should be replaced by a two-way split between models with and models without participation constraints, where taxes play a role in both, as a source of funding for public goods under participation constraints and as a means of redistribution when there is inequality aversion. Over the past four years, we have not added to this work but have made several contributions to the theory of taxation, especially in connection with political competition.

Within a Ramsey-Boiteux setting, Aigner and Bierbrauer (2014) study the problem of how to tax financial services, a question that has been prominent in recent policy debate. They use a model of “boring banking”, in which the bank uses some inputs to provide services for depositors and some other inputs to screen

loan customers, to study optimal taxation in a general-equilibrium setting. Under the assumptions of perfect competition and constant returns to scale, they find that a variety of “different” modes of taxation that have been considered in the policy debate are in fact equivalent. The differences that have been stressed in the policy debate have in fact been due to differences in revenue raised by the government and in utility obtained by the private participants. Once these differences are corrected for, different modes of taxation that end up having the same effects on margins between final outputs and final inputs are shown to be equivalent. Matters are different if there are rents, from monopoly power or from decreasing returns to scale. In this case, the different tax modes that have been proposed may differ with respect to their impact on rents but the logic of Ramsey, Boiteux, Diamond, and Mirrlees, which demands that these rents should be taxed away, still dominate the analysis.

Aigner (2014) studies the interaction of distributive and allocative concerns in the context of environmental taxation, which might have adverse distributive effects. The problem is considered in a standard Mirrleesian framework of optimal income taxation with two productivity groups, augmented by a second consumption good, which induces a negative environmental externality. The analysis of optimal taxation is done once in a setting with first-best income taxation and once in a setting with second-best income taxation à la Mirrlees. After identification of a term in the formalism that can be taken to stand for the “greenness” of the Pigouvian tax on the good with the negative externality (which is an issue because, in a general-equilibrium setting, there is no natural numéraire), the paper shows that, somewhat surprisingly, an increase in the welfare weight of the less productive group makes the “greenness” term go up if a first-best allocation is to be implemented and to go down if a second-best interior allocation is to be implemented. The reasons have little to do with the political considerations that originally motivated the analysis and a lot with the effects of the welfare weight of the low-productivity group on the shadow price of the resource constraint: In a first-best allocation, only high-productivity people work; if their welfare weight goes down, the shadow price of the resource constraint goes down because it is less problematic to have these people work extra. In a second-best interior allocation, in contrast, the shadow price of the resource constraint goes up because with more redistribution, deadweight losses from having to satisfy incentive constraints are higher.

Hansen (2017) studies a generalization of the classical model of optimal utilitarian income taxation, combining the formulations of Mirrlees (1971), which had looked at labour-leisure trade-offs at the intensive margin where people decide how many hours to work, and Diamond (1980), which had looked at labour-leisure trade-offs at the extensive margin where people decide whether to take up a job or not. Hansen (2017) allows for choices to concern both hours worked and whether to take a job or not; he assumes that heterogeneity across agents involves two parameters, one that is relevant for decisions at the intensive margin and one that is relevant for decisions at the extensive margin. For this specification, he shows that the sign of the optimal marginal income tax is indeterminate. The classical result that labour supply of all skill groups except for the top is distorted downwards at both the intensive and the extensive margin, and labour supply at the top is undistorted at the intensive margin, but is distorted downwards at the extensive margin, holds for some specifications, but not for all. For some specifications, it may be the case that, at the utilitarian optimum, labour supply of all skill groups is undistorted at the intensive margin and labour supply of some skill group is distorted upwards at the extensive margin. And so on: There is a plethora of possible constellations; optimal marginal tax rates depend not only on the trade-off between distributive concerns and efficiency concerns but also on the trade-off between efficiency concerns at the intensive margin and efficiency concerns at the extensive margin. The original conclusions of Mirrlees and Diamond, that optimal marginal income tax rates are everywhere non-negative and optimal taxation induces only downward distortions in labour, are however restored if only one of the two dimensions of heterogeneity is private information of the person involved, and the other dimension is publicly observed. This is true regardless of which of the two dimensions is publicly known and which is private information. The observation that upward distortions at the extensive margin might be desirable bears on the discussion about the earned-income tax credit in the United States, which subsidized work by people at the lower end

of the income distribution – an arrangement which would be undesirable in both, the formulation of Mirrlees (1971) and the formulation of Diamond (1980).

A critical survey of the literature on optimal utilitarian taxation in the tradition of Mirrlees (1971) and Diamond (1980) is given in Bierbrauer (2016).

C.III.1.6 Political Competition and Voting

In a series of papers, Bierbrauer and Boyer (2013, 2014, 2016) have considered the impact of political competition on taxation. Bierbrauer and Boyer (2013, 2014) do so in a Mirrleesian setting with only two values of the productivity parameter and potential ability differences between politicians. Assuming that the low-productivity group is larger, they find a tradeoff between distributive concerns and concerns about the ability of the politicians. Outcomes depend on parameter constellations. The leading case is shown to be one where the optimal Mirrleesian income tax for a Rawlsian welfare function is implemented.

Bierbrauer and Boyer (2016) modify the analysis by introducing the possibility of targeted transfers, i.e. the use of funds raised to provide subsidies to any targeted set of participants. With two politicians competing for votes, they find that any symmetric equilibrium must induce an allocation that is efficient in the sense that it maximizes overall surplus (including surplus from public-good provision). If voters are risk-averse, some insurance/redistribution might be desirable, but there is a surplus-maximizing policy with randomized subsidies to participants that wins a majority against any welfare-maximizing policy.

Hansen (2014) studies two models of political competition. The first model stands in the tradition of Downs (1957), with voters arrayed on a Hotelling line, where voters rank policies according to their closeness to their location. The new feature of the analysis is in the endogenous formation of party membership and the endogenous choice of party candidates. This contrasts with the original work of Downs, which simply assumed that there are two parties without considering the membership of these parties. It also contrasts with the work of Besley and Coate (1997), who considered political competition between individual “citizen candidates”. Apart from injecting an element of realism, the consideration of endogenous party membership and endogenous candidate selection allows the author to obtain qualitatively new insights. Whereas Downs had argued that parties trying to maximize their shares of the vote will choose their programs so as to congregate in the centre and the citizen candidate model of Besley and Coate yields equilibrium policy programs at the two ends of the Hotelling line, Hansen’s model yields outcome between the two extremes, with both a minimum distance and a maximum distance between the candidates whom the parties put up for the general election. The minimum distance is given by the requirement that party membership must be motivated, which is only possible if they see a genuine difference between the two parties. The maximum distance is given by the Downsian concern that extremism is bad for attracting votes.

In the other model of Hansen (2014), voters have the same preferences and have to choose between two candidates without knowing which candidate is more competent. The underlying policy question is whether to engage in a reform or not. The reform is costly, and the cost is only worth it if the reform succeeds; the probability of success depends on the competence of the politician in charge. The question posed is to what extent uncertainty about candidate quality can justify a form of power sharing. Power sharing and power concentration are modelled by assuming that each candidate gets a share of power that depends on the candidate’s share of the vote and on a parameter characterizing the extent to which the political system allows for a concentration of power with the winner of the vote. The analysis shows that, if there is no uncertainty about the candidates’ ability levels, full concentration of power is desirable. In this case, a candidate proposes reform if and only if he is able enough so that the expected net benefit of the reform is positive. With uncertainty about candidates’ ability levels, full concentration of power with the winning candidate is still welfare maximizing if holding the office provides only small intrinsic benefits to candidates.

If keenness to hold the office exceeds a certain threshold however, full power concentration is longer welfare-maximizing and some power sharing is desirable, the more so the greater the “keenness parameter” is. The theoretical analysis is complemented by an empirical study showing that, in a cross-section of countries with similar democratic systems but different degrees of power concentration for election winners, per capita GDP growth in the years 2004 - 2011 (interpreted as a measure of policy efficiency) is significantly negatively correlated with a variable that is given by the product of power concentration and office motivation of politicians.

Bruns and Himmler (2010, 2011, 2016) concern the impact of media presence on the performance of elected public officials. The earlier papers had provided empirical evidence showing that performance is positively affected by media presence: Bruns and Himmler (2010) showed that public spending in a county in the US is positively affected if a television station is located in that county; Bruns and Himmler (2011) showed that the performance of local government in Norway is the better the larger the local newspaper circulation is. The new paper, Bruns and Himmler (2016) develops a theoretical model to investigate the willingness of voters to pay for media that provide information about (local) government. Whereas the standard argument about people being “rationally uninformed” suggests that people would not spend money on such media because whatever they do with the information they obtain will not have an effect on the outcome, this paper shows that some spending on such media (albeit inefficiently little) can be supported if people have a sense of a belonging to a group with homogeneous interests and that the information affects the choices of all group members. There may thus be an interesting link between the empirical findings in Bruns and Himmler (2010, 2011) and our theoretical work on coalition formation as an important element in public decision making.

C.III.1.7 Further Work on Incentive Mechanisms and Governance

Several papers address issues of incentive mechanisms and governance that do not directly fall into the program that was outlined in Sections C.III.1.1 – C.III.1.4. Thus, Bierbrauer and Netzer (2016) study the implications of agents’ having social preferences à la Fehr-Schmidt for the implementability of social choice functions. Under an additional assumption on the desire for insurance, incomplete information of the mechanism designer about the weight given to reciprocity concerns does not upset implementability. With complete information about the weight given to reciprocity, all efficient social choice functions are shown to be implementable.

Gorelkina (2014) is concerned with the well-known vulnerability of the Vickrey (second-price) auction to collusion. To preclude collusion, the paper proposes two modifications. First, a so-called “gap rule” stipulates that the Vickrey rule is applied if and only if the gap between the highest price and the second-highest price exceeds the gap between the second-highest price and the third-highest price. Otherwise the bidder with the second-highest price receives the object and pays the third-highest price. Second, the auction is split into two rounds. In the first round, participants make bids, and each participant names a “target”, some other participant or himself. If the two top bidders self-target, the Vickrey auction is played, otherwise the gap rule is applied. For a game in which the actual gap rule/target bids auction is preceded by a stage in which the players know their values and can communicate and conclude a cartel agreement, the paper shows that the Vickrey outcome is a Bayes-Nash equilibrium outcome of the game. The modifications introduced by the gap rule and by target bids preclude active collusion, which would not be true if the coalition formation stage would be followed by a simple Vickrey auction.

Gorelkina (2015) considers the effects of level k reasoning on equilibrium outcomes of games played under the expected-externality mechanism of d’Aspremont and Gérard-Varet (1979). “Level k reasoning” occurs when agents go only through a finite number of iterations in thinking about what other agents think

about what other agents think, etc. While the original expected-externality mechanism is likely to fail to implement an efficient social choice function rule in this environment, the paper shows that this mechanism can be adjusted to restore efficiency.

Hanousek and Kochanova (2016) study the effects of corruption on efficiency. In an empirical analysis of multi-country data, they reconcile the apparent conflicts between previous assessments by showing that a higher mean index for corruption in a country goes along with weaker firm performance (sales and productivity growth) but a higher measure of dispersion in corruption goes along with better firm performance. Fungacova, Kochanova and Weill (2015) show that indices of bribery in local environments go along with higher levels of firm indebtedness to banks. However, this effect involves mainly short-term rather than long-term debt, which explains why it does not translate into effects on long-term investments. The effect is the stronger, the lower is the level of financial development, the lower is the market share of private banks and the lower is the market share of foreign banks. Further papers by Jerbashian and Kochanova (2016, 2017) show that bureaucratic barriers to entry into doing business go along with lower rates of investment in ICT and that higher levels of ICT development go along with more intense competition in services. Both papers together provide a picture of strategic complementarity between ICT investment and economic activities that rely on ICT. From a theoretical point of view, this complementarity is not surprising, but it is remarkable that the picture is clearly confirmed by what is after all a set of very noisy data. Most recently, Hasnain, Kochanova, and Larson (2016) show that having the ICT infrastructure and putting government procedures on the web can have a significant impact on such matters as tax compliance and corruption.

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C.III.2 Financial Stability, Financial Regulation, and Monetary Policy

C.III.2.1 Systemic Risk and Macro-Prudential Policy

Discussions of collective goods do not usually refer to the financial sector. However, collective-goods aspects play an important role in arguments about statutory regulation in this sector. “Systemic risk” has always had a prominent place in discussions about banking regulation and supervision. In the past, however, references to systemic risk were more a matter of lip service than of substance,¹⁰ but the financial crisis of 2007–2009 has put systemic risk squarely on the agenda of regulators and scholars. “Systemic risk” has even become a legal term, which appears in the European Union’s regulations concerning the European Systemic Risk Board (ESRB) and the capital requirements for banks.¹¹ Thus the Capital Requirements Directive of 2013 explicitly provides for a “number of tools to prevent and mitigate macro-prudential and systemic risk”. The rapidity with which systemic risk concerns have been put into legal norms is remarkable because as yet there is no clear understanding of what the term refers to. In some utterances, “systemic risk” referred to risks to the real economy that might come from the financial system; in others to risks to the financial system (as a whole) that might come from shocks to the real economy (business cycle risk, interest rate risk, exchange rate risk); in more traditional economic analyses, the term used to refer to risks arising from propagation mechanisms inside the financial system that might lead the difficulties of one institution to take down the entire system. The term “macro-prudential”, a younger cousin of “systemic risk”, is no clearer. Is “macro-prudential” policy concerned about protecting the macro-economy, or is it concerned about protecting the financial system from the macro-economy? In an upswing, when exuberance encourages risk taking in the financial system along with an expansion in the real economy that may turn out to be a bubble, the two concerns are aligned, but in a slump, both when the banking system and the macro-economy are weak, they may be in conflict. In such a situation, should macro-prudential policy encourage bank lending even if that means taking on risks that may prove deadly? Or should macro-prudential policy focus on restoring bank health, with a hope that healthy banks will take up new lending if and when such lending promises adequate returns?

Hellwig (2014c) provides a systematic account of the issues and discusses possible implications for the design of institutions and policies. The account begins with an overview over the different propagation mechanisms that we have seen:

- domino effects from defaults on contracts, e.g. Lehman Brothers vis à vis the money market fund Reserve Primary;
- repercussions of the disappearance of potential contracting parties, e.g. Lehman Brothers as a market maker in derivatives in London or money market fund investors as a source of funding for money market funds and ultimately money markets;
- information contagion as the difficulties of one institution are taken to provide information about other institutions, e.g., Lehman Brothers about other investment banks, Reserve Primary about other money market funds, Greece about Portugal;
- hysteria contagion as the difficulties of one institution make people afraid that other investors might draw inferences about other institutions, and everyone begins to run;

¹⁰ See Hellwig (1998)

¹¹ Regulation (EU) No. 1092/2010 of the European Parliament and of the Council of 24 November 2010 on European Union macro-prudential oversight of the financial system and establishing a European Systemic Risk Board, Regulation (EU) No. 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms, and Directive 2013/36/EU of the European Parliament and of the Council on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms.

- asset price contagion (fire sale contagion) as asset sales by one institution taking defensive measures to reduce threats to its solvency or to its liquidity depresses asset prices and thereby imposes (fair-value accounting) losses on all institutions that hold similar assets;
- market breakdowns and freezes, as an extreme form of disappearance of potential contracting parties.

The paper stresses the highly contingent nature of these mechanisms. For example, the strength of an asset price contagion mechanism depends on what shape the potential buyers are in, what confidence the potential buyers have about the underlying fundamentals, and what expectations they might have about the dynamics of ongoing downward movements in markets. The paper also points out that the different contagion mechanisms are likely to appear together, with combinatorics of potential interactions that defy any *ex ante* analysis, let alone any attempt to provide a comprehensive analysis by putting such mechanisms into a standard dynamic stochastic general equilibrium macro model and calibrating the model dynamics.

As an alternative, Hellwig (2014c) suggests investigating system exposure to macro shocks. In simple cases, such as the Scandinavian banks around 1990, such an analysis is easy because different banks had parallel exposures, e.g. with significant maturity transformation implying high vulnerability to the direct and indirect effects of increases in interest rates. In more complicated cases, some of the exposures might be hidden in counterparty credit risk, or in asset price contagion risks. For example, adjustable-rate mortgage lending provides the lender with a hedge against the risk that market rates of interest might go up, but exposes the lender to a risk of borrower default if market rates of interest go up, the interest rate on the mortgage is adjusted accordingly, the borrower is unable or unwilling to pay, and real-estate prices are in decline (as one would expect when market rates of interest are high). Hellwig (2014c) argues that, since most serious financial crises have been associated with macro shocks, investigating institutions' exposures to macro shocks, including those exposures that arise from imperfect hedging, the participants' fooling the supervisors and themselves about what their true exposures are, may be a better way to assess overall system risk exposure than a fixed calibration of propagation mechanisms in the context of a given macro model.

In contrast to most of modern macroeconomics, which focuses on formalization, quantification, and calibration, this proposal takes its cue from competition policy where it is well known that usually a given real-world phenomenon cannot be matched to any particular formal model that may be available but must be analysed on the basis of ideas taken from the zoo of available models with a view to trying to understand what *the story* behind the observed facts may be.¹² As a matter of institution design, Hellwig (2014c, 2015) proposes that one institution be given the task to observe ongoing developments and come up with systemic risk assessments along these lines, focussing on the probable story behind observed developments, rather than ticking boxes in lists of indicators that are presumed to matter.

For macro-prudential policies, Hellwig (2014c, 2015) notes that most measures that have so far been used are in fact measures of micro-prudential regulation and supervision, which are added to the usual micro-prudential measures when macro-prudential concerns seem to call for them; indeed in some instances, the "macro-prudential" label is no more than a fig leaf to disguise micro-prudential measures taken at the national level to circumvent the EU's harmonization of micro-prudential regulation. Given this observation, he suggests that "macro-prudential" policies ought to be carried out by all the authorities that must be concerned, micro-prudential supervisors, central banks, and finance ministries, taking the systemic-risk analysis of the previously mentioned institution as an input and coordinating on the appropriate measures. He also suggests that trade-offs between different objectives, such as the one mentioned above, whether in a recession priority should be given to the restoration of bank lending and the real economy or to the restoration of bank profits and bank solvency, should be addressed explicitly.

12 See Gual et al. (2006).

Hellwig (2017a) contains a discussion of the trade-off in the context of the current situation in the euro area. With reference to experiences from past crises, the paper strongly recommends that priority be given to the restoration of bank profitability and bank solvency even if that takes time.¹³ Given the stock-flow problems associated with a restoration of bank equity from retained earnings, the paper also points to the analysis of Admati et al. (2012) whereby an immediate equity issue through a rights offering would be feasible if a bank was known to be solvent and would not require a net flow of cash from the market to the bank if the bank were to reinvest the proceeds in the market. For banks whose solvency is impaired, entry into a resolution regime would be called for. For the incentive issues that are associated with such measures, see the discussion of debt overhang and leverage ratchet effects in Section C.III.3 below.

C.III.2.2 Capital (Equity) Requirements for Banks

Admati and Hellwig (2013a), “The Bankers’ New Clothes: What’s Wrong with Banking and What to Do about It”, was published by Princeton University Press in 2013, but has continued to affect work for quite a while. A paperback edition with a new preface was published in 2014. By now the book has also been published in German, Spanish, Japanese, Complex Chinese, Simplified Chinese, Hebrew, Portuguese, and Italian. An account of the book’s contribution is given in our previous report. As mentioned there, the book had originated from discussions of what to do with Admati et al. (2010/2013), which was too long for a journal article and too short for a monograph. By now a major part of this paper has been actually been published in Admati et al. (2014). Even so, SSRN continues to be the main outlet for this paper, with over 7000 downloads so far.

Discussion of the book’s and the paper’s messages has gone on unabated. We have therefore updated Admati and Hellwig (2013 b) several times. The last update, from January 2016, refers to “31 Flawed Claims Debunked”. A further update, addressing at least 33 flawed claims, is due to come out shortly.

Among the book’s messages, the criticism of risk-based determination of capital requirements for banks has been particularly contentious. “Surely a bank that holds riskier assets must be required to have more equity!” In practice of course, the meaning is that banks claiming have safer assets will get away with lower equity requirements, i.e. with using the equity funding they have to borrow more and to engage in more risks. Problems with risk weights had previously been pointed out in Hellwig (2008/2009, 2010). The analysis in Hellwig (2014c) that is summarized above indicates that, once systemic interactions are taken into account, in particular correlations between counterparty risks on hedges, such as adjustable-rate clauses, the notion that risks can be “measured” is quite unrealistic.

Hellwig (2016b) extends this criticism to the proposed practice of calibrating minimum requirements for funding by equity and bail-in-able debt, i.e. debt that is not exempt from participating in losses in bank resolution, to the risks inherent in the bank’s assets. In this context, the arguments given in earlier work are reinforced by the concern that the purpose of bail-in-able debt only becomes relevant in insolvency, i.e., that, in principle, a risk-based argument should be formulated in terms of conditional probabilities given the event of resolution. Under existing rules, resolution is triggered by the authorities’ determination that the bank is failing or likely to fail. From an ex ante perspective, under the rules given for risk-based modelling, this event in turn should have an assessed probability of no more than 1 percent over a horizon of ten days. The presumption that one can give reliable estimates of risks conditional on an event that has a probability of 1 percent is absurd. However, risk-weighting is attractive because it reduces the required eligible liabilities, enabling banks to save on default risk premia in the interest they must pay to debt holders.

13 See also Wissenschaftlicher Beirat (2016, 2017).

Behn et al. (2014) provide empirical evidence on the impact of allowing banks to use their own internal ratings to assess credit risk for determining required equity. To obtain identification, the paper uses a natural experiment that provided by the fluke that Germany introduced the new internal-ratings-based (IRB) approach for assessing credit risk of loan customers just before and during the financial crisis, and that she did so gradually, with different banks transitioning to the IRB approach at different dates and each bank using both, IRB and standard approaches simultaneously, at least for some time. As a result, a given firm might be indebted under different loan contracts of which some would require the lending bank to use equity under the IRB approach and some to use equity under the standard approach. Assuming that the true default risk for the different loan contracts would be the same, differential responses of the lending bank(s) to outside shocks would have to be ascribed to the difference between the two approaches or to differences between banks; the latter effect however can be controlled for by conditioning on relevant bank characteristics such as the bank's own equity or profits, or whether the bank was large enough to have its own IRB assessment at all.

The investigation yields two major findings: First, IRB loans that were originated under the new regime of Basel II have lower assessed probabilities of default PD than IRB loans that were originated before the introduction of the new regime as well as non-IRB loans. Second, the actual subsequent performance suggests that PDs of IRB loans that were originated under the new regime of Basel II were systematically underestimated. Transition to a system in which required equity depended on the banks' assessments of borrowers' risks provided incentives to have lower assessments of these risks, and this is precisely what the empirical analysis shows as having happened.

Behn et al. (2016) studies the effects of using the IRB on the cyclicalities of bank lending. Relying on the same natural experiment as the first paper, the empirical analysis shows that, in the financial crisis, loans for which required equity was determined by the IRB approach were reduced significantly more than loans for which required equity was determined by the standard approach; moreover, this difference was present even in those cases where the standard approach was used although the bank did have its own IRB assessment of credit risk, i.e. the difference was due to the regulation rather than the risk assessments. The effect was the larger the less well capitalized the bank was. It was also relatively larger if the loan was larger, the firm was relatively less profitable in 2007/2008 and if the firm's probability of default (PD) had gone up in the crisis. The results are interpreted as indicating that the internal ratings are very responsive to cyclical developments and therefore banks relying on the IRB approach react more strongly to an economic downturn.

C.III.2.3 Debt Overhang and Leverage Ratchet Effects

Further revisions were done on Admati et al. (2013), which is now forthcoming in the *Journal of Finance*. As was explained in the previous institute report of the institute, this paper argues that shareholders' attitudes to increases in equity are largely determined by the effects of debt overhang. In contrast, most of the literature considers shareholder resistance to equity issuance to be due to asymmetric information as in Myers and Majluf (1984). However, the Myers-Majluf argument cannot explain shareholder resistance to increases in equity that take place through retained earnings or through rights offerings. In fact, Myers and Majluf claim that as a form of funding retained earnings are cheaper than debt. By contrast, the effects of debt overhang apply to all forms of increases in equity.

In its simplest form, the argument starts from the original propositions of Modigliani and Miller that, in the absence of distortions and frictions, the value of a firm and the cost of capital of a firm are independent of its financing mix. *Ex ante*, before any securities have been issued, a corporation's owners are therefore indifferent about the choice of funding mix. *Ex interim*, however, after some debt and possibly some

outside equity have been issued, they are no longer indifferent. At this time, a recapitalization that lowers the probability that the firm might go bankrupt provides a benefit to debt holders. If debt is repurchased in the open market, the price at which the buyback occurs will have to reflect the increase on the value of the debt from the lowering of the bankruptcy probability. The reason is that, if debt holders can choose whether to hold on to the debt or to sell it, they will only sell if the price is high enough to compensate them for the benefits from holding the debt, taking account of the improvement in these benefits from the buyback itself. Thus the debt holders gain from the recapitalization. Because, by the Modigliani-Miller Theorem, the total value of the firm is unchanged, the shareholders must lose.

Whereas the basic argument has been known since Black and Scholes (1973), Admati et al. (2013) makes three contributions. First, it shows that the debt overhang effect is very robust to changes in the parameters of the model and generates resistance to a recapitalization even when such a recapitalization would be beneficial to the firm and to society as a whole. By contrast, in Myers (1977), the debt overhang effect works only if benefits from new investment are sufficiently small. In fact, the debt overhang is shown to give rise to a ratchet effect: Whereas shareholders resist debt reductions, they also find some additional debt increases to be advantageous (even if the status quo is a result of previous optimization and no new information has come in). Indeed, if at the margin there is a tax benefit to higher leverage, this incentive to increase leverage is always present even incumbent debt holders are protected by covenants that require new debt to be junior to old debt.

Second, the paper discusses the implications of the leverage ratchet effect for the dynamics of firm funding when this effect is anticipated by potential creditors. After explaining the nature of equilibrium, the paper uses numerical examples to illustrate the dynamics. The examples indicate that initial leverage is likely to be lower than predicted by traditional trade-off theories, but once the firm is in debt, then over time, leverage will rise to levels much higher than predicted by the traditional theories. Responses to exogenous shocks, e.g. changes in corporate tax rates, are asymmetric in that the firm's leverage goes up, when a shock increases, e.g., the tax benefits of debt, but fails to go down when the shock decreases the tax benefits of debt. Such hysteresis effects raise fundamental doubts about the explanatory power of the traditional trade-off approach to corporate finance. They also raise doubts about the traditional presumption that market outcomes are Pareto efficient; if a firm is unable to commit the entire time path of its funding choices *ab initio*, the resulting market outcomes may be incentive-efficient for the given extensive form of investor-firm interactions, but this extensive form reflects the firm's inability to pre-commit its future choices, and the overall outcome may be improved upon by statutory regulation that provides a substitute for the missing commitment power.

Third, the paper considers the reactions of shareholders to increases in regulatory capital requirements that take the form of a higher ratio of required equity to total assets. Under certain conditions, shareholders are shown to be indifferent between (i) asset sales accompanied by a reduction in debt, (ii) an issue of equity through a rights offering accompanied by a reduction in debt, and (iii) an issue of equity through a rights offering accompanied by asset purchases. The conditions are: a single class of debt, homogeneous assets, and a price of assets that equals the expected present value of returns (taking account of tax and bankruptcy cost effects) after the operation. The empirical observation that banks prefer alternative (i) over (ii) and (iii) can be explained by deviations from these conditions, namely, with heterogeneous debt, asset sales accompanied by a reduction in *junior* debt impose a burden on senior debt whose exposure to losses in bankruptcy is increased. If the externality on incumbent senior debt is sufficiently strong, the preference for asset sales is present even if these sales destroy value.

At the 2016 Western Finance Association Meetings in Salt Lake City, Admati et al. (2013) was awarded a prize as the best paper on corporate finance at the meetings.

C.III.2.4 Liquidity Provision and Equity Funding of Banks

The last report sketched a new project, “Liquidity Provision and Equity Funding of Banks”, which was intended to investigate whether the “production” of liquid claims such as deposits, which are legally debt, is in conflict with equity funding of banks. In policy discussions about equity requirements for banks, resistance against higher requirements has been justified with the argument that such requirements would come at the expense of banks’ funding by deposits and other liquid claims and would thus contravene the very function of banks in the economy. A counter-argument would be that higher equity makes the bank safer, strengthens trust in the bank and thereby enhances the liquidity of deposits and other short-term claims produced by the bank.

Moreover, the increase in the share of equity in bank funding would not come at the expense of funding by liquid debt, if this increase was achieved by raising additional equity and investing the proceeds, e.g. in the market. The latter argument presumes that there are additional funds to be raised, i.e. that we are not starting from an equilibrium in which investors only hold debt and equity of banks. This presumption is not unrealistic but its place in the overall conceptual framework is unclear. The purpose of the project is to clarify the issues, also, to clarify what market failures might arise and why such market failures might call for statutory regulation.

Work on this project has not yet been brought to completion because there are problems in proving the existence of an equilibrium for the model in question. The reasons for these problems seem to be technical, rather than economic, namely with a continuum of participants (to avoid all concerns about market power), and, e.g. a constant-returns-to-scale technology, there are no natural bounds on the positions taken by individual banks. Without such bounds, standard fixed-point arguments cannot be used; whether the problem can be fixed by an appropriate detour is at this point an open question.

Apart from this technical problem, the analysis is complete and actually quite simple: The model is a general equilibrium model with many consumers and many banks in which bank deposits provide liquidity benefits by a “warm-glow” effect on their holders, the details of which are not analysed; however, the warm-glow effect occurs only if the bank is not in default. Banks issue deposits, bonds, or shares in order to fund investments that earn returns under a stochastic constant-returns-to-scale technology. Bonds and shares provide their holders with monetary returns. Deposits provide their holders with whatever monetary returns are promised and, in addition, if the issuing banks are not in default, the “warm glow” liquidity benefits as direct contributions to utility. Deposit provision may (but need not) involve a resource cost.

If uncertainty about returns is sufficiently small, default is not a relevant concern. In this case, an equilibrium necessarily exists and involves bank funding by deposits up to the point where the marginal resource cost of additional deposits is equal to the marginal liquidity benefit. If investors have more funds to invest, the extra funds go into shares or bonds but the mix is irrelevant as long as the bond finance doesn’t induce a prospect of default. In the absence of default, laissez-faire is efficient.

If uncertainty about returns is large, e.g. if the rate of return on investments can be close to zero with positive probability, default may be unavoidable. In this case, some equity funding of banks is desirable because it reduces the probability of default and increases expected liquidity benefits from deposits. However, if banks are unable to pre-commit and to communicate their overall intended funding mixes to investors, equilibrium deposit funding will be excessive; in this case liquidity provision be inefficiently low because, relative to what would be efficient, there is too little capacity for loss absorption by equity and too high a default probability.

The argument is akin to the debt overhang effect in the “leverage ratchet” paper: In negotiating with any one depositor, the externalities of additional debt on the other depositors’ liquidity benefits are neglected. If the technology exhibits constant returns to scale, equilibrium liquidity benefits are in fact zero and any form

of statutory regulation of bank equity would improve the allocation. (In this version of the model, an equilibrium can be shown to exist.) If banks are able to pre-commit and to communicate their overall funding mixes to investors, and if an equilibrium exists, the equilibrium allocation will in fact be constrained-efficient and will provide for bank funding by equity as well as deposits. In these equilibria, the equity supports the liquidity benefits from deposits, i.e. liquidity provision and equity funding are complementary rather than substitutes.

Along with the findings of Brunnermeier and Oehmke (2013) and Admati et al. (2013), the findings for the case where banks are unable to pre-commit and to communicate their overall intended funding mixes to investors point to an important methodological issue. Since Jensen and Meckling (1976), we have become used to “explaining” funding patterns that we observe with reference to some optimization or contracting problem under information and incentive constraints. This approach has yielded a rich set of insights, but it risks biasing any welfare analysis: If one “explains” real-world phenomena as solutions to some optimization problem, one is bound to find that equilibrium outcomes are efficient.

However, such findings depend on the commitment technology that is assumed. If commitment possibilities are weak, observed leverage of banks may reflect the desire of bank managers and new creditors to conclude new debt contracts at the expense of incumbent creditors rather than any efficiency-enhancing effects of debt finance. In practice, commitment problems are evident in the creation of contracts such as repo borrowing and lending that are specifically designed to jump maturity and priority queues – and that, presumably, have such collateral that creditors do not invest in information as would be required for debt as a disciplining device.

Hellwig (2016a) discusses the methodological problem in some detail, also the problem of how we assess the real-world relevance of theoretical analyses in the given tradition, especially when there are several competing “explanations”. The argument is illustrated by the example of bank funding by short-term debt: One set of theoretical models “explains” such funding by investors’ needs for insurance against uncertainty about the time when they will want to use their assets.¹⁴ Another set of theoretical models refers to the disciplining role that short-term debt can have if the debt holders monitor the banks’ managers and the managers are afraid that, if they misbehave, the funding will not be renewed.¹⁵ A third set of theoretical models stresses the effects of debt overhang and the inability to commit future funding mix choices. The three approaches rest on different behavioural assumptions and have contradictory welfare implications.¹⁶

C.III.2.5 Liquidity Provision and System Fragility

The implications of liquidity provision for the fragility of the financial system are explored in a series of papers by Luck and Schempp (2014a, 2014b, 2014c, 2016). In these papers, the need for liquidity is modelled along the lines of Diamond and Dybvig (1983), in a three-period model where people invest in period 0 and consume in periods 1 and 2. As of period 0, they do not know whether they will want to consume in period 1 or in period 2. Across individuals, the uncertainty about the timing of consumption needs is stochastically independent and a law of large numbers is assumed to hold. In principle therefore, there is scope for insurance, but ex interim, as of period 1, there is asymmetric information; outsiders cannot directly observe whether a person truly needs to consume at date 1 or date 2. To deal with this information problem, a callable debt contract specifies claims that an investor has on the “insurer” so that these claims depend on the date at which they are made and the choice of date is left to the person himself/herself, as in the case of a demand deposit, which can be withdrawn at will.

¹⁴ See, e.g. Diamond and Dybvig (1983), Gorton (2010).

¹⁵ See, e.g. Calomiris and Kahn (1991), Diamond and Rajan (2000, 2001).

¹⁶ See, e.g. Brunnermeier and Oehmke (2013).

In Diamond and Dybvig (1983), consumption at date 1 is provided for by investments in short-term assets, which have low rates of return. Luck and Schempp (2014a) departs from their analysis by introducing the possibility that the resources required to satisfy date 1 claims might be obtained from third parties, e.g., new investors, rather than the returns from short-term investments. If it works, such an arrangement has the advantage that all initial funding can be used for long-term investments, which provide higher returns. However, the arrangement is vulnerable to the possibility of a run on deposits as well as a “rollover freeze”. The possibility of a run on deposits was already pointed out by Diamond and Dybvig (1983): If the initial investors believe that the bank will default on its obligations to them, even those investors who only need the funds at date 2 will prefer to make withdrawals at date 1, fearing otherwise they will not get anything. Such a run causes the bank to default, thus confirming the participants’ expectations. By the same logic, a rollover freeze can be the result of pessimistic expectations of potential new investors inducing actions that confirm these very expectations: If potential new investors fear a default and therefore do not contribute to rolling over the bank’s debt at date 1, the bank must liquidate assets to satisfy depositors at this date; in consequence, it will default on its obligations at date 2, if not already at date 1. Moreover, whereas a run by depositors can be forestalled by the introduction of deposit insurance, as had been pointed out by Diamond and Dybvig (1983), deposit insurance cannot prevent the occurrence of a rollover freeze. (Notice that, in 2008, the crises of Bear Stearns and Lehman Brothers did involve rollover freezes as money market funds and hedge funds worried about the solvency of these institutions and withdrew from further funding.)

Luck and Schempp (2014a) go on to discuss the possible role of public debt as a basis for making the system less fragile. In the language of Holmström and Tirole (1998), government debt serves as a source of outside liquidity. At date 0, the government and the bank conclude two debt contracts, one that obliges the government to pay the bank at date 2 and one that obliges the bank to pay the government at date 2. The claims just offset each other. However, the government’s obligation is assumed to be fungible. Thus, banks can sell government bonds to outside investors at date 1. If the government bonds have zero default risk, outside investors are willing to acquire them and provide the banks with the resources they need at date 1. The problem of a rollover freeze is eliminated.

In this setting, the problem of rollover freezes can reappear if the government itself may end up being unable to service its debt. This would be the case if the government’s ability to service its debt depends on tax revenues, the tax revenues depend on how the economy does, and this in turn depends on the state the banks are in.

Luck and Schempp (2014b) therefore study the implications of the possibility of sovereign default for the system introduced in Luck and Schempp (2014a). If the government’s ability to service its debt depends on the health of the banking system, there is again a multiplicity of equilibria, “good” equilibria in which government bonds provide a basis for banks’ use the availability of outside liquidity provided by the government in order to forestall a “rollover freeze”, and “crisis” equilibria in which there is a rollover freeze because investors expect the government to be unable to pay and therefore are unwilling to buy government bonds from the banks at date 1. As this freeze causes banks to default at date 1, the government in fact cannot pay its debts at date 2, i.e. the investors’ expectations of a government default are self-fulfilling. The crisis equilibrium is accompanied by a run from depositors, i.e., there is a “twin crisis” of government debt and banks. Deposit insurance does not help because deposit insurance is not credible if the government is unable to pay.

Luck and Schempp (2014b) also extend the analysis to a two-country setting. The banks of either country are assumed to hold the government bonds of both countries. A crisis in one country can therefore affect the solvency of banks in the other country, creating the possibility of crisis contagion from one country to the other. If joint tax revenues are known to be sufficiently high, a fiscal and banking union can be beneficial because it avoids the risk of a twin crisis, by the logic of Luck and Schempp (2014a). Indeed one

country's government's providing assistance to the other country's government can be beneficial to the first country by eliminating the possibility of a crisis and the possible fallout from contagion.

Luck and Schempp (2014c) considers the impact of shadow banking institutions such as money market funds on the fragility of the financial system. The baseline model is again a version of the Diamond-Dybvig (1983) model, now in a reformulation with overlapping generations. In this baseline model again, runs by depositors are a possibility, but this possibility is eliminated by deposit insurance. Deposit insurance however is accompanied by regulation and this regulation imposes a cost on banks. By way of regulatory arbitrage, a set of unregulated institutions (shadow banks) compete with the regulated banks, providing the same sorts of assets and services, however without deposit insurance and with lower regulatory costs. The shadow banks rely on outside markets for their assets to provide the requisite liquidity. In the absence of any runs, the model has an equilibrium in which banks and shadow banks coexist and the shadow banks reduce overall regulatory costs.

Under certain conditions however, there also is an equilibrium in which the shadow banks are run upon. The problem is again due to an inability to obtain enough liquidity to cover current needs, with investor reluctance to provide liquidity based on self-confirming pessimistic expectations. A depression of asset prices through fire-sale effects contributes to the mechanism. The shadow banking system can be stabilized if regulated (and insured) banks provide the shadow banks with liquidity guarantees and if (and only if) the shadow banking system is not too large relative to the regulated system.

At the first ECB Forum on Central Banking in Sintra in 2014, Luck and Schempp (2014c) was presented as a "poster paper" and was awarded a prize for the best "poster paper" at this conference.

Luck and Schempp (2016) studies systemic effects through asset price contagion. The starting point is again a Diamond-Dybvig (1983) model, with two additions. First, there is moral hazard in the sense that intermediaries have a choice between two long-term investment technologies, one of which is inefficient but provides private benefits to the bank manager. Second, as in Luck and Schempp (2014a, b) there is a set of outside investors who are available to buy assets in the interim period, thus enabling liquidity provision without any need for low-return short-term investments. In contrast to Luck and Schempp (2014a), however, these outside investors have limited funds. There also is a possibility for the intermediary's owner/manager to invest funds of his own. However, this is assumed to be inefficient because the opportunity cost of these funds is very high.

The social optimum for this model involves liquidity provision to depositors as in Diamond and Dybvig (1983), zero short-term investments, complete reliance on outside liquidity provision through asset sales at date 1, and the threat of a run by depositors as a disciplining device to discourage the owner/manager of the intermediary from choosing the inefficient investment technology. This outcome can be implemented as an equilibrium outcome of a game but the game also has subgame equilibria in which depositors run on the bank (and therefore multiple overall equilibria). Runs occur not only because, by the arguments of Diamond and Dybvig (1983), the short-term investors have relatively (too) large claims, but also because the outside investors' funds do not suffice to provide liquidity to satisfy withdrawal wishes by all depositors in the intervening period. Scarcity of outside investors' funds induces cash-in-the-market pricing of assets. With multiple banks, this fire sale effect on asset prices provides a mechanism of contagion by which a run on one bank induces solvency problems for other banks and in consequence runs on these other banks as well.

As in Diamond and Dybvig (1983), the runs problem can be eliminated by the introduction of deposit insurance. However, the elimination of runs on the equilibrium path also eliminates the use of runs as a disciplining device off the equilibrium path. To prevent bankers from choosing the inefficient technology, another device is needed. A second-best allocation with deposit insurance will therefore involve a require-

ment that the banker invest some of his own money even though this is inefficient. With an assumption of Bertrand competition between intermediaries, the cost is passed on to depositors.

Regulation imposing such a requirement on banks can make room for shadow banks, as in Luck and Schempp (2014c). Consumers are assumed to be with regulated banks initially and to have switching costs, so they do not all move to the shadow banks if the latter seem to be offering better opportunities. If the switching costs are high, there is an equilibrium in which regulated banks and shadow banks coexist without much of a change for regulated banks. If the switching costs are low, the shadow banking sector will be large, and a run on shadow banks may induce cash-in-the-market pricing of assets, which affects the regulated banks as well. This vulnerability of regulated banks can be reduced by restrictions on market funding, requiring them to use short-term investments for liquidity at date 1. This regulation reduces fragility at the cost of efficiency.

C.III.2.7 Information Aggregation in Markets and Strategic Games

Many issues in financial systems have to do with the aggregation of information. Different participants have different pieces of information on which they act. Overall outcomes depend on how they interact and how the different pieces of information are combined (if at all). The question arises in both market and non-market settings. For market settings, the early work of Grossman (1976), Hellwig (1980), and Kyle (1989) has developed a paradigm in which prices are seen as (weighted) averages of the different pieces of information of different individuals, and participants take account of the “aggregate information” reflected in prices, in Kyle (1989) also of their own impact on the information content of prices. For models of currency attacks and bank runs, the global-games approach of Morris and Shin (1998), Rochet and Vives (2004) or Goldstein and Pauzner (2005) has shown that, with private information about fundamentals, the equilibrium multiplicity of the Diamond-Dybvig model may disappear, the aggregate outcome depends on the true value of the fundamental through the combined actions of all participants. In both contexts, the allocative implications of information aggregation have not yet received much attention.¹⁷

Gorelkina and Kuhle (2013) investigate the effects of information acquisition and use by shareholders and information aggregation and transmission through stock prices on the conditions under which a firm can borrow and the firm’s cost of capital. Creditors are assumed to condition their actions on stock prices. Firms are shown to internalize some of the externalities inherent in shareholders’ investing in information and having the information communicated through share prices; this is possible because firms with a strong fundamental will issue more equity and less debt than they would without the informational spillover. In the larger market, more equity is traded, and incentives to invest in information are stronger. Significant strategic complementarities enhance the effects of good information on the firm’s funding conditions.

Kuhle (2016) takes a critical look at the implications of the global-games approach for uniqueness or multiplicity of equilibria. Whereas Morris and Shin (1998) and the subsequent literature assume that participants have a common prior, he considers strategic interactions when priors are heterogeneous and derives a sharp condition for equilibrium uniqueness or multiplicity. This condition indicates that unique equilibria are played if player’s public disagreement (i.e. heterogeneity of priors) is substantial. If disagreement is small (zero in the case of a common prior), equilibrium multiplicity depends on the relative precisions of private signals and subjective priors. Extensions to environments with public signals show that prior heterogeneity, unlike heterogeneity in private information, provides a robust anchor for unique equilibria. Finally, irrespective of whether priors are common or not, public signals can ensure equilibrium uniqueness, rather than multiplicity, if they are sufficiently precise.

17 The critical survey in Hellwig (2005) is not yet out of date.

Grafenhofer and Kuhle (forthcoming) also show that the Morris-Shin (1998) results on uniqueness and multiplicity of equilibria change significantly when agents observe signals about the other agents' actions, rather than signals about the fundamentals. In coordination games, agents are most interested in what the other agents' actions are because these actions determine, e.g., whether a currency attack is successful or a run is fatal to a bank. However, in Morris and Shin (1998) and most other papers in the global-games approach, agents observe signals about fundamentals, which provide information about the other agents' actions only because the other agents also observe signals about fundamentals and act upon them. In contrast, if I see another agent reading a newspaper, or if I see the other agent lining up before the doors of a bank like Northern Rock, I directly learn something about the other agent's information or the other agent's actions. This is not the same as my learning something about Northern Rock and inferring what others might have learnt about that bank.

For a model with noisy observations of (aggregates of) other agents' actions, Grafenhofer and Kuhle find that a high degree of precision of private signals is conducive to equilibrium multiplicity. This finding contrasts with the global-games literature where uniqueness is obtained if (and only if) private signals are relatively more precise than public signals. Grafenhofer and Kuhle (2016) consider the electronic mail game of Rubinstein (1989), also a coordination game under the assumption that agents have noisy signals of other agents' observations and get equilibrium multiplicity, namely, in addition to the Rubinstein equilibrium, their version of the game also has equilibria in which agents coordinate on a change of actions, an attack or a run, if the fundamental is such that the induced outcome is Pareto-superior.

Roux and Sobel (2016) show that information aggregation has a significant effect on decision making by groups as opposed to individuals. In contrast to the papers discussed so far, this is a paper about group decisions in the absence of conflicts between group members, rather than group behavior as a result of uncoordinated decisions of individuals. The paper shows that, under fairly general conditions, the distributions of group actions that are induced by the different realizations of the information variables are more dispersed than the distributions of optimal actions of individuals. Because the aggregate information of group members is more precise than the information of any one member, residual uncertainty about the underlying variables of concern is smaller, so there is less risk in reacting strongly to the information.

Bachi, Ghosh, and Neeman (2016) consider pre-play communication in strategic games, assuming that such communication is not "cheap", in the sense that those engaged in it may unintentionally betray their true intentions, or guess the true intentions of others. This implies that players' strategies should be described by response functions from gestures of the other players into actions in the game, rather than by mere actions, as in the standard formulation. This has a profound effect on the way games are played. The model can account for the significant levels of cooperation and correlation observed in experimental Prisoner's Dilemma games with non-binding pre-play communication.

C.III.2.8 Policy Contributions: Weak Banks, Financial Stability and Monetary Policy

Hellwig (2014b) gives an overview over the developments that led to the creation of the European Banking Union and a critical assessment of the arrangements introduced, the Single Supervisory Mechanism and the Single Resolution Mechanism. Running counter to the prevailing attitude among officials at the time, the paper argued that Banking Union would not be a Santa Claus solving all the problems of the euro area financial and monetary systems. It predicted that the Single Supervisory Mechanism would be hampered by the need to cooperate with national authorities and to apply national laws that implement European directives. It also predicted that the legal procedures for the recovery and resolution of weak banks would not work. If banks with systemically important operations in several countries enter into resolution, there is still no way to prevent the breakdown of these operations and to limit the resulting systemic damage.

Moreover, the legislation makes no provisions for the liquidity needed to maintain systemically important operations at least temporarily. Finally, there is no fiscal backstop. Because of the deficiencies, the paper predicted that the “too-big-to-fail” syndrome would still be present.

Developments since then, in particular the weakness of the resolution mechanism, have confirmed the criticism. Hellwig (2017b, 2017c), written in response to requests from the European Parliament’s Committee on Economic and Monetary Affairs, deal with issues that only arise because authorities are reluctant to use the available resolution mechanism and instead continue to prefer procrastination over cleanups of their banks’ problems. Hellwig (2017b) provides a critical assessment of the proposal, which was recently made by the Chair of the European Banking Authority, that the € 1 trillion non-performing loans in European banks should be placed into an EU-wide, government-guaranteed or even government-funded asset management company in order to rid banks from the burden of these loans and permit them to engage more freely in new lending. Whereas the proposal involves a clawback condition on banks in order to immunize taxpayers from the associated risks. Hellwig (2017b) argues that such a condition would create a contingent liability of banks with risks equivalent to the asset risks under current arrangements, so any notion that banks would get of the burden from the non-performing loans must rest on accounting cosmetics rather than actual risk exposure. Moreover, to the extent that the banks in question are actually insolvent, taxpayers would be exposed to these risks after all. Based on a review of experiences with asset management companies, the paper also argues that for, non-tradable assets such as loans, any notion of substantial value enhancements from larger volumes is unrealistic and that the proposal does not provide any obvious advantages relative to a resolution procedure that would allow for the patience needed to wind down the assets in question, with a time horizon on the order of ten years rather than the three years mentioned in the proposal.

Hellwig (2017c) discusses the legal regime and the practice of “precautionary recapitalizations”, injection of government funds as equity into failing banks in order to forestall a resolution procedure or avoid insolvency, at least for another while. Whereas some such measure would be warranted for institutions with systemically important operations in multiple jurisdictions, the actual practice, in the cases of Monte dei Paschi di Siena and of the Venetian banks, is quite objectionable because systemic concerns are minimal, and the recapitalizations amount to bailouts in the interest of particular investors. In fact, these recapitalizations are an integral part of a system where resolution or insolvency are delayed while professional investors get out and are replaced by retail investors who are misled about the risks so subsequent scandalization about the mis-selling of such debt under the eyes of the supervisors creates a political need for bailouts. Here again the contribution of the paper to lay out the existing rules and to analyse the issues raised by the actual practice.

Hellwig (2014b) and Hellwig (2015) discuss the role of financial stability concerns in monetary policy and the issues that this role raises for the relation between the central bank and the supervisory authority and for the implementation of monetary policy. Both papers begin with systematic accounts of the evolution of central banking and monetary policy mandates. Historically, financial stability has figured prominently among central banks’ objectives, with policies ranging from interest rate stabilization to serving as lender of the last resort. With the ascent of macroeconomics and with the shift from convertible currencies to pure paper currencies, these traditional concerns of central banks have been displaced by macroeconomic objectives, price stability, full employment, growth. The financial crisis and the euro crisis have shifted the focus back to financial stability even though there no longer is any financial stability mandate.

The weakness of banks presents a challenge for monetary policy because banks are an important part of the monetary system: Bank deposits share important functions of money, they are the basis of the payment system, and bank loans are an important part of the transmission mechanism for monetary policy. In 2008/09 and again in 2011/12, the European Central Bank (ECB) provided enormous amounts of liquidity to banks in order to maintain the monetary system; in terms of mandates, this was justified by the

argument that a financial crisis would induce deflation, a deviation from price stability, and therefore had to be forestalled. Measures taken since 2015 under the label of “quantitative easing” are also justified by the need to fight deflation, except that these measures put the banking system at risk; purchases of long-term debt flatten the maturity premium and put pressure on bank profitability, as do negative interest rates on banks’ deposits with the central bank. The idea now is that, if banks are forced to lend to the real economy, economic growth will pick up and deflation will be pre-empted.

Political and legal discussions about the ECB’s monetary policies have focused on whether these policies are compatible with the ECB’s mandate, whether they are compatible with the prohibition of direct government finance by the central bank, and whether they might not impose unconscionable losses on the central bank, including a risk of insolvency. Hellwig (2014a, 2015) argues in some detail that concerns about return risks are misplaced in a world in which the issue of paper money imposes no obligation on the issuer (unlike the world of the gold standard, where the issuer had to be ready to exchange notes into gold), that such issue of paper money actually creates a windfall gain, which may be reduced by subsequently losses on the assets that have been acquired but never so far that the gain turns into a loss. Both papers also argue that in view of the role of banks in the monetary system the central bank is bound to pay attention to financial stability.

Hellwig (2014a) goes on to discuss possible moral hazard on the side of banks, bank supervisors and governments that might be caused by a central bank’s commitment to financial stability as an essential precondition for reaching the central bank’s macroeconomic objective of price stability. Such moral hazard can undermine monetary dominance and the independence of central bank decision making. For example, when the ECB supported the financial system to prevent a crisis in 2011/12, many banks, in particular, weak banks invested the funds they obtained with their governments, leading many participants and observers to conclude that having weak banks is a way of obtaining indirect access to the printing press. The European Banking Union was to some extent a reaction to this experience, but then the integration of supervision into the ECB raises the question whether supervisory decisions, e.g. a decision on whether to put a commercial bank into a resolution regime, might not become hostage to the central bank’s monetary policy objective. Hellwig (2014a) provides an extensive discussion of the challenges for institution design that arise.

In contrast, Hellwig (2015) focuses on the practical question of how financial stability concerns of monetary policy should be handled in practice. In particular, how should the central bank go about assessing the relevance of financial stability concerns in any given situation? To deal with the fact that systemic interdependence takes multiple forms and is changing all the time and many contagion risks cannot be measured, the paper proposes procedures along the lines suggested in Hellwig (2014c), as discussed above in Section C.III.2.1.

Hellwig (2014b) also discusses the relation between financial-stability and macroeconomic-stability objectives in some detail, considering to what extent they coincide, to what extent they may be in conflict and how in cases of conflict the potential trade-offs should be assessed. The above observation that in 2012, the ECB rescued the banks in order to maintain the monetary system (and to protect the macroeconomy) and since 2015 has been pressuring the banks to lend to the real economy even if they could hardly bear the risks suggests that we need some principles on which to decide such prioritizations. As past experience suggests that delaying cleanups in the financial sector tends to be very costly, Hellwig (2014b) proposes that such cleanups be given priority over macroeconomic concerns, perhaps though with impositions of immediate recapitalizations, rather than long waits until retentions from new profits have provided sufficiently large increases in bank equity.

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C.IV Research Group “Moral Courage”

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The research group Moral Courage was formed in March 2017. Besides its core members, the group also includes an associate postdoctoral researcher through external funding. Based at the University of Koblenz-Landau, Dr Anna Halmburger coordinates the project “moral courage” within the Beacon Project on moral excellence, funded by the Templeton Foundation (www.moralbeacons.org).

Integrative Goals and Lines of Research

The research group Moral Courage is dedicated to investigating the psychological processes of bystander intervention against norm violations. As first steps, the group has developed a working definition of moral courage as distinct from related phenomena such as social control and helping. A theoretical framework based on this definition allows categorization of types of situations in which moral courage can be displayed. This framework will serve to integrate several lines of research that have progressed in isolation from each other (e.g., on whistleblowing, objection to racism or ostracism, non-conformity, or third-party punishment) and detect blind spots concerning situational constellations that have not been addressed by psychological research. Within this framework, our research aims at refining a process model of moral courage (Halmburger, Baumert & Schmitt, 2017). In particular, the group will engage in four related lines of research.

C.IV.1 Ambiguity of Norm Violations

Previous research has paid only limited attention to the way in which information revealing a norm violation unfolds over time. Whereas typical research designs have tested reactions to disambiguated constellations, norm violations may remain ambiguous in everyday life because relevant information is lacking, covered by noise, or is only available over time in a nonlinear fashion. Differences in the degree of ambiguity of the norm violation, together with the timely dynamics of relevant information, might account for discrepant findings on the prevalence and determinants of real intervention behavior, in contrast to self-reported reactions to written descriptions of the same situation (Baumert et al., 2013) or to punishment behavior in the lab under clearly specified rules.

We build on research, conducted at the MPI for Research on Collective Goods, which addressed the potential impact of uncertainty about a recipient’s endowment on dictator game giving (Engel & Goerg, 2015), as well as on own research on inter-individual differences in attention toward, memory of, and interpretation of information potentially indicating injustices (Baumert & Schmitt, 2009; Baumert et al., 2011, 2012; Maltese, Baumert, et al., 2013, 2016). In a study sampling witnessed norm violations in everyday life over three weeks (experience sampling), we tested the association between the subjective ambiguity of a norm violation and the likelihood of intervention.

Currently, we are investigating whether self-reported behavioral intentions map more closely on patterns of real intervention behavior in realistic settings, to the extent that the vignette (the description of a hypothetical situation) simulates the timely dynamic of information unfolding in the real situation. For this purpose, we employ video vignettes that present the situation to participants from the perspective of a bystander within the situation. These video vignettes allow the manipulation of the degree of ambiguity of the norm violation (by covering information with noise), as well as the timely dynamics (by shortening or enlarging time gaps between relevant information). In future studies, these materials will be employed to test the impact of ambiguity and timely dynamics on cognitive, affective, and motivational reactions to the norm violations.

In addition, building on Engel & Goerg (2015), we are testing how ambiguity of the norm violation, coupled with uncertainty of negative consequences of intervention, shape third-party punishment in economic games. Moreover, we investigate whether these factors change the external validity of those games for predicting reactions to norm violations in realistic settings.

C.IV.2 Emotion and Emotion Regulation

Process models of moral courage have neglected emotional processes in intervention behavior. In contrast to helping behavior, anger and moral outrage should play particularly important roles in facilitating bystander intervention against norm violations (Halmburger, Baumert & Schmitt, 2015). However, depending on the context, expressing anger can be less desirable due to potential social sanctions, and therefore downregulated (Sasse, Spears & Gordijn, 2017; Sasse, Spears & Gordijn, 2017a; Sasse, van Breen, Spears, Gordijn, 2017). To the extent that anger facilitates intervention, we hypothesize that tendencies toward downregulating such negative emotions should be a barrier to intervention. This hypothesis is scrutinized in a current lab study involving a staged fraud. Immediate affective and physiological reactions are assessed, and intervention behavior is coded through video ratings.

In future studies, we aim to understand “the positive side of anger” by investigating whether anger promotes selective searches for information that confirms that a norm violation has taken place, thereby facilitating intervention. In addition, we will explore how anger affects the effectiveness of intervention behavior.

C.IV.3 Interpersonal, Intragroup, and Intergroup Processes

Cutting through all lines of research presented above, we investigate whether and how psychological processes underlying intervention against norm violations differ between interpersonal, intragroup, and intergroup situations. In situations where social groups are salient, belonging to “perpetrator groups”, “victim groups”, or “bystander groups” has been shown to have a substantial impact on the processing and reactions of witnesses of norm violations (Li & Leidner, 2017a; Li et al., 2017; Li, Leidner & Fernandez-Campos, 2017; Li, Leidner, Petrović & Prelic, 2017; for a review, see Li & Leidner, 2017).

Within the theoretical framework of moral courage, mentioned above, we are currently elaborating the roles that social identification processes can play. Importantly, whether personal moral beliefs are compatible or in conflict with moral, social, or legal norms should have downstream implications for the perception of a potential norm violation as well as subsequent reactions. Existing social psychological models of intervention behavior within group contexts have not paid sufficient attention to these distinctions, hence drawing possibly incomplete pictures of the consequences that levels and qualities of identification with a particular social group might have.

Methodological Contributions

Besides substantive contributions to theory-building, these lines of research aim at developing valid and efficient methodological approaches to the investigation of moral courage (Baumert et al., 2013, 2014). In the past, psychological research has heavily relied on hypothetical reactions to written vignettes, while economic research focused on financial decisions in unambiguously circumscribed games in the lab. To understand and overcome the limitations of these setups, we employ multi-method approaches, combining self-report and reaction time-based measurement of personality dispositions, decisions in economic games,

physiological assessment of immediate reactions to norm violations, and systematic behavioral observation under highly controlled and standardized situations in the lab. Beyond the study of moral courage, our research contributes to social, psychological, and economic research by scrutinizing and optimizing external validities of assessment tools.

Outlook

In sum, the research group Moral Courage aims at advancing insights into the psychological processes of bystander intervention against norm violations, in fundamental ways. Our working definition of the phenomenon – in a precise distinction from separable concepts, such as social control and helping – as well as our theoretical framework of situational constellations and our process model will integrate various lines of research. This way, those lines of research, disconnected thus far, can fertilize each other in synergistic ways, and previous blind spots of psychological research can be detected. In our research, we aim to overcome severe methodological limitations that have hampered progress to a substantial degree. Through multi-method approaches, we pay close attention to how validity and efficiency of assessment can be simultaneously optimized.

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C.V Research Group “Cognitive Processes Underlying Economic Decision-making”

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Since January 2014, the Gielen-Leyendecker Junior Research Group has been part of the institute, complementing the scientific work on collective goods by providing a process perspective on decision-making. The group was installed with the aim of contributing to our understanding of the interplay of individual and situational factors affecting decision behavior, and focuses on two major challenges: (1) Understanding the underlying cognitive and affective processes leading up to a choice and (2) identifying the channels through which situational as well as personality factors operate. We made progress on both lines of work by combining basic psychological research on information search and processing as well as arousal with incentive-compatible research paradigms. A special focus is on interactions which arguably involve social preferences. The comprehensive model comparison and investigation of factors that influence information-processing in economic decision-making is conducted jointly by the psychologists in the group, and supported by collaborations with lawyers and economists from the institute. A wide set of different projects have been started since the beginning of 2014, and the group has grown into a research collaboration that I as the head of the group feel really lucky to be a part of.

C.V.1 Social Dilemmas

In multiple projects, the group's work focuses in particular on the information-weighting process while making an interdependent decision in social dilemma situations. We were particularly interested in two major questions: (1) What variables determine the extent and depth of information search? (2) In which manner are attentional processes related to information utilization? We investigated these questions in the context of decomposed dictator games and present evidence for an influence of social preferences on the extent and pattern of information search in nonstrategic (Fiedler, Glöckner, Nicklisch & Dickert, 2013) and strategic (Ghaffari & Fiedler) social dilemma situations. This relationship is robust to changes in the incentive structure by variations in payoff schemes (Fiedler, Glöckner & de Dreu), framing (Fiedler & Hillenbrand), cognitive load and time pressure (Fiedler & Lillig), as well as the decision setup (Rahal, Fiedler & de Dreu).

Building up on this first line of research, which shows the strong link between social preferences and attention (Fiedler, Glöckner, Nicklisch & Dickert, 2013), as well as between attention and social decision-making (Ghaffari & Fiedler), we were curious about the potential subsequent effects of these interrelations. In a joint project by Minou Ghaffari, Bettina von Helversen, and Susann Fiedler, we replicate the link between social preferences and the extent of information search. Specifically, prosocial individuals invest more time in their search for information in decomposed dictator games, and in this particular setting are more likely to inspect the face of their interaction partner. As a result of this, prosocials show better memory performance when asked for their interaction partners' behavior than individuals who have rather individualistic preferences (Ghaffari, Fiedler & von Helversen).

As shown in previous work, identifying one's interaction partner as an ingroup or outgroup member has important implications for behavior in social decision-making. Extending this work on intergroup decision-making, a set of studies conducted by Rima-Maria Rahal, Carsten de Dreu, and Susann Fiedler showed the influence of group belonging on the decision-making efforts, as well as the payoff-weighting in social dilemma situations (Rahal, Fiedler & de Dreu). Utilizing this pivotal role of group membership information to gain insights into the nature of choice construction in group contexts, we experimentally varied the point in time when group identifiers are presented in a follow-up project (Fiedler & Rahal). To test the generalizability of drivers of ingroup favoritism identified in the lab, we extended our work by additionally conducting cross-cultural intergroup experiments with representative samples from the US, Chile, Peru, Colombia, and Venezuela. The results show more ingroup favoritism in Latin Americans compared to US Americans. While US Americans mainly follow an equal split norm in ingroup and outgroup interactions, Latin Americans only do so in ingroup interactions (Hellmann, Fiedler, Dorrough & Glöckner, in press). Identifying the

drivers of prosocial behavior in intergroup situations and understanding their interplay even further, we conducted a study where we had students decide about the size of advent gifts for a set of outgroups that varied with regard to their cultural and social distance and their perceived competition and wealth (Hellmann, Fiedler & Glöckner).

C.V.2 Moral Decision-making

Research on ethical decision-making gained many new insights into the cognitive, social and situational underpinnings of dishonesty. A number of common approaches deal with dishonesty and cheating as a conscious decision driven by money-maximizing motives. Yet, previous studies on bounded ethicality show evidence that processes leading to unethical decisions might partly be unconscious and a result of motivated information search and reasoning. Using eye-tracking as a means of recording arousal and information search during a simple decision task, the group showed the influence of temptation and subsequent cheating on the underlying processes of decision-making (Hochmann, Glöckner, Fiedler & Ayala, 2015). Broadening the scope of this work by testing the generalizability of the observed processing patterns, we additionally introduced ambiguity into the decision paradigm. In everyday decision-making, the value of a potential choice often has to be searched for prior to the decision. By introducing this ambiguity about the true values, we include an essential part of the decision-making process. Ambiguity was introduced to the decision setup as follows: Will I engage in a possibly costly information search to obtain information about the underlying values, even though they are unrelated to the actual decision task (Fiedler & Weisel)? As another measure to test the generalizability, we conducted an experiment varying the severity of the norm violation through cheating (Fiedler & Glöckner). Arousal as well as cognitive load present themselves as very reliable predictors in different normative contexts. As a consequence, we are currently working on implementing an experimental paradigm to induce real-world stress on participants and measure the respective hormonal and decision changes when experiencing a situation in which unethical behavior is possible (Antoniou, Fiedler & Derntl).

Focusing on moral dilemmas as another important part of the moral decision-making literature, Rima-Maria Rahal and Susann Fiedler conducted – in joint work with Leonard Hoefft, a legal scholar of the institute – a series of experiments to investigate Greene’s Dual Process Theory. Taking again a cognitive processing approach by using eye-tracking, we show distinct information search processes for utilitarian and deontological decisions in moral dilemmas and plan to extend the work to third-party dictator games (Rahal, Hoefft & Fiedler). Additional work by Minou Ghaffari addresses the question of the underlying processes of moral decision-making. However, instead of using the eye-tracking device as a pure outcome measure, we extend the work on gaze-contingent paradigms here, and designed a set of experiments in which decision cues were given as a function of the attended information. We find that the link between attention and the type of choice made is driven by up to 40% through the bottom-up influence of attention on choice, while the remaining variance is explained by the top-down preference formation (Ghaffari & Fiedler). Applying our new knowledge on the bottom-up effect of attention to different contexts, we instructed participants in a follow-up project to focus on two different social norms when making decisions as bystanders (Hu, Fiedler & Weber). Following the same logic, we also tested this bottom-up effect in the context of risky choices, and the results show nicely how choices change according to the information presented in the decision-maker’s attentional focus (Fiedler, Henninger, Glöckner & Hilbig).

In a review of the current literature, we bring some of our own findings together with those made by others, and show how understanding the cognitive underpinnings – and, in particular, attention as part of the process – helps us to understand moral decision-making (Fiedler & Glöckner, 2015).

C.V.3 Ignorance

What started out as a simple observation – that many participants ignore parts of the presented information completely in a wide range of settings – grew to become a new line of research in the past years. Specifically, we investigated the role of (deliberate) ignorance in the context of intergroup dilemmas (Rahal, Fiedler & de Dreu), advice utilization in simple estimation tasks (Rittich, Fiedler & Schultze), as well as hiring decisions (Dorrough, Fiedler & Schild). By focusing on personality and situational factors driving the decision to ignore information, we identified a set of relevant personality variables including inequality aversion. Within the last project, we started to explore the procedure of masking category information (i.e., gender and race) from employers as a tool to reduce employment discrimination. The main goals of this line of work are (1) directly to examine the efficacy of a masking procedure (and its possible alternatives) with respect to reducing discrimination in the workplace; (2) to understand the underlying cognitive processes in hiring decisions in general and under usage of a masking procedure in particular; and (3) to offer legal policy-makers a behaviorally informed roadmap on how to improve masking procedures as well as the effect of other relevant regulations (e.g., equal opportunity, privacy laws).

C.V.4 Risky Choices

In several projects, the group's work has contributed to understanding the underpinnings of risky choices. Using a parametric approach based on cumulative prospect theory (CPT) as well as process tracing, we conducted multiple experiments and re-analyses of a modelling competition, as well as previously published studies to investigate the differences between experience-based and description-based decisions (Glöckner, Hilbig, Henninger & Fiedler, 2016; Glöckner, Fiedler, Hochmann & Ayala, 2012). The results show that the previously suggested differences in choice patterns (the so-called description-experience gap) in these two decision domains are systematically reversed, once sampling biases are controlled for: We find a reduced sensitivity to probabilities and an increased overweighting of small probabilities in decisions from experience, as compared to decisions from descriptions.

Focusing only on description-based decisions and building on earlier work on the dynamics of risky-choice decision-making (Fiedler & Glöckner, 2012), another project considers the approach-avoidance distinction in the risky-choice domain, with a focus on how it changes the mental representation of otherwise identical payoffs. The results provide first evidence that the underlying process of evidence accumulation varies systematically between the loss and gain domain (Fiedler & Glöckner).

Eye-tracking has been proven to be a great tool to investigate the extent of the cognitive load, as well as the arousal experienced (Glöckner et al., 2012), but it is limited in its ability to distinguish between positive and negative arousal. With this in mind, we recently conducted our first study using face-reading software (iMotion) in order to evaluate software performance in standard risky-choice paradigms. The results of this first experiment were not particularly promising, since the correlation between reported emotions and emotions classified through the face-reading software was rather low. The recorded micro-expressions showed no relationship either with the resulting choice behavior, while the self-report strongly did (Schulte-Mecklenbeck & Fiedler).

C.V.5 The Aging Decision-maker

In the last year, we extended our subject pool to older adults (aged 65-90) in order to test some of our findings in the context of limited cognitive resources. As part of the Max Planck International Research Network on Aging, Fedor Levin is particularly active in projects focusing on the involvement of episodic

memory in value-based decisions. In a joint study with Bernd Weber, we show that age-related memory decline correlates with increased inconsistencies in value-based decisions due to difficulties in retrieving the information that is necessary for the choice. The results are of particular importance since they speak to the largely ignored unique needs of elderly consumers and the underspecification of decision models due to the lack of variance in the subject populations (Levin, Fiedler & Weber).

C.V.6 Methodological Developments and Debates

In the last four years, social science researchers have become increasingly aware of the irreproducibility of the empirical results (Open Science Collaboration 2012 & 2015) and initiated a debate about potential ways how to face the challenges of irreproducibility. The group is strongly involved in this debate, and the resulting Open Science Movement is developing and evaluating tools that foster transparency and collaboration in the scientific community. In our work, we have developed concrete suggestions to increase the reproducibility of one's own research by addressing problems and challenges across the research lifecycle of (1) experimental design, (2) conducting the experiment, (3) data analysis, (4) reporting, and (5) overall research strategies (Open Science Collaboration, 2016).

Reproducibility is an important stepping stone to ensure that insights from scientific experiments stand the test of time (Fuchs, Jenny & Fiedler, 2012). One critical component in securing the reproducibility of experimental research findings is a methods section describing all details of the procedure in a way that other researchers can evaluate and, ideally, run the same study again. Correspondingly, a call for a comprehensive description of methods has repeatedly been made in various publications (Asendorf et al., 2013a, 2013b). Standardized reporting practices are a necessary prerequisite for these propositions. A wide range of such standards is available for general-purpose reporting (e.g., APA, JARS). These standards provide a common base for the description of complex research procedures, (statistical) methods, and results. Current reporting practices are still evolving and even when general guidelines for reporting experimental findings exist, specific and easily adoptable guidelines for studies using process measures (e.g., eye-tracking) are still missing. In joint work with Michael Schulte-Mecklenbeck, Frank Renkewitz, and Jacob Orquin, we provide researchers with hands-on advice how to report their work in terms of method and analysis (Fiedler, Schulte-Mecklenbeck, Renkewitz, and Orquin, in preparation). In addition to the development of this guideline, we contribute a new chapter on standards in process reporting and the changing use of eye-tracking technology in the last decade of judgment and decision-making research to the *Handbook of Process Tracing Methods for Decision Research: A Critical Review and User's Guide*, 2nd Edition (Fiedler, Schulte-Mecklenbeck, Renkewitz, Orquin, forthcoming). Going even further than tackling the symptoms of the replicability challenge, we describe in a recent publication (Glöckner, Fiedler & Renkewitz, in press) a comprehensive way to make psychological science more reliable through better theorizing, thus pointing to the core of the problem.

Working along these lines, members of the research group have supported additional follow-up projects. For example, Rima-Maria Rahal, Minou Ghaffari, and Susann Fiedler contributed to one of the first Registered Replication Reports, involving 21 different labs, investigating the Social Heuristic Hypothesis stating that altruism is intuitive (Bouwmeester et al., 2017). Lina-Sophia Falkenberg, Sarah Piechowski, and Susann Fiedler were part of a research group evaluating the effect of the introduction of badges in psychological journals (Kidwell et al., 2016). Introducing the option of receiving visible badges for open data, open materials, and pre-registration on the journal level was strongly correlated with an increase in Open Science practices. Badges were subsequently described as effective and cost-efficient signals to improve preservation of data and materials by using independent repositories. In an effort to provide additional tools to scientists that not only increase reproducibility, but also reduce search efforts, we are currently building a database that includes over 230 published individual difference measures. In order to investi-

gate their interrelations, we are using the Web of Science citation network to discover connections of constructs and isolated measures. In cooperation with the library team, we plan to create an easy-to-use tool that will allow the members of the institute in the first place, and later also the broader scientific community, to use our database for a systematic review of available measures.

Outlook

Many of the projects described above are still in progress and have opened up new questions, which we plan to follow up on in the future. For example, we are currently planning to extend our work on framing to understand how reference points (with Holger Rau and Stephan Müller) and defaults (with Andreas Glöckner and Sebastian Berger) guide the construction process of individual choices. Further, evidence on prosocial preferences being positively connected not only to prosocial behavior, but also to an increase in memory performance in social interactions, opens up a number of intriguing questions. For example, in which way does this memory advantage play out in the context of recognizing familiar interaction partners, and how does it affect the likelihood of interacting with these partners (endogenous sorting)?

In the next two years, we plan to continue and extend our work along the introduced lines using our expertise about cognitive processes to branch out to more applied research questions. For example, targeting decisions in the context of tax evasion (proposal together with Professor Christoph Kogler & Professor Anthony Evans, under review at the DFG), negotiations (proposal together with Professor Michal Krawczyk, under review at the DFG funding initiative BEETHOVEN 2) and hiring decisions. The group's work will further concentrate on experimental work with a strong process orientation and interdisciplinary focus, as well as the meta-science issues of transparency and theory development in social science.

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C.VI Research Group “Mechanisms of Normative Change”

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The Max Planck Research Group “Mechanisms of Normative Change” was established in June 2015. The group’s research program is based on mechanism-based reasoning about social norms, a rigorous (game-) theoretical foundation of the research, and a causal empirical analysis of why social norms change. Our research agenda revolves around the idea that the most basic mechanism behind changing social norms is *normative conflict*. Norms may be widely shared for some time, but as new norms emerge and are initially shared by only a few, these competing norms may lead to conflict despite everyone’s intention to follow norms. Rauhut und Winter (2017a) and Winter et al. (2012) spell out this very idea and characterize a static equilibrium analysis of normative conflict. Winter et al. (2016) extend their analysis to a dynamic setting and theoretically and experimentally study the emergence of social norms from ongoing normative conflict. The research of the group investigates this program in several different domains.

C.VI.1 Social Norms of Public Discourse

Social norms regulate most of our daily actions and habits. In particular, they also affect the way we speak in public. Here, norms of politeness and inclusion may conflict with norms of free (as in unregulated) speech and exclusion. Alvarez and Winter (2017a) experimentally study how hate speech can be reduced in Internet forums. They create a controlled online forum and ask people to discuss controversial matters. Their results show that moderate censoring of hateful content improves the general tone of the discussion, while peer sanctions do not have such an effect. Also, censoring previous hateful comments prevents the occurrence of extremely hostile comments. In the same setting, Alvarez & Winter (2017b) show that actual terrorist attacks moderate the effectiveness of censoring and peer punishment, and render the former more effective. To understand these results better, Polat (2017) uses agent-based models to investigate the micro-macro link between social structure, underlying psychological constants, and opinion polarization.

C.VI.2 Norm Enforcement and Ethnic Diversity

Migration is considered one of the mechanisms behind normative change, the emergence and erosion of social norms. Winter and Zhang (2017a) investigate the relationship between ethnic diversity and the costly enforcement of social norms. While most existing research considers how co-ethnicity shapes costly punishment decisions in small-group interactions, this project breaks new ground by investigating the influence of ethnic diversity on costly punishment between strangers. They conducted a natural field experiment and show that Germans and visible ethnic minorities sanction norm violations at different rates, and that individuals condition their punishment decisions on the ethnic identity of the norm violator. Winter and Zhang (2017b) design a second field experiment to disentangle in-group/out-group explanations from status-based explanations in Switzerland.

C.VI.3 Social Norms and the Voluntary Provision of Public Goods

A further stream of research investigates the provision of public goods and the normative behavior and normative changes associated with it. Luckner (2017) formalizes Akerlof and Kranton’s 2000 Identity Theory and investigates how group manipulations and the public announcements of behavioral expectations influence the willingness to act for the common good. Alvarez et al. (2017) extend Luckner’s formalization to a game-theoretical model and show how Identity Theory can be used to model social norms as correlated equilibria in the spirit of Robert Aumann (1987) and Herbert Gintis (2009). However, the corresponding experimental results only partly confirm the theoretical predictions.

The willingness to contribute to a common good depends to a large extent on a good, inclusive institutional framing. Frackenhohl et al. (2016) show that small variations in the presentation of the cooperation problem can already have tremendous effects on the provision of the public good. Zhang and Lee (2017) investigate the relationship between the monitoring power of centralized authorities and the willingness of citizens to cooperate and contribute to public goods. They use "forensic" demographic techniques to uncover shortfalls in the state's collection of census data, which they take as a proxy for poor centralized monitoring. They demonstrate that areas with better census collection are also able to collect higher taxes and provide more public goods. Zhang (2017) complements this result by an experiment showing that apparently "corrupt" cultures can be traced back to poor institutions, rather than a preference for corruption.

C.VI.4 Volunteering under Population Uncertainty

Winter and Franzen (2017) investigate the provision of sanctions in N-responder ultimatum games. They show that the willingness to reject unfair offers and thus enforce norms of fairness decreases with the number of other potential responders. This phenomenon is often referred to as a "diffusion of responsibility". In a sense, this project could be seen as a stepping stone towards a theory of cooperation under *population uncertainty*. This general idea is largely extended in a DFG grant submitted by Winter (2017a); at the time of writing, it has been approved by the DFG's review board (*Fachkollegium*). This idea is formally and experimentally implemented in Hillenbrand and Winter (2017). The equilibrium analysis shows that the diffusion of responsibility in the Volunteers Dilemma (see Diekmann 1984) is reduced under population uncertainty, i.e., if the exact number of potential volunteers is unknown. This theoretical result is also confirmed by the experimental data, though not due to the mechanism underlying the equilibrium analysis. Brookins et al. (2017) implement population uncertainty in the VOD via incomplete information about costs (see Weesie 1994). Preliminary theoretical analysis shows that the equilibrium solution has an intuitive and appealing interpretation, in which high-cost volunteers defect and low-cost volunteers cooperate. Hillenbrand (2017) further adds to the research on the diffusion of responsibility by showing how cooperation in the VOD with cost sharing depends on the institutional framing.

C.VI.5 Measuring Social Norms and Normative Conflict

A fifth block of projects is dedicated to refining the measurement of social norms. This research is rooted in Rauhut & Winter (2009), who argue for the use of the strategy method to elicit normative principles. Crosetto et al. (2017) integrate the "Social Value Orientation Slider Measure" by Murphy et al. (2014) into zTree and oTree. This measure provides a fine-grained classification of behavioral norms in fairness situations. Böhm et al. (2017) apply this measure in a representative survey of the Austrian population and show that the distribution of fairness ideals is relatively even across different age groups, social status, or gender. One of the limitations of the SVO measure is its one-dimensionality: it only measures behavior. Rauhut et al. (2017) develop a new measure for social norms in surveys based on normative and behavioral expectations (see Bicchieri 2006), and implement this measure in a large-scale M-Turk study to test the robustness and explanatory power of the new measure. The measure will also be implemented in the 2018 wave of the PASS study of the IAB in Nuremberg by Rauhut et al. (2017b).

As Winter (2014), Winter et al. (2012), and Winter et al. (2017) show, these norms may not be universally shared, and may not even be compatible with each other. In particular, fairness norms may, for instance, be egalitarian (everybody gets the same) or equitarian (the input/output ratio should be the same). These norms are often elicited using real-effort tasks to induce entitlements. Winter (2017b) experimentally

compares ten real-effort tasks and shows that the choice of the task can reverse the interpretation of the results of an experiment. The computerized versions of the tasks are available in Winter (2017c).

C.VI.6 Social Norms in the Sociology of Science

Finally, the research group has a series of projects more at the intersection of social norms research and the sociology of science. Using Big-Data techniques on Web of Science data, Rauhut and Winter (2016a) show how norms of co-authorship ordering (alphabetical or merit-based) have changed in the German-speaking sociological community over the past decades. Rauhut and Winter (2017b) use the same data to characterize the German sociological-journal landscape. Rauhut and Winter (2016b) use a bibliographic approach and Big Data techniques to show how strategic referencing causally increases citations received in the future.

Publications and Research Projects from Members of the Group

Alvarez, A., Freund, L., Luckner, K. & Winter, F. (2017). Information Provision and Normative Change. *In preparation*

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C.VII International Max Planck Research School: Adapting Behavior to a Fundamentally Uncertain World

Partners: Max Planck Institute for Human Development, Berlin (Gigerenzer)
 Faculty of Economics, University of Jena (Kirchkamp, Cantner)
 Department of Psychology, University of Jena (Kessler, Rothermund)
 Faculty of Law, University of Bonn (Zimmer)
 Faculty of Management, Economics, and Social Sciences, University of Cologne (Bierbrauer)
 Rationality Center, Jerusalem (Kareev)
 Workshop in Political Theory and Policy Analysis, Bloomington (Todd)
 Psychology Department, Bloomington (Todd)
 Interdepartmental Centre for Research Training in Economics and Management,
 University of Trento (Mittone)
 Co-chairs are Christoph Engel and Oliver Kirchkamp

C.VII.1 Decision-making in a (Sufficiently) Certain World

How should one make a decision? The answer seems obvious: Figure out what you want, check your options, and choose the option that comes closest to your desires. Neoclassical economics has developed this program to near perfection. It is the program of optimization under constraints (Feldman 1980). From this starting point, it is natural to see uncertainty as a problem of information. If more information is available, rational decision-makers use it. If full information is not to be had, rational actors replace it by the best available proxy. In the most comfortable case, the set of possible events is finite and known. Both the range and the distribution of each possible event within the range of possible realizations may be estimated. There is, for instance, reason to believe that the unknown event is taken from a well-defined class of events, and that there are data from a representative sample. If so, the present value of the option may be calculated. If there are no hard data, decision-makers may still be able to come up with educated guesses. The rational choice program still works if they rely on merely subjective probabilities, and on a merely subjective definition of the action space.

The program takes into account information cost. If the acquisition of additional information is costly, decision-makers make an investment decision. They estimate the expected value of improving decision quality, and compare it to the cost. If, *ex ante*, it is uncertain whether costly searching will lead to success, the benefit is multiplied by the (merely subjective, if necessary) probability of success.

By the same token, the solution space for the meta-decision about the search may be extended. First, the decision-maker constructs the space of potential outcomes of the search. Each outcome is the product of two factors: the probability of finding the solution, and its value. Summing up over all weighed outcomes gives the expected value of engaging in a search.

In the same way, one may introduce a decision cost. This is easiest to see if the decision-maker relies on the services of an intermediary. The cost of entrusting the actual decision-making to an outsider is justified in either of two cases. In the first case, the decision-maker could have made the decision herself. But the decision-making effort saved on this task may be invested in other more profitable tasks. In the second case, bringing in the third party is a way to overcome the decision-maker's own limitations. Either meta-decision rests on comparing the expected benefit to the cost.

In this (neoclassical) program, decision-making under certainty is the conceptual starting point. Decision cost, complexity, and uncertainty are added as complications. By the steps sketched above, these complications become tractable, provided computational capacity is not bounded. Once the necessary estimations have been made, the actual decision is a mere matter of calculus. Given the right estimates, the right decision is unquestionable. If outsiders accept the estimates, one may prove that one has taken the correct decision.

These features of the neoclassical program have made it attractive to psychologists and lawyers as well. In psychology, the anomalies and biases program has turned what is a mere analytic tool in economics into norms. In experiments, subjects have been tested against the predictions of rational choice theory. Systematic deviations have been dubbed as biases. Indeed, long lists of such biases have been found. Legal scholars have bought into this program from two angles. In law and economics, legal institutions are reconstructed from the perspective of actors who follow the rational choice program. In most of behavioral law and economics, legal institutions are reconstructed as decision aids, helping individuals overcome the empirical deviations from rational choice norms, *i.e.*, biases.

C.VII.2 Decision-making in a Fundamentally Uncertain World

There is a radically different way of construing decision-making. It starts from the assumption that the problem is either ill-defined, or complexity transcends decision-making abilities. Of course, not all problems fall into one of these categories. Actually, one of the main purposes of institutions is to narrow down problems such that they become tractable in rational choice terms. Take decision-making in parliament. At the outset, the factors potentially relevant for making political decisions are overwhelmingly rich. But all that is needed to make a decision on behalf of the entire country is sufficient votes in parliament. This institutional intervention is already a response to the fact that complexity was extensive in the first place.

The domain of the alternative approach is extended by the fact that not all decision-makers dispose of perfect cognitive abilities. Nonetheless they have to take decisions. Others have to divide their limited cognitive resources among multiple tasks, or to decide in limited time; and still others cannot afford training or the help of decision-making intermediaries with larger cognitive resources. For all of these reasons, decision-makers might want to content themselves with a more parsimonious method of decision-making under uncertainty, provided the expected results are at least satisfactory.

Once one introduces human interaction into the definition of the situation, further reasons for fundamental uncertainty become visible. People possess the power of creativity. They can use it for mere technical or institutional innovation. But they may also creatively circumvent what would be a restriction for a mere utility maximizer.

Finally, if the situation is not exceptionally simple, actors must engage in "sense-making". To that end, they construct mental models. Uncertainty can also be said to be fundamental if actors lose confidence in their mental models.

If uncertainty is fundamental for one of these reasons, decision-making is no longer a matter of calculus. The search must be stopped at some point, and often early on. The decision-maker must take on personal responsibility. It is clear at the outset that the decision may turn out to be suboptimal, after the fact. It does not make sense to strive for the perfect decision. A good illustration is what is known as the "secretary problem", i.e., a search problem where former options are foregone. Here one may learn after the fact that a former option would have been preferable. But one has no chance to revert on one's earlier decision not to seize the opportunity. In such situations, the normative goal shifts to coming up with an appropriate move, given the limited abilities of the decision-maker. Depending on the situation, avoiding bad mistakes (e.g., hiring the worst secretary) may be more important than missing theoretical opportunities (e.g., hiring the theoretically optimal secretary). In other situations, taking the risk of small mistakes may be conducive to gradually improving the decision quality, and to preparing for situations where decision quality matters more. In the same vein, it may be preferable to split an important decision into small steps, thereby gaining an opportunity to redirect one's course in light of intermediate experiences. It always pays to remain open to surprise. Making good use of feedback becomes paramount.

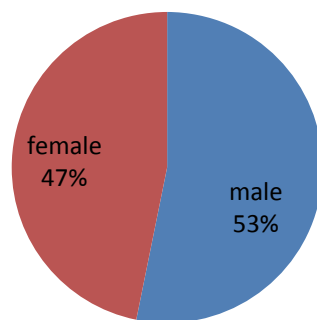
The hallmark of rational choice theorising is strategic interaction. Many real-life problems fall into this category, the two main exceptions being the direct interaction between man and nature, and behavior in markets if competition is workable. The tool for analyzing problems of strategic interaction is game theory. If some actors have a chance to design rules for future interaction, game theory takes the form of principal-agent theory and of mechanism design. If the uncertainty is fundamental, this does not make the strategic element and anticipation disappear. Yet, if neither actor optimizes, strategic interaction takes on a different flavor. Generating predictability is a precondition for gains from cooperation. Complex cascades of mutual anticipation become unlikely. Simple interaction heuristics are more likely to be employed by one's interaction partner. On the other hand, too much predictability is dangerous when "predators" are on the loose. In such situations, a decision rule must help the individual choose between the prospect for gains from cooperation and the ensuing risk of being exploited.

The best machinery for implementing the traditional rational choice program is formal logic. Logic has its role in the alternative program. But it must be supplemented by different cognitive and motivational tools. On the cognitive side, the decision-maker must be able comparatively to assess the desirability of options on a thin factual basis. Most likely, there is not one all-purpose tool for this. In some contexts, simply repeating past success and avoiding past failure may be enough. In other contexts, it may be more promising to build a rough mental model of the situation, and to rank the options that come to mind along simple criteria. In still other contexts, tracing patterns and matching their probabilities may be best policy, and so forth. On the motivational side, two elements are crucial. Decision-makers must be willing to take risks; otherwise they would be immobilized in the face of patent uncertainty. Conversely, decision-makers must feel pressed to change a course of action if there are sufficiently strong signals that they got it wrong. The relatively high willingness to trust others, coupled with fairly strong punishing sentiments, fits this picture well.

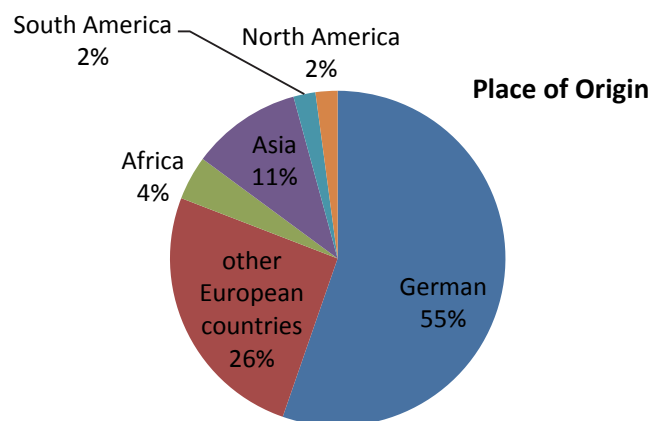
C.VII.3 Demographics of the IMPRS Uncertainty

The IMPRS Uncertainty is an international and interdisciplinary program. Between 2014 and 2017, 47 students were members of the program in the different locations. 22 of them finished their PhD in that period. The gender distribution is almost balanced, with only a few more male students.

Gender distribution

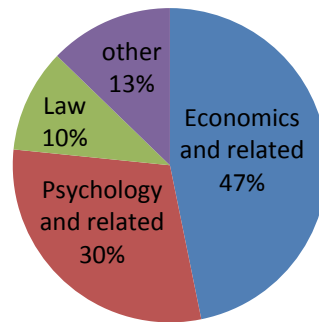


The majority of our students are German, but almost half of our students in the program are international students:



We are an interdisciplinary program, with most of our students from the three main fields (economics, psychology, and law), but also some neighboring disciplines:

Background



IMPRS Summer School 2014, Schedule

1st week	Sunday July 13	Monday July 14	Tuesday July 15	Wednesday July 16	Thursday July 17	Friday July 18	Saturday July 19	Sunday July 20
	8:00							
8:15	Registration	Oliver Kirchkamp	Oliver Kirchkamp	Oliver Kirchkamp	Oliver Kirchkamp	Oliver Kirchkamp	8:15	
8:30	Seminar: FSU Jena	Bootstrapping methods	Bootstrapping methods	Bootstrapping methods	Bootstrapping methods	Bootstrapping methods	8:30	
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16:00	Registration	Andre Lorenz, Marco Valente	Andre Lorenz, Marco Valente	Andre Lorenz, Marco Valente	Andre Lorenz, Marco Valente	Andre Lorenz, Marco Valente	16:00	
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3rd week	Monday July 28		Tuesday July 29		Wednesday July 30		Thursday July 31		Friday Aug 1		Saturday Aug 2		Sunday Aug 3
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4th week	Monday August 4			Tuesday Aug 5			Wednesday Aug 6			Thursday Aug 7			Friday Aug 8		
8:15	Peter Fischer Decision Making in Organisations MPI V14 Coffee	8:15	Peter Fischer	8:15	Peter Fischer	8:15	Chris Buccafusco	8:15	Chris Buccafusco	8:15	Hanjo Hamann	8:15	Law and Legal Science: Institutions in Practice MPI V14 Coffee		
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14:45		14:45	Coffee	14:45	Coffee	14:45	Coffee	14:45	Coffee	14:45	Coffee				
15:00		15:00	Coffee	15:00	Coffee	15:00	Coffee	15:00	Coffee	15:00	Coffee				
15:15	Exercise Chris Buccafusco MPI V14 Coffee	15:15	Luigi Mittone	15:15	Luigi Mittone	15:15	Luigi Mittone	15:15	Luigi Mittone	15:15	Luigi Mittone	15:15	Group Assignment Final Presentation MPI V14 Free time Graduation Ceremony		
15:30		15:30	Experience and history: An experimental approach to generational heterogeneity	15:30	Experience and history: An experimental approach to generational heterogeneity	15:30	Experience and history: An experimental approach to generational heterogeneity	15:30	Experience and history: An experimental approach to generational heterogeneity	15:30	Experience and history: An experimental approach to generational heterogeneity				
15:45		15:45	MPI V14	15:45	MPI V14	15:45	MPI V14	15:45	MPI V14	15:45	MPI V14				
16:00		16:00	Coffee	16:00	Coffee	16:00	Coffee	16:00	Coffee	16:00	Coffee				
16:15		16:15	Coffee	16:15	Coffee	16:15	Coffee	16:15	Coffee	16:15	Coffee				
16:30	Group Assignment	16:30	Group Assignment	16:30	Group Assignment	16:30	Group Assignment	16:30	Group Assignment	16:30	Group Assignment	16:30	Free time		
16:45		16:45	Group Assignment	16:45	Group Assignment	16:45	Group Assignment	16:45	Group Assignment	16:45	Group Assignment				
17:00		17:00	Group Assignment	17:00	Group Assignment	17:00	Group Assignment	17:00	Group Assignment	17:00	Group Assignment				
17:15		17:15	Group Assignment	17:15	Group Assignment	17:15	Group Assignment	17:15	Group Assignment	17:15	Group Assignment				
17:30		17:30	Group Assignment	17:30	Group Assignment	17:30	Group Assignment	17:30	Group Assignment	17:30	Group Assignment				
17:45	Group Assignment	17:45	Group Assignment	17:45	Group Assignment	17:45	Group Assignment	17:45	Group Assignment	17:45	Group Assignment	17:45	Graduation Ceremony		
18:00		18:00	Group Assignment	18:00	Group Assignment	18:00	Group Assignment	18:00	Group Assignment	18:00	Group Assignment				
18:15		18:15	Group Assignment	18:15	Group Assignment	18:15	Group Assignment	18:15	Group Assignment	18:15	Group Assignment				
18:30		18:30	Group Assignment	18:30	Group Assignment	18:30	Group Assignment	18:30	Group Assignment	18:30	Group Assignment				
18:45		18:45	Group Assignment	18:45	Group Assignment	18:45	Group Assignment	18:45	Group Assignment	18:45	Group Assignment				
19:00	Group Assignment	19:00	Group Assignment	19:00	Group Assignment	19:00	Group Assignment	19:00	Group Assignment	19:00	Group Assignment	19:00	Dinner and Farewell Party		
19:15		19:15	Group Assignment	19:15	Group Assignment	19:15	Group Assignment	19:15	Group Assignment	19:15	Group Assignment				
19:30		19:30	Group Assignment	19:30	Group Assignment	19:30	Group Assignment	19:30	Group Assignment	19:30	Group Assignment				
19:45		19:45	Group Assignment	19:45	Group Assignment	19:45	Group Assignment	19:45	Group Assignment	19:45	Group Assignment				
20:00		20:00	Group Assignment	20:00	Group Assignment	20:00	Group Assignment	20:00	Group Assignment	20:00	Group Assignment				

IMPRS Summer School 2015, Schedule

1st week	Sunday July 26	Monday July 27	Tuesday July 28	Wednesday July 29	Thursday July 30	Friday July 31	Saturday August 1	Sunday August 2
	GK-EC	IMPRS	GK-EC	IMPRS	GK-EC	IMPRS	GK-EC	IMPRS
8:45		8:45	8:45	8:45	8:45	8:45	8:45	8:45
9:00	Registration	Welcome	Uwe Cantner	Uwe Cantner	Uwe Cantner	Uwe Cantner		
9:15			Entrepreneurship	Entrepreneurship	Entrepreneurship	Entrepreneurship		
9:30			MKG lecture hall	MKG lecture hall	MKG lecture hall	MKG lecture hall		
9:45			Coffee	Coffee	Coffee	Coffee		
10:00							Exam	
10:15								
10:30								
10:45								
11:00								
11:15								
11:30								
11:45								
12:00								
12:15								
12:30								
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18:00								
18:15								
18:30								
18:45								
19:00								
19:15								
19:30								
19:45								
20:00								

4th week	Monday August 17	Tuesday August 18	Wednesday August 19	Thursday August 20	Friday August 21
9:00	Ferdinand Vieider	Ferdinand Vieider	Ferdinand Vieider	Claudia Landeo	Ferdinand Vieider
9:15	An advanced primer in decision theory	An advanced primer in decision theory	An advanced primer in decision theory	Experimental Economics and Legal Research	An advanced primer in decision theory
9:30					
9:45	MKG lecture hall	MKG lecture hall	MKG lecture hall	MKG lecture hall	MKG lecture hall
10:00					
10:15					
10:30	Coffee	Coffee	Coffee	Coffee	Coffee
10:45					
11:00	Claudia Landeo	Claudia Landeo	Claudia Landeo	Claudia Landeo	Claudia Landeo
11:15	Experimental Economics and Legal Research	Experimental Economics and Legal Research	Experimental Economics and Legal Research	Experimental Economics and Legal Research	Experimental Economics and Legal Research
11:30				Exercise SR 003	
11:45					
12:00	MKG lecture hall	MKG lecture hall	MKG lecture hall		MKG lecture hall
12:15					
12:30					Coffee
12:45	Lunch	Lunch	Lunch	Lunch	
13:00					
13:15					
13:30	Andreas Wilke	Andreas Wilke	Andreas Wilke	Andreas Wilke	Andreas Wilke
13:45	The evolved foundations of decision making	The evolved foundations of decision making	The evolved foundations of decision making	The evolved foundations of decision making	The evolved foundations of decision making
14:00					
14:15					
14:30	MKG lecture hall	MKG lecture hall	MKG lecture hall	MKG lecture hall	Lunch
14:45					
15:00	Coffee	Coffee	Coffee	Coffee	
15:15					
15:30	Ferdinand Vieider	Exercise Vieider	Exercise Wilke	Exercise Vieider	
15:45	An advanced primer in decision theory				
16:00		break		break	
16:15		invited talk			
16:30	MKG lecture hall	Sigrid Suetens			Free time
16:45					
17:00					
17:15	Exercise Wilke	The 'law' of small numbers	time for group assignment	Group Assignment Final Presentation	
17:30		MKG lecture hall			
17:45		break			
18:00		invited talk			
18:15		Sigrid Suetens			Graduation Ceremony
18:30					
18:45		On assuming (in)complete information in games.			
19:00	time for group assignment	MKG lecture hall			
19:15					
19:30					
19:45					Dinner and Farewell Party
20:00					

IMPRS Summer School 2016, Schedule

1st week	Sunday July 24	Monday July 25	Tuesday July 26	Wednesday July 27	Thursday July 28	Friday July 29	Saturday July 30	Sunday July 31
	GK-EC	IMPRS	GK-EC	IMPRS	GK-EC	IMPRS	GK-EC	IMPRS
8:45		8:45	8:45	8:45	8:45	8:45	8:45	
9:00		9:00	9:00	9:00	9:00	9:00	9:00	
9:15		9:15	9:15	9:15	9:15	9:15	9:15	
9:30		9:30	9:30	9:30	9:30	9:30	9:30	
9:45		9:45	9:45	9:45	9:45	9:45	9:45	
10:00		10:00	10:00	10:00	10:00	10:00	10:00	
10:15		10:15	10:15	10:15	10:15	10:15	10:15	
10:30		10:30	10:30	10:30	10:30	10:30	10:30	
10:45		10:45	10:45	10:45	10:45	10:45	10:45	
11:00		11:00	11:00	11:00	11:00	11:00	11:00	
11:15		11:15	11:15	11:15	11:15	11:15	11:15	
11:30		11:30	11:30	11:30	11:30	11:30	11:30	
11:45		11:45	11:45	11:45	11:45	11:45	11:45	
12:00		12:00	12:00	12:00	12:00	12:00	12:00	
12:15		12:15	12:15	12:15	12:15	12:15	12:15	
12:30		12:30	12:30	12:30	12:30	12:30	12:30	
12:45		12:45	12:45	12:45	12:45	12:45	12:45	
13:00		13:00	13:00	13:00	13:00	13:00	13:00	
13:15		13:15	13:15	13:15	13:15	13:15	13:15	
13:30		13:30	13:30	13:30	13:30	13:30	13:30	
13:45		13:45	13:45	13:45	13:45	13:45	13:45	
14:00		14:00	14:00	14:00	14:00	14:00	14:00	
14:15		14:15	14:15	14:15	14:15	14:15	14:15	
14:30		14:30	14:30	14:30	14:30	14:30	14:30	
14:45		14:45	14:45	14:45	14:45	14:45	14:45	
15:00		15:00	15:00	15:00	15:00	15:00	15:00	
15:15		15:15	15:15	15:15	15:15	15:15	15:15	
15:30		15:30	15:30	15:30	15:30	15:30	15:30	
15:45		15:45	15:45	15:45	15:45	15:45	15:45	
16:00		16:00	16:00	16:00	16:00	16:00	16:00	
16:15		16:15	16:15	16:15	16:15	16:15	16:15	
16:30		16:30	16:30	16:30	16:30	16:30	16:30	
16:45		16:45	16:45	16:45	16:45	16:45	16:45	
17:00		17:00	17:00	17:00	17:00	17:00	17:00	
17:15		17:15	17:15	17:15	17:15	17:15	17:15	
17:30		17:30	17:30	17:30	17:30	17:30	17:30	
17:45		17:45	17:45	17:45	17:45	17:45	17:45	
18:00		18:00	18:00	18:00	18:00	18:00	18:00	
18:15		18:15	18:15	18:15	18:15	18:15	18:15	
18:30		18:30	18:30	18:30	18:30	18:30	18:30	
18:45		18:45	18:45	18:45	18:45	18:45	18:45	
19:00		19:00	19:00	19:00	19:00	19:00	19:00	
19:15		19:15	19:15	19:15	19:15	19:15	19:15	
19:30		19:30	19:30	19:30	19:30	19:30	19:30	
19:45		19:45	19:45	19:45	19:45	19:45	19:45	
20:00		20:00	20:00	20:00	20:00	20:00	20:00	

2nd week	Monday August 1			Tuesday August 2			Wednesday August 3			Thursday August 4			Friday August 5			Sat August 6	Sunday August 7
	GK-EC	IMPRS		GK-EC	IMPRS		GK-EC	IMPRS		GK-EC	IMPRS		GK-EC	IMPRS		IMPRS	
9:00	Oliver Kirchkamp Workflow of statistical data analysis	9:00	Oliver Kirchkamp Workflow of statistical data analysis	9:00	Oliver Kirchkamp Workflow of statistical data analysis	9:00	Oliver Kirchkamp Workflow of statistical data analysis	9:00	Oliver Kirchkamp Workflow of statistical data analysis	9:00	Oliver Kirchkamp Workflow of statistical data analysis	9:00	Oliver Kirchkamp Workflow of statistical data analysis	9:00	IMPRS	IMPRS	IMPRS
9:15		9:15		9:15		9:15		9:15		9:15		9:15		9:15			
9:30		9:30		9:30		9:30		9:30		9:30		9:30		9:30			
9:45		9:45		9:45		9:45		9:45		9:45		9:45		9:45			
10:00	MKG lecture hall	10:00	MKG lecture hall	10:00	MKG lecture hall	10:00	MKG lecture hall	10:00	MKG lecture hall	10:00	MKG lecture hall	10:00	MKG lecture hall	10:00	Exam	Exam	Exam
10:15		10:15		10:15		10:15		10:15		10:15		10:15		10:15			
10:30		10:30		10:30		10:30		10:30		10:30		10:30		10:30			
10:45		10:45		10:45		10:45		10:45		10:45		10:45		10:45			
11:00	P. Mohnen Innovation and Development	11:00	P. Mohnen Innovation and Development	11:00	P. Mohnen Innovation and Development	11:00	P. Mohnen Innovation and Development	11:00	P. Mohnen Innovation and Development	11:00	P. Mohnen Innovation and Development	11:00	P. Mohnen Innovation and Development	11:00	Stefanie Egdy Introduction to Legal Analysis: A Framework for MKG lecture hall	Holger Graf Social Network Analysis SR B5	Exam
11:15		11:15		11:15		11:15		11:15		11:15		11:15		11:15			
11:30		11:30		11:30		11:30		11:30		11:30		11:30		11:30			
11:45		11:45		11:45		11:45		11:45		11:45		11:45		11:45			
12:00	SR B5	12:00	SR B5	12:00	SR B5	12:00	SR B5	12:00	SR B5	12:00	SR B5	12:00	SR B5	12:00	MKG lecture hall	Exam	Exam
12:15		12:15		12:15		12:15		12:15		12:15		12:15		12:15			
12:30		12:30		12:30		12:30		12:30		12:30		12:30		12:30			
12:45		12:45		12:45		12:45		12:45		12:45		12:45		12:45			
13:00	Lunch	13:00	Lunch	13:00	Lunch	13:00	Lunch	13:00	Lunch	13:00	Lunch	13:00	Lunch	13:00	Lunch	Lunch	Lunch
13:15		13:15		13:15		13:15		13:15		13:15		13:15		13:15			
13:30		13:30		13:30		13:30		13:30		13:30		13:30		13:30			
13:45		13:45		13:45		13:45		13:45		13:45		13:45		13:45			
14:00	reading time	14:00	reading time	14:00	reading time	14:00	reading time	14:00	reading time	14:00	reading time	14:00	reading time	14:00	reading time	reading time	reading time
14:15		14:15		14:15		14:15		14:15		14:15		14:15		14:15			
14:30		14:30		14:30		14:30		14:30		14:30		14:30		14:30			
14:45		14:45		14:45		14:45		14:45		14:45		14:45		14:45			
15:00	SR B5	15:00	SR B5	15:00	SR B5	15:00	SR B5	15:00	SR B5	15:00	SR B5	15:00	SR B5	15:00	MKG lecture hall	MKG lecture hall	MKG lecture hall
15:15		15:15		15:15		15:15		15:15		15:15		15:15		15:15			
15:30		15:30		15:30		15:30		15:30		15:30		15:30		15:30			
15:45		15:45		15:45		15:45		15:45		15:45		15:45		15:45			
16:00	P. Mohnen Innovation and Development	16:00	P. Mohnen Innovation and Development	16:00	P. Mohnen Innovation and Development	16:00	P. Mohnen Innovation and Development	16:00	P. Mohnen Innovation and Development	16:00	P. Mohnen Innovation and Development	16:00	P. Mohnen Innovation and Development	16:00	Exercise Miller	Exercise Kirchkamp	Group Assignment Presentation
16:15		16:15		16:15		16:15		16:15		16:15		16:15		16:15			
16:30		16:30		16:30		16:30		16:30		16:30		16:30		16:30			
16:45		16:45		16:45		16:45		16:45		16:45		16:45		16:45			
17:00	break	17:00	break	17:00	break	17:00	break	17:00	break	17:00	break	17:00	break	17:00	break	break	break
17:15		17:15		17:15		17:15		17:15		17:15		17:15		17:15			
17:30		17:30		17:30		17:30		17:30		17:30		17:30		17:30			
17:45		17:45		17:45		17:45		17:45		17:45		17:45		17:45			
18:00	P. Mohnen Innovation and Development	18:00	P. Mohnen Innovation and Development	18:00	P. Mohnen Innovation and Development	18:00	P. Mohnen Innovation and Development	18:00	P. Mohnen Innovation and Development	18:00	P. Mohnen Innovation and Development	18:00	P. Mohnen Innovation and Development	18:00	Nonparametric Regression SR B5	Student presentation	Student presentation
18:15		18:15		18:15		18:15		18:15		18:15		18:15		18:15			
18:30		18:30		18:30		18:30		18:30		18:30		18:30		18:30			
18:45		18:45		18:45		18:45		18:45		18:45		18:45		18:45			
19:00	SR B5	19:00	SR B5	19:00	SR B5	19:00	SR B5	19:00	SR B5	19:00	SR B5	19:00	SR B5	19:00	Social Network Analysis SR B5	Social Network Analysis SR B5	Social Network Analysis SR B5
19:15		19:15		19:15		19:15		19:15		19:15		19:15		19:15			
19:30		19:30		19:30		19:30		19:30		19:30		19:30		19:30			
19:45		19:45		19:45		19:45		19:45		19:45		19:45		19:45			
20:00	Keynote Barbecue	20:00	Keynote Barbecue	20:00	Keynote Barbecue	20:00	Keynote Barbecue	20:00	Keynote Barbecue	20:00	Keynote Barbecue	20:00	Keynote Barbecue	20:00	Keynote Barbecue	Keynote Barbecue	Keynote Barbecue

3rd week	Monday August 8		Tuesday August 9		Wednesday August 10		Thursday August 11		Friday August 12		Saturday Aug 13	Sunday Aug 14
9:00	Anja Achtziger Introduction to Motivation and Self-Regulation MKG lecture hall	9:00	Anja Achtziger Introduction to Motivation and Self-Regulation MKG lecture hall	9:00	Anja Achtziger Introduction to Motivation and Self-Regulation MKG lecture hall	9:00	Anja Achtziger Introduction to Motivation and Self-Regulation MKG lecture hall	9:00	Anja Achtziger Introduction to Motivation and Self-Regulation MKG lecture hall	9:00		
9:15		9:15		9:15		9:15		9:15		9:15		
9:30		9:30		9:30		9:30		9:30		9:30		
9:45		9:45		9:45		9:45		9:45		9:45		
10:00	Coffee	10:00	Coffee	10:00	Coffee	10:00	Coffee	10:00	Coffee	10:00	exam	
10:15		10:15		10:15		10:15		10:15		10:15		
10:30		10:30		10:30		10:30		10:30		10:30		
10:45		10:45		10:45		10:45		10:45		10:45		
11:00	Carlos Alos-Ferrer Introduction to NeuroPsychoEconomics MKG lecture hall	11:00	Carlos Alos-Ferrer Introduction to NeuroPsychoEconomics MKG lecture hall	11:00	Carlos Alos-Ferrer Introduction to NeuroPsychoEconomics MKG lecture hall	11:00	Carlos Alos-Ferrer Introduction to NeuroPsychoEconomics MKG lecture hall	11:00	Carlos Alos-Ferrer Introduction to NeuroPsychoEconomics MKG lecture hall	11:00	exam	
11:15		11:15		11:15		11:15		11:15		11:15		
11:30		11:30		11:30		11:30		11:30		11:30		
11:45		11:45		11:45		11:45		11:45		11:45		
12:00	Lunch	12:00	Lunch	12:00	Lunch	12:00	Lunch	12:00	Lunch	12:00	exam	
12:15		12:15		12:15		12:15		12:15		12:15		
12:30		12:30		12:30		12:30		12:30		12:30		
12:45		12:45		12:45		12:45		12:45		12:45		
13:00	Christoph Engel Law and Economics MKG lecture hall	13:00	Christoph Engel Law and Economics MKG lecture hall	13:00	Christoph Engel Law and Economics MKG lecture hall	13:00	Christoph Engel Law and Economics MKG lecture hall	13:00	Christoph Engel Law and Economics MKG lecture hall	13:00		
13:15		13:15		13:15		13:15		13:15		13:15		
13:30		13:30		13:30		13:30		13:30		13:30		
13:45		13:45		13:45		13:45		13:45		13:45		
14:00	Christoph Engel Law and Economics MKG lecture hall	14:00	Christoph Engel Law and Economics MKG lecture hall	14:00	Christoph Engel Law and Economics MKG lecture hall	14:00	Christoph Engel Law and Economics MKG lecture hall	14:00	Christoph Engel Law and Economics MKG lecture hall	14:00		
14:15		14:15		14:15		14:15		14:15		14:15		
14:30		14:30		14:30		14:30		14:30		14:30		
14:45		14:45		14:45		14:45		14:45		14:45		
15:00	Coffee	15:00	Coffee	15:00	Coffee	15:00	Coffee	15:00	Coffee	15:00		
15:15		15:15		15:15		15:15		15:15		15:15		
15:30		15:30		15:30		15:30		15:30		15:30		
15:45		15:45		15:45		15:45		15:45		15:45		
16:00	Exercise Achtziger	16:00	Judith Avrahami invited talk Competition and inequality MKG lecture hall	16:00	Exercise Achtziger	16:00	Exercise Engel	16:00	Group Assignment Presentation	16:00		
16:15		16:15		16:15		16:15		16:15		16:15		
16:30		16:30		16:30		16:30		16:30		16:30		
16:45		16:45		16:45		16:45		16:45		16:45		
17:00	Exercise Alos-Ferrer	17:00	Exercise Engel	17:00	Exercise Engel	17:00	Group Assignment - experiments possible	17:00	Group Assignment - experiments possible	17:00		
17:15		17:15		17:15		17:15		17:15		17:15		
17:30		17:30		17:30		17:30		17:30		17:30		
17:45		17:45		17:45		17:45		17:45		17:45		
18:00	Group Assignment	18:00	Group Assignment - experiments possible	18:00	Group Assignment - experiments possible	18:00	Group Assignment - experiments possible	18:00	Group Assignment - experiments possible	18:00		
18:15		18:15		18:15		18:15		18:15		18:15		
18:30		18:30		18:30		18:30		18:30		18:30		
18:45		18:45		18:45		18:45		18:45		18:45		
19:00	Group Assignment	19:00	Group Assignment - experiments possible	19:00	Group Assignment - experiments possible	19:00	Group Assignment - experiments possible	19:00	Group Assignment - experiments possible	19:00		
19:15		19:15		19:15		19:15		19:15		19:15		
19:30		19:30		19:30		19:30		19:30		19:30		
19:45		19:45		19:45		19:45		19:45		19:45		
20:00	Group Assignment	20:00	Group Assignment - experiments possible	20:00	Group Assignment - experiments possible	20:00	Group Assignment - experiments possible	20:00	Group Assignment - experiments possible	20:00		

4th week	Monday August 15	Tuesday August 16	Wednesday August 17	Thursday August 18	Friday August 19
9:00	Oliver Kirchkamp Using Graphs and Visualising Data	Oliver Kirchkamp Using Graphs and Visualising Data	Oliver Kirchkamp Using Graphs and Visualising Data	Oliver Kirchkamp Using Graphs and Visualising Data	Oliver Kirchkamp Using Graphs and Visualising Data
9:15					
9:30					
9:45					
10:00	MKG lecture hall	MKG lecture hall	MKG lecture hall	MKG lecture hall	MKG lecture hall
10:15					
10:30	Coffee	Coffee	Coffee	Coffee	Coffee
10:45					
11:00	Martin Kocher Moral Behavior MKG lecture hall	Martin Kocher Moral Behavior MKG lecture hall	Martin Kocher Moral Behavior MKG lecture hall	Martin Kocher Moral Behavior MKG lecture hall	Martin Kocher Moral Behavior MKG lecture hall
11:15					
11:30					
11:45					
12:00	MKG lecture hall	MKG lecture hall	MKG lecture hall	MKG lecture hall	MKG lecture hall
12:15					
12:30	Lunch	Lunch	Lunch	Lunch	Coffee
12:45					
13:00					
13:15					
13:30	Robert Goldstone Experiments and Models of Collective Behavior MKG lecture hall	Robert Goldstone Experiments and Models of Collective Behavior MKG lecture hall	Robert Goldstone Experiments and Models of Collective Behavior MKG lecture hall	Robert Goldstone Experiments and Models of Collective Behavior MKG lecture hall	Robert Goldstone Experiments and Models of Collective Behavior MKG lecture hall
13:45					
14:00					
14:15					
14:30	MKG lecture hall	MKG lecture hall	MKG lecture hall	MKG lecture hall	Lunch
14:45					
15:00	Coffee	Coffee	Coffee	Coffee	Exam
15:15					
15:30	Exercise Goldstone	invited talk Martin Kocher Unleashing Animal Spirits - Self-Control and Overpricing in Experimental Asset Markets MKG lecture hall	Exercise Goldstone	Exercise Kirchkamp	Exam
15:45					
16:00	break		break	break	
16:15					
16:30	Exercise Kocher	MKG lecture hall	Exercise Kocher	Group Assignment Final Presentation	Free time
16:45					
16:55	time for group assignment	break			
17:00					
17:15					
17:30					
17:45	Exercise Kirchkamp				
18:00					
18:15					
18:30					
18:45	time for group assignment		time for group assignment		Graduation Ceremony
19:00					
19:15					
19:30					
19:45					Dinner and Farewell Party
20:00					

IMPRS Summer School 2017, Schedule

1st week	Sunday July 23	Monday July 24	Tuesday July 25	Wednesday July 26	Thursday July 27	Friday July 28	Saturday July 29	Sunday July 30
	GK+IMPRS	GK+EC	IMPRS	GK+EC	IMPRS	GK+EC	IMPRS	IMPRS
8:45		8:45	8:45	8:45	8:45	8:45	8:45	
9:00		Oliver Kirchkamp	Oliver Kirchkamp	Oliver Kirchkamp	Oliver Kirchkamp	Oliver Kirchkamp		
9:15		Bayesian I	Bayesian I	Bayesian I	Bayesian I	Bayesian I	Exam	
9:30		MKG lecture hall	MKG lecture hall	MKG lecture hall	MKG lecture hall	MKG lecture hall		
9:45							Exam	
10:00								
10:15								
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19:30								
19:45								
20:00								

3rd week	Monday August 7	Tuesday August 8	Wednesday August 9	Thursday August 10	Friday August 11	Saturday Aug 12	Sunday Aug 13
9:00	Wolfgang Miltner The Human Brain: Structures, Functions and its Measurement MKG lecture hall	Wolfgang Miltner The Human Brain: Structures, Functions and its Measurement MKG lecture hall	Wolfgang Miltner The Human Brain: Structures, Functions and its Measurement MKG lecture hall	Wolfgang Miltner The Human Brain: Structures, Functions and its Measurement MKG lecture hall	Wolfgang Miltner The Human Brain: Structures, Functions and its Measurement MKG lecture hall	exam	9:00
9:15							9:15
9:30							9:30
9:45							9:45
10:00							10:00
10:15							10:15
10:30	Coffee	Coffee	Coffee	Coffee	Sven Hoeppeppner The Economics of Legal Procedure MKG lecture hall	exam	10:30
10:45							10:45
11:00							11:00
11:15							11:15
11:30							11:30
11:45	Sven Hoeppeppner The Economics of Legal Procedure MKG lecture hall	Sven Hoeppeppner The Economics of Legal Procedure MKG lecture hall	Matthias Sutter The economics of credence goods - Evidence from field experiments MKG lecture hall	Sven Hoeppeppner The Economics of Legal Procedure MKG lecture hall	Sven Hoeppeppner The Economics of Legal Procedure MKG lecture hall	exam	11:45
12:00							12:00
12:15							12:15
12:30							12:30
12:45							12:45
13:00	Lunch	Lunch	Lunch	Lunch	Lunch	exam	13:00
13:15							13:15
13:30							13:30
13:45							13:45
14:00							14:00
14:15	Oliver Kirchkamp Bayesian II MKG lecture hall	Oliver Kirchkamp Bayesian II MKG lecture hall	Oliver Kirchkamp Bayesian II MKG lecture hall	Oliver Kirchkamp Bayesian II MKG lecture hall	Oliver Kirchkamp Bayesian II MKG lecture hall	exam	14:15
14:30							14:30
14:45							14:45
15:00							15:00
15:15							15:15
15:30	Exercise Kirchkamp	Exercise Kirchkamp	Sven Hoeppeppner The Economics of Legal Procedure MKG lecture hall	Coffee	Coffee	Group Assignment Presentation	15:30
15:45							15:45
16:00							16:00
16:15							16:15
16:30							16:30
16:45	Exercise Hoeppeppner	Exercise Hoeppeppner	Exercise Miltner	Exercise Miltner	Exercise Miltner	Group Assignment - experiments possible	16:45
17:00							17:00
17:15							17:15
17:30							17:30
17:45							17:45
18:00	Group Assignment	Group Assignment - experiments possible	Group Assignment - experiments possible	Group Assignment - experiments possible	Group Assignment - experiments possible	exam	18:00
18:15							18:15
18:30							18:30
18:45							18:45
19:00							19:00
19:15	Group Assignment	Group Assignment - experiments possible	Group Assignment - experiments possible	Group Assignment - experiments possible	Group Assignment - experiments possible	exam	19:15
19:30							19:30
19:45							19:45
20:00							20:00

4th week	Monday August 14		Tuesday August 15		Wednesday August 16		Thursday August 17		Friday August 18	
9:00	Thomas Lauer Introduction Experimentics MKG lecture hall	9:00	Thomas Lauer Introduction Experimentics MKG lecture hall	9:00	Thomas Lauer Introduction Experimentics MKG lecture hall	9:00	Thomas Lauer Introduction Experimentics MKG lecture hall	9:00	Thomas Lauer Introduction Experimentics MKG lecture hall	9:00
9:15		9:15		9:15		9:15		9:15		9:15
9:30		9:30		9:30		9:30		9:30		9:30
9:45		9:45		9:45		9:45		9:45		9:45
10:00		10:00		10:00		10:00		10:00		10:00
10:15		10:15		10:15		10:15		10:15		10:15
10:30	Coffee	10:30	Coffee	10:30	Coffee	10:30	Coffee	10:30	Coffee	10:30
10:45		10:45		10:45		10:45		10:45		10:45
11:00	Thomas Kessler Cooperation and Conflict Within and Between Social Groups MKG lecture hall	11:00	Thomas Kessler Cooperation and Conflict Within and Between Social Groups MKG lecture hall	11:00	Thomas Kessler Cooperation and Conflict Within and Between Social Groups MKG lecture hall	11:00	Thomas Kessler Cooperation and Conflict Within and Between Social Groups MKG lecture hall	11:00	Thomas Kessler Cooperation and Conflict Within and Between Social Groups MKG lecture hall	11:00
11:15		11:15		11:15		11:15		11:15		11:15
11:30		11:30		11:30		11:30		11:30		11:30
11:45		11:45		11:45		11:45		11:45		11:45
12:00		12:00		12:00		12:00		12:00		12:00
12:15		12:15		12:15		12:15		12:15		12:15
12:30	Lunch	12:30	Lunch	12:30	Lunch	12:30	Lunch	12:30	Lunch	12:30
12:45		12:45		12:45		12:45		12:45		12:45
13:00		13:00		13:00		13:00		13:00		13:00
13:15		13:15		13:15		13:15		13:15		13:15
13:30		13:30		13:30		13:30		13:30		13:30
13:45	Jolene Tan/ Björn Meder Decision heuristics: Theory, models, and applications MKG lecture hall	13:45	Jolene Tan/ Björn Meder Decision heuristics: Theory, models, and applications MKG lecture hall	13:45	Jolene Tan/ Björn Meder Decision heuristics: Theory, models, and applications MKG lecture hall	13:45	Jolene Tan/ Björn Meder Decision heuristics: Theory, models, and applications MKG lecture hall	13:45	Jolene Tan/ Björn Meder Decision heuristics: Theory, models, and applications MKG lecture hall	13:45
14:00		14:00		14:00		14:00		14:00		14:00
14:15		14:15		14:15		14:15		14:15		14:15
14:30		14:30		14:30		14:30		14:30		14:30
14:45		14:45		14:45		14:45		14:45		14:45
15:00	Coffee	15:00	Coffee	15:00	Coffee	15:00	Coffee	15:00	Coffee	15:00
15:15		15:15		15:15		15:15		15:15		15:15
15:30	Exercise Lauer	15:30	Felix Bierbrauer invited talk Social Preferences and Robust Mechanism Design MKG lecture hall	15:30	Exercise Lauer	15:30	Exercise Tan/Meder	15:30	Exam	15:30
15:45		15:45		15:45		15:45		15:45		15:45
16:00	break	16:00		16:00	break	16:00	break	16:00	Free time	16:00
16:15		16:15		16:15		16:15		16:15		16:15
16:30	Exercise Kessler	16:30	break	16:30	Exercise Kessler	16:30	Group Assignment Final Presentation	16:30	Free time	16:30
16:45		16:45		16:45		16:45		16:45		16:45
17:00	time for group assignment	17:00	time for group assignment	17:00	time for group assignment	17:00		17:00		17:00
17:15		17:15		17:15		17:15		17:15		17:15
17:30		17:30		17:30		17:30		17:30		17:30
17:45		17:45		17:45		17:45		17:45		17:45
18:00		18:00		18:00		18:00		18:00		18:00
18:15	time for group assignment	18:15	time for group assignment	18:15	time for group assignment	18:15	Graduation Ceremony	18:15	Graduation Ceremony	18:15
18:30		18:30		18:30		18:30		18:30		18:30
18:45		18:45		18:45		18:45		18:45		18:45
19:00		19:00		19:00		19:00		19:00		19:00
19:15		19:15		19:15		19:15		19:15		19:15
19:30	Dinner and Farewell Party	19:30	Dinner and Farewell Party	19:30	Dinner and Farewell Party	19:30	Dinner and Farewell Party	19:30	Dinner and Farewell Party	19:30
19:45		19:45		19:45		19:45		19:45		19:45
20:00		20:00		20:00		20:00		20:00		20:00

D. Conferences and Workshops

D. Conferences and Workshops organized by the Max Planck Institute for Research on Collective Goods

2014

7th IMPRS Thesis Workshop

Jointly organized with University of Jena, Germany
Schloss Oppurg, Germany
10–13 February 2014

Does the Law Deliver?

33rd Seminar on the New Institutional Economics

Jointly organized with Urs Schweizer, University of Bonn, Germany
Regensburg, Germany
11–14 June 2014

Financial Stability after Dodd Frank: Have We Ended Too Big to Fail?

Conference at The George Washington University Law School, Washington D.C., USA
November 5, 2014

2015

8th IMPRS Thesis Workshop

Jointly organized with University of Jena, Germany
Ringberg, Germany
02– 05 March 2015

9th IMPRS Thesis Workshop

Jointly organized with University of Jena, Germany
Berlin, Germany
29–03 March 2015

Workshop with Professors Bruno Frey and Margit Osterloh

University of Zurich, Switzerland
15–16 April 2015

Beyond Privity

34th Seminar on the New Institutional Economics

Jointly organized with Urs Schweizer, University of Bonn, Germany
Edinburgh, United Kingdom
10–13 June 2015

IMPRS Topics Workshop

Jointly organized with University of Jena, Germany
Maastricht, Netherlands
28 October–02 September 2015

2016

10th Competition Law and Economics European Network (CLEEN) Workshop

Bonn, Germany

24–25 May, 2016

The Remedies Game

35th Seminar on the New Institutional Economics

Jointly organized with Urs Schweizer, University of Bonn, Germany

Sibiu, Romania

08–11 June 2016

10th IMPRS Uncertainty Topics Workshop

Jointly organized with University of Jena, Germany

Jena, Germany

12–14 October 2016

2017

11th IMPRS Uncertainty Thesis Workshop

Jointly organized with University of Jena, Germany

Gut Gremmelin, Germany

06–10 March 2017

Workshop with Professors Bruno Frey and Margit Osterloh

Max Planck Institute for Research on Collective Goods, Bonn, Germany

05–06 April 2017

Empirical Methods for the Law

36th Seminar on the New Institutional Economics

Jointly organized with Urs Schweizer, University of Bonn, Germany

Siracusa, Italy

07–10 June 2017

E. Lectures and Discussion Rounds

E. Lectures and Discussion Rounds

E.I External Seminars

2014

Daniel M. Sturm

London School of Economics, London, Great Britain
"The Economics of Density: Evidence from the Berlin Wall"
27 January 2014

Isis Durrmeyer

University of Mannheim, Germany
"Automobile Prices in Market Equilibrium with Unobserved Price Discrimination"
28 January 2014 (Economics Seminar)

Sebastian Pfeil

Goethe-Universität Frankfurt, Germany
"Image Theory of RPM"
5 February 2014 (Economics Seminar)

Christian Eufinger

Goethe-Universität Frankfurt
"Interbank Network and Bank Bailouts: Insurance Mechanism for Non-insured Creditors?"
13 February 2014 (Economics Seminar)

Uwe Sunde

University of Munich, Germany
"Religious Norms and Long-term Development: Insurance, Human Capital, and Technological Change"
17 February 2014

Hans-Joachim Voth

Universitat Pompeu Fabra, Barcelona, Spain
"Bowling for Fascism: Social Capital and the Rise of the Nazi Party"
24 February 2014

Stefanie Engel

Swiss Federal Institute of Technology, Zurich, Switzerland
"Overcoming Commons Dilemmas in the Provision of Ecosystem Services"
10 March 2014

Joseph G. Johnson

Miami University, USA
"New Techniques for Measuring Decision Processes"
17 March 2014

Nicola Fuchs-Schündeln

University of Frankfurt, Germany
"Long-lasting Effects of Socialist Education"
17 March 2014

Robert Turner

Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig
"Brain and Culture – The Mutual Bootstrap"
24 March 2014

Lucie Ménager

Université Paris II & Université de Lille, France
"Strategic Observation in Exponential Bandit Models"
25 March 2014 (Economics Seminar)

Moses Shayo

The Hebrew University of Jerusalem, Israel
"Courts after Conflict"
31 March 2014

Albin Erlanson

University of Bonn, Germany
"Strategy-proof Package Assignment"
2 April 2014 (Economics Seminar)

Avner Ben-Ner

(joint with John-Gabriel Licht and Jin Park)

University of Minnesota, USA
"Empirical Evidence on Diversity and Performance in Teams: The Role of Task Focus, Status, and Tenure"
7 April 2014

Claire Hill

University of Minnesota, Minneapolis, USA
"The Pervasive Effect of Priors"
7 April 2014

Rainer Haselmann

University of Bonn, Germany
"The Limits of Model-based Regulation"
9 April 2014 (Economics Seminar)

Rainer Forst

Goethe-Universität Frankfurt, Germany
"Transnational Justice and Democracy. Overcoming Three Dogmas of Political Theory"
14 April 2014

Dominik Sachs

University of Cologne, Germany
"Designing Efficient Education and Tax Policies"
30 April 2014 (Economics Seminar)

Renate Buijze

(joint with Christoph Engel and Sigrid Hemels)

Erasmus School of Law, Rotterdam, Netherlands
"Insuring Your Donation"
5 May 2014

Michèle Tertilt

University of Mannheim, Germany
"Does Female Empowerment Promote Economic Development?"
5 May 2014

Hitoshi Tsujiyama

Goethe-Universität Frankfurt, Germany
"Optimal Income Taxation: Mirrlees Meets Ramsey"
14 May 2014 (Economics Seminar)

Friederike Funk

Princeton University, Princeton, USA

"Transformative Justice: Do Punishers Aim to Effect a Change in the Offender's Attitude?"

19 May 2014

Pierre Fleckinger

Université Paris 1 Panthéon-Sorbonne, Paris, France

"Incentives for Quality in Friendly and Hostile Informational Environments"

21 May 2014 (Economics Seminar)

Alexander Stremitzer

UCLA School of Law, Los Angeles, USA

"Promises and Expectations"

26 May 2014

Jan Werner

University of Minnesota, Minneapolis, USA

"Speculative Trade under Ambiguity"

30 May 2014 (Economics Seminar)

Aleh Tsyvinski

Yale University, New Haven, USA

"Dynamic Tax Reforms"

16 June 2014

Tilman Börgers

University of Michigan, Ann Arbor, USA

"Mechanism Design and Voting Rules"

27 June 2014 (Economics Seminar)

George Loewenstein

Carnegie Mellon University, Pittsburgh, USA

"Implications of an Evolutionary Account of Affect"

4 July 2014

Ansgar Walther

University of Oxford, UK

"Interbank Monitoring, Liquidity, and Systemic Risk"

9 September 2014 (Economics Seminar)

Jan-Peter Siedlarek

Mannheim University, Germany

"The Impact of Merger Legislation on Bank Mergers"

17 September 2014 (Economics Seminar)

Marina Dodlova

German Institute of Global and Area Studies (GIGA) Hamburg, Germany

"Exogenous Shocks and Political Polarization: Theory and Evidence"

8 October 2014 (Economics Seminar)

Hanjo Hamann

Mohr Siebeck Verlag, Tübingen, Germany

"An Experiment on the Strategic Use of Identity in Delegated Gift Exchange"

20 October 2014

Werner Güth

Max Planck Institute of Economics, Jena, Germany
"Procedural Fairness: Axioms and Experiments"
20 October 2014

Benjamin Bachi

(joint with Ran Spiegler)

Tel Aviv University, Israel
"Buridanic Competition"
21 October 2014 (Economics Seminar)

Florian Schütt

Tilburg University, Tilburg, Netherlands
"Net Neutrality and Inflation of Traffic"
29 October 2014 (Economics Seminar)

Stephan Lauer

(joint with Mehmet Ekmekci)

University of Bonn, Germany
"Manipulated Electorates and Information Aggregation"
3 November 2014

Isabel Schnabel

University of Mainz, Germany
"Financial Sector Reforms and Implicit Bail-out Guarantees in the Euro Area"
17 November 2014

Ayca Ozdogan

TOBB University of Economics and Technology, Ankara, Turkey
"Occurrence of Deception under the Oversight of a Regulator Having Reputation Concerns"
19 November 2014 (Economics Seminar)

Avishalom Tor

University of Notre Dame Law School, Notre Dame, USA
"Boundedly Rational Consumer: Three Challenges for Antitrust"
24 November 2014

Carsten Burhop

(joint with David Chambers and Brian Cheffins)

University of Vienna, Austria
"Law, Politics, and the Rise and Fall of German Stock Market Development, 1870-1938"
1 December 2014

Jon de Quidt

"Your Loss is My Gain: A Recruitment Experiment with Framed Incentives"
IIES Stockholm, Stockholm, Sweden
2 December 2014 (Economics Seminar)

2015**Peter Conti-Brown**

Stanford Law School, USA
"The Institutions of Federal Reserve Independence"
12 January 2015

Heiko Karle

ETH Zurich, Switzerland

"The Structure of Negotiations: Incomplete Agreements and the Focusing Effect"

14 January 2015 (Economics Seminar)

Silvia Saccardo

(joint with Uri Gneezy, Marta Serra-Garcia, and Roel van Veldhuizen)

Rady UC San Diego, USA

"Motivated Self-deception and Unethical Behavior"

19 January 2015

Ludger Wößmann

(joint with S.O. Becker and M. Nagler)

University of Munich, Germany

"Education Promoted Secularization"

19 January 2015

George Lukyanov

Toulouse School of Economics, Toulouse, France

"Strategic Defaults in a Reputation Model with Limited Record-keeping"

22 January 2015 (Economics Seminar)

Hans-Martin von Gaudecker

University of Bonn, Germany

"Measurement Error in Subjective Expectations and the Empirical Content of Economic Models"

26 January 2015

Ronny Freier

Freie Universität Berlin and DIW Berlin, Germany

"Regression Discontinuity Designs Based on Population Thresholds: Cautionary Tales from France, Germany, and Italy"

28 January 2015 (Economics Seminar)

Elena Reznichenko

(joint with Elena Kantorowicz and Maximilian Kerk)

Rotterdam Law School, Netherlands

"Day Fines: Asymmetric Information and the *Secondary Enforcement System*"

2 February 2015

Philipp König

DIW Berlin, Germany

"Too Much of a Good Thing? A Theory of Bank Debt Maturity Structure"

4 February 2015 (Economics Seminar)

Mathieu Parenti

Université Catholique de Louvain, Belgium

"Large and small firms in a global economy: David vs. Goliath"

17 February 2015 (Economics Seminar)

Susan Rose-Ackerman

Yale Law School, USA

"The Law of Law-making: Positive Political Theory in Comparative Public Law"

23 February 2015

Ilana Ritov

The Hebrew University of Jerusalem, Israel

"Other-oriented Decisions: The Role of Identifiability"

16 March 2015

Ann-Katrin Kaufhold

University of Freiburg, Germany

"Systemic Supervision. A Public-law Perspective on How to Design Supervisory Institutions to Prevent Systemic Risk"

23 March 2015

Nikita Roketskiy

University College London, UK

"Competition and Networks of Collaboration"

9 April 2015 (Economics Seminar)

Kristina Ertá

UK Financial Conduct Authority, London, UK

"Applying Behavioural Economics at the Financial Conduct Authority"

13 April 2015

Zanna Iscenko

UK Financial Conduct Authority, London, UK

"How Does Selling Insurance as an Add-on Affect Consumer Decisions? A Practical Application of Behavioural Experiments in Financial Regulation"

13 April 2015

Stefan Behringer

Universität Duisburg-Essen, Germany

"Public-goods Provision with Many Agents: The k-Success Technology"

15 April 2015 (Economics Seminar)

Sarah Necker

Walter Eucken Institut e.V., Freiburg, Germany

"Cheat or Perish? A Theory of Scientific Customs"

20 April 2015

Maria Bigoni

University of Bologna, Italy

"Flexibility, Communication, and Cooperation with Imperfect Monitoring"

20 April 2015

Stefan Magen

University of Bochum, Germany

"Explaining the Normativity of Law: Philosophical and Empirical Elements"

27 April 2015

Andreas Engert

University of Mannheim, Germany

"Do Lawyers Know Uncertainty When They See It?"

4 May 2015

Dimitri Landa

New York University, New York, USA

"Strategic Discrimination in the Lab"

11 May 2015

Oliver Darmouni

Princeton University, Princeton, New Jersey, USA

"Asymmetric Information and the Reallocation of Bank Credit"

13 May 2015 (Economics Seminar)

Dan Wielsch

University of Cologne, Germany
"Contract Interpretation Regimes"
18 May 2015

Emanuele Tarantino

University of Mannheim, Germany
"Lending Standards over the Cycle"
27 May 2015 (Economics Seminar)

Olivier Tercieux

Paris School of Economics, Paris, France
"The Design of Teacher Assignment: Theory and Evidence"
2 June 2015 (Economics Seminar)

Gillian Hadfield

University of Southern California, Los Angeles, California, USA
"Pervasive Spurious Normativity, or: The Case for Lots of Silly Rules"
8 June 2015

Jean-Edouard Colliard

École des Hautes Études Commerciales de Paris (HEC), France
"Strategic Selection of Risk Models and Bank Capital Regulation"
9 June 2015 (Economics Seminar)

Eric Helland

Claremont McKenna College, Claremont, California, USA
"Estimating Effects of English Rule on Litigation Outcomes"
15 June 2015

Felix Bierbrauer

University of Cologne, Germany
"Efficiency, Welfare, and Political Competition"
22 June 2015

Rohit Lamba

Cambridge University, Cambridge, UK
"Efficiency with(out) Intermediation in Repeated Bilateral Trade"
24 June 2015 (Economics Seminar)

Takeshi Murooka

LMU Munich, Munich, Germany
"Deception under Competitive Intermediation"
29 June 2015

Narly Dwarkasing

University of Bonn, Bonn, Germany
"The Economic Impact of a Banking Oligopoly: Britain at the Turn of the 20th Century" (with Fabio Braggion and Lyndon Moore)
30 June 2015 (Economics Seminar)

Alicja Reuben

Manhattan College, New York, USA
"Snitches Get Stitches: An Experimental Study on the Perception of Whistleblowers"
6 July 2015

Jos Jansen

Aarhus University, Aarhus, Denmark
"Access Price Regulation and Cross-subsidization Incentives"
7 July 2015 (Economics Seminar)

Jan Potters

Tilburg University, Tilburg, Netherlands
"Do Cheaters in the Lab Also Cheat in the Field?"
13 July 2015

Jan Zápál

CERGE-EI, Prague, Czech Republic
"Efficiency of Flexible Budgetary Institutions"
(with Renee Bowen, Ying Chen, and Hülya Eraslan)
15 July 2015 (Economics Seminar)

Andreas Irmen

Université du Luxembourg, Luxembourg
"Endogenous Capital- and Labor-augmenting Technical Change in the Neoclassical Growth Model" (with Amer Tabakovic)
15 September 2015 (Economics Seminar)

Özlem Bedre-Defolie

European School of Management and Technology, Berlin, Germany
"Contracts as a Barrier to Entry when Buyers are Non-pivotal" (with Gary Biglaiser)
23 September 2015 (Economics Seminar)

Christoph Bertsch

Sveriges Riksbank, Stockholm, Sweden
"A Wake-up Call Theory of Contagion"
30 September 2015 (Economics Seminar)

Mark Thordal-Le Quement

University of Bonn, Germany
"Endogenous Ambiguity in Cheap Talk"
6 October 2015 (Economics Seminar)

Avishalom Tor

University of Notre Dame, South Bend, USA
"The Critical and Problematic Role of Bounded Rationality in Nudging"
12 October 2015

Tobias Gamp

University of Bonn, Germany
"Search, Differentiated Products, and Obfuscation"
20 October 2015 (Economics Seminar)

Martin Salm

Tilburg University, Netherlands
"Biases in Individual Perceptions of Local Crime Risk"
27 October 2015 (Economics Seminar)

Alexis Antoniades

Georgetown University School of Foreign Service, Doha, Qatar
"Mortgage Market Credit Conditions and U.S. Presidential Elections"
3 November 2015 (Economics Seminar)

Matthias Sutter

University of Cologne, Germany
"Field Experiments on Credence Goods"
9 November 2015

Krisztina Kis-Katos

University of Freiburg, Germany
"The Impact of Fiscal and Political Decentralization on Local Public Investment in Indonesia"
12 November 2015 (Economics Seminar)

Laurens Winkel

Erasmus University Rotterdam, Netherlands
"Addressee of the Law and Capacity of Knowledge"
16 November 2015

Christof Weinmann

University of Cologne, Germany
"The Distributional Effects of Joint Taxation"
17 November 2015 (Economics Seminar)

Ekkehart Reimer

University of Heidelberg, Germany
(joint with **Stephan Breidenbach**, Europa Universität Viadrina, Germany)
"Software – The New Medium of Law? A Theoretical Model for Computer-guided Case Work"
23 November 2015

Nora Szech

(joint with **Steffen Huck and Lukas Wenner**)
Karlsruhe Institute of Technology (KIT), Germany
"More Effort with Less Pay: On Information Avoidance, Belief Design, and Performance"
30 November 2015

Tobias Berg

University of Bonn, Germany
"Got Rejected? Real Effects of Not Getting a Loan"
3 December 2015 (Economics Seminar)

Thomas Mariotti

Toulouse School of Economics, Toulouse, France
"On Competitive Nonlinear Pricing"
7 December 2015

Maryam Naghsh Nejad

IZA Bonn, Germany
"Minds for the Market: Non-cognitive Skills in Post-Soviet Countries"
8 December 2015 (Economics Seminar)

Jeanne Hagenbach

Ecole Polytechnique, Palaiseau, Paris, France
"Communication with Evidence in the Lab"
15 December 2015 (Economics Seminar)

2016**Claudia Cerrone**

Royal Holloway University of London, UK
"Doing it Now or Later: A Lab Experiment"
11 January 2016

Armin Falk

University of Bonn, Germany
"Malleability of Moral Behavior"
11 January 2016

Socorro Puy

University of Malaga, Spain
"Identity Voting"
13 January 2016 (Economics Seminar)

Ulrike Malmendier

University of California Berkeley, CA, USA
"The Making of Hawks and Doves: Inflation Experiences and Voting on the FOMC"
18 January 2016

Elias Khalil

Monash University, Clayton, Australia
"The Social Dilemma: Neither Social Nor a Dilemma"
25 January 2016

Carlos Alós-Ferrer

University of Cologne, Germany
"Multiple Processes in Cournot Oligopolies: A Response-Times Study"
25 January 2016

Roe Sarel

Frankfurt School of Finance & Management, Germany
"Judicial Effort and the Appeal System: Theory and Experiment"
1 February 2016

Olga Popova

Institute for East and Southeast European Studies (IOS), Regensburg, Germany
"Suffer for the Faith? Parental Religiosity and Children's Health"
11 February 2016 (Economics Seminar)

Alexander Schneeberger

University of Erlangen/Nuremberg, Germany
"The Effect of Endogenous Information on Contributions in Public-goods Games with Imperfect Information"
15 February 2016

Michele Valsecchi

University of Gothenburg, Sweden
"The Political Economy of Corruption in the Bureaucracy"
24 February 2016 (Economics Seminar)

Anatoli Segura

Bank of Italy, Rome, Italy
"How Excessive Is Banks' Maturity Transformation?"
16 March 2016 (Economics Seminar)

Pierre Boyer

École Polytechnique, Palaiseau, France
"Regulatory Arbitrage and the Efficiency of Banking Regulation"
6 April 2016 (Economics Seminar)

Baptiste Massenet

Goethe-Universität Frankfurt, Germany

"Compensation Schemes, Liquidity Provision, and Asset Prices: An Experimental Analysis"

20 April 2016 (Economics Seminar)

Agnese Leonello

European Central Bank, Frankfurt, Germany

"Government Guarantees and Financial Stability" (with F. Allen, E. Carletti, and I. Goldstein)

3 May 2016 (Economics Seminar)

Stefan Penczynski

University of Mannheim, Germany

"Disclosure of Verifiable Information under Competition"

11 May 2016 (Economics Seminar)

Orestis Troumpounis

Lancaster University, Lancashire, UK

"Downsian Competition with Primaries and Valence Asymmetries" (with Bernard Grofman and Dimitrios Xefteris)

18 May 2016 (Economics Seminar)

Isabel Schnabel

University of Bonn, Germany

"Banks' Trading after the Lehman Crisis – Flight to Liquidity, but No Fire Sales"

30 May 2016

Christophe Chamley

Boston University, Massachusetts, USA

"On the Current State of Research about the *Asientos* of Philip II"

6 June 2016

Matthias Fahn

Ludwig-Maximilians-Universität, Munich, Germany

"Relational Contracts with Non-persistent Private Information: The Upside of Implicit Downsizing Costs" (with Nicolas Klein)

7 June 2016 (Economics Seminar)

Matan Tsur

University of Vienna, Austria

"Financial Contracts, Bargaining, and Security Design"

22 June 2016 (Economics Seminar)

Heinz Bude

University of Kassel, Germany

"Lebenschancen in einer Welt der sozialen Ungleichheit"

27 June 2016

Raphael Flore

University of Cologne, Germany

"Bankruptcy Risk in Intermediation Chains"

29 June 2016 (Economics Seminar)

Guillaume Plantin

Sciences Po Paris, France

"Marking to Market versus Taking to Market"

4 July 2016

Alexandra Fedorets

German Institute for Economic Research Berlin (DIW Berlin), Germany
"Compensating Wage Differentials, Sorting into Occupations and Job Tasks"
6 July 2016 (Economics Seminar)

Moritz Schularick

Bonn Graduate School of Economics, Germany
"Going to Extremes: Politics after Financial Crises, 1870-2014"
11 July 2016

Gregor Schwerhoff

Mercator Research Institute on Global Commons and Climate Change (MCC), Berlin, Germany
"Optimal Rent Taxation"
5 October 2016 (Economics Seminar)

Oleg Rubanov

University of Bonn, Germany
"Ownership and Incentives"
12 October 2016 (Economics Seminar)

Christian Hilbe

Institute of Science and Technology Austria
"Extortion and Generosity in Repeated Games"
17 October 2016

Vahagn Jerbashian

University of Barcelona, Spain
"On the Industry Specificity of Human Capital and Business Cycles"
26 October 2016 (Economics Seminar)

Ester Manna

Université Libre de Bruxelles, Belgium
"Delegation with a Reciprocal Agent"
31 October 2016

Rosa Ferrer

Universitat Pompeu Fabra, Barcelona, Spain
"Consumers' Costly Response to Product Safety Threats"
31 October 2016

Yair Antler

University of Essex, UK
"Multilateral Contracting with Manipulation"
2 November 2016 (Economics Seminar)

Martin Missong**(joint with Paola Janßen)**

University of Bremen, Germany
"Statistics for Lawyers – General Considerations and Bayesian Networks as an Illustrative Example"
7 November 2016

Dominique Demougin

University of Liverpool, Management School, United Kingdom
"Legal Procedures and Non-comprehensive Incentive Contracts"
7 November 2016

Anna Baumert

University of Koblenz-Landau, Germany

"Psychological Processes of Bystander Intervention against Norm Violations"

14 November 2016

Petros Milionis

University of Groningen, Netherlands

"Value Diversity and Regional Economic Development"

8 November 2016 (Economics Seminar)

Zhengqing Gui

Hong Kong University of Science and Technology

"Incentive Compatibility in Financial Contracting with Limited Liability"

30 November 2016 (Economics Seminar)

Casten De Dreu

Leiden University, Netherlands

"Out-group Aggression, In-group Defense, and Coordination Failures in Intergroup Conflict"

5 December 2016

Vardges Levonyan

ETH Zurich, Center for Law and Economics, Zurich, Switzerland

"What Led to the Ban on Same-Sex Marriage in California? Structural Estimation of Voting Data on Proposition 8"

7 December 2016 (Economics Seminar)

Jochen Streb

University of Mannheim, Germany

"Does Social Security Crowd out Private Savings? The Case of Bismarck's System of Social Insurance"

12 December 2016

2017**Fedor Levin**

MPI for Demographic Research, Rostock, Germany

"The Influence of Episodic Memory Decline on Food Choice"

9 January 2017

Molly Crockett

University of Oxford, UK

"The Price of Principles"

9 January 2017

Alia Gizatulina

University of St. Gallen, Switzerland

"Designer Uncertainty and Bet-on-the-Liar Mechanism"

11 January 2017 (Economics Seminar)

Marc Scheufen

University of Bochum, Germany

"Does Online Access Promote Research in Developing Countries?"

16 January 2017

Matteo Ploner

University of Trento, Italy

"Taking Over Control: An Experimental Analysis of Delegation Avoidance in Risky Choices"

23 January 2017

Rafael Aigner

German Institute for Economic Research (DIW), Berlin, Germany

"The Fehmarn Belt Duopoly – Can the Ferry Compete with a Tunnel?"

25 January 2017 (Economics Seminar)

Andrej Angelovski

LUISS Guido Carli, Rome, Italy

"Can Competition Resolve the Free-rider Problem in the Voluntary Provision of Impure Public Goods?

Experimental Evidence"

30 January 2017

Arianna Galliera

LUISS Guido Carli, Rome, Italy

"Behavioral Patterns in Conditional Generosity"

30 January 2017

Francesca Marazzi

LUISS Guido Carli, Rome, Italy

"Do All 'Bad' Apples Taste the Same? Experimental Analysis of Heterogeneity in Local Public-goods Provision"

30 January 2017

Valentin Wagner

University of Düsseldorf, Germany

"Seeking Risk or Answering Smart? Framing in Elementary Schools"

1 February 2017 (Economics Seminar)

Ingela Algers

Toulouse School of Economics, France

"How Many Wives Do Men Want? On the Evolution of Polygyny Rates"

6 February 2017

Francesco Cerigioni

Universitat Pompeu Fabra and Barcelona Graduate School of Economics, Barcelona, Spain

"Stochastic Choice and Familiarity: Inertia and the Mere Exposure Effect"

8 February 2017 (Economics Seminar)

Nikita Zakharov

University of Freiburg, Institute for Economic Research, Freiburg, Germany

"Does Independent Media Matter in Non-Democratic Elections? Experimental Evidence from Russia" (with Ruben Enikolopov, Michael Rochlitz, and Koen Schoors)

15 February 2017 (Economics Seminar)

Viola Ackfeld

Cologne Graduate School, Germany

"On the Evolution of Trust Behavior when Sharing Strategic vs. Non-strategic Private Information"

20 February 2017

Christoph Möllers

University of Berlin, Germany

"From Dogma to Data? Legal Reasoning as an Object of Empirical Research"

20 February 2017

Alex Smolin

University of Bonn, Germany

"Evaluation Theory of Wage Growth"

21 February 2017 (Economics Seminar)

Lilia Zhurakhovska

University of Duisburg-Essen, Germany

"The Long-run Effects of the Universal Basic Income: Experimental Evidence"

13 March 2017

Luigi Franzoni

University of Bologna, Italy

"Applying Behavioural Economics to Policy-making: Some Experiences"

13 March 2017

Niels Petersen

University of Münster, Germany

"An Empirical Analysis of Constitutional Prohibitions of Discrimination"

20 March 2017

Benedikt Herrmann

European Commission, Brussels, Belgium

"Applying Behavioural Economics to Policy-making: Some Experiences"

20 March 2017

Milena Nikolova

IZA - Institute for the Study of Labor, Bonn, Germany

"Your Spouse is Fired! How Much Do You Care?"

22 March 2017 (Economics Seminar)

Ewald Engelen

University of Amsterdam, Netherlands

"Trade Narratives at the Service of Restoration: The Case of Europe's Capital Markets Union"

3 April 2017

Davide Cantoni

(joint with David Y. Yang, Noam Yuchtman, Y. Jane Zhang)

LMU Munich, Germany

"Are Protests Games of Strategic Complements or Substitutes? Experimental Evidence from Hong Kong's Democracy Movement"

10 April 2017

Martin Obradovits

University of Innsbruck, Austria

"The Loss-Leading Puzzle"

19 April 2017 (Economics Seminar)

Emilio Calvano

University of Bologna, Italy

"Can We Trust the Algorithms that Recommend Products Online? A Theory of Biased Advice with No Pecuniary Incentives and Lab Evidence"

26 April 2017 (Economics Seminar)

Marie Lalanne

Goethe-Universität Frankfurt, SAFE Research Center, Germany

"Do Social Ties Lead to Job Referrals: Evidence from US Board Appointments"

3 May 2017 (Economics Seminar)

Alexander Vostroknutov

University of Trento, Italy

"Social Norms and Preferences for Redistribution"

8 May 2017

Martin Guzi

Masaryk University, Brno, Czech Republic
"Unstable Political Regimes and Wars as Drivers of International Migration"
11 May 2017 (Economics Seminar)

Xandra Kramer

(joint with Christoph Engel)

University of Rotterdam, Netherlands
"Perceived Access to Justice"
15 May 2017

Mila Versteeg

University of Virginia, School of Law, USA
"Rights without Resources: The Impact of Constitutional Social Rights on Social Spending"
15 May 2017

Willemien Kets

Kellogg School of Management, Northwestern University, Evanston, USA
"Strategic Uncertainty and the Costs and Benefits of Diversity"
29 May 2017

Ctirad Slavik

Center for Economic Research and Graduate Education – Economics Institute
Prague, Czech Republic
"Wage Risk and the Skill Premium"
30 May 2017 (Economics Seminar)

Wilhelm Hofman

University of Cologne, Germany
"Antecedents and Consequences of the Desire to Punish Perpetrators in Everyday Life"
19 June 2017

Vikrant Vig

London Business School, United Kingdom
"The Privatization of Bankruptcy: Evidence from Financial Distress in the Shipping Industry"
26 June 2017

Florian Engl

University of Cologne, Germany
"A Theory of Causal Responsibility Attribution"
10 July 2017

Ulrike Vollstädt

University of Duisburg, Germany
"Quantitative Wirtschaftspolitik"
17 July 2017

Sebastian Goerg

Florida State University
"Norm Violations and their Spillovers - Evidence from the Lab and Field"
17 July 2017

Behavioral and Experimental Economics Workshop (BEE Workshop)

2016

Rudi Stracke

Ludwig-Maximilians-Universität München, Germany
"The Incentive Effects of Uncertainty in Tournaments"
24 October 2016

Andreas Grunewald

University of Bonn, Germany
"The Cognitive Foundations of Passive Choices"
14 November 2016

Lea Cassar

University of Cologne, Germany
"Efficiency Wages with Motivated Agents"
12 December 2016

2017

Elena Cettolin

Tilburg University, Netherlands
"Return on Trust is Lower for Immigrants"
16 January 2017

Gönül Dogan (joint with Luke Glowacki and Hannes Rusch)

University of Cologne, Germany
"Why War? A Field Study on the Interaction of Natural Enmity and Unequal Spoils Division from Conflict"
20 February 2017

Sebastian Fehrler (joint with Urs Fischbacher and Maik T. Schneider)

University of Konstanz, Germany
"Who Runs? Honesty and Self-selection into Politics"
27 March 2017

Simone Quercia

University of Bonn, Germany
"Framing Effects and the Elicitation of Preferences in Social Dilemma Games"
10 April 2017

Marina Schröder (joint with Katharina Laske)

University of Cologne, Germany
"Quantity, Quality, and Originality: The Effects of Incentives on Creativity"
15 May 2017

Georg Dura Granic (joint with Carlos Alós-Ferrer)

Erasmus University Rotterdam, Netherlands
"Choice-Induced Preference Change and Decisions under Risk"
26 June 2017

Florian Engl

University of Cologne
"A Theory of Causal Responsibility Attribution"
10 July 2017

E.II Internal Seminars

2014

Pascal Langenbach

"The Timing of Voice and Consistent Authority Behavior"

20 January 2014

Adrian Hillenbrand

"Leadership Effectiveness and Institutional Frames"

20 January 2014

Alexander Morell

"The Short Arm of Guilt Aversion – Does Guilt Aversion Only Play Out Towards Someone Who Is Close?"

17 February 2014

Christoph Engel

"Self-Control"

24 February 2014

Rafael Aigner

"Taxing Wall Street: The Case of Boring Banking"

5 March 2014 (Economics Seminar)

Franziska Tausch

"The Benefits of External Control"

10 March 2014

Paul Schempp

"Rollover Risk and the Private and Public Supply of Liquidity"

21 March 2014 (Economics Seminar)

Christoph Engel

"Morals, Blame, and Money"

24 March 2014

Marco Kleine

"Who is Afraid of Pirates?"

31 March 2014

Niels Petersen

"The Universality of Human Rights – Exploring Possibilities for an Experimental Approach"

31 March 2014

Philipp Weinschenk

"Sharecropping and Performance: A Re-examination of the Marshallian Hypothesis"

15 April 2014 (Economics Seminar)

Angela Dorrough

"Stereotype Effects in Cross-cultural Cooperation: Multinational Investigation"

5 May 2014

Stephan Luck

"Banks, Shadow Banking, and Fragility"

9 May 2014 (Economics Seminar)

Franziska Tausch

"Stability of Self-stated Risk Preferences and Media Coverage of Economic News"
26 May 2014

Michael Kurschilgen

(in cooperation with Carlos Kurschilgen)

"Coordination, Efficiency, and Inequality: An Experimental Approach"
16 June 2014

Ioanna Grypari

"Political Campaigning and Policy Implementation: Evidence from US Presidential Elections"
17 June 2014 (Economics Seminar)

Christoph Engel

(in cooperation with Oren Bar-Gill)

"Bargaining in the Absence of Property Rights"
23 June 2014

Yoan Hermstrüwer

"Comply, Reserve, Accept, or Object? The Behavioral Logic of Reservations in the Game of International Treaty Law"
30 June 2014

Anna Kochanova

"Does Money Buy Credit? Firm-level Evidence on Bribery and Bank Debt"
3 September 2014 (Economics Seminar)

Dominik Grafenhofer

"Observing Each Other's Observations in the Electronic Mail Game"
1 October 2014 (Economics Seminar)

Sven Höppner

"Normal and Annullable Variants of Incentives: A Field Experiment in the Lab?"
27 October 2014

Martin Hellwig

"Liquidity Provision and Equity Funding of Banks"
27 October 2014

Pascal Langenbach

(in cooperation with Franziska Tausch)

"Democracy and Cooperation"
3 November 2014

Carlos Kurschilgen

"Coordination, Efficiency, and Inequality: Experimentally Studying the Emergence of Social Contracts"
24 November 2014

Thomas Hettig

"Fiscal Policy Coordination in Currency Unions (at the Zero Lower Bound)"
26 November 2014 (Economics Seminar)

Sven Höppner

(joint with Laura Lyhs)

"Over- and Undercompliance under Vague Standards? An Experiment"
1 December 2014

Franziska Tausch

"Justification of Rule Violation and Punishment: Does the Rule-making Process Matter?"

8 December 2014

Adrian Hillenbrand

"How Framing Guides the Decision-making Process"

8 December 2014

Linda Schilling

"Capital Structure, Bank Runs, and Coordination"

11 December 2014 (Economics Seminar)

Robert Lillig

"Dividing the Pie under Cognitive Constraints – An Eye-tracking Experiment Manipulating Time Pressure and Cognitive Load"

15 December 2014

Minou Ghaffari-Tabrizi

"Biasing Social Preferences: The Dynamic Nature of Social Preferences"

15 December 2014

2015**Ulli Schmidt**

"Gender Differences in Risk-taking"

19 January 2015

Isabel Marcin

(joint with Mark Le Quement)

"Deliberation in Heterogeneous Committees"

26 January 2015

André Schmelzer, Adrian Hillenbrand

"Beliefs, Attention, and Perceived Reputation"

9 February 2015

Emanuel Towfigh

"Wem helfen Plebiszite – Eine empirische Analyse zur Akzeptanz politischer Entscheidungen"

23 February 2015

Wolfgang Kuhle

"The Dynamics of Utility in the Neoclassical Overlapping Generations Model II"

25 February 2015 (Economics Seminar)

Franziska Tausch / Pascal Langenbach

"Status Quo and Framing Effects in Public-goods Games"

16 March 2015

Olga Gorelkina

"Congressional Gridlock: The Effects of the Master Lever"

18 March 2015 (Economics Seminar)

Pedro Robalo

"Why Does Political Mobilization Work? The Non-partisan Case"

23 March 2015

Isabel Marcin

"Institutional Endogeneity and Third-party Punishment in Social Dilemmas"
23 March 2015

Stephan Luck

"Predatory Arbitrage Capital and Endogenous Illiquidity Risk"
24 March 2015 (Economics Seminar)

Monika Ziolkowska

"Benefits and Drawbacks of Long-term Commitment"
13 April 2015

Konstantin Chatziathanasiou, Svenja Hippel, Michael Kurschilgen

"The Disciplining Effect of Change"
20 April 2015

Anna Kochanova

"Cronyism and Competition in Indonesian Manufacturing: Pre- and Post-Suharto"
(with Bob Rijkers and Mary Hallward-Driemeier)
24 April 2015 (Economics Seminar)

Nicolas Roux

"Biased Supervision"
8 May 2015 (Economics Seminar)

Christoph Engel / Werner Güth

"Modelling a Satisficing Judge"
15 June 2015

Paul Schempp

"Regulatory Arbitrage and Financial Fragility"
16 June 2015 (Economics Seminar)

Alexander Schneeberger

"The Effect of Endogenous Information Search on Cooperation in Public-goods Games with Imperfect Information"
22 June 2015

Pedro Robalo

"Eye-tracking Bayes"
29 June 2015

Stephan Luck

"Bank Runs with Inside Money" (with Paul Schempp)
2 September 2015 (Economics Seminar)

André Schmelzer

"Random Procedures in Matching Mechanisms"
12 October 2015

Susann Fiedler

"The Veil of Ignorance in Employment Discrimination"
16 November 2015

Svenja Hippel, André Schmelzer

"Mechanism Design and Matching: An Introduction to Theory and Applications"
30 November 2015

2016

Christoph Engel

(joint with Paul van Lange)

"The Price of Being Socially Mindful"

18 January 2016

Amalia Alvarez

"Normative Change and Culture of Hate: A Randomized Experiment in Online Communities"

1 February 2016

Nicolas Roux

"Monitoring, Transparency, and Accountability"

17 February 2016 (Economics Seminar)

Franziska Tausch

"Inherited Institutions: Cooperation in the Light of Democratic Legitimacy"

21 March 2016

Lars Freund

"Does the Current Contract Affect the Reference when Purchasing Insurance?"

21 March 2016

Ioanna Grypari

"One Strike and You're Out: The Effects of the Master Lever on Senator Positions"

23 March 2016 (Economics Seminar)

Lars Freund

"Which Uncertainty Deters Charitable Giving (Most)" and "How can Insurance Help?"

4 April 2016

Antoine Malézieux

(joint with Nicolas Jacquemet, Stéphane Luchini, Jason Shogren)

"Tax Evasion under Oath"

11 April 2016

Robert Scherf

"Voting over Public-goods Provision and Nonlinear Income Tax Schedules"

13 April 2016 (Economics Seminar)

Jonas Sobott

"Underreporting of Market Risk"

27 April 2016 (Economics Seminar)

André Schmelzer

"Closing Auction Design in Financial Markets"

9 May 2016

Stephan Luck

"How to Optimally Finance TLAC? Short-term Debt, Financial Markets, and Information Contagion"

1 June 2016 (Economics Seminar)

André Schmelzer

"Closing Batch Auction Design and Strategic Behavior in Financial Markets"

27 June 2016

Olga Gorelkina

"Selling Money on eBay: A Field Study of Surplus Division"
12 July 2016 (Economics Seminar)

Wolfgang Kuhle

"An Equilibrium Model with Computationally Constrained Agents"
20 September 2016 (Economics Seminar)

Nan Zhang

"Legibility and the Informational Foundations of State Capacity"
28 September 2016 (Economics Seminar)

Isabel Marcin

"Strategy Communication of Endogenous Information and Social Image"
17 October 2016

Adrian Hillenbrand

"Strategic Rational Inattention? An Experiment on Product Search with Endogenous Costs"
17 October 2016

Amalia Alvarez

"Normative Change and Culture of Hate: A Randomized Experiment in Online Communities"
24 October 2016

Martin Hellwig

"Financial Stability and Monetary Policy"
24 October 2016

Lars Freund

"Compulsory and Nudging: How Contract Formation Affects Fraudulent Behavior"
7 November 2016

Philip Brookins

"Leadership and Intertemporal Choice in Team Production"
14 November 2016

Nan Zhang

(joint with Fabian Winter)

"Ethnic Diversity and Norms Enforcement: Design for a Field Experiment"
14 November 2016

Franziska Tausch

"Behavioral and Experimental Approaches to Law"
28 November 2016

Dominik Grafenhofer

"Thinking Ourselves into a Recession"
16 November 2016 (Economics Seminar)

Pedro Robalo

(joint with Rei Sayag, Universitat Pompeu Fabra)
"Eye-tracking Bayes: An Experiment on Belief Updating"
5 December 2016

2017

André Schmelzer

"Strategy-proofness of Stochastic Assignment Mechanisms"
9 January 2017

Christoph Engel

"Property Rule vs. Liability Rule" (joint with Oren Bar-Gill)
16 January 2017

Susann Fiedler

"The Cost of Worrying"
16 January 2017

Ioanna Grypari

"One Strike and You're Out: The Effects of the Master Lever on Senators' Positions" (joint with Olga Gorelkina)
17 January 2017 (Economics Seminar)

Eugenio Verrina

"When the State Doesn't Play Dice: An Experimental Analysis of Opportunistic Fiscal Policies and Tax Compliance" (joint with Matteo Ploner)
23 January 2017

Christoph Engel

"Experimental Social Planners" (joint with Svenja Hippel)
30 January 2017

André Schmelzer

"Committing the English and the Continental Way" (joint with Christoph Engel)
13 February 2017

Lars Freund and Franziska Tausch

"Compulsory Insurance and Nudging: How Contract Formation Affects Fraudulent Behavior"
20 February 2017

Paul Schempp

"Liquidity Creation, Capital Requirements, and Regulatory Arbitrage"
29 March 2017 (Economics Seminar)

Lars Freund

(joint with Amalia Alvarez Benjumea and Katharina Luckner)

"Compulsory Insurance and Nudging: How Contract Formation Affects Fraudulent Behavior"
10 April 2017

Jens Frankenreiter

"Forum Selling in Germany? Supply-side Effects in Forum Shopping in German Courts"
10 April 2017

André Schmelzer

"Strategy-proofness of Stochastic Assignment Mechanisms"
24 April 2017

Claudia Cerrone

(joint with Christoph Engel)

"Kantian Motivations and Prosocial Behavior"
24 April 2017

Svenja Hippel

"Robust Mechanism Design: Testing Informational Robustness against Beliefs"
29 Mai 2017

Christoph Engel

"Empirical Methods for the Law"
19 June 2017

Adrian Hillenbrand

(joint with Svenja Hippel)

"Strategic Rational Inattention: An Experiment on Product Search with Hidden Costs"
26 June 2017

Amalia Alvarez Benjumea

"Spillover Effects in Hate Speech after Terrorist Attacks: A Natural Experiment"
26 June 2017

Yoan Hermstrüwer

(joint with Claudia Cerrone and Pedro Robalo)

"Debarment and Collusion in Procurement Auctions"
10 July 2017

Philip Brookins

"Testing Disclosure Policies in Contests"
10 July 2017

Claudia Cerrone

(joint with Francesco Feri, Philip Neary)

"The Regret Game: Regret as a Coordination Device"
17 July 2017

F. Visiting Scholars

F. Visiting Scholars

Affiliates

Carsten	Burhop	01 March 2007	31 December 2017
Anne	van Aaken	01 July 2007	31 December 2018
Felix	Höffler	01 October 2007	31 December 2017
Isabel	Schnabel	01 October 2007	31 December 2018
Hans-Theo	Normann	01 September 2008	31 December 2017
Bernd	Irlenbusch	01 October 2008	31 December 2016
Stefan	Bechtold	01 January 2009	31 December 2018
Hendrik	Hakenes	01 January 2009	31 December 2017
Indra	Spieker gen. Döhmman	01 January 2009	31 December 2017
Benjamin	Hilbig	01 January 2010	31 December 2017
Bettina	Rockenbach	01 January 2010	31 December 2017
Susanne	Prantl	01 September 2010	31 December 2017
Stefan	Magen	01 October 2010	31 December 2018
Andreas	Nicklisch	01 October 2010	31 December 2018
Felix	Bierbrauer	01 April 2011	31 December 2018
Christian	Traxler	01 September 2011	31 December 2018
Johannes	Jansen	01 October 2011	31 December 2017
Sophie	Bade-Mandler	01 August 2012	31 December 2017
Sebastian	Goerg	01 October 2012	31 December 2018
Sven	Fischer	01 September 2013	31 August 2017
Aniol	Llorente-Saguer	01 September 2013	01 December 2017
Gizatulina	Alia	01 August 2014	31 December 2018
Philipp	Weinschenk	08 June 2015	31 December 2017
Michael	Kurschilgen	01 November 2015	31 December 2018
Paul	Schempp	01 April 2017	31 December 2018
Emmanuel	Towfigh	31 March 2017	31 December 2018

Visiting Researchers

Gabriel	Ballesteros Pinilla	15 September 2013	15 December 2013
Felix	Henniger	01 February 2014	30 January 2015
Jens	Frankenreiter	30 June 2014	11 July 2014
Alpa	Nakkas	08 July 2014	15 October 2014
Laura	Lyhs	01 October 2014	28 November 2014

Alisa	Dedual	01 April 2015	31 May 2015
Marc	Pietzker	01 May 2015	30 June 2015
Kathrin	Wolf	01 October 2015	31 December 2016
Laura	Kohlleppel	01 October 2015	30 September 2016
Alexander	Schneeberger	01 October 2015	30 September 2018
Lisa	Lenz	01 October 2015	30 September 2018
Raphael	Flore	01 October 2015	30 September 2016
Antonios	Koumbarakis	01 December 2015	30 November 2016
Elias	Khalil	15 January 2016	29 February 2016
Aidas	Masiliunas	21 March 2016	30 June 2016
Stephanie	Urenia Salas	01 July 2016	30 June 2019
Ananish	Chaudhuri	01 July 2016	31 July 2016
Nicole	Fobe	01 July 2016	30 August 2017
Oliver	Himmler	01 September 2016	31 March 2017
Fabian	Gunzinger	05 September 2016	02 December 2016
Gentiana	Imeri	09 January 2017	31 March 2017
Sven	Hoepfner	01 May 2017	31 December 2017
Carsten	Gerner-Beuerle	22 May 2017	15 September 2017
Carina	Hausladen	01 October 2017	30 September 2020
Julie	Ji	04 October 2017	17 October 2017

G. Outreach

G. Outreach

G.I Institutional Research Co-operations

Sonderforschungsbereich/TR 15, “Governance und the Effizienz ökonomischer Systeme” (Governance and the Efficiency of Economic Systems), of the Deutsche Forschungsgemeinschaft, joint with researchers at the Free University and Humboldt University in Berlin and the Universities of Bonn, Mannheim, and Munich, 2004–2015

Martin Hellwig is head of the Research Unit “Unternehmensfinanzierung, Unternehmenskontrolle und Effizienz” (Corporate Finance, Corporate Control, and Efficiency);

Hausdorff Center for Mathematics, University of Bonn (Cluster of Excellence funded by the German Excellence Initiative), since 2006.

Martin Hellwig is Principal Investigator in Research Area I: Mechanism Design and Game Theory.

Law and Economics Workshop, University of Bonn, since 2006.

Alexander Morell and Stefanie Egidy are co-organizers.

European Network “Competition Law and Economics”, joint with the Institute of Law and Economics at the University of Tilburg, the Centre for Law and Economics at the University of Amsterdam, the ESRC Centre for Competition Policy at the University of East Anglia, the Centre for Market and Public Organization at the University of Bristol, the European University Institute in Florence, and the Centre for Infocommunications Law at the Hungarian Academy of Sciences.

International Max Planck Research School on Adapting Behavior in a Fundamentally Uncertain World (see C.VII)

The International Max Planck Research School on Adapting Behavior in a Fundamentally Uncertain World (Uncertainty School) combines approaches from Economics, Law and Psychology to explain human decisions under uncertainty more effectively and to better design institutional responses.

The Uncertainty-School is jointly hosted by:

Max Planck Institute for Human Development, Berlin (Gigerenzer)
Faculty of Economics, University of Jena (Kirchkamp, Cantner)
Department of Psychology, University of Jena (Kessler, Rothermund)
Faculty of Law, University of Bonn (Zimmer)
Faculty of Management, Economics, and Social Sciences, University of Cologne (Bierbrauer)
Rationality Center, Jerusalem (Kareev)
Workshop in Political Theory and Policy Analysis, Bloomington (Todd)
Psychology Department, Bloomington (Todd)

Interdepartmental Centre for Research Training in Economics and Management,
University of Trento (Mittone)

Co-chairs are Christoph Engel and Oliver Kirchkamp.

In Jena the Uncertainty School is part of the Jena Graduate School Human Behavior in Social and Economic Change, and in particular cooperating with the International Graduate College Conflict and Cooperation between Social Groups. Dynamics of Change in Intergroup Relations and the Graduate College The Economic of Innovative Change.

G.II Visiting Assistant Professorship at the University of Virginia Law School

German legal scholarship is very receptive of insights and findings from other disciplines. Many law professors hold an LL.M. from a good US law school. The US legal literature is widely read and cited. Despite this attitude of openness, most German legal academics have a national or European agenda. Not too many of them publish in the US law reviews, and even less of them submit their manuscripts to international peer-reviewed journals. While in the top US law schools many faculty members hold a second degree, this is a rare in Germany. Compared with most of their national peers, the lawyers working at the institute are therefore closer to the social sciences, and to the American discourse in law.

Given the very positive attitude of most German law faculties, the additional knowledge and skills lawyers acquire at the institute are likely to be well received by the German academic market. This expectation is supported by the fact that all who have been working at the institute and passed their habilitation in law quickly gained a chair. Yet if candidates on top had a US network, this would make them even more competitive. And with the additional expertise, lawyers originating from the institute might also want to apply for positions in countries like the Netherlands, the UK, Denmark, or even the US. All these countries might be attractive since their legal academia is not only curious about neighboring disciplines, but is willing to define the law itself as a social science. Criminology notwithstanding, such positions are still very rare in Germany.

In order to make it for a position specifically targeted at the intersection between law and one of the social sciences, be that economics or psychology, the applicant first and foremost needs publications in good peer-reviewed journals. The institute provides any possible support for this, and we gladly see that these efforts pay. But it would help lawyers interested in such a career even better if the market perceived them as part and parcel of US legal scholarship. Specifically, it can be expected that having been an assistant professor at a good US law school would provide them with two benefits at a time: additional expertise and contacts, and a very visible signal on the market.

With these considerations in mind, we have approached the University of Virginia Law School. The school has consistently been ranked among the 10 best schools in the United States. It is strongly invested in law and economics, law and psychology, and was among the founding fathers of the empirical legal movement. The focus of Virginia Law School is thus particularly congenial to the program of the institute. We are therefore very pleased that the Virginia Law School has agreed to create the position of a visiting assistant professor. The institute selects candidates. The Law School creates a selection committee. The program is financed from Max Planck funds. A first person (Emanuel Towfigh) has held the position, to full mutual satisfaction.

I. Preprint Series of the Institute

I. Preprint Series of the Institute

2014

2014/01:	Isabel Marcin & Andreas Nicklisch	Testing the Endowment Effect for Default Rules <u>published in:</u> <i>Review of Law and Economics</i> , 13(2), 1–27
2014/02:	Niels Petersen	Verfassungsgerichte als Wettbewerbshüter des politischen Prozesses <u>published in:</u> (2014). <i>Das letzte Wort – Rechtsetzung und Rechtskontrolle in der Demokratie</i> . Elser, D., Eugster, A., Kind, A. (Eds.), 59–78, Baden-Baden: Nomos
2014/03:	Marco Kleine, Pascal Langenbach & Lilia Zhurakhovska	Fairness and Persuasion. How Stakeholder Communication Affects Impartial Decision Making <u>published in:</u> (2016). <i>Economics Letters</i> , 141, 173–176
2014/04:	Jon Eguia, Aniol Llorente-Saguer, Rebecca Morton & Antonio Nicolás	Equilibrium Selection in Sequential Games with Imperfect Information
2014/05:	Martin Gelter & Kristoffel Grechenig	History of Law and Economics <u>forthcoming in:</u> <i>Encyclopedia of Law and Economics</i> . Backhaus, J. (Ed.), Berlin: Springer
2014/06:	Lilia Zhurakhovska	Strategic Trustworthiness via Unstrategic Third-party Reward – An Experiment
2014/07:	Pascal Langenbach	The Values of Ex-ante and Ex-post Communication in Dictator Games
2014/08:	Stefan Magen	Ein Wettbewerbskonzept für das Öffentliche Wettbewerbsrecht
2014/09:	Martin Hellwig	Financial Stability, Monetary Policy, Banking Supervision, and Central Banking <u>published in:</u> (2014). <i>Monetary Policy in a Changing Landscape: Conference Proceedings of the First ECB Forum on Central Banking, Bonn</i> . European Central Bank (Ed.), 21–54
2014/10:	Olga Gorelkina	Bidder Collusion and the Auction with Target Bids
2014/11:	Olga Gorelkina	Delayed Verification Mechanism for Dynamic Implementation
2014/12:	Martin Hellwig	Yes Virginia, There is a European Banking Union! But It May Not Make Your Wishes Come True <u>published in:</u> (2014). <i>Toward a European Banking Union: Taking Stock</i> , 42nd Economics Conference: ÖNB, 156–181

2014/13:	Carl Christian von Weizsäcker	Die normative Ko-Evolution von Marktwirtschaft und Demokratie published in: (2014). <i>ORDO, Jahrbuch für die Ordnung von Wirtschaft und Gesellschaft</i> , 65, 13–43
2014/14:	Stephan Luck & Paul Schempp	Outside Liquidity, Rollover Risk, and Government Bonds
2014/15:	Stephan Luck & Paul Schempp	Sovereign Defaults, Bank Runs, and Contagion
2014/16:	Christoph Engel & Bettina Rockenbach	Give Everybody a Voice! The Power of Voting in a Public Goods Experiment with Externalities
2014/17:	Matthias Lang	Legal Uncertainty as a Welfare Enhancing Screen published in: (2017). <i>European Economic Review</i> , 91, 274–289
2014/18:	Aniol Llorente-Saguer & Ro'i Zultan	Auction Mechanisms and Bidder Collusion: Bribes, Signals and Selection
2014/19:	Alexander Morell	The Short Arm of Guilt: Guilt Aversion Plays Out More Across a Short Social Distance
2014/20:	Stefan Magen	Konjunkturen der Rechtsökonomie als öffentlich-rechtlicher Grundlagenforschung published in: (2015). <i>Konjunkturen in der öffentlich-rechtlichen Grundlagenforschung</i> . Funke, A. (Ed.), Tübingen, 103–123

2015

2015/01:	Christoph Engel & Michael Kurschilgen	The Jurisdiction of the Man Within – Introspection, Identity, and Cooperation in a Public Good Experiment
2015/02:	Armin Steinbach	The Mutualisation of Sovereign Debt: Comparing the American Past and the European Present published in: (2015). <i>Journal of common market studies</i> , 53(5), 1110–1125
2015/03:	Olga Gorelkina	The Expected Externality Mechanism in a Level-k Environment forthcoming in: <i>International Journal of Game Theory</i>
2015/04:	Christoph Engel	Tacit Collusion – The Neglected Experimental Evidence published in: (2015). <i>Journal of Empirical Legal Studies</i> , 12(3), 537–577
2015/05:	Niels Petersen	Customary International Law and Public Goods published in: (2016). <i>Custom's Future: International Law in a Changing World</i> . Cambridge: Cambridge University Press, 253–274

2015/06:	Marco Kleine & Sebastian Kube	Communication and Trust in Principal-Team Relationships: Experimental Evidence
2015/07:	Rafael Aigner & Felix Bierbrauer	Boring Banks and Taxes
2015/08:	Alia Gizatulina & Martin Hellwig	The Genericity of the McAfee-Reny Condition for Full Surplus Extraction in Models with a Continuum of Types
2015/09:	Jos Jansen & Andreas Pollak	Strategic Disclosure of Demand Information by Duopolists: Theory and Experiment
2015/10:	Martin Hellwig	Financial Stability and Monetary Policy
2015/12:	Felix J. Bierbrauer & Martin Hellwig	Public-Good Provision in Large Economies
2015/13:	Matthias Lang	First-Order and Second-Order Ambiguity Aversion
2015/14:	Christoph Engel & Werner Güth	Modeling a Satisficing Judge
2015/15:	Christoph Engel & Sebastian Goerg	If the Worst Comes to the Worst. Dictator Giving When Recipient's Endowments are Risky
2015/16:	Renate Buijze, Christoph Engel & Sigrid Hemels	Insuring Your Donation – An Experiment <u>published in:</u> (2017). <i>Journal of Empirical Legal Studies</i> , 14(4), 858–885
2015/17:	Martin Hellwig	Neoliberales Sektierertum oder Wissenschaft? Zum Verhältnis von Grundlagenforschung und Politikanwendung in der Ökonomie
2015/18:	Dominik Grafenhofer & Wolfgang Kuhle	Observing Each Other's Observations in a Bayesian Coordination Game <u>published in:</u> (2016). <i>Journal of Mathematical Economics</i> , 67, 10–17
2015/19:	Oren Bar-Gill & Christoph Engel	Bargaining in the Absence of Property Rights: An Experiment <u>published in:</u> (2016). <i>Journal of Law and Economics</i> , 59(2), 477–495
2015/20:	Adrian Hillenbrand & André Schmelzer	Beyond Information: Disclosure, Distracted Attention, and Investor Behavior <u>forthcoming in:</u> (2016). <i>Journal of Behavioral and Experimental Finance</i>

2016

2016/01:	Christian Bruns & Oliver Himmler	Mass Media, Instrumental Information, and Electoral Accountability <u>published in:</u> (2016). <i>Journal of Public Economics</i> , 134, 75–84
2016/02:	Franziska Tausch & Maria Zumbuehl	Stability of Risk Attitudes and Media Coverage of Economic News

2016/03:	Felix Bierbrauer	Effizienz oder Gerechtigkeit? Ungleiche Einkommen, ungleiche Vermögen und die Theorie der optimalen Besteuerung
2016/04:	Felix Bierbrauer & Nick Netzer	Mechanism Design and Intentions
2016/05:	Mark T. Le Quement & Isabel Marcin	Communication and voting in heterogeneous committees: An experimental study
2016/06:	Isabel Marcin, Pedro Robalo & Franziska Tausch	Institutional Endogeneity and Third-party Punishment in Social Dilemmas
2016/07:	Christoph Engel	Experimental Criminal Law. A Survey of Contributions from Law, Economics and Criminology
2016/08:	André Schmelzer	Single versus Multiple Randomization in Matching Mechanisms
2016/09:	Christoph Engel	A Random Shock is Not Random Assignment <u>published in:</u> (2016). <i>Economics Letters</i> , 145, 45–47
2016/10:	Claudia Cerrone	Doing it when others do: a strategic model of procrastination
2016/11:	Christoph Engel & Oliver Kirchkamp	Risk and Punishment Revisited. Errors in Variables and in the Lab
2016/12:	Martin Hellwig	“Total Assets” versus “Risk Weighted Assets”: Does it matter for MREL requirements?
2016/13:	Paul De Grauwe, Yuemei Ji & Armin Steinbach	The EU Debt Crisis: Testing and Revisiting Conventional Legal Doctrine <u>published in:</u> (2017). <i>International Review of Law and Economics</i> , 51, 29–37
2016/14:	Christoph Engel	The Solidarity Motive
2016/15:	Christoph Engel & Lilia Zhurakhovska	You Are In Charge – Experimentally Testing the Motivating Power of Holding a Judicial Office <u>published in:</u> (2017). <i>Journal of Legal Studies</i> , 46(1), 1–50
2016/16:	Dan Anderberg & Claudia Cerrone	Investment in Education under Disappointment Aversion <u>published in:</u> (2017). <i>Economics Bulletin</i> , 37(3), 1533–1540
2016/17:	Martin Hellwig	A Homeomorphism Theorem for the Universal Type Space with the Uniform Weak Topology
2016/18:	Michael Kurschilgen, Alexander Morell & Ori Weisel	Internal Conflict, Market Uniformity, and Transparency in Price Competition between Teams <u>published in:</u> (2017). Internal Conflict, Market Uniformity, and Transparency in Price Competition between Teams. <i>Journal of Economic Behavior and Organization</i> , 144, 121–132

2016/20:	Alia Gizatulina & Olga Gorelkina	Selling Money on Ebay: A Field Study of Surplus Division
<u>2017</u>		
2017/01:	Pascal Langenbach & Franziska Tausch	Inherited Institutions: Cooperation in the Light of Democratic Legitimacy
2017/02:	Alia Gizatulina & Martin Hellwig	The Generic Possibility of Full Surplus Extraction in Models with Large Type Spaces <u>published in:</u> (2017). <i>Journal of Economic Theory</i> , 170, 385–416
2017/03:	Martin Hellwig	Carving out Legacy Assets: A Successful Tool for Bank Restructuring?
2017/04:	Stefan Bechtold & Christoph Engel	The Valuation of Moral Rights: A Field Experiment
2017/07:	Christoph Engel	Empirical Methods for the Law
2017/08:	Claudia Cerrone & Leonhard K. Lades	Sophisticated and Naïve Procrastination: An Experimental Study
2017/09:	Pieter Desmet & Christoph Engel	People Are Conditional Rule Followers
2017/10:	Emanuel Hansen	Optimal Income Taxation with Labor Supply Responses at Two Margins: When is an Earned Income Tax Credit Optimal?
2017/11:	Christoph Engel, Alon Klement & Karen Weinshall Margel	Diffusion of Legal Innovations: The Case of Israeli Class Actions
2017/12:	Adrian Hillenbrand & Fabian Winter	Volunteering under Population Uncertainty
2017/13:	André Schmelzer	Strategy-proofness of Stochastic Assignment Mechanisms
2017/14:	Martin Hellwig	Precautionary Recapitalisations: Time for a Review
2017/16:	Christoph Engel & André Schmelzer	Committing the English and the Continental Way – An Experiment
2017/17:	Christoph Engel & Lars Freund	Behaviorally Efficient Remedies – An Experiment
2017/18:	Loukas Balafoutas, Brent J. Davis & Matthias Sutter	How Uncertainty and Ambiguity in Tournaments Affect Gender Differences in Competitive Behavior
2017/20:	Christoph Engel	Does Efficiency Trump Legality? The Case of the German Constitutional Court
2017/21:	Adrian Hillenbrand & Svenja Hippel	Strategic Inattention in Product Search

2017/22:	Matthias Heinz, Sabrina Jeworrek, Vanessa Mertins, Heiner Schumacher & Matthias Sutter	Measuring Indirect Effects of Unfair Employer Behavior on Worker Productivity – A Field Experiment
2017/23:	Christoph Engel & Svenja Hippel	Experimental Social Planners: Good Natured, but Overly Optimistic
2017/24:	Christoph Engel, Andreas Glöckner, Svenja Hippel	Defendant Should Have the Last Word – Experimentally Manipulating Order and Provisional Assessment of the Facts in Criminal Procedure

Research Portraits
2014 – 2017

Researchers at the Max Planck Institute

List of Researchers in Alphabetical Order

For researchers currently working at the institute, all publications are reported. For researchers who have left the institute before or during the period covered by this report, only publications are listed that have resulted from research undertaken at the institute.

Aigner, Rafael	Lenz, Lisa
Álvarez Benjumea, Amalia	Leszczyńska, Monika
Bachi, Benjamin	Levin, Fedor
Bašić, Zwonimir	Li, Mengyao
Baumert, Anna	Llorente-Saguer, Aniol
Bortolotti, Stefania	Luck, Stephan
Brookins, Phil	Maddix, Nathan
Cerrone, Claudia	Marcin, Isabel
Chatziathanasiou, Konstantin	Monteiro, Sofia
Dorrough, Angela Rachel	Morell, Alexander
Egidy, Stefanie	Nikiforakis, Nikos
Engel, Christoph	Petersen, Niels
Fiedler, Susann	Praxmarer, Matthias
Frankenreiter, Jens	Priyam, Shambhavi
Freund, Lars	Rahal, Rima-Maria
Ghaffari-Tabrizi, Minou	Robalo, Pedro
Gizatulina, Alia	Romano, Angelo
Glöckner, Andreas	Roux, Nicolas
Goerg, Sebastian	Salicath, Daniel
Gorelkina, Olga	Sasse, Julia
Grafenhofer, Dominik	Schempp, Paul
Grypari, Ioanna	Schmelzer, Andre
Güth, Werner	Schneeberger, Alexander
Hamann, Hanjo	Schneider, Cornelius
Hellwig, Martin F.	Schneider, Sebastian
Hermstrüwer, Yoan	Steinbach, Armin
Hettig, Thomas	Sterba, Maj-Britt
Hillenbrand, Adrian	Sutter, Matthias
Himmler, Oliver	Tausch, Franziska
Hippel, Svenja	Towfigh, Emanuel
Hoeft, Leonard	Untertrifaller, Anna
Iliewa, Zwetelina	Verrina, Eugenio
Kleine, Marco	von Weizsäcker, Carl Christian
Kochanova, Anna	Weinschenk, Philipp
Kube, Sebastian	Winter, Fabian
Kuhle, Wolfgang	Zhang, Nan
Kurschilgen, Michael	Zhurakhovska, Lilia
Langenbach, Pascal	Zoller, Claudia



Rafael Aigner

Summary

I was a research fellow of the institute from 2012 to 2014. During this time, I completed my dissertation “Essays in Public Economics”. After obtaining the PhD, I started working for DIW Econ, the consulting company of DIW Berlin, one of the largest economic research institutes in Germany. During my time at DIW Econ, I did mostly applied research commissioned by public and corporate clients. My work also involved some academic research (resulting in one peer-reviewed publication in *Transportation Research Part A: Policy and Practice*), but none of it was directly related to my work at the MPI. Since leaving the MPI, I have also pursued the research covered in my dissertation, albeit at a fairly slow

pace. Hence, the following description of my research is closely related to the three chapters/papers of my dissertation.

Boring Banks and Taxes

How do taxes in the financial sector affect economic outcomes? In this joint work with Felix Bierbrauer, we analyze a simple general equilibrium model with financial intermediation. We formalize a trade-off between tax policies that burden the owners of banks and tax policies that burden households. We also study the implications of the financial sector’s exemption from value added taxation (VAT). The main results are that an increased taxation of the banks’ profits goes together with a larger financial sector, as measured by the volume of loans and the employment in banking. We also show that the general presumption of VAT exemption being beneficial for banks is unjustified.

Investing Your Vote

Election thresholds in proportional election systems prevent small parties from entering parliament. Nevertheless, parties below the threshold often do get votes. In this joint work with Matthias Lang, we rationalize this behavior in a two-period model with aggregate uncertainty about whether a newly emerged party has sufficient support to pass the threshold. In equilibrium, passionate supporters of the new party vote for the party, despite not really expecting the party to make the threshold. Their votes can signal a strong backing in the population and increase the party’s chances to enter parliament in the next election.

Environmental Taxation and Redistribution Concerns

How is the optimal level of Pigouvian taxation influenced by distributive concerns? In this paper, I analyze a model of optimal income taxation and externalities in consumption. My results indicate that, with second-best instruments, a higher level of income redistribution calls for a lower level of Pigouvian taxation. More redistribution implies higher distortions from income taxation. Pigouvian tax revenues become more valuable and the optimal level of environmental taxation decreases. With first-best instruments, however, the relation between levels of redistribution and Pigouvian taxation is reversed. So second-best Pigouvian taxes are very different from their first-best counterpart – despite apparently identical first-order conditions.

Publications (since 2014)

Articles in Peer-reviewed Journals

Aigner, R. (2014). Environmental Taxation and Redistribution Concerns. *FinanzArchiv/Public Finance Analysis* 70(2), 249–277

Discussion papers / working papers

Aigner, R., Bierbrauer, F., Boring Banks and Taxes, CESifo working paper, no. 5309 and Bonn: MPI Collective Goods Preprint, 2015/7

Aigner, R., Lang, M., Investing Your Vote – On the Emergence of Small Parties, mimeo

Teaching

10/10–09/11	Tutorials in Microeconomics University of Bonn
04/09–09/09	Tutorials in Public Economics University of Bonn
10/05–03/07	Tutorials in Mathematics Institute for Statistics and Econometrics, Göttingen

Professional Activities

Referee for

Journal of Environmental Planning and Management



Amalia Álvarez Benjumea

Summary Report

My research interests focus on social norms, particularly conditions under which norms change, and the effects of social feedback and information on perception and conformity to a social norm. In my research, I understand social norms as changeable, sometimes suddenly and unexpectedly. I have a special interest in social norms of communication, specifically in the relation between perceived norms and the expression of prejudice and other (extreme) opinions. Individuals conform to salient norms and cater to the audience; therefore the perception of social acceptability of an opinion affects their willingness to express them publicly. In other words, I am interested in understand-

ing how the willingness to express some opinions is shaped by what people think that others believe. In my research, I use different methodological approaches, but with a focus on experimental methods, and especially online experiments. Furthermore, I am very interested in online research and the new opportunities it brings.

Over the last two years, I have focused on norms that regulate online hate speech. In this line of research, I work together with Fabian Winter, and we investigate how people's opinions (and actions) are inhibited by perceived social norms in online environments. This approach understands communication of (extreme) opinions as signalling of normative behavior. People want to meet social expectations, and in doing so they might restrain or air politically incorrect views, depending on the perception of social acceptability.

In the first project, we ask whether descriptive and injunctive social norms influence the spread of hate speech, such as racist or sexist comments in online communities, and we explore different ways to tackle it. We designed an online experiment in which participants were asked to join an experimentally controlled online forum. Our participants commented on controversial topics, such as migration, transgender rights, feminism, and poverty. We constructed different experimental conditions to tackle hate speech, using the comments by either censoring hate content or using previous comments as informal sanctions. Our data suggest that moderate censoring of hate speech has positive effects on the overall level of hate speech of subsequent comments. This is one of the first controlled experimental setups in an ecologically valid environment and presents some of the first experimental evidence to investigate the social determinants of hate speech in online communities. This research also adds to the literature on social norms. We show how comments could be understood as descriptive signals of normative behavior. We also show how, despite people's real preferences, social norms limit the public expression of certain opinions.

In the second project, we use comments collected on the online forum to describe the effect of a series of terrorist attacks in Germany during the summer of 2016 in the levels of online hate speech. The attacks were linked to the European refugee crisis and thus increased public debate. We use pre- and post-attack data to identify a relaxation in social norms on hate speech against refugees, and more specifically the spillovers to other topics. We also investigate the interaction effect of the increase of hateful behavior with experimental treatments aimed at reducing online hate speech. Consistently with previous literature, we find that the increase in hostility towards refugees can spread to other social groups that are not necessarily linked to the former. Furthermore, we find that, after the attacks, the effect of the normative information is larger, suggesting that saliency of the topic, e.g., refugees, interacts with how people look for normative information in their context, and how they ultimately use this information. In general, we find that people are highly responsive to changes in the perceived social acceptability of prejudice expression, and vary behavior accordingly.

Finally, I have been working on a different project outside the previously exposed line of research, and in which we investigate the effect of the channel of information dissemination – public or private – on norm compliance. In the experiment, we explore the effect on coordination of receiving normative relevant information through either a public or a private channel. Together with Lars Freund, Katarina Luckner, and Fabian Winter, we have designed an experiment that allows us to investigate whether the provision of public information can enhance coordination on a fairness norm in a public-goods game. We assume that the effect of the normative message will be larger when it is communicated publicly because it contributes to the creation of common knowledge. Our design also aims to disentangle the information effects from competing mechanisms such as group formation. We test these predictions with a lab experiment.

Working papers

Alvarez, A., Winter, F., Normative Change and Culture of Hate: A Randomized Experiment in Online Communities

Work in progress

Alvarez, A., Winter, F., Spillover Effects in Hate Speech After Terrorist Attacks: A Natural Experiment

Alvarez, A., Freund, L., Luckner, K., Winter, F., Information Provision and Normative Change

Lectures and Seminar Presentations

Friendship Choices and Ethnic Background in a Swedish Secondary School

XII Spanish Sociology Congress. Spanish Sociological Federation (FES), Gijón (Spain)
30 July 2016

Normative Change and Culture of Hate: A Randomized Experiment in Online Communities

10th JDM Meeting, Max Planck Institute for Research on Collective Goods, Bonn
1–2 June 2017

Normative Change and Culture of Hate: A Randomized Experiment in Online Communities

10th Conference of the International Network of Analytical Sociologists (INAS), Oslo, Norway
8–9 June 2017



Benjamin Bachi

Summary Report

When I arrived at the MPI two years ago, my primary fields of interest were Microeconomic Theory, Behavioral Economics, and Bounded Rationality. Influenced by the extensive experimental research conducted at this institute, I have lately taken an interest in Experimental Economics as well.

On the theoretical side, I have mostly worked on models in the field of Industrial Organization with boundedly rational agents. My research considers choice procedures that capture distinct types of bounded rationality; it explores the implications of their use by decision-makers on the optimal behavior of firms in simple market settings. The results of such theoretical exercise may help the interpreting of various market behaviors, evaluation of consumer welfare, and the prediction of the implications of regulatory interventions.

In the paper *Competition with Price Similarities*, I analyzed a model of a duopolistic market in which firms engage in price competition over consumers who respond only to large price differences. When prices are approximately the same, consumers randomize. It was shown that there exists a unique equilibrium in which firms choose a mixed pricing strategy, their profits are positive, and consumers pay, with probability 1, a price that is higher than marginal cost. Moreover, if consumers neglect *relatively* small price differences (in a manner similar to Weber's law in psychophysics), the analysis of the firms' equilibrium strategy in this market is consistent with some empirical evidence of price distributions in various markets. Thus, this analysis provides further theoretical underpinning for the phenomenon of price dispersion.

In *Buridanic Competition*, Ran Spiegler and I analyze a model in which two agents compete in two-attribute objects over a decision-maker who is reluctant to perform trade-offs and thus follows a non-compensatory choice procedure that only responds to ordinal rankings along the two dimensions. The decision-maker has an outside option that functions as a default alternative. In the absence of a dominant alternative, the decision-maker may stick to the default even if it is dominated – capturing the phenomenon of choice procrastination in the presence of difficult choices. We show that the prevalence of difficult choice situations in equilibrium is related to the magnitude of the choice procrastination effect. In general, features of the choice procedure that are typically viewed as biases tend to “protect” the decision-maker, in the sense that they encourage the competitors to offer higher-value alternatives in equilibrium. We discuss the potential implications of this analysis for recent discussions of “default architecture”. In particular, regulatory interventions that attempt to overcome these biases may have counterproductive equilibrium effects.

Last in this topic is a working paper in which I study a model where a single seller tries to sell a specific product to a decision-maker, i.e., a potential buyer. The decision-maker's options are either to purchase the good or purchase nothing. The decision-maker collects random signals about the product, which can be either positive or negative, and once the difference between the number of positive and negative signals reaches a certain threshold, he decides. The seller has full information about this process and can manipulate the signals, at some cost, by sending a positive signal with probability 1. The optimal manipulation strategy for the seller is characterized for two cases: when the signals can be manipulated at the most once and when they can be manipulated arbitrarily many times. I am currently working on several extensions of this model.

In *Communication and Deception in 2-Player Games*, Sambuddha Ghosh, Zvika Neeman, and I consider games with (implied) pre-play communication which is not “cheap”, in the sense that those engaged in it may unintentionally betray their true intentions, or else guess the true intentions of others. This implies that

players' strategies should be described by response functions from gestures of the other players into actions in the game, rather than by mere actions, as in the standard formulation. This has a profound effect on the way games are played. Our model can account for the significant levels of cooperation and correlation observed in experimental Prisoner's Dilemma games with non-binding pre-play communication.

The main experimental project I am currently engaged in, jointly with Ayala Arad and Amnon Maltz, explores behavioral biases and their mutual effects in strategic interactions. It is well known that context-related biases, such as Compromise Effect, Attraction Effect, Phantom Effect, and Default Bias, affect individuals' decisions. In this project, we examine whether such biases are also anticipated by others. First, we demonstrate these biases in simple choice problems; second, we examine separately whether subjects predict these biases; and third, we repeat these experiments in a strategic setting: one player's strategy set may give rise to one of these biases, while the second player's choice of strategy may reveal whether she takes these biases into account. Pilot sessions show that these biases play an important role in determining outcome of play in different games, both due to direct influence and the prediction of the bias by the opponent. In some cases, moreover, the bias is predicted, although the direct effect is not present.

Publications (since 2014)

Articles in Peer-reviewed Journals

Bachi, B. & Spiegler, R., Buridanic Competition, (2017). *Games and Economic Behavior*, 1–49

Bachi, B. (2016). Competition with Price Similarities. *Economic Theory Bulletin*, 4(2), 277–290

Submitted Papers

Bachi, B., Sambuddha G. & Neeman, Z., Communication and Deception in 2-Player Games, (revise & resubmit). *Journal of Mathematical Economics*

Work in Progress

Bachi, B., Selling to an Agent Who Counts Signals: An Application of the Drift Diffusion Model to Industrial Organization

Bachi, B., Behavioral Biases and their Mutual Effects in Strategic Interactions: An Experimental Study, with Ayala Arad and Amnon Maltz

Lectures and Seminar Presentations

Buridanic Competition

University of Bonn (Microeconomic Workshop), Bonn
November 2015

Buridanic Competition

University of Haifa, Haifa, Israel
January 2017

Buridanic Competition

Düsseldorf Institute for Competition Economics, Düsseldorf
May 2017



Zvonimir Bašić

General Overview

I am a Research Fellow at the Max Planck Institute for Research on Collective Goods (since October 2017) and a PhD student at the Bonn Graduate School of Economics (since 2013). Before starting my PhD, I obtained two Master's degrees: an M.Sc. in Economics from the University of Bonn, and a Master of Economics from the University of Zagreb. My research over the last couple of years can best be organized into two fields: i) development of economic preferences and behavior in childhood and adolescence, and ii) the influence of self-image and social-image concerns.

Development of Economic Preferences and Behavior in Childhood and Adolescence

I have two working projects focusing on the given topic. In particular, the studies investigate the development of prosocial behavior and the underpinning mechanisms which support it.

First, together with Armin Falk and Fabian Kosse, I have investigated the development of egalitarian norm enforcement in childhood and adolescence. More specifically, we adapted the most commonly used third-party punishment game, and ran an experiment with 635 children and adolescents. Among several findings, we observe that children start enforcing the egalitarian norm at the age of 11–12, that a non-negligible proportion of young children also disapproves of generous behavior, and that children become more generous at the same time as the egalitarian norm enforcement emerges.

Second, together with Armin Falk and Simone Quercia, I have examined the influence of self-image and social-image concerns in childhood and adolescence. In particular, we manipulate the observability and self-awareness as the mediators of a person's focus on their own public and private selves, respectively, with children and adolescents between 7–14 years of age. We find markedly different results across genders. Both self-image and social-image concerns are important drivers of behavior as early as 7–8 years of age; however, only for boys. Girls do not show an effect of emphasized image concerns at any development stage in our sample.

The Influence of Self-image and Social-image Concerns

I have several working projects focusing on this topic. First, I have a project with Armin Falk and Simone Quercia, where we investigate the influence of self-image and social-image concerns on lying. While social-image concerns work as a valid driver, self-image concerns seem to be a much weaker motive, which strongly challenges the popular opinion in the literature. Furthermore, in a more recent project, we investigate the influence of the two image domains on prosociality. We find that both self-image and social-image concerns are crucial drivers of prosocial behavior, and that the willingness to react to an emphasized self-image is highly dependent on a person's preferences for self-image itself.

Moreover, I have several further early-stage projects on this topic. In particular, with Simone Quercia and Sebastian Schaub, I am investigating the influence of image concerns across genders, and the driving mechanisms behind it. With Maria Sablina and Philipp Albert, I am investigating the effect of observability and monetary rewards on third-party punishment.

Research Agenda

My research agenda for the future mainly focuses on the above-mentioned areas.

Regarding the first topic (the development of economic preferences and behavior in childhood and adolescence), I will join Matthias Sutter and other researchers from the institute in future studies. While there are a vast number of questions that can be fruitful for research, I am especially interested in the development and underpinning mechanisms of prosocial behavior and discrimination, as well as identifying mechanisms which transmit them and, even more, the potential interventions that might influence them.

Regarding my second topic (the influence of self-image and social-image concerns), I plan to study the functioning and interplay of self-image and social-image concerns and social norms in light of recent signaling models. While popular models commonly conceptualize self-image and social-image concerns in an identical fashion, it is still rather unexplored how self-image concerns function, and fully unknown how the two dimensions potentially differ from each other and how they interact.



Anna Baumert

Summary Report

Most of my research has been concerned with individual differences in cognitive, emotional, and behavioral reactions to subjective injustice. Consistent across types of injustice, and independent of the application of particular justice principles (e.g., equality, equity, or need), people have been found to differ systematically in how readily they perceive injustice and how strongly they react to these perceptions. I have been interested in the social information-processing patterns (attention, interpretation, memory processes) associated with and potentially causing these differences. In addition, some studies addressed the

predictive value of measures of dispositional justice sensitivity in various domains.

Funded by the German Research Foundation (BA 3883/4-1, 2014-2017), I have investigated a social-cognitive mechanism in the development of justice sensitivity (in comparison with other personality dispositions, such as extraversion) in young adulthood, by linking daily reports of experienced injustices with changes in dispositional justice sensitivity across one year. In two longitudinal studies, I explored the relevance of timing experiences after a transition to a new social context (i.e., starting at university) for triggering dispositional change.

Throughout my research, I strive to integrate personality and social psychological perspectives on the understanding of subjective experience and behavior. The guiding question is which psychological processes can explain systematic individual differences in behavior. As an offshoot from an expert workshop that I co-organized in 2015, sponsored by the European Association of Personality and the German Research Foundation, a manuscript entitled "Integrating personality structure, personality process, and personality development" was recently accepted to appear as a target article in the *European Journal of Personality*.

Given my profound interest in the processing of and reactions to injustice, I have invested in the development, validation, and optimization of assessment instruments and methods. In particular, I have begun to approach economic games from a psychometric perspective. A new paper is in preparation on longitudinal covariation of behavior in economic games and self-reported personality dispositions.

My research group at the Max Planck Institute for Research on Collective Goods is dedicated to investigating the psychological processes of bystander intervention against norm violations. In previous work, I have already addressed selected predictors of bystander intervention against norm violations, both in economic games and in realistic settings. My research findings support concerns raised about the validity of research that is based on hypothetical descriptions of norm violations and self-reported intervention behaviors. For this reason, my research group will invest in multi-method assessments of bystander intervention against norm violations, relying mainly on behavioral observations in the field and in the lab.

Within an international project on moral excellence, funded by the Templeton Foundation and the Wake Forest University, I have received funding for two studies on personality profiles of morally courageous persons. Data collection is currently under way. Both studies involve extensive multi-method assessment of personality dispositions. One study compares profiles of award-winners for moral courage in Germany with a matched control group that has not displayed moral courage in the past. The other study aims at predicting intervention behavior against a fraud witnessed in the lab. This study also involves measures of affective and physiological reactions to the witnessed norm violation. Results of both studies will provide the empirical basis for subsequent experiments designed to scrutinize the causal relevance of specific cognitive, affective, and physiological processes for intervention behavior.

Recently, I have been appointed as Professor of Personality and Social Psychology at the School of Education of the Technical University Munich (TUM) within the MaxPlanck@TUM program.

Publications (since 2014)

Articles in Peer-reviewed Journals

Baumert, A. & Blum, G. (forthcoming). Employing situational simulations to understand processes of person-situation transactions. Commentary. *European Journal of Personality*

Baumert, A., Schmitt, M., Perugini, M., Johnson, W., Blum, G., ... & Wrzus, C. (2017). Integrating personality structure, personality process, and personality development. *European Journal of Personality*, 31(5), 503–528

Maltese, S. & Baumert, A. (2017). Linking longitudinal dynamics of justice sensitivity and moral disengagement. *Personality and Individual Differences*

Baumert, A., Halmburger, A., Rothmund, T. & Schemer, C. (2017). Everyday dynamics in generalized social and political trust. *Journal of Research in Personality*, 69, 44–54

Baumert, A., Schmitt, M. & Blum, G. (2016). Beware of indirect effects. Rigorous definitions and methods for testing the causality of traits. Commentary. *European Journal of Personality*, 45(4), 305–307

Maltese, S., Baumert, A., Schmitt, M. & MacLeod, C. (2016). How victim sensitivity leads to uncooperative behavior via expectancies of injustice. *Frontiers in Psychology*, 6, 2059

Halmburger, A., Baumert, A. & Schmitt, M. (2015). Anger as driving factor of moral courage in comparison to guilt, and global mood: A multimethod approach. *European Journal of Social Psychology*, 45(1), 39–51

Maier, M., Maier, J., Baumert, A., Jahn, N., Krause, S. & Adam, S. (2015). Measuring citizens' implicit and explicit attitudes towards the European Union. *European Union Politics*, 16, 369–385

Baumert, A., Schlösser, T. & Schmitt, M. (2014). Economic games – A performance-based assessment of altruism and fairness. *European Journal of Psychological Assessment*, 30(3), 178–192

Baumert, A., Beierlein, C., Schmitt, M., Kemper, C., Kovaleva, A., Liebig, S. & Rammstedt, B. (2014). Measuring four perspectives of justice sensitivity with two items each. *Journal of Personality Assessment*, 96(3), 380–390

Rothmund, T. & Baumert, A. (2014). Shame on me – Implicit assessment of negative moral self-evaluation in shame-proneness. *Social Psychological and Personality Science*, 5(2), 195–202

Rothmund, T., Baumert, A. & Zinkernagel, A. (2014). The German “Wutbürger” – How justice sensitivity accounts for individual differences in political engagement. *Social Justice Research*, 27(1), 24–44

Book Chapters

Wrzus, C., Quintus, M. & Baumert, A. (forthcoming). Measuring personality processes in the lab and in the field. In V. Zeigler-Hill & T. Shackelford (Eds.), *SAGE Handbook of Personality and Individual Differences*

Pätzel, J., Baumert, A., Beierlein, C. & Dahle, K.-P. (2017). Die Ungerechtigkeitssensibilität-Skalen-8 (USS-8). In U. Kobbé (Eds.), *Forensische Prognosen. Ein transdisziplinäres Praxismanual*, 233–238. Pabst

Halmburger, A., Baumert, A. & Schmitt, M. (2017). Everyday heroes: determinants of moral courage. In S. T. Allison, G. R. Goethals & R. M. Kramer (Eds.), *Handbook of Heroism and Heroic Leadership*. 165–184. Routledge

Baumert, A. & Schmitt, M. (2016). Justice sensitivity. In M. Schmitt & C. Sabbagh (Eds.), *Handbook of Social Justice Theory and Research*. 167–180. Springer

Baumert, A. & Schmitt, M. (2014). Gerechtigkeit [Justice]. In G. Endruweit, G. Trommsdorff & N. Burzan (Eds.), *Wörterbuch der Soziologie*, 143–144. Konstanz: UVK

Baumert, A., Beierlein, C. & Schmitt, M. (2014). Ungerechtigkeitssensibilität-Skalen-8 (USS-8). In C. J. Kemper, E. Brähler & M. Zenger (Eds.), *Psychologische und sozialwissenschaftliche Kurzskalen*, 330–333. Berlin: MWV

Under review

Baumert, A. & Maltese, S. A social-cognitive mechanism of change and development in dispositional victim sensitivity. *Journal of Personality and Social Psychology*

In preparation

Baumert, A., Maltese, S. & Lischetzke, T. Economic games as objective personality measures – Dynamic validation in a longitudinal design

Honors & Awards

2017 William Stern Award for innovative research in personality psychology; awarded by the Personality and Individual Difference section of the German Psychological Association (DGPs)

2015 Teaching Award of the Psychology Department, University of Koblenz-Landau (800 €)

since 2015 Adjunct lecturer at the School of Psychology, University of Western Australia, Perth

Lectures and Seminar Presentations

Invited Talks

Justice sensitivity

Network “Intra- and Intergroup Processes in the Context of Social Inequality”, funded by German Research Foundation (DFG), Landau

12 January 2015

Ungerechtigkeitssensibilität. Adaptive und maladaptive Prozesse [Justice sensitivity. Adaptive and maladaptive processes]

Klinik für Psychosomatik, Zentralinstitut für seelische Gesundheit, Mannheim

20 March 2015

A social-cognitive mechanism of consistency and change in personality (with S. Maltese)

Personality Lab (Prof. B. Roberts), University of Illinois, Champaign, IL

9 June 2015

Das Gerechtigkeitsmotiv [The justice motive]

Department of Psychology, Johannes Gutenberg University Mainz

19 November 2015

Experiences of injustice at the beginning of university life. Development of dispositional sensitivity to injustice

University of Milano

15 May 2017

NOSI – Netzwerk der Open Science Initiativen an psychologischen Instituten im deutschsprachigen Raum [Network of Open Science Initiatives at psychological institutes in German-speaking countries]

Workshop by ZPID on "Data management", University of Trier

30 June 2017

Workshops**Ambulatory Assessment in Personality Research (with C. Wrzus)**

Pre-conference Workshop at the European Conference on Personality, Timisoara

18 July 2016

Introduction to Ambulatory Assessment

University of Milano

15 May 2017

Teaching

summer term 2014	Seminar (BA level) Intelligence University of Koblenz-Landau
winter term 2014/15	Tutorials for test theory with R (4 hours) University of Koblenz-Landau
summer term 2015	Seminars (BA level) Intelligence (4 hours) University of Koblenz-Landau
winter term 2015/16	Lecture (BA level) Introduction to psychological assessment University of Koblenz-Landau Seminar (MA level) Conflict and cooperation University of Koblenz-Landau
summer term 2016	Lecture (BA level) Personality and individual differences (4 hours) University of Koblenz-Landau Seminar (BA level) Psychological assessment of families University of Koblenz-Landau
winter term 2016/17	Lecture (BA level) Introduction to psychological assessment University of Koblenz-Landau Lecture (MA level) Advanced psychological assessment University of Koblenz-Landau

Seminar (MA level) Conflict and cooperation
University of Koblenz-Landau

Lecture (BA level) Introduction to psychological assessment
University of Koblenz-Landau

winter term 2017/18 Lecture (MA) Social and educational processes in teaching
Technical University Munich

Professional Activities

since 2016 Elected member and secretary of the Executive Committee of the European Association for
Personality Psychology

since 2016 Co-founder of Network of Open Science Initiatives (NOSI) at psychological institutes in
German-speaking countries

Memberships

Association for Research in Personality (ARP)
International Society for Justice Research (ISJR)
German Psychology Association (DGPs)
European Association for Personality (EAPP)

Editorial Board

European Journal of Personality (Consultant Editor)
Social Psychology (Associate Editor)
Zeitschrift für Politische Psychologie (Beirat)

Ad-hoc reviews

British Journal of Social Psychology; Cognition; Diagnostica; European Journal of Psychological Assessment; European Journal of Social Psychology; In-Mind; Journal of Cross-Cultural Psychology; Journal of Experimental Social Psychology; Journal of Media Psychology; Journal of Personality and Social Psychology; Journal of Research in Personality; Personality and Individual Differences; Personality and Social Psychology Review; Perspectives on Psychological Science; Philosophical Psychology; Political Psychology; Psychology of Violence; Social Justice Research; Social Psychology and Personality Science; Trends in Cognitive Sciences

German Research Foundation DFG

German National Academic Foundation



Stefania Bortolotti

Overview

I joined the Institute on 1 October 2017. Prior to joining the EEG group, I held positions at the universities of Cologne and Bologna. My research in the past years has focused on three main topics: (i) cooperation and trust in non-student samples; (ii) inequality and fairness ideals; (iii) interdisciplinary experiments.

Cooperation and Trust in Non-student Samples

Most of the experimental evidence accumulated in the last decades critically relies on studies conducted with college students, which present a limited variability along many important socio-demographic dimensions, such as age, economic background, education level, employment status, and ethnicity. This is potentially problematic when studying norms of cooperation and trust across and within societies, as students might systematically behave differently from the general population. I have worked on several experiments on cooperation and trust in the general population.

In a large-scale lab-in-the-field project, my coauthors and I studied the behavioral underpinnings of the economic divide between the North and the South of Italy, where even the relentless institutional effort to equalize incentives across regions has failed to eradicate the within-country disparities. Using a representative sample of the population, we showed that the gap in cooperation persists even if differences in incentives and informal institutions are silenced (Bigoni et al., 2016). At least part of the North-South disparities is thus likely to derive from persistent differences in social norms. In a series of companion papers, I compared norms of cooperation among students and non-students (Bortolotti et al., 2015) and developed a new trust game to study the case when a breach of trust is not profitable if carried out in isolation, but requires an agreement among agents (Bigoni et al., 2013).

Other projects in this line of research have been submitted to international journals or are in the writing phase. For instance, Bigoni et al. (2017) further deepens the understanding of the North-South gap in Italy by testing whether the difference derives from preferences or beliefs. I have also worked on a project investigating cross-cultural differences in cooperation norms between natives and migrants (with Casari and Monti). Together with Sutter, Hofmann, and Praxmarer, I am part of a project aimed at testing cooperation and solidarity over the life cycle. In an experiment with a representative sample of the Austrian population, we find that older generations are more generous toward the youngsters. Older generations seem to be willing to teach cooperative attitudes to the younger ones in a sort of trans-generational reciprocity process.

Inequality and Fairness Ideals

The steady increase in within-country inequality is often acknowledged as one of the most pressing problems of our society. The experimental toolbox can help us to understand better how inequality is perceived and to what extent it is justified and tolerated.

I have conducted three main projects in this field. In the first study, I have tested fairness ideals in a context in which the rich have potentially acquired their fortunes by means of cheating (with Soraperra, Sutter, and Zoller). We found that the shadow of cheating strongly affects what is deemed fair, which is why societies characterized by substantial amounts of cheating incidents might tend to display polarized views about redistribution. In the second project, I have investigated the role of responsibility in the income-generating process on blind rage (with Bigoni and Nas Ozen). For the third project, I have collected data for two experiments – one in Bologna (Italy) and one in Tbilisi (Georgia) – on the interplay between income and trust.

Interdisciplinary experiments

Over the last four years, I have worked on a series of interdisciplinary projects, ranging from the diffusion of electronic payment systems (Camera et al., 2016), to the behavioral aspects of breach of contracts (Bigoni et al., forthcoming), and from coordination games (Bortolotti et al., 2016), to defensive medicine (in preparation).

Research Agenda 2018-2021

My research agenda for the coming years revolves around two main areas:

Decision-making over the life cycle. Together with Sutter and Praxmarer, I plan to run lab-in-the-field experiments aimed at unpacking the role of older generations in transmitting norms of cooperation and solidarity.

Fairness ideals and punishment in contexts characterized by incomplete information. I intend to extend the study by Bortolotti et al. (2017) to include the role of experience. The idea is to test whether past experience of betrayal changes the perception of what is a fair allocation of resources. I plan to investigate fairness ideals in the presence of externalities and breaches of trust. I am also interested in studying the role of third-party punishment in contexts in which the actions of the agents are not verifiable. In such a context, the third parties face the conundrum of failing to punish a defector or punishing a cooperator. These are very common situations in many business-related contexts, and a deeper understanding of the impact of collective punishment on cooperation can be important to inform practitioners.

Publications (since 2014)

Articles in Peer-reviewed Journals

Bigoni, M., Bortolotti, S., Parisi, F. & Porat, A. (2017). Unbundling efficient breach: An experiment, *Journal of Empirical Legal Studies*, 14(3), 527–547

Bigoni, M., Bortolotti, S., Casari, M., Gambetta, D. & Pancotto, F. (2016). Amoral familism, social capital, or trust? The behavioral foundations of the Italian North-South divide, *The Economic Journal*, 126(594), 1318–1341

Bortolotti, S., Devetag, G. & Ortmann, A. (2016). Group incentives or individual incentives? A real-effort weak-link experiment, *Journal of Economic Psychology*, 56, 60–73

Camera, G., Casari, M. & Bortolotti, S. (2016). An experiment on retail payments systems, *Journal of Money, Credit & Banking*, 48(2-3), 363–392

Bortolotti, S., Casari, M. & Pancotto, F. (2015). Norms of punishment: Experiments with students and the general population, *Economic Inquiry*, 53(3), 1207–1223

Working papers

Bigoni, M., Bortolotti, S., Casari, M. & Gambetta, D. (2017). At the root of the North-South cooperation gap in Italy: Preferences or beliefs? Working Paper DSE, no. 1092

Bortolotti, S., Soraperra, I., Sutter, M. & Zoller, C. (2017). Too lucky to be true: Fairness views under the shadow of cheating. CESifo Working Paper no. 6563



Philip Brookins

Summary Report

My primary research interest is on the optimal design of contests and tournaments within the context of organizational and personnel economics. A contest is a strategic situation in which several agents expend costly and irreversible effort, time, resources, etc., with the goal of winning a valuable prize or reward. The applications of contest theory do not end with organizational settings. Indeed, contests are everywhere: animals compete for scarce resources, countries engage in warfare, lawyers litigate opposing sides of a case, firms engage in advertising “wars” to increase market shares, and so on.

During my time as a Ph.D. student at the Florida State University, my research was largely focused on the optimal design of group contests with heterogeneous players and contests with incomplete information. Since joining the Max Planck Institute, I have continued my research on incomplete information in contests and have begun exploring population uncertainty in the context of group and individual contests. I am interested in such topics due to the reasonableness of the assumptions. That is, certainty about the population, and complete information about those within it, are too strong of assumptions. Economic modeling with “weak” assumptions is a consistent theme of my research, one I hope to continue during my stay at the institute.

Below, I describe in detail my most active research areas and list all publications, working papers, and works in progress.

Population uncertainty

In many contests, the total number of competitors is not known at the time of making individual investment decisions. For example, an architectural design student planning to submit blueprints for an upcoming contest to build a new university library, whereby the student with the best submission wins a monetary prize, may know the maximum total number of competitors, i.e., the number of architectural students enrolled, but the precise number of students actively investing time and planning to make a submission is unlikely to be known ex-ante. Compared to knowing the total number of students planning to submit a design, will she invest more or less time in her project?

Motivated by the example above, my coauthors and I have conducted a series of experiments to explore how individuals behave in competitive situations under population uncertainty. When the number of competitors is known, theory predicts that individuals decrease their effort when the number of competitors increases. Under population uncertainty, however, this comparative static only holds when the individual entry probability is high. When entry probabilities are sufficiently low, the probability of being the only participant in the contest is much larger than zero, and therefore this possibility leads to a reduction in effort. The results of our experiment confirm most of the theoretical predictions, and the paper has recently been published by *Games and Economic Behavior*.

My coauthors and I are also writing a theoretical paper exploring population uncertainty in contests between groups, which has yet to be explored in the literature. In a group contest, population uncertainty can occur within the group, i.e., the number of group members is unknown, as well as across groups, i.e., the number of competing groups is unknown. We explore the former situation. Consider the decision faced by bipartisan supporters in U.S. political race for presidency. From the viewpoint of a Democratic party supporter, the decision to invest time and resources with the hopes of increasing their party’s chance of success (i.e., winning the presidency) is likely a function of (i) the number of other Democratic supporters

and (ii) the number of supporters in the opposing Republican party. Our main result shows that individual investment is always lower when group sizes are stochastic (i.e., population uncertainty) compared to deterministic group size. This highlights the importance of informational assumptions in economic modeling.

Incomplete information

In many everyday situations, if not all, information available to economic agents is incomplete. For example, a college graduate may be competing for a job with other recent graduates. Considering the amount of geographical dispersion, it is unlikely that any given graduate will know the precise skill-level of the others. In the case of complete information, a low-skilled individual may not even bother applying for the job, or significantly reduce effort, had he known others were all highly skilled. However, when the skill levels of others are not publicly known, the low-skilled graduate may exert effort preparing for the interview, but adjust this per their beliefs about the distribution of skill levels amongst all competitors.

I currently have two working projects (both in the experimental stage) involving the disclosure of incomplete information in contests between individuals. In some settings, theory predicts that disclosing information, such as the skill level of all contestants, can yield higher aggregate effort. Thus, a manager, for example, seeking to increase productivity within a firm using tournament incentives may wish to implement policies which increase the transparency of individual abilities. To understand better how individuals behave in low-information settings, I plan to test theoretical predictions in the lab soon.

In addition to my work at the institute, I have accepted a Visiting Fellow position at the Laboratory for Innovation Science at Harvard (formerly the Crowd Innovation Lab). There, I am working on several projects, including empirical tests of contest theory in field settings and developing theoretical models with the goal of explaining existing patterns in contest data. The fellowship began Fall 2017 and will continue indefinitely.

Honors

Participant at the 2017 Lindau Nobel Laureate Meetings in Economics – Lindau, Germany – August 21–26, 2017

Publications (since 2014)

Articles in Peer-reviewed Journals

Boosey, L., Brookins, P. & Ryvkin, D. (2017). Contests with group size uncertainty: Experimental evidence. *Games and Economic Behavior*, 105, 212–229

Brookins, P. & Ryvkin, D. (2016). Equilibrium existence in group contests. *Economic Theory Bulletin*, 4(2), 265–276

Brookins, P., Lightle, J. P. & Ryvkin, D. (2015). An experimental study of sorting in group contests. *Labour Economics*, 35, 16–25

Brookins, P., Lightle, J. P. & Ryvkin, D. (2015). Optimal sorting in group contests with complementarities. *Journal of Economic Behavior and Organization*, 112, 311–323

Brookins, P., Lucas, A. & Ryvkin, D. (2014). Reducing within-group overconfidence through group identity and between-group confidence judgments. *Journal of Economic Psychology*, 44, 1–12

Brookins, P. & Ryvkin, D. (2014). An experimental study of bidding in contests of incomplete information. *Experimental Economics*, 17(2), 245–261

Working papers

Brookins, P., Lightle, J. P. & Ryvkin, D., (under review) Sorting and Communication in Weak-link Group Contests, *Journal of Economics and Management Science*

Brookins, P., Goerg, S. & Kube, S., Self-chosen Goals, Incentives, and Effort, submitting for peer review soon

Boosey, L., Brookins, P. & Ryvkin, D., Contests between Groups of Unknown Size, submitting for peer review soon

Brookins, P., Brown, J. & Ryvkin, D., Peer Information and Risk-taking under Competitive and Non-competitive Pay Schemes, submitting for peer review soon

Work in progress

Brookins, P., Cerrone, C. & Ramalingam, A., Status Concerns and Group Identity [Early stages of preparation]

Brookins, P. & Serena, M., Optimal Disclosure Policies in Incomplete Information Contests [Experiments planned for Fall 2017]

Boosey, L., Brookins, P. & Ryvkin, D., Optimal Disclosure of Information in Endogenous Entry Winner-take-all Contests [Experiments planned for July 2017]

Brookins, P., Goerg, S. & Ryvkin, D., Dynamic Team Production with Symmetric and Asymmetric Delay Costs [Experiments planned for June 2017]

Brookins, P., Ryvkin, D. & Smyth, A., Contests under the Shadow of the Future: An Experimental Study [First draft of manuscript in preparation]

Lectures and Seminar Presentations

GATE-Lab Seminar – Lyon
November 2016

Workshop on Behavioral and Experimental Economics at LUISS – Rome
March 2017

Contests: Theory and Empirical Evidence at UEA – Norwich
June 2017

Southern Economic Association annual meeting, Session chair – Tampa
November 2017



Claudia Cerrone

Summary report

My research combines behavioral economic theory and experiments. My work aims at incorporating insights from psychology into economic analysis, so as to develop and test more realistic models of human behavior.

1. Behavioral game theory

In the paper *Doing It When Others Do: A Strategic Model of Procrastination*, I develop a new game-theoretic theory of procrastination. The key feature of the model is that individuals, faced with an onerous task to be performed by a deadline, prefer to perform the task when someone else does, as doing something onerous in the company of others feels less unpleasant. This turns the decision of when to perform the task into a coordination game. The model shows that the impact of social interaction on procrastination behavior crucially depends on who is matched with whom. Hence, a principal can help people procrastinate less by matching them, but how people are matched matters. Moreover, the model shows new and surprising peer effects, such as the “avoidance of bad company”: a procrastinator matched with a worse procrastinator may perform her task earlier than she otherwise would, as she wants to avoid the increased temptation that her peer’s company would generate. Procrastinators can thus use bad company as a commitment device.

The paper *The Regret Game: Regret as a Coordination Device* (joint with Francesco Feri and Philip Neary) develops a new game-theoretical model of regret aversion. Economic models of regret aversion require individuals to make ex-post comparisons between their choice and a foregone alternative.

Yet, in many situations, individuals are only capable of making an ex-post comparison if someone else went for an alternative option. We develop a model where an individual learns about the outcome of an alternative choice with a probability that depends on the choices of others. This turns a series of one-person decision problems into a multi-player game where regret can facilitate coordination on an action that would not be observed if each individual were acting in isolation. We test the model through a laboratory experiment.

2. Behavioral theory applied to education and employment contracts

The paper *Investment in Education Under Disappointment Aversion* (joint with Dan Anderberg, and published in *Economics Bulletin*) explores individuals’ schooling participation decisions under non-standard preferences. We develop a model where individuals are disappointment-averse (i.e., loss-averse around their expected outcome) and must choose how much time to invest in education. The model shows that disappointment aversion reduces investments in education for lower-ability individuals and increases it for higher-ability individuals.

The paper *Pay for Performance With Motivated Employees* (joint with Ester Manna, and *Revise & Resubmit* in the *B.E. Journal of Economic Analysis and Policy*) determines the optimal employment contract offered to intrinsically motivated individuals (i.e., individuals who value not only their salary, but also the project’s outcome) working in teams, when their intrinsic motivation cannot be observed by the employer. The model shows that the employer will prefer to pay her employees based on their team performance rather than their individual performance, as the effort distortion generated by adverse selection is smaller under team incentives than under individual incentives.

3. Experimental work on procrastination

Following my theoretical work on procrastination, I have undertaken some experimental work to study procrastination behavior in the lab and in the field. The paper *Sophisticated and naïve procrastination: an experimental study* (joint with Leonhard Lades) develops a new measure of sophistication, i.e., the individuals' awareness of their tendency to procrastinate, and uses it to test the seminal – yet untested – model of individual procrastination by O'Donoghue and Rabin (1999). We find that, contrary to the model's predictions, individuals who are aware of their tendency to procrastinate delay more than individuals who are not. Our data suggest that this can be explained by habit formation: people who are aware of their procrastination tendency may have developed a procrastination habit.

The paper *Soft Commitment: A Study on Demand and Compliance* (with Dan Anderberg and Arnaud Chevalier, and forthcoming in *Applied Economics Letters*) explores the university students' demand for soft, self-imposed commitment – in the form of early deadlines – and subsequent compliance behavior. We find a substantial commitment demand, but also a substantial failure to adhere to the chosen commitment. Students are more likely to self-impose deadlines if they expect the task to be more time-consuming and their relative performance lower, and if they are less reluctant to take risks. Failure to comply is associated with personality traits.

4. Work in progress

In a joint project with Christoph Engel, I am exploring whether taking a decision on behalf of others, as a "ruler" or an "impartial judge", affects the prosocial behavior of individuals, as well as the strategic ignorance induced by "wiggle room".

Together with fellow postdoctoral researchers Pedro Robalo and Yoan Hermstrüwer, I am working on an interdisciplinary project (law and economics) aimed at exploring whether debarment in procurement auctions effectively discourages collusion.

In a joint project with Abhijit Ramalingam and fellow postdoctoral researcher Philip Brookins, I am exploring whether status concerns depend on group identity. Do individuals care more about their relative performance among people who are similar to them?

In a joint project with Dmitry Ryvkin and Phil Brookins, we develop and test a new auction mechanism called "k-pay auction", which provides a link between winner-pay and all-pay auctions.

Finally, together with Alessandro De Chiara and Ester Manna, I am exploring theoretically and experimentally whether and how other regarding preferences affect a principal's delegation decisions and the agent's subsequent behaviour.

Publications (since 2014)

Articles in peer-reviewed Journals

Anderberg D. & Cerrone C. (2017). Investment in education under disappointment aversion, *Economics Bulletin*, 37(3), 1533–1540

Anderberg D., Cerrone C. & Chevalier A. (forthcoming). Soft commitment: A study on demand and compliance, *Applied Economics Letters*

Revise & Resubmit

Cerrone C. & Manna E., Pay for performance with motivated employees, Revise & Resubmit in the B.E. Journal of Economic Analysis and Policy

Preprints

Cerrone C. & Lades L. K., Sophisticated and naïve procrastination: An experimental study, Bonn: MPI Collective Goods Preprint, 2017/8

Cerrone C., Doing it when others do: A strategic model of procrastination, Bonn: MPI Collective Goods Preprint, 2016/10

Work in progress

Cerrone C., Feri F. & Neary P., The regret game: regret as a coordination device

Cerrone C. & Engel C., The moral light room

Cerrone C., Hermstrüwer Y. & Robalo P., Debarment in procurement auctions

Brookins P., Cerrone C. & Ramalingam A., Status concerns and group identity

Brookins P., Cerrone C. & Ryvkin D., k-pay auctions

Cerrone C., De Chiara A. & Manna E., The visible and hidden costs of control under delegation

Lectures and Seminar Presentations

Doing It When Others Do: A Strategic Model of Procrastination (invited seminar)

Universitat de Barcelona, Department of Economic Theory
May 2016

Doing It When Others Do: A Strategic Model of Procrastination

GAMES, 5th world congress of the Game Theory Society, Maastricht
July 2016

Doing It When Others Do: A Strategic Model of Procrastination (invited talk)

69th European Meeting of the Econometric Society, Geneva
August 2016

Doing It When Others Do: A Strategic Model of Procrastination (invited seminar)

University of Stirling
October 2016

Discussant of the paper "Welfare Stigma in the Lab: Evidence of Social Signalling" by J. Friedrichsen, T. König, and R. Schmacker

Workshop on "Concern for status and social image", Berlin
June 2017

Sophisticated and Naïve Procrastination: An Experimental Study

ESA World Meeting, San Diego, California
June 2017

The Regret Game: Regret as a Coordination Device

ESA World Meeting, San Diego, California

June 2011 Doing it when others do: a strategic model of procrastination

ESRC Workshop on self-control and public policy (invited talk)

University of Stirling

September 2017

Professional Activities**Memberships**

Game Theory Society; Econometric Society; Economic Science Association; Royal Economic Society

Referee for

Journal of Economic Theory; European Economic Review (x2); Economic Bulletin

Scientific Boards

European Association of Young Economists, board member, 2013–2015

Spring Meeting of Young Economists, Chair of the Programme Committee, 2015

Fellowships

Higher Education Academy (UK), Associate Fellow



Konstantin Chatziathanasiou

Summary Report

I am a research fellow in Professor Engel's group and a PhD candidate in the IMPRS Uncertainty and at the University of Bonn. My disciplinary background is in law. My work is in the areas of constitutional law and experimental law and economics. This report covers my work since 2014, when I joined the IMPRS.

Thesis

My legal thesis is concerned with a fundamental question of constitutional theory: What stabilizes a constitutional order? My analysis starts from a very peculiar German constitutional norm that allows for the constitution to be abolished and replaced. This norm stems from the times of German division, but was consciously not erased after reunification. It has been the subject of controversial debate in German legal scholarship. Recently, interest in it has been renewed, as the German Constitutional Court referred to the norm in its jurisprudence on the limits of European integration. The theoretical background and the debates around the norm lead right to the heart of the basic constitutional dilemma: A constitution must deal without external enforcement. I ask under which conditions a constitution is stable. In particular, I am concerned with the trade-off between rigidity and flexibility. Within my thesis, I report the experimental project that I undertook with Svenja Hippel and Michael Kurschilgen.

Papers

In the experimental project with Svenja Hippel and Michael Kurschilgen, we study the stability of hierarchical social order. In particular, we rank players randomly at the beginning of the experiment and suggest the ranking as a coordination device in an indefinitely repeated battle-of-the-sexes game with stranger re-matching. Whenever two players meet, the preferred equilibrium of the higher-ranked player is focal. Whereas in a population of rational, money-maximizing players everyone should simply follow the device, we show theoretically that minor difference aversion suffices for the order to collapse. Experimentally, this is exactly what happens in the absence of redistribution. The lower a player's rank, the less she follows the device, resulting in substantial miscoordination. The option to reallocate ranks does not mitigate the problem. The problem dissolves, however, when players are given the opportunity to transfer income to one another voluntarily. In order to mirror actual redistribution schemes more closely, we ran additional treatments in which transfers of a certain amount were automatically deducted, and transferred amounts were pooled. It turned out that the form of the transfer did not matter. The paper is currently in preparation.

The essay competition "Intergenerational Justice Prize 2015/16", which is organized by the UK-based Intergenerational Justice Foundation and the Germany-based Stiftung für die Rechte zukünftiger Generationen, dealt with the question of "Constitutions as Chains". It was concerned with the paradox that constitution-makers exercise a freedom that they at the same time withhold from their successors. I made a submission based on my thesis. My paper was awarded a first prize and has been published in the foundation's proceedings.

Many legal scientists are generally interested in behavioral findings, but are sceptical with regard to experiments. In a paper with Monika Leszczyńska, we confront this scepticism and introduce a broader legal audience to the methodology of experimental law and economics. The paper is forthcoming in a German general-interest law journal.

Together with Emanuel V. Towfigh, I prepared an expert opinion for the Federal Ministry of Justice and Consumer Protection. The opinion is on administrative enforcement of consumer protection laws. It is mainly concerned with the problem of scattered losses and the lack of private enforcement due to consumers' rational apathy. We discuss potential remedies. The paper appeared in an edited volume.

At university, procedural law is taught in separate courses according to the legal subfield. Yet, much can be learned through comparison. In a paper with Constantin Hartmann, we compare the main elements of German civil, criminal, and administrative procedure. The piece was published in two parts in a German journal directed at law students.

Research Stay

During the last academic year, I spent one semester (winter 2016) at the University of Michigan Law School as a Michigan Grotius Research Scholar. The stay was pleasant and productive. I presented at the JSD colloquium and I had fruitful meetings with my host, Professor Daniel Halberstam, and my co-hosts, Professors Jenna Bednar, J. J. Prescott, and George Tsebelis.

Events Organized

Together with Pascal Langenbach, I organized a workshop in Bonn to which we invited PhD students from the Max Planck Law Institutes (1st Max Planck Young Legal Scholars Meeting 2015). The feedback was positive and subsequent workshops have taken place at Max Planck Institutes in Hamburg and Frankfurt.

At Michigan, I was a member of the organization committee of the Michigan Law School Third Young Scholars' Conference 2017.

Awards

Scholarship by the German National Academic Foundation (Studienstiftung des deutschen Volkes) for my PhD thesis

First prize in the competition "Intergenerational Justice Prize" 2015/16

Publications (since 2014)

Articles in Peer-reviewed Journals

Chatziathanasiou, K. & Leszczyńska, M. (forthcoming). Experimentelle Ökonomik im Recht. *Rechtswissenschaft. Zeitschrift für rechtswissenschaftliche Forschung*, 8

Chatziathanasiou, K. (2017). Constitutions as Chains? On the Intergenerational Challenges of Constitution-Making. *Intergenerational Justice Review*, 10(1), 32–41

Articles (not peer-reviewed)

Chatziathanasiou, K. & Hartmann, C. (2015). "Allgemeines Prozessrecht" – Bausteine des Verfahrensrechts in ZPO, VwGO und StPO – Teil 1, *JURA – Juristische Ausbildung*, 37(9), 911–921

Chatziathanasiou, K. & Hartmann, C. (2015). "Allgemeines Prozessrecht" – Bausteine des Verfahrensrechts in ZPO, VwGO und StPO – Teil 2, *JURA – Juristische Ausbildung*, 37(10), 1036–1044

Book Chapter

Towfigh, E. V. & Chatziathanasiou, K. (2017). Ökonomische Aspekte der Durchsetzung des Verbraucherschutzrechts. In H. Schulte-Nölke & Bundesministerium der Justiz und für Verbraucherschutz (Eds.), *Neue Wege zur Durchsetzung des Verbraucherrechts*, 93–126. Springer

Work in Progress

Chatziathanasiou, K. (revise & resubmit). Effective Judicial Protection in the EU as a Case of Strategic Self-Restraint

Chatziathanasiou, K. & Kurschilgen, M. (in preparation). Social Order, Efficiency, and Redistribution: An Experimental Study (Joint work with Svenja Hippel and Michael Kurschilgen)

Lectures and Seminar Presentations

Article 47 Charter of Fundamental Rights of the EU: Integration through Effective Judicial Protection

2nd Balkan School of the Universities of Münster and Paris Nanterre, Tirana (Albania) and Podgorica
29 October and 2 November 2015

Constitutional Theory in the Lab: A Coordination Experiment on Institutional Stability

Workshop Foundations of Law and Social Science, Max Planck Institute for Research on Collective Goods, Bonn
22 March 2016

Social Order, Efficiency, and Redistribution: An Experimental Study

NIAS-Conference on Social Decision Making, Netherlands Institute for Advanced Study, Wassenaar
14 April 2016

Constitutional Theory in the Lab: A Coordination Experiment on Institutional Stability

Doktorandenforum der Studienstiftung des deutschen Volkes, Wannsee-Forum, Berlin
26 April 2016

Constitutional Theory in the Lab: A Coordination Experiment on Institutional Stability

University of Michigan Law School, JSD Colloquium, Ann Arbor, Michigan
23 October 2016

Constitutions as Chains? On the Intergenerational Challenges of Constitution-making

Intergenerational Justice Foundation and Stiftung für die Rechte zukünftiger Generationen, Award Ceremony, 11. Demographie-Kongress Best Age, Berlin
8 November 2016

Teaching

summer term 2014 Preparation course for the oral law exam
University of Bonn



Angela Rachael Dorrough

Summary Report

For the most part, my research addresses the determinants of cooperation behavior (mostly in social dilemmas), applying both theory and methods from economics and psychology. In two of my main projects, for example, which were also the basis of my dissertation, I studied the influence of the interaction partner's group affiliation on social dilemma behavior.

In a joint article ("Multinational Investigation of Cross-societal Cooperation") with Andreas Glöckner, which was published in the *Proceedings of the National Academy of Sciences*, we show that the willingness to cooperate in social dilemmas is systematically influenced by the national

background of the interaction partner. To be more specific, participants from six different nations hold strong and transnationally shared expectations concerning the cooperation level of interaction partners from other nations. People from Japan, for instance, are believed to be comparatively cooperative in a one-shot continuous prisoner's dilemma, whereas participants expect to receive only a small amount from people from Israel. These expectations again are predictive for own cooperation, but turn out to be incorrect stereotypes that correlate negatively with reality. Whereas we investigated only one-shot interactions in the article just mentioned, in a joint paper with Andreas Glöckner, Dshamilja Marie Hellmann, and Irena Ebert ("The Development of Ingroup Favoritism in Repeated Social Dilemmas"), published in *Frontiers in Psychology*, we report results on the development of social dilemma behavior in repeated interactions with different interaction partners of different groups (i.e., ingroup and outgroup). Results show that level differences in cooperation occur from the moment participants encountered members of both groups. Apart from that, cooperation and expectations follow a similar declining pattern, irrespectively of the group membership of interaction partners.

In two other articles, my colleagues and I study different selection mechanisms for group membership or specific roles within a group with regard to their influence on cooperation behavior.

In "Revealing Side Effects of Quota Rules on Group Cooperation", which I published together with Monika Leszczyńska, Manuela Barreto, and Andreas Glöckner in the *Journal of Economic Psychology*, we examine the impact of quota-based as compared to performance-based selection to an existing group on cooperation between incumbent and incoming members. Results reveal that cooperation within groups declines when selection is based on a quota rule, compared to a selection based on performance, irrespectively of whether the quota is based on gender or an artificial criterion (randomly assigned color). In a different project ("Race for Power in Public-Good Games with Unequal, Unstable Punishment Power"), published in the *Journal of Behavioral Decision Making*, Andreas Glöckner, Borah Lee, and I investigate whether an unstable assignment of the role of a 'strong player' – a group member who can punish others at a reduced cost, compared to other players – negatively affects behavior in public-goods games, as compared to a stable assignment of player roles. We show that when the role of the strong player can change during repeated interactions individuals behave more competitively, resulting in detrimental effects for the group.

Besides my research on cooperation behavior, I am also interested in the role of stereotypes in economic decision-making. In a current working paper ("When Knowledge Activated from Memory Intrudes into Decisions from Description – The Case of Stereotypes"), Andreas Glöckner, Tilmann Betsch, Anika Wille, and I demonstrate that potentially irrelevant stimuli activated from memory (in this case, stereotypes) can intrude in probabilistic inferences from description. Furthermore, the magnitude of stereotype biases seems to be influenced by the accessibility of stereotypes and the unambiguousness of the rational solution of the task.

Finally, in addition to the content-related focus, I support the open science movement in psychology, for instance by having taken part in a large-scale replication project (“Estimating the Reproducibility of Psychological Science”). Within the scope of this project, which was published in *Science* by the so-called open science collaboration, replications of 100 experimental and correlational psychological studies have been conducted.

Publications (since 2014)

Dorrough, A. R., Glöckner, A., Betsch, T. & Wille, A. (2017). When knowledge activated from memory intrudes on probabilistic inferences from description – the case of stereotypes. *Acta Psychologica*, 180, 64–78

Dorrough, A. R., Glöckner, A. & Lee, B. (2017). Race for power in public good games with unequal, unstable punishment power. *Journal of Behavioral Decision Making*, 30(2), 582–609

Dorrough, A. R., *Leszczyńska, M., Barreto, M. & Glöckner, A. (2016). Revealing side effects of quota rules on group cooperation. *Journal of Economic Psychology*, 57, 136–152

Dorrough, A. R. & Glöckner, A. (2016). Multinational investigation of cross-societal cooperation. *Proceedings of the National Academy of Sciences*, 113(39), 10836–10841

Open Science Collaboration. (2015). Estimating the reproducibility of psychological science. *Science*, 349(6251), 943, aac4716-1 – aac4716-8

Dorrough, A. R., Glöckner, A., Hellmann, D. M. & Ebert, I. (2015). The development of ingroup favoritism in repeated social dilemmas. *Frontiers in Psychology*, 6(476)

*shared first authorship

Teaching

winter term 2014/15	Eignungsdiagnostik University of Göttingen
	Prosoziales Verhalten in Gruppen University of Siegen
	Stereotype und Vorurteile im Kontext von Ausbildung und Beruf University of Siegen
summer term 2015	Literaturkurs zum Themenschwerpunkt Diskriminierung unter Kindern und Jugendlichen University of Siegen
	Experimentelles Arbeiten mit den sozialpsychologischen Themenschwerpunkten Diskriminierung und prosoziales Verhalten University of Siegen

winter term 2015/2016 Empirisch Arbeiten mit den Themen Stereotype und Stigmatisierung "step by step", University of Siegen

Empirische Forschung mit den Themen Stereotype und Stigmatisierung "leicht gemacht" Begleitung empirischer Masterarbeiten in der Entwicklungs- und Sozialpsychologie
University of Siegen

Prosoziales Verhalten
University of Siegen

Professional Activities

Memberships

European Association for Decision Making, Society for Personality and Social Psychology, European Association of Social Psychology, International Association for Cross-Cultural Psychology, Deutsche Gesellschaft für Psychologie, German-Japanese Society for Social Sciences

Reviewer for

Journal of Behavioral and Experimental Economics, Journal of Economic Psychology, Journal of Behavioral Decision Making



Stefanie Egidy

Summary

I started at the MPI at the end of 2013 with a 25 % position while I was doing the legal clerkship (*Referendariat*), a mandatory prerequisite in Germany for the Second State Exam, which I passed with honors (4/2151) in 2016. During this time, I completed my dissertation on the democratic legitimacy of financial crisis management in Germany and the U.S., and co-wrote a book on the law of lawmaking that originated during my time as a Visiting Researcher at Yale Law School. These endeavors have strengthened and shaped my research interests. They have enabled me to develop several major research areas, which all deal with constitutional decision-making, institutional design, and the values of transparency and control in a democratic state order. Since the fall of 2016, I have been working at the MPI full-time as a post-doc. My main focus here has been my *Habilitation* project on strategic litigation. This again analyzes the behavior of constitutional and political actors – this time with an emphasis on courts and individual rights. The remainder of this year I will spend on maternity leave, beginning in the middle of July 2017.

Democratic Crisis Management

The subject of reconciling the demands of the constitutional principle of democracy with the exigencies of stabilizing financial markets is, in my view, one of the most difficult, albeit one of the most important, challenges posed by the financial crisis 2007-09. This research question lies at the core of my dissertation – entitled *Financial Crises and Constitutions: Democratic Crisis Management in Germany and the U.S. (Finanzkrise und Verfassung – Demokratisches Krisenmanagement in Deutschland und den USA)*.

During the 2007-09 financial crisis, the German legislature provided the executive with wide-ranging powers in order to stabilize markets. However, in contrast to those issued by the U.S. Congress, the German laws did not include effective mechanisms for controlling the exercise of these powers or for creating transparency. Choosing a comparative approach, my dissertation identifies the decision criteria, the conflicting goals, and the limits of the respective financial crisis management measures taken. I conclude that the German financial market stabilization act's lack of effective means creating transparency and control were in violation of the Basic Law's principle of democracy. The U.S. system of control organs shows that effective control was possible despite the particular demands of financial crisis management. It also serves as a source of inspiration for how transparency and control could be accomplished. It is one of the goals of my work to draw attention to the dangers of using the laws created in response to the 2007-09 financial crisis as templates in future crises.

Acknowledging the relevance of my work, the dissertation has been awarded three prizes: by the University of Würzburg's *Unterfränkische Gedenkstiftung*, the Bavarian American Academy (*Bayerische Amerika Akademie*), and most notably by the *Körber-Stiftung* for one of the most relevant dissertations in 2017 (*Deutscher Studienpreis*). These awards show that the subject of democratic crisis management has received significant attention and recognition, even though the financial crisis ended more than eight years ago. But it is exactly now, in times of stable markets and economies, that a debate has to be sparked about past and future ways of dealing with the questions my work raises.

The Law of Lawmaking

This joint project with Susan Rose-Ackerman and James Fowkes analyzes the law of lawmaking through three principles of legitimacy: democracy, rights, and competence. Drawing on the insights of positive political economy, our book explicates the ways in which courts uphold these principles in the different

systems. Judicial review in the American presidential system suggests lessons for the parliamentary systems in Germany and South Africa, while the experience of parliamentary government yields potential insights into the reform of the American law of lawmaking. Taken together, the national experiences shed light on the special case of the EU. In dialogue with each other, our case studies demonstrate the interplay between constitutional principles and political imperatives under a range of different conditions.

This research was inspired and motivated by my earlier work at Yale Law School on the German Constitutional Court's adjudication on legislative decision-making. My main line of inquiry was into the procedural standards the Constitutional Court imposes on the democratically elected legislature. The starting point was the Court's landmark *Hartz IV* decision, which derived the requirements of a consistent and transparent calculation of social benefits from the Basic Law's substantive guarantees of a social state and human dignity. Jointly, we expanded this research to legislative and executive lawmaking and incorporated a comparative perspective, drawing on cases and research in the United States, South Africa, Germany, and the EU.

Strategic Litigation

Strategic litigation is used worldwide as an instrument to use courts in order to further human rights protection. Despite its large and growing relevance, this tool is under-researched in Germany and the EU.

The inspiration to focus on strategic litigation stems from a strand of research on social movements in the United States, which has – with a decades-long head start – analyzed the impact of judicial actors on the development of social rights. Understanding courts not only as arbiters of conflicts concerning individual subjective rights, but also as motors of legal development, is rooted much deeper in common law and has been more foreign to German civil-law thinking. Judges are often still seen through Hermann Kantorowicz' lens as applying the law as a mechanical, precise exercise. In his seminal work, *The Battle for Legal Science*, he portrays "[t]he reigning ideal image of the jurist [...] as follows: a higher civil servant with academic training, he sits in his cell, armed only with a thinking machine, certainly one of the finest kinds. The cell's only furnishing is a green table on which the State Code lies before him. Present him with any kind of situation, real or imaginary, and with the help of pure logical operations and a secret technique understood only by him, he is, as is demanded by his duty, able to deduce the decision in the legal code predetermined by the legislature with absolute precision."

Participating in the interdisciplinary workshop on "The Mobilization of Law in a Pluralized Society" in Berlin in May 2017 showed the growing interest of scholars in this subject, but at the same time revealed the dearth of empirical legal research addressing these important questions. With regard to legal practice, the newly established Society for Civil Rights (*Gesellschaft für Freiheitsrechte*), which is committed to using strategic litigation to further rights in the German legal system, promises significantly to broaden the available data and material.

My work's goal is to re-conceptualize the standard German narrative of judicial review and to develop a strategic litigation narrative that can be used to explain the behavior of judicial and political actors, as well as civil society groups. The features of strategic litigation are indeed already deeply entrenched in the German legal system. Methodologically, I will use and combine the methods and approaches I have been exposed to at the MPI in order to develop this area of constitutional and procedural law theoretically and empirically. My current research focus lies on the German Constitutional Court's adjudication. As a first step, I have started empirically to analyze decision patterns of cases and the ways and means of the Court's communication in order to identify certain influences and potentially strategic motives.

Research Agenda

My research agenda builds upon my previous work, laid down in detail above.

The first pillar, based on my dissertation, has at its core the conflict between the democratic constitutional values of sufficient information of and control through parliament, and the necessities of executive crisis management. It is, in particular, an unsolved problem how far the information rights of parliament (especially the opposition parties) reach, and which limits and grounds of refusal the government has at its disposal. Indeed, the German Constitutional Court is currently deciding a case on the scope of information rights of the opposition regarding the executive's involvement in the financial crisis and its management, as well as regarding the executive's knowledge about the decisions and details of the *Deutsche Bahn AG* (the German privatized railway company). The Court's oral hearing in May 2017 showed the deep divide between the executive and the legislative branch, but also the fundamental insecurities of all constitutional actors (including the judges) in understanding and dealing with financial markets. I will use my existing research in this area, in order to contribute to solving these legal issues.

The second pillar of my research expands my research on democracy and financial markets into the European domain, focusing on the European Central Bank. In this context, I was awarded a research grant by the European Central Bank (Legal Research Program 2017) for a comparative law project on a judicial review of central-bank policies and decisions, including in the area of monetary policy, payment systems, financial stability, resolution, and supervision.

The third pillar, inspired by working on the law of lawmaking from a comparative angle, targets a number of questions on the functioning of the German legislature, especially concerning the behavior of political actors. In particular, my work comprises two specific projects, the first of which will provide the first in-depth analysis of German sunset legislation, offering an empirical foundation upon which the manifold claims and assumptions about this legal instrument can be tested. The second one focuses on the interaction between the parliament and the executive in lawmaking, more concretely: the motives, choices, and consequences of legislative delegations of rule-making power to the executive. I will especially analyze the decision of the legislature to delegate rule-making authority, while at the same time retaining the power to interfere with the content of the rules established by the executive as a consequence of this delegation.

Finally, the fourth pillar of my research agenda, motivated by a colleague's presentation at the MPI about mechanism design, will apply the insights provided by this research to the currently pressing subject of daycare choice. This will expand my research further into the administrative law domain.

Publications (since 2014)

Books

Egidy, S. (forthcoming). *Finanzkrise und Verfassung – Demokratisches Krisenmanagement in Deutschland und den USA* [Financial Crises and Constitutions: Democratic Crisis Management in Germany and the U.S.]. *Studien und Beiträge zum Öffentlichen Recht*, Tübingen: Mohr Siebeck

Egidy, S., Rose-Ackerman, S. & Fowkes, J. (2015). *Due Process of Lawmaking – The United States, South Africa, Germany and the European Union*, 296 p. Cambridge: Cambridge University Press

Book Chapter

Rose-Ackerman, S., Egidy, S. & Fowkes, J. (2016). The Law of Lawmaking: Positive Political Theory in Comparative Public Law. In F. Bignami & D. Zaring (Eds.), *Comparative Law and Regulation*, 353–382. Edward Elgar

Lectures and Seminar Presentations

Finanzkrisenbewältigung als verfassungsrechtliches Problem [Financial Crisis Management as a Constitutional Problem]

Wirtschaftsrechtliches Symposium der Schüler und Enkel von Ernst-Joachim Mestmäcker, Frankfurt
March 2015

Introduction to Legal Analysis: A Framework for Empirical Research

Week-long seminar at the 10th International Max Planck Research School on Adapting Behavior in a Fundamentally Uncertain World, Jena
August 2016

Ein Ablaufdatum für Gesetze – Wirksames Instrument oder Augenwischerei? [Sunset Legislation – Effective Instrument or Window Dressing]

Annual Meeting of the Academic “Students” of Christoph Engel at the Max Planck Institute for Research on Collective Goods
November 2016

The Potential for Strategic Litigation Before the German Federal Constitutional Court

Workshop with Bruno Frey, Siegwart Lindenberg, and Margit Osterloh at the Max Planck Institute for Research on Collective Goods
April 2017

Judicial Review of Central Bank Policies and Decisions in a Comparative Perspective Presentation for the Legal Research Program 2017 at the European Central Bank, Frankfurt

May 2017

Decision-Making in Civil Disputes and Litigation

Workshop on Judgment and Decision-Making at the Max Planck Institute for Research on Collective Goods
May 2017



Christoph Engel

For me, the four years covered by this report have been as busy as they have been happy. From 2013–2016, I chaired the Humanities section of the Max Planck Society. It was the period when Prof. Stratmann took over as president, and started a major overhaul of the society. This provided the precious opportunity for the section chair to contribute to making the Max Planck Society an even more powerful academic player. It has also been the period within which the competent committee selected Prof. Matthias Sutter as new director at the institute. In line with the tradition of the society, this has meant a substantial involvement of me as the incumbent director. During these years, four researchers from the institute have passed habilitation. Three of them have already become law professors.

My colleagues have convinced me to become co-editor of the *Review of Law and Economics*, with the empirical submissions being in my portfolio.

During these years I have been blessed with multiple signs of recognition. The Hebrew University of Jerusalem has conferred the degree of Dr. h.c. on me. As the first non-American, I have been elected to the board of the Society of Empirical Legal Studies. My colleagues from the Erasmus University Rotterdam first prolonged my part-time engagement, and have now turned it permanent. I am of course highly pleased to know that many of my papers have been accepted for publication in top peer-review law journals, and in good economics and psychology outlets.

The research questions I have been working on are closely intertwined with the research undertaken by my group, and the other parts of the institute. The substance of my research is therefore covered by the report on the work of my group (p.15). I do not want to duplicate this report. I therefore use my personal portrait to step back and contemplate on behavioral law and economics as a field, and on the ways in which I have aimed at having an impact on the field.

Why would a trained lawyer turn into a social scientist? Why would he not trust in intellectual division of labor, and capitalize on the results of empirical research, and behavioral theory for that matter, provided from the neighboring disciplines? There is a straightforward, pragmatic answer. Quite often, the neighboring disciplines do not deliver. An empirical question is critical for normative legal choice that has not been investigated by economists, psychologists, political scientists, or sociologists. More often even, disciplines differ by granularity. The social sciences tend to be interested in (even) more basic effects than their legal consumers. The law is a fundamentally applied discipline. But there is also a deeper answer. Only if lawyers themselves become astute empiricists does the discipline stand a chance to transform. Doctrine is an elegant and powerful technique for navigating the half-understood. But lawyers quite often take their intuition, their world knowledge, and prevalent strands of the legal discourse, for empirical evidence. If lawyers empower themselves of the tools of empirical research, they cannot only criticize unfounded empirical statements. They can replace them by tailor-made scientific evidence, while properly discussing the inevitable limitations of any empirical research.

The distance between the mainstream of empirical social science and empirical legal scholarship is largest if the empirical investigation stays close to concrete legal conflicts: Does stipulating a non-compete clause backfire in that the agent reduces productive effort (Bünstorf, Engel et al. 2016)? Does putting convicts on probation pay a double dividend in that convicts reciprocate governmental benevolence with socially desirable behavior (Engel, Hennig-Schmidt et al. 2015)? Do prosecutors abuse the ambiguity of the law for cornering defendants (Engel and Reuben 2015)? Do bribers exploit lenient sanctions as a technology for enforcing the corrupt deal (Engel, Goerg et al. 2016)? Do regulators shy away from protecting the demand side of the market by a sufficiently stringent price cap since they do not want to be responsible for firms

making low profits (Engel and Heine 2017)? Do donation intermediaries induce donors to make higher donations since they are implicitly insured against the risk of the donation failing to reach the intended recipient (Buijze, Engel et al. forthcoming)? Simply extrapolating from generic behavioral knowledge would not have been sufficient to answer these questions. Each time, together with my co-authors, I have designed an experiment that captures the essence of the legal conflict.

A second series of experiments puts more abstract legal institutions to the test. Still there was no pertinent behavioral evidence, and it would be unlikely to be generated by non-lawyers. Is a property right a prerequisite for innovation if appropriation is costly (Engel and Kleine 2015)? Do authors care so much about moral rights that they would rather not trade the copyright if they are not protected (Bechtold and Engel 2017)? Are promises more likely to be kept if they are given “in consideration” of some exchange, as common law posits (Engel and Schmelzer 2017)? Do contractual partners have a higher willingness to pay if the remedy for breach of contract is specific performance, rather than expectations or reliance damages (Engel and Freund 2017)? Does the prospect of having to pay damages deter socially undesirable behavior if the threat is too weak for a person who maximizes profit (Eisenberg and Engel 2014)?

A third series of experiments unpacks legal institutions and isolates their behavioral effects. Does a non-deterrent sanction substitute for insufficiently strong social preferences (Engel 2014a)? Do individuals replace absolute property rights by contractual arrangements (Bar-Gill and Engel 2016)? Does coordination by contract fail if the situation induces a clash of fairness norms (Bar-Gill and Engel 2017)? Does the obligation to justify interventions pay a double dividend in that it partly substitutes for sanctions (Engel and Zhurakhovska 2013)? Is it important for governance, in the spirit of broken windows theory, to manage first impressions (Beckenkamp, Engel et al. 2014, Engel, Kube et al. 2016)? Which is more important for deterrence: the certainty or the severity of sanctions (Engel and Nagin 2015, Engel 2016)? What explains the forward-looking effect of negligence liability: making the standard explicit, blaming a perpetrator, or having her pay compensation (Eisenberg and Engel 2016)?

A fourth series of experiments steps back and isolates effects that have clear legal relevance. Are individuals less likely to overcome a dilemma if they know that this harms outsiders, as in an oligopoly (Engel and Zhurakhovska 2014)? Can the willingness of individuals to act in a socially responsible way be triggered by inducing introspection (Engel and Kurschilgen 2015)? How difficult is it to overcome an (originally beneficial) behavioral routine if the underlying legal rule has been changed (Betsch, Lindow et al. 2014)? Are individuals more likely to follow rules if they know or expect their peers to do so as well (Desmet and Engel 2017)? Does uncertainty about the deservingness of beneficiaries hamper social preferences (Engel and Goerg 2016)? Do individuals who have been assigned a task in the public interest try to live up to expectations (Engel and Zhurakhovska 2017)?

Additionally I have made a number of methodological contributions. I have programmed an estimator for Stata and published an accompanying paper (Engel and Moffatt 2014). I have shown that measurement error can be a concern with experimental data (Engel and Kirchkamp 2016). Using experimental evidence, I have demonstrated that a random shock is not random assignment (Engel 2016). On the experimental design side, I have demonstrated why not framing experiments can be problematic (Engel and Rand 2014).

For the lawyers of my group, it is paramount to flesh out the implications of our social science work for the mainstream of the discipline. I have given them advice, but have only rarely engaged in translation myself. Exceptions include a paper arguing that privacy should be interpreted as a public good (Fairfield and Engel 2015), and that scientific disintegrity can productively be analyzed from this vantage point as well (Engel 2015a). I have, however, published a meta-study that makes oligopoly experiments accessible for anti-trust (Engel 2015b). A handbook entry introduces lawyers to the comparative advantages and disadvantages of

competing empirical methods (Engel 2014c). Another paper discusses which empirical methods might be most congenial to answer normative legal research questions (Engel 2017a).

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Engel, C. & Schmelzer, A. (2017). Committing the English and the Continental Way – An Experiment. Bonn: Max Planck Institute for Research on Collective Goods, 2017/16

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1. Internalization by Vote. A Public Goods Experiment With Externalities (with Bettina Rockenbach).
2. Win Shift Lose Stay – An Experimental Test of Non-Compete Clauses (with Guido Bünstorf, Sven Fischer and Werner Güth).
3. You Are In Charge. Experimentally Testing the Motivating Power of Holding a (Judicial) Office (with Lilia Zhurakhovska).
4. Words Substitute Fists – Justifying Punishment in a Public Good Experiment (with Lilia Zhurakhovska).
5. Between Skylla and Charybdis. Experimentally Testing the Choice Between Regulatory Self-Restraint and Micromanagement (with Klaus Heine).
6. Clean is Dirty. The Cost of Not Framing an Experiment (with David Rand).
7. Maverick. Making Sense of a Conjecture of Antitrust Policy in the Lab (with Axel Ockenfels).
8. Big Brother is Watching You – Because Little Brother Has Opened the Door. An Experiment on Information Sharing in Social Networks (with Joshua Fairfield).

Policy Reports

Academic Advisory Council to the German Minister of Economics and Energy

Contributions to the following advisory opinions:

Engpassbasierte Nutzerfinanzierung und Infrastrukturinvestitionen in Netzsektoren [Shortage-based User Financing and Infrastructure Investments in Network Sectors]

September 2014

Potenziale nutzen – mehr Fachkräfte durch weniger Arbeitsmarkthemmnisse [Making the Most of Potential – More Qualified Employees through Fewer Labor Market Constraints]

June 2015

Regionale Wirtschaftsförderung [Regional Business Development]

June 2015

Mehr Transparenz in der Bildungspolitik [More Transparency in Education Policy]

February 2016

Zur Förderung von Elektroautos [On Promoting Electric Cars]

Letter to the Federal Minister of Economic Affairs and Energy, Sigmar Gabriel

May 2016

Gesetzliche Rentenversicherung [Statutory Pension Insurance]

Letter to the Federal Minister of Economic Affairs and Energy, Sigmar Gabriel

June 2016

Nachhaltigkeit der sozialen Sicherung über 2030 hinaus [Sustainability in the Social Security System beyond 2030]

September 2016

Zu den Vorschlägen des Basler Ausschusses für Bankenaufsicht zur Behebung von Missständen bei den Eigenkapitalvorschriften für Banken [On Suggestions by the Basel Committee on Banking Supervision for Rectifying Grievances Concerning Equity Requirements for Banks]

Letter to the Federal Minister of Economic Affairs and Energy, Sigmar Gabriel

November 2016

Die essenzielle Rolle des CO₂-Preises für eine effektive Klimapolitik [The Essential Role of the CO₂ Price for an Effective Climate Policy]

November 2016

Zur Diskussion um Bargeld und die Null-Zins-Politik der Zentralbank [On the Debate About Cash and the Central Bank's Zero-rate Policy]

February 2017

Herausforderungen der Niedrigzinsphase für die Finanzpolitik [Challenges to Financial Policy, Caused by the Low-interest Phase]

February 2017

Zur Neugestaltung der Wirtschaftsbeziehungen mit Großbritannien [Reorganising Economic Relations with the UK]

Letter to the Federal Minister of Economic Affairs and Energy, Brigitte Zypries

April 2017

Lectures and Seminar Presentations

2014

The Dark Side of Price Cap Regulation – A Lab Experiment

(joint with Klaus Heine, Erasmus University Rotterdam)

ESI Workshop on Institutions, Games and Experiments, Jena

1–3 February 2014

The Dark Side of Price Cap Regulation – A Lab Experiment

(joint with Klaus Heine, Erasmus University Rotterdam)

University of Cologne Conference Social and Economic Behavior, Cologne

18 February 2014

The Dark Side of Price Cap Regulation – A Lab Experiment

(joint with Klaus Heine, Erasmus University Rotterdam)

Hamburg Lectures on Law and Economics

2 April 2014

Unpacking Negligence Liability. Experimentally Testing the Governance Effect

(joint with Theodore Eisenberg, Cornell University)

Faculty Seminar, Hebrew University Faculty of Law, Jerusalem

31 April 2014

You Are in Charge: Experimentally Testing the Motivating Power of Holding a (Judicial) Office

(joint with Lilia Zhurakhovska)

Empirical Studies of Courts and Judicial Decision-making, Conference in Memory of the Late Prof. Theodore Eisenberg, Jerusalem

1 May 2014

Insure Your Donation

(joint with Renate Buijze & Sigrid Hemels, Erasmus University Rotterdam)

Max Planck Institute for Research on Collective Goods, Bonn

5 May 2014

The Jurisdiction of the Man Within

(joint with Michael Kurschilgen)

Max Planck Institute for Human Cognitive and Brain Sciences, Berlin

7 May 2014

The Dark Side of Price Cap Regulation – A Lab Experiment

(joint with Klaus Heine, Erasmus University Rotterdam)

2014 ACLE Spring Workshop, University of Amsterdam

12–13 May 2014

Randomized Information about the Law as an Instrument

32nd International Seminar on the New Institutional Economics Conference – Does the Law Deliver?

Regensburg

11–14 June 2014

Social Preferences Can Make Imperfect Sanctions Work: Evidence from a Public Good Experiment

Behavioral Law and Economics – New Directions (“BLEND”) I: Individual Differences in Judgment and Decision Behavior, Notre Dame London

25–26 June 2014

Effectiveness, Efficiency, and the Law: A Rational Choice Perspective

Public Power in a Changing World

Workshop at the Erasmus University Rotterdam

2 July 2014

The Society of Young Private Law Scholars – A Founder’s Perspective 25 Years Later

Society of Young Private Law Scholars, Cologne

12 September 2014

Unpacking Negligence Liability. Experimentally Testing the Governance Effect

(joint with Theodore Eisenberg, Cornell University)

Max Planck Institute for Human Development, Berlin

22 October 2014

Unpacking Negligence Liability. Experimentally Testing the Governance Effect

(joint with Theodore Eisenberg, Cornell University)

Conference on Empirical Legal Studies, Berkeley

7–8 November 2014

The Dark Side of Price Cap Regulation – A Lab Experiment

(joint with Klaus Heine, Erasmus University Rotterdam)

Joint Workshop of the Erasmus Law School and the Erasmus Economics Department on Experiments, Rotterdam

11 December 2014

2015

The Behaviorally Informed Design of Institutions in the Face of Uncertainty

Vodafone Conference “Choice Architectures in Democracies”, Berlin

14 January 2015

Unpacking Negligence Liability

(joint with Theodore Eisenberg)

Legal Studies Network (LSN) Symposium, Berlin

20 February 2015

Bargaining in the Absence of Property Rights

(joint with Oren Bar-Gill)

Experimental Methods in Legal Scholarship (EMLS) Workshop, UCLA

06–08 March 2015

The Jurisdiction of the Man Within

(joint with Michael Kurschilgen)

Conference “Social Norms and Institutions”, Ascona

10–15 May 2015

The Impact of Empirical Legal Research

Lecture before government officials, Sao Paolo

27 May 2015

The Intricacies of Experimental Data

Instituto de Matemática e Estatística (IME) Seminar, University of São Paulo

28 May 2015

The Impact of Empirical Legal Research

Associação Brasileira de Jurimetria (ABJ), Sao Paolo

29 May 2015

Does Class Action Have a Deterrent Effect?

33rd International Seminar on the New Institutional Economics – Beyond Privity, Edinburgh

10–13 June 2015

Comment on Alice Guerra, University of Bologna, Aversion to Injure vs. Aversion to be Injured:**An Online Experiment on Role Aversion under Liability Law**

LAMB Research Network Workshop in Behavioral and Experimental Law and Economics at Notre Dame, Dublin

17–18 July 2015

Bargaining in the Absence of Property Rights

(joint with Oren Bar-Gill)

10th Annual Conference on Empirical Legal Studies, St. Louis

30–31 October 2015

Imperfect Sanctions

Conference “Institutions for Moral Behavior”, University of Utrecht

11–13 November 2015

Lower Self-Control as a Source of Crime

Seminar Alòs-Ferrer, University of Cologne

25 November 2015

2016**Out of Balance**

(Comment on Wolfgang Streeck, MPIfG Cologne, Germany)

“Selling Out the Political?: Perspectives from Law, Political Economy & Critical Theory”, First Annual Goethe-Göttingen Critical Exchange, Max Planck Institute in Göttingen

15 January 2016

Agents Holding Authority Over the Principal – A Behavioral Thinkpiece

ERC International Expert Workshop Paris 2016

6–7 March 2016

The Price of a Moral Right: A Field Experiment
(joint with Stefan Bechtold)

University of Copenhagen
14 March 2016

Implicit Discrimination in Tort Adjudication

University of Rotterdam
23 March 2016

Hiding Behind the Opaqueness of the Situation

(joint with Joshua Fairfield)
NIAS Conference, Wassenaar
12–14 April 2016

Legal Experiments: Mission Impossible?

Forum am Mittag, Max Planck Society, Munich
12 May 2016

The Hidden Cost of Compensation

34th International Seminar on the New Institutional Economics – The Remedies Game, Sibiu
8–11 June 2016

Insuring Your Donation – An Experiment

(joint with Renate Buijze and Sigrid Hemels)
1st Conference on Empirical Legal Studies in Europe (CELSE)
University of Amsterdam
21–22 June 2016

Bargain in the Absence of Property Rights

(joint with Oren Bar-Gill)
Workshop “Experiments at the Crossroads of Law and Economics”, University of Rotterdam
8 July 2016

The Solidarity Motive

Workshop on Inclusive Solidarity and Integration of Marginalized People
The Pontifical Academy of Social Sciences (PASS), Rome, The Vatican
29 October 2016

The Price of a Moral Right

(joint with Stefan Bechtold)
University of Duisburg
2 November 2016

Insuring Your Donation

(joint with Renate Buijze and Sigrid Hemels) and

Defendant Should Have the Last Word

(joint with Andreas Glöckner)

The Price of a Moral Right

(joint with Stefan Bechtold)

Financing Reporting Difference Around the World: What Matters?

Comment on Dhananjay Nanda

Is there a second agenda in EU merger control?

Comment on Jonathon Zytnick

11th Annual Conference on Empirical Legal Studies (CELS)

Duke Law School, Durham, North Carolina

18 November 2016

You are in Charge. Experimentally Testing the Motivating Power of Holding a (Judicial) Office

(joint with Lilia Zhurakhovska)

CLASS Workshop, University of Southern California, School of Law, Los Angeles

21 November 2016

2017**A Random Shock is not Random Assignment**

Erasmus Statistics Day, University of Rotterdam

3 February 2017

How to Protect Entitlements: An Experiment

(joint with Oren Bar-Gill)

Behavioral and Experimental Economics Workshop at LUISS, Rome

22 March 2017

Rechtswissenschaft als empirische Wissenschaft

University of Vienna, Austria

3 May 2017

Empirical Methods for the Law

35th International Seminar on the New Institutional Economics – Empirical Methods for the Law, Syracuse

7–10 June 2017

Property Rule vs. Liability Rule: An Experiment

(joint with Oren Bar-Gill)

Workshop Hebrew University, Jerusalem

12 June 2017

Law as an Empirical Discipline

Faculty Lecture, Hebrew University, Jerusalem

13 June 2017

Property Rule vs. Liability Rule: An Experiment

(joint with Oren Bar-Gill)

Hamburg Lectures in Law and Economics, University of Hamburg

5 July 2017

The Proper Scope of Behavioral Law and Economics

Theories of Choice Conference, European University Institute, Florence

13–14 July 2017

Committing the English and the Continental Way: An Experiment

(joint with André Schmelzer)

Law and Economics Workshop, Université de Paris II

3 October 2017

Diffusion of Legal Innovations: The Case of Israeli Class Actions

(joint with Alon Klement and Keren Weinshall)

Behaviorally Efficient Remedies: An Experiment

(joint with Lars Freund)

12th Conference on Empirical Legal Studies, Cornell University

13–14 October 2017

Diploma Thesis, Dissertations and Habilitations

Dissertations

June 2014	Magdalena C. Kaczmarek, University of Jena (Psychology) Mindlessly Polite. Cognitive Busyness Reduces Compliance Resistance in Social Influence Settings
March 2015	Serhiy Kandul, University of Jena (Economics) Experimental Analysis of Successes and Failures in Prosocial and Ethical Behaviour
March 2015	Marco Kleine, University of Jena (Economics) Communication and Fairness. An Experimental Economics Approach
August 2015	Sergio Rubens Mittlaender Leme de Souza, University of Rotterdam (Law) Equity, Efficiency, and Ethics in Remedies for Breach of Contract
September 2015	Huojun Sun, University of Rotterdam (Economics) Law, Informal Institutions and Trust
November 2015	Yoan Hermstrüwer, University of Bonn (Law) Informationelle Selbstgefährdung. Zur rechtsfunktionalen, spiel-theoretischen und empirischen Rationalität der datenschutz-rechtlichen Einwilligung und des Rechts auf informationelle Selbstbestimmung [Informational Self-Endangerment. The Functional, Game-Theoretical and Empirical Rationality of Consent and the Right to Privacy]
December 2015	Gulnaz Anjum, University of Jena (Psychology) Cross-National Assignment of Honor: Assignment of Honor in Germany, Pakistan, South Korea, and the USA

January 2016	Hanjo Hamann, University of Jena (Economics) Behavioral Second-Order Strategies – Exploiting Market Myopia and Agent Delegation in Economic Decision-Making
March 2016	Pascal Langenbach, University of Bonn (Law) Der Anhörungseffekt. Verfahrensfairness und Rechtsbefolgung im allgemeinen Verwaltungsverfahren [“The Effect of a Hearing – Procedural Fairness and Compliance with the Law in General Administrative Procedures”]
July 2016	Monika Leszczyńska, née Ziółkowska, University of Bonn (Law) Behavioral Effects of Corporate Governance Reforms and Their Legal Implications
Oktober 2016	Maximilian Kerk, University of Rotterdam (Economics) Cooperation and Conflict: A Law and Economics Analysis of Meta-Organizations
December 2016	Laura Lyhs, University of Jena (Economics) Defensive Behavior in Principal-Agent Relationships
January 2017	Isabel Marcin, University of Jena (Economics) Strategic Communication, Voting and Political Institutions: Essays in Behavioral Political Economy
January 2017	Stephan Michel, University of Rotterdam (Economics) The Process of Constitution-making: A Law and Economics analysis
April 2017	Pascal Langenbach, Friedrich-Schiller-Universität Jena (Economics) Essays in Experimental Law and Economics: Participation and Decision-Making Procedures
October 2017	Henning Prömpers, Friedrich-Schiller-Universität Jena (Economics) Heterogeneous Risks at Auditing of Trade Accounts Receivable and their Default in Payment within Personal Insolvency

Habilitations

June 2014	Niels Petersen, University of Bonn (Law) Verhältnismäßigkeit als Rationalitätskontrolle [Proportionality and the Review of Legislative Rationality]
September 2014	Emanuel Towfigh, University of Münster (Law) Das Parteien-Paradox. Ein Beitrag zur Bestimmung des Verhältnisses von Demokratie und Parteien [The Party Paradox. Understanding the Relationship between Democracy and Political Parties]
July 2016	Jörn Lüdemann, University of Bonn (Law) Die Ordnung des Verwaltungsrechts – Zur Funktionalität des Systemdenkens unter dem Grundgesetz [The Order of Administrative Law]
January 2017	Armin Steinbach, University of Bonn (Law) Rationale Gesetzgebung [Rational Legislation]

Teaching

summer term 2014	Experimental Design International Max Planck Research School Jena
summer term 2015	Experiments International Max Planck Research School Jena
summer term 2016	Experimental Law and Economics International Max Planck Research School Jena
summer term 2017	Empirical Methods for the Law Hamburg Institute for Law and Economics
summer term 2017	Empirical Methods for the Law International Max Planck Research School Jena

Professional Activities

Chair of the Humanities Section of the Max Planck Society (2013-2016)

Member of the Board of The Society for Empirical Legal Studies, Cornell University, USA, since 2015

Co-editor, Review of Law and Economics (responsible for empirical publications, since 2015)

Chair of the Advisory Board of the Amsterdam Center of Law and Economics, since 2012

Member of the Academic Advisory Board of the German Federal Ministry of Economics and Energy, Berlin, since 1997

Member of the Scientific Council of the Centre for European Economic Research (ZEW), Mannheim, since 2003

Law and Economics of International Telecommunications (editor of book series, since 1996)

Ad hoc reviewer

Journal of Empirical Legal Studies, Journal of Legal Studies (2), American Law and Economics Review (4), Review of Law and Economics, Justice Quarterly (3), European Journal of Law and Economics (2), Conference for Empirical Legal Studies, Conference for Empirical Legal Studies in Europe, Rechtswissenschaft

Econometrica, Review of Economic Studies, European Economic Review (2), Journal of Public Economics, Economics Letters, Experimental Economics (2), Research Policy (2), International Journal of Industrial Organization, International Journal of Production Economics, Economic Inquiry (3), Journal of Economic Psychology (2), Journal of Behavioral and Experimental Economics (2), Journal of Public Economic Theory

Journal of Behavioral Decision Making (4)

PLOS One, Global Environmental Change, Social Justice Research

Humboldt Foundation (2), Israeli Science Foundation (3), Netherlands Organization for Scientific Research (NOW), VW Stiftung, Zentrum für Europäische Wirtschaftsforschung, Research Foundation Flanders (FWO), Österreichische Akademie der Wissenschaften, Österreichischer Wissenschaftsfonds (FWF), Wissenschaftskolleg, Freiburg Institute for Advanced Studies, Österreichische Nationalbank, Minerva Foundation



Susann Fiedler

Summary Report

A few days before the last Advisory Council meeting in January 2014, I had the honor of starting to build the Gielen-Leyendecker Research Group. We set out with the clear intention of gaining a better understanding of the complex interplay of individual and situational factors which affect the cognitive processes, as well as the result of these processes in the context of economic decisions. The goal was twofold: (1) Describing the underlying processes of information processing and the experience of cognitive load and arousal in a wide set of decision situations, with the final goal of developing a more fine-grained model of economic decision-making. (2) Understanding the channels through which situational as well as personality factors influence decision-making.

In the past three years, I have focused my efforts on numerous projects in the two already mentioned domains. All projects are aimed at understanding the underlying cognitive and affective processes of economic decision-making, and most projects employ eye-tracking to gain access to the motives and preferences at play in a decision. I will describe a few of them exemplarily in the following.

Following the rules

One line of research (jointly conducted with Guy Hochmann, Shahar Ayal, and Andreas Glöckner) includes multiple experiments which are focused on dishonesty and the experience of arousal due to false reporting. This research topic is highly debated in psychology, and multiple theories about the processes involved have been put forward. In two eye-tracking studies, we tested the validity of the two main theoretical accounts (i.e., Self-Maintenance theory and Bounded Ethicality) in the context of unethical decisions. We show that attentional biases occur in the information search phase which suggests that people aim to avoid increased tension by preemptive biased information processing. The use of ignorance in order to reduce tension resulting from self-interested behavior appears to be an effective strategy in situations where individuals were faced with the decision to maximize their self-interest – both when this comes at the expense of an institution, as well as at the expense of an individual person. This pattern of results provides an interesting starting point for understanding the strategic function of ignorance and provides insights on the underlying mechanism of fair and unfair behavior.

Dynamics of Social Preferences

Another line of work (joint with Andreas Glöckner and Carsten De Dreu) is concerned with the mechanisms underlying decisions which involve other-regarding preferences. Even though individuals fully understand a situation and its payoff structure, their subjective evaluation of the involved payoffs and the corresponding weighting of information may vary drastically. The results show that individual social preferences are a strong driver of information search, even when incentives are created to work against them. We present evidence that cognitive processes are the result of an interplay between the situational incentives as well as the inter-individual differences in social preferences. Interestingly, our data suggest that inequality aversion and welfare concerns in particular only evolve after considering information which reflects altruistic or selfish behavior. This could indicate that social preferences may possibly be divisible into primary and secondary motives. Following up on these results and contributing to the discussion on “intuitive altruism”, Robert Lillig and I tested the mechanisms underlying prosocial behavior in a set of studies targeted at inducing intuitive decision-making through time pressure or cognitive load. The results indicate that, under cognitive constraints, the speed of information search as well as selective information processing increase. Specifically, we observe a rapid increase in self-related attention allocation, especially for individualistic

participants, while prosocially oriented participants show a more balanced information search even under cognitive pressure. The results present additional evidence that social preferences are a stable influence on the information search process even under cognitive constraints. Hence, time pressure and cognitive load both amplify the differences in the underlying social preferences, but do not promote altruism in general.

Building on these results, I started a project with Adrian Hillenbrand. We test a model of reference point-dependent altruism, and we also use process data to distinguish between decisions in the gain or loss domain of social preferences.

Risky decisions

I am also still working in the domain of risky choices, and collaborated with Andreas Glöckner, Benjamin Hilbig, and Felix Henninger in two projects investigating the mechanisms which drive choice behavior in risky decision problems. Using a parametric approach based on cumulative prospect theory (CPT), we conducted multiple experiments and re-analyses of a modeling competition, as well as previously published studies, to investigate the differences between experience-based and description-based decisions. The results show that the previously suggested differences in choice patterns (the so-called description-experience gap) in these two decision domains are systematically reversed, once sampling biases are controlled for: we find a reduced sensitivity to probabilities and an increased overweighting of small probabilities in decisions from experience, as compared with decisions from descriptions. This finding supports the hypothesis that regression-to-the-mean-effects in probability estimation is a crucial source of differences between both presentation formats. Further analyses identified task-specific information asymmetry prevalent in gambles that involve certainty as a third source of differences.

Another project considers the approach-avoidance distinction in the risky choice domain, with a focus on how it changes the mental representation of otherwise identical payoffs. The results provide first evidence that the underlying process of evidence accumulation varies systematically (i.e., extended information search, less focus on the probabilities when in the loss as opposed to the gain domain).

Open Science

Since 2011, I have been very active in the Open Science Network, and in September 2014 I was elected as one of the first five Open Science Ambassadors. The network's efforts resulted in the largest scientific replication project so far, and its results were published in *Science*. This first step towards improving reproducibility has led to my co-authoring of two book chapters, which provide recommendations for researchers on how to increase the reproducibility of their own work. In addition, I have also contributed to a Registered Replication Report on the relationship of altruism and intuition. Furthermore, I developed seminars for young scientists which convey the new scientific research standards and give them hands-on advice. For example, I jointly organized summer schools for the European Association of Decision-Making Research in Amsterdam, as well as for the German Association of Psychologists in Leipzig in 2016. In order to increase the standards in my own field of research, I am currently working on a manuscript together with Michael Schulte-Mecklenbeck and Frank Renkewitz. I coded more than 200 articles utilizing eye-tracking, according to their reporting and operationalization, and we are currently developing a best-practice guideline as hands-on advice for researchers who use eye-tracking in their experiments.

Research Agenda

My research over the next two years will build on my earlier work by following up on open questions, thus further extending the scope of my research. One direction that Fedor Levin and I have already started is the work with older adults. Testing the generalizability of some of our results in the context of decision-making in the age group of 65-90 will be valuable to identify stable and variable processes of decision-making.

The current demographic changes make this specific age group particularly interesting. Older adults in some sectors have the highest spending power and are strong contributors in the donation sector.

With Marie Hellmann, we investigate individual (e.g., social preferences, age, sex, nationality) and situational (e.g., social and cultural distance) factors that drive altruistic decision-making in the context of ingroup and outgroup interactions. In a cross-national study, we find national differences in the extent of ingroup favoritism in altruistic behavior. While the US sample shows no differences in sharing norms between ingroup and outgroup, all Latin American samples strongly differentiate between ingroup and outgroup interactions.

I also plan to extend my work in the domain of advice-taking. The focus will be on the receiving side of prosocial actions. In a recent collaboration with Jacob Rittich and Thomas Schulze, we are designing an experiment in which helpful advice will be presented at no cost to the participants. We will address the question of inter-individual differences that drive the extent to which participants utilize the helpful advice, and how this process reduces uncertainty.

Combining my expertise from the risky choice and social preference area, I aim to focus on the influence of social norms and perceived fairness of an institution on tax compliance. Extant research has neglected information processing and concentrated exclusively on decision outcomes. The planned project (with Christoph Kogler and Anthony Evans) is the first to address the process of choice construction, allowing for new insights into the decision-making problem faced by many citizens. Understanding the channels through which the threat of audits and fines are working is a crucial step towards improving existing theories on tax compliance and designing incentive and control schemes that are optimally tailored to the individual decision-making process.

Publications (since 2014)

Articles in Peer-reviewed Journals

Glöckner, A., Fiedler, S. & Renkewitz, F. (forthcoming). Belastbare und effiziente Wissenschaft: Strategische Ausrichtung von Forschungsprozessen als Weg aus der Replikationskrise. *Psychologische Rundschau*

Bouwmeester, S., Verkoeijen, P. P. J. L., Aczel, B., Barbosa, F., Bègue, L., Brañas-Garza, P., ... Wollbrant, C. E. (2017). Registered Replication Report: Rand, Greene, and Nowak (2012). *Perspectives on Psychological Science*, 12(3), 527–542

Kidwell, M. C., Lazarevic, L. B., Baranski, E., Hardwicke, T. E., Piechowski, S., Falkenberg, L.-S., ... Nosek, B. A. (2016). Badges to Acknowledge Open Practices: A Simple, Low-Cost, Effective Method for Increasing Transparency. *PLoS Biology*, 14(5)

Glöckner, A., Hilbig, B., Henninger, F. & Fiedler, S. (2016). The reversed description-experience gap: Disentangling sources of presentation format effects in risky choice. *Journal of Experimental Psychology: General*, 145(4), 486–508

Hochman, G., Glöckner, A., Fiedler, S. & Shahar, A. (2016). "I can see it in your eyes": Biased Processing and Increased Arousal in Dishonest Responses. *Journal of Behavioral Decision Making*, 29(2/3), 322–335. New York: Wiley

Fiedler, S. & Glöckner, A. (2015). Attention and Moral Behavior. *Current Opinion in Psychology*, 6, 139–144

Open Science Collaboration (2015). Estimating the Reproducibility of Psychological Science. *Science*, 349 (6251)

Book Chapters

Fiedler, S., Weber, B. & Ettinger, U. (forthcoming). Neuroeconomics. In U. Ettinger & C. Klein (Eds.), *Handbook of Eyetracking*. New York: Wiley

Open Science Collaboration (2016). Maximizing the reproducibility of your research. In S. O. Lilienfeld & I. D. Waldman (Eds.), *Psychological Science Under Scrutiny: Recent Challenges and Proposed Solutions*. New York: Wiley

Fiedler, S. (2015). Die kognitiven Prozesse in sozialen Dilemmaentscheidungen. In *Jahrbuch der Max-Planck-Gesellschaft*, München: Max-Planck-Gesellschaft

Awards

Otto Hahn Medal for outstanding scientific achievement (7,500 €)

Max Planck Society, Berlin
June 2015

Lectures and Seminar Presentations

2014

Eye-tracking & Behavioral Economics: An Introduction

Berlin Social Science Center, Berlin
January 2014

The Reversed Description-Experience Gap

(Project Presentation with Andreas Glöckner, Benjamin E. Hilbig, and Felix Henninger)
56th Meeting of Experimental Psychologists (TEAP), Gießen
March 2014

Looking at Outcome Distributions Differently: How Social Preferences Guide the Transformation of Objective Payoffs

(Project presentation with Andreas Glöckner and Carsten De Dreu)
56th Meeting of Experimental Psychologists (TEAP), Gießen
March 2014

Uncovering the influences of norms

Lecture Max Planck Institute for Research on Collective Goods, Bonn
April 2014

Looking at Outcome Distributions Differently: How Social Preferences Guide the Transformation of Objective Payoffs

(Project presentation with Andreas Glöckner and Carsten De Dreu)
EGPROC Meeting, Salzburg
May 2014

Interpreting the Subjective Value of Outcomes by Following a Person's Gaze

(Project presentation with Andreas Glöckner and Carsten De Dreu)

Meeting of the European Association of Social Psychology, Amsterdam

July 2014

The Reproducibility Project: Psychology

(Project presentation with Frank Renkewitz, Marco Perugini, Brian Nosek, and Heather Fuchs)

17th Meeting of the European Meeting for Cognitive Psychologists, Lausanne

July 2014

How Social Preferences Guide the Transformation of Objective Payoffs: An Eye-tracking Analysis

(Project presentation with Andreas Glöckner and Carsten De Dreu)

Society for Judgment and Decision Making 2014, Long Beach

November 2014

Rebiasing Risky Choice: Attention Effects in the Open Sampling Paradigm

(Poster Presentation with Felix Henninger, Benjamin Hilbig, and Andreas Glöckner)

Society for Judgment and Decision Making 2014, Long Beach, USA

November 2014

Understanding the Construction of Social Preference Decisions Using Eye-Tracking (Focus Session)

Symposium "Do I like what I prefer?", Konstanz

December 2014

2015**Getting the Best out of Eye-tracking Research: An Introduction to Transparency Standards**

(Symposium with Frank Renkewitz, Jacob Orquin & Michael Schulte-Mecklenbeck)

57th Meeting of Experimental Psychologists (TEAP), Hildesheim

March 2015

The Reproducibility Project: Psychology

(Project Presentation with Frank Renkewitz, Georg Jahn, Andreas Glöckner & Hedderik van Rijn), 57th

Meeting of Experimental Psychologists (TEAP), Hildesheim

March 2015

Reducing and Reinstating Bias: The Influence of Attention on Preferences between Risky Prospects

(Project Presentation with Felix Henninger, Benjamin E. Hilbig & Andreas Glöckner)

57th Meeting of Experimental Psychologists (TEAP), Hildesheim

March 2015

New Look at Intergroup Decisions: Measuring Intergroup Social Value Orientation and Eye-Tracking Information Search

(Project Presentation with Rima-Maria Rahal & Carsten De Dreu)

57th Meeting of Experimental Psychologists (TEAP), Hildesheim

March 2015

Focusing Attention on Cooperation: An Eye-tracking Analysis of Social Preferences

(Project presentation with Minou Ghaffari)

57th Meeting of Experimental Psychologists (TEAP), Hildesheim

March 2015

Hard News about Empirical Science

Max Planck Lead Meeting, Berlin

April 2015

Temporal Dynamics of Breaking the Rules: Arousal and Attention Analysis

(Project Presentation with Andreas Glöckner, Shahar Ayal & Guy Hochmann)

EGPROC Meeting, Berlin

April 2015

Cognitive Processes Underlying Pro-sociality (Poster Presentation)

Annual Convention of Max Planck Society, Berlin

June 2015

Estimating the Reproducibility of Psychological Science

Dagstuhl Seminar 15302 "Perspectives Workshop: Digital Scholarship and Open Science in Psychology and the Behavioral Sciences"

July 2015

Improving Openness and Reproducibility of Scientific Research

JDM Workshop for Junior Scientists, University of Göttingen

July 2015

SPUDM Early Career Event: Career Paths in and out of Academia

(in collaboration with Michael Schulte-Mecklenbeck, Christopher Olivola, Shaul Shalvi, Andreas Glöckner, Tim Pleskac, and Ilana Ritov), SPUDM, Budapest

August 2015

Temporal Dynamics of Breaking the Rules: Arousal and Attention Analysis

(Project presentation with Andreas Glöckner, Shahar Ayal & Guy Hochmann)

SPUDM, Budapest

August 2015

How Social Preferences Guide the Transformation of Objective Payoffs: An Eye-tracking Analysis

Max Planck Lead Meeting, University of Stirling

September 2015

Improving Openness and Reproducibility of Scientific Research – A Hard Task for Soft Science?

Semester start colloquium, University of Osnabrück

October 2015

The Power of the Veil of Ignorance: A Study on the Efficiency of Masking Gender Information

Max Planck Institute for Research on Collective Goods, Bonn

November 2015

Fooling Whom Out of his Money? Investigating Arousal Dynamics in the Context of Betraying Institutions or Strangers

Workshop: Moral behavior in social interaction, Utrecht
November 2015

Transparency and Reproducibility in Scientific Work: A Challenge for Behavioral Sciences?

Introduction into the subject of Psychology throughout Germany, Open University Hagen
December 2015

2016

Panel discussion: Replicability Crisis in Experimental Psychology

(together with Klaus Fiedler, Thorsten Meiser, Dirk Wentura, Edgar Erdfelder, Eric-Jan Wagenmakers, and Andrea Kiesel)
58th Meeting of Experimental Psychologists (TEAP), Heidelberg
March 2016

Blind Spots & Arousal Patterns in Unethical Behavior

(Project presentation with Andreas Glöckner)
58th Meeting of Experimental Psychologists (TEAP), Heidelberg
March 2016

Ignorance as a Tool of Fairness and Self-interest?

(Project presentation)
GSDS Symposium: Exploring Ignorance, Konstanz
April 2016

Allocation Decisions under Cognitive Constraints: A Process Investigation on the Intuitiveness of Altruism

(Project presentation with Robert Lillig)
7th Thurgau Experimental Economics Meeting, Kreuzlingen
April 2016

Social Preferences Under Cognitive Constraints: 2 Eye-tracking Experiments on the Intuitiveness of Altruism

(Project presentation with Robert Lillig)
IMEBESS, Rome
April 2016

Understanding Personality through Gaze Behavior

Colloquium of the Research Area Perception, Gießen
May 2016

Ignorance as a Tool of Fairness and Self-interest?

Colloquium TUM, Munich
June 2016

The Value of Replication

European Group of Public Administration Conference, Utrecht
August 2016

Allocation Decisions under Cognitive Constraints: A Process Investigation on the Intuitiveness of Altruism

(Project presentation with Robert Lillig)
Annual Conference of the German Society of Psychology, Leipzig
September 2016

Maximizing Reproducibility: Everyday Possibilities of Increasing Your Scientific Contribution

(Project presentation with Robert Lillig)
Annual Conference of the German Society of Psychology, Leipzig
September 2016

Ignorance as a Tool of Fairness and Self-interest?

Colloquium Universität Bern, Bern
September 2016

2017

Choice Construction in Social Dilemma Situations

Gigerenzer Symposium, Bielefeld
March 2017

Transparency and Reproducibility of Scientific Work

Network Evidence-based Medicine, Hamburg
March 2017

Personality, Situation, and Cognitive Processes in Social Decision Making

(Project presentation with Andreas Glöckner)
Cognition, Person, and Situation: Unifying Explanations of Economic Behavior, Landau
March 2017

Maximizing Reproducibility: Everyday Possibilities of Increasing Your Scientific Contribution

Colloquium Humboldt University, Berlin
May 2017

Understanding the Interplay of Social Preferences and Incentives

Colloquium University of Würzburg, Würzburg
May 2017

Ignorance as a Tool of Self-interest?

(Project presentation with Andreas Glöckner)
20th International Conference for Social Dilemmas, Taormina
June 2017

Teaching

August 2014	Judgment und Decision Making Summer School Organized by the European Association of Judgment and Decision Making (in cooperation with Andreas Glöckner and Shaul Shalvi) Bonn
winter term 2015	The Relationship between Behavioral Economics and Psychology Erfurt
August 2016	Judgment und Decision Making Summer School Organized by the European Association of Judgment and Decision Making (in cooperation with Andreas Glöckner, Shaul Shalvi, and Michael Schulte-Mecklenbeck) Amsterdam
summer term 2016	Special Aspects of Judgment and Decision Making in Economic Contexts (with Minou Ghaffari) University of Erfurt
September 2016	Open Science Organized by the German Society for Psychologists University of Leipzig

Supervision Master's Thesis

Rebekka Herrberg (University of Göttingen)

Robert Lillig (University of Leipzig)

Marie Hellmann (University of Cologne)

Rea Antoniou (University of Tübingen)

Manuel Kesselring (University of Bern)

Jonas Goetschi (University of Bern)



Jens Frankenreiter

Summary Report

Most of my current research focuses on investigating the behavior of actors involved in legal proceedings using innovative data analysis tools. The behavior of such actors is an under-researched topic, particularly on this side of the Atlantic. For example, we know little about the importance of extra-legal factors in the decisions of judges in Europe. Do judges with diverging political preferences decide politically salient cases differently, or is the outcome of a dispute solely determined by legal factors which do not differ depending on the person called to decide the case? This scarcity of research can be partly explained by often insurmountable

challenges to creating a convincing research design which allowed for the isolation of extra-legal factors in the pre-digital age. The decision-making of judges is hard to replicate in a laboratory setting; legal and ethical reasons stand in the way of intervening in the legal process in order to create a field experiment, and, until very recently, the creation of large datasets containing information on judicial proceedings needed for observational studies was costly to a degree that often proved prohibitive. In recent years, however, a number of developments have drastically lowered the cost of observational studies. There are now large databases of legal cases available on the internet, and the emergence of ever-better tools for natural language processing is doing away with the need to hand-code most of the data. Besides, advances in econometrics have helped us to understand and partly overcome inherent problems with the internal validity of observational studies. In my research, making use of these new opportunities, I investigate the behavior of judges and other actors in legal proceedings in Europe.

In my work at the institute, I am building on prior work done during my time as a Ph.D. student at the Center for Law & Economics at ETH Zurich. In three different studies, I used quantitative methods to investigate whether the political preferences of EU Member State governments are reflected in the behavior of the members of the European Court of Justice (the highest branch of the Court of Justice of the EU) appointed by these governments. While in the U.S. the study of the influence of the (political) background of judges on their decision-making has already received considerable attention, these studies are among the first to tackle this question on the European level.

“Are Advocates General Political?” investigates differences in the voting behavior of Advocates General at the Court – differences that correspond to the political preferences of Member State governments vis-à-vis European integration. Are Advocates General who were appointed by integration-friendly governments more likely to deviate from the final judgment in a pro-integration direction? In the analysis, I use a structural model which allows for inferences from comparing the opinions of the Advocates General with judgments in the same case. I find that a high value on the pro-integration scale significantly increases the probability of a disagreement in which the Advocate General takes the integration-friendly position, while it decreases the probability of a disagreement in which the positions are reverted. The opposite is true for high values for the measure for anti-integration positions.

“The Politics of Citations at the ECJ” focuses on references to prior case law in opinions authored by different judges. It investigates whether there is a relationship between the political preferences of Member States and the probability of such a reference: do judges favor judgments authored by those other judges who were appointed by Member State governments with preferences regarding European integration similar to those of their own national government? Again, I find that the political preferences of Member State governments play a significant role in the behavior of the members of the European Court of Justice.

“Informal Judicial Hierarchies” develops the theory that the flexible rules governing case assignment at the European Court of Justice establish what can be called an informal judicial hierarchy, i.e., that they

empower the majority of judges to curb the influence of judges with outlier preferences. The study also attempts to answer the question whether there is evidence of such strategic behavior. I use Monte Carlo simulations to show, first, that the system of chamber assignment has in the past effectively reduced the influence of outlier judges as compared to a hypothetical system of random case assignment. Second, I provide some evidence of strategic behavior on the part of the majority of judges in the assignment of judges to chambers and cases.

My work at the institute continues this line of research. In the projects described above, I constructed a number of new datasets containing information on the decisions of the Court of Justice of the European Union. I gathered most of these data using self-programmed web-scraping tools, and I am exploring the use of these tools to extract additional information. Also, I am considering exploring new tools developed in natural language processing, in particular machine learning, and their use in extracting richer information on the specific characteristics of a case from publicly available sources. Using these tools, I plan to consolidate these datasets and expand my research to other questions, such as the role of the professional background of judges in their decision-making and the impact of workload on the behavior of judges.

The biggest challenge in these studies is the development of a research design that ensures the internal validity of the study, or in other words, the development of a sound identification strategy. As is the case with all observational studies, my research uses data generated through processes which are not controlled by the researcher. This setup calls for special attention to the potential impact of confounding variables. In the context of studying how judges' backgrounds play out in their decision behavior, the institutional arrangements governing case assignment play a pivotal role. In research on judges at the U.S. Federal Courts, researchers have exploited the fact that cases are either randomly assigned (in principle, this is the case at Federal District Courts and Federal Circuit Courts) or heard by all judges sitting on the Court (as is the case at the U.S. Supreme Court). At many courts in Europe, however, cases are assigned to chambers of judges, either based on the specific characteristics of a case (the German Federal Supreme Court features this type of case assignment regime), or by a discretionary decision by one or more court officials (as is the case at the European Court of Justice). This feature, in some cases combined with a non-disclosure of individual votes, makes it difficult to investigate the behavior of judges at these courts using conventional models such as the roll call model (a variation of the item response model which is widely used in educational assessment), which dominates the analysis of the voting behavior of U.S. Supreme Court Justices.

Against this background, my work focuses on the development of alternative identification strategies which take into account the specific institutional setting in which the judicial decision-making takes place. In my first two projects cited above, I exploit the fact that many cases before the Court are only finally decided by the judges after the Advocate General, another court official, issues a publicly available opinion on the case. This specific institutional arrangement allows the drawing of inferences from comparisons between the opinion and the final judgment.

In my work, I also continue to explore the use of more advanced statistical models to overcome these obstacles. One example for this kind of work is **"Does the Law Matter and How Would We Know?"**, which I co-authored with Daniel L. Chen and Susan Yeh. This study develops a new method for measuring the influence of legal considerations on the decision-making of judges at the U.S. Federal District Courts. It exploits the random assignment of circuit court judges to develop an instrument for the outcome of a circuit court decision and rule out biases originating from omitted variables and reverse causality. In this context, we use LASSO (least absolute shrinkage and selection operator) to select instruments from the large number of exogenous variables available to us due to the richness of information on judge backgrounds.

The primary goal of this line of research is to get a more realistic understanding of how the legal system works and, in particular, of how the design of courts and the procedure through which judges are appoint-

ed and incentivized influences the outcome of legal proceedings. These insights will then allow for the development of policy recommendations for the design of legal institutions. Besides, this research helps our understanding of how the law evolves as a result of complex interactions between individuals.

Scholarships and Honors

2017	ETH Medal for outstanding doctoral theses
2015	Harvard Law School Summer Research Fellowship
2014 – 2015	ERP-Scholarship by the German Academic Scholarship Foundation (Studienstiftung des deutschen Volkes) and the Federal Ministry for Economic Affairs and Technology
2014 – 2015	LL.M. Scholarship by the German National Academic Exchange Service (DAAD)
2014 – 2015	Harvard Law School Landon H. Gammon Fellowship for top LL.M. Candidates

Publications (since 2014)

Articles in Peer-reviewed Journals

Frankenreiter, J. (forthcoming). Are Advocates General Political? Policy preferences of EU Member State governments and the voting behavior of members of the European Court of Justice. *Review of Law & Economics*

Frankenreiter, J. (2017). The Politics of Citations at the ECJ: Policy Preferences of EU Member State Governments and the Citation Behavior of Members of the European Court of Justice. *Journal of Empirical Legal Studies*, 14(4), 813–857

Articles (not peer-reviewed)

Frankenreiter, J. (2017). Network Analysis and the Use of Precedent in the Case Law of the CJEU – A Reply to Derlén and Lindholm. *German Law Journal*, 18(3), 687–694

Working Papers

Frankenreiter, J., Informal Judicial Hierarchies. Case assignment and chamber composition at the European Court of Justice.

Chen, D., Frankenreiter, J., Yeh, S., Does the Law Matter and How Would We Know? Distinguishing Duty from Policy Preferences in Public Agents (under review with Economic Inquiry: revise and resubmit).

Work in Progress

Bechtold, S., Frankenreiter, J., Klerman, D., Forum Selling in Germany?

Lectures and Seminar Presentations

2014

Forum Selling: Do Judges Encourage Forum Shopping in Patent Litigation in Europe? And Why?

Transatlantic Workshop on Intellectual Property Research, ETH Zurich

January 2014

Black Box ECJ? Oder: (Wie) Lassen sich integrationsfreundliche von integrationskritischen Generalanwälten unterscheiden?

Mestmäcker Symposium, MPI Bonn

March 2014

Forum Selling: Do Judges Encourage Forum Shopping in Patent Litigation in Europe? And Why?

Munich Conference of Innovation and Competition (MCIC), Schloss Ringberg

June 2014

Forum Selling: Do Judges Encourage Forum Shopping in Patent Litigation in Europe? And Why?

Chicago-Kent Roundtable on Empirical Methods in Intellectual Property, Chicago-Kent

September 2014

Does the Law Matter? Evidence from Veil Piercing Cases before the Federal District Courts

Midwestern Association for Law and Economics (MLEA) 14th Annual Meeting, Indianapolis

October 2014

Does the Law Matter? Evidence from Veil Piercing Cases before the Federal District Courts (poster presentation)

9th Annual Conference on Empirical Legal Studies (CELS), UC Berkeley

November 2014

Does the Law Matter? Evidence from Veil Piercing Cases before the Federal District Courts

Harvard Empirical Legal Studies group (HELS), Harvard

December 2014

2015

Are Advocates General Political? (poster presentation)

Midwest Political Science Association (MPSA) 73rd Annual Conference, Chicago

April 2015

Measuring the Effects of Legal Precedent in U.S. Federal Courts

American Law and Economics Association (ALEA) 25th Annual Meeting, Columbia Law School

May 2015

Forum Selling in Germany: Supply-Side Effects in Patent Forum Shopping

European Policy for Intellectual Property (EPIP) 10th Annual Conference, Glasgow

September 2015

Judges, Workload, and European Competition Law. Determinants of Appeals against Decisions by the General Court of the European Union

European Association of Law and Economics (EALE), Wien
September 2015

2016

Judges, Workload, and European Competition Law

Workshop on the Law & Economics of Antitrust, ETH Zurich
April 2016

Are Advocates General Political? Policy Preferences of Member State Governments and the Voting Behavior of Members of the European Court of Justice

First Conference on Empirical Legal Studies in Europe (CELSE), Amsterdam
April 2016

The Politics of Citations at the ECJ. Policy Preferences of EU Member State Governments and the Citation Behavior of Members of the European Court of Justice

11th Annual Conference on Empirical Legal Studies (CELS), Duke University
November 2016

2017

Citation Networks and the Political Background of Judges

Center for Law & Economics Brownbag Seminar, ETH Zurich
March 2017

Informal Judicial Hierarchies

European Association of Law and Economics (EALE), London
September 2017

Informal Judicial Hierarchies

EUTHORITY Seminar Series, KU Leuven
October 2017

Teaching

summer term 2017 Analytische Methoden für Juristen
Humboldt University, Berlin



Lars Freund

Summary Report

My main research interest lies in information economics, or, more precisely, in the interaction between humans where private information as well as some kind of risk is present. In addition, I take a great interest in the robustness of proposed solutions towards heterogeneity in preferences (expressed in different utility functions). In order to conduct my studies, I rely mainly on two complementary tools: (behavioral) game theory and experimental methods. While the first one helps to model and investigate strategic interaction precisely, it also creates prediction of behavior. The latter one allows me to create the same environment in a laboratory

setting and test the derived predictions.

In a paper with Franziska Tausch, we investigate whether the process that leads to the formation of an insurance contract affects ex-post moral hazard (insurance fraud). In a laboratory experiment, we compare false loss reporting behavior under compulsory insurance to a setting in which individuals can freely choose their insurance coverage. We find that cheating is significantly lower under compulsory insurance and that this effect is driven by individuals' self-selection into the insurance contract based on moral standards. Hence insurance markets with voluntary participation can fail to provide sufficient insurance to honest people because the premium needs to adjust for potential fraud. In that case, different risk types (the probability of the individual claiming a loss) are not exogenously given, but evolve from a different willingness to commit insurance fraud. Our results reveal that compulsory insurance is not only an effective measure to avoid adverse selection of different risk types, but at the same time also results in more honest average behavior among the insured, as compared to the case of voluntary insurance.

In two studies I conducted in the area of Law and Economics, we investigate behavioral effects of different remedies in contractual agreements.

In a published paper in the *Journal of Institutional and Theoretical Economics*, joint with Sven Hoeppner and Ben Depoorter, we highlight an important downside of liquidated damages, i.e., damage stipulations by parties. Based on psychological game theory, we predict reciprocal motives in liquidated damages which should be absent in regular damages (stipulated by a not involved party, e.g., the government). In a controlled laboratory experiment, we find support that liquidated damages in comparison with regular damages indeed triggers negative reciprocity, indicated by a reduced performance in effort. Besides that, we find no support that the risk of regular damages concerning the size of the compensation affects performance.

In a study conducted with Christoph Engel, we compare behavioral efficiency of specific performance with monetary compensation (expectation damages and reliance damages). Based on findings obtained in a laboratory experiment, we suggest that specific performance is behaviorally more efficient than both monetary compensation schemes, indicated by (1) the amount of beneficial trade and (2) the elicited willingness to pay for the different kinds of compensations. In addition, we compared expectation damages with reliance damages and do not find that the size of compensation affects one of the two indicators. We conclude that contractual parties care deeply about the fulfillment of the contractual agreement.

Work in Progress

In another project, I investigate the robustness of the Crémer-McLean argument for implementing first-best in correlated environments towards social preferences. Using the utility function proposed by Charness and Rabin (2002), which allows for all kinds of outcome-based social preferences, one can show that selfish-

ness is not only a sufficient condition for the dominant strategy equilibrium in the Bayesian game induced by the mechanism proposed by Crémer and McLean (1985, 1988), but also a necessary one. Indeed, the same is true for an ex post equilibrium. A Bayes-Nash equilibrium cannot be supported for the full range of potential parameters in the utility function. Hence, we conclude that the Crémer-McLean mechanism is not socially robust. Literature on social robustness concentrates on the case of independent type distribution (Bartling and Netzer, 2015; Bierbrauer et. al., 2016), and we show that their results do not translate one to one to the non-independent distribution. In a first step, we state that ex-post participation constraint is a necessary condition for the insurance property proposed by Bierbrauer and Netzer (2016). In addition, first-best is not implementable anymore under the constraints of an ex-post equilibrium. When demanding incentive compatibility in the sense of Bayes-Nash, the possible implementation depends on the exact correlation between the two types: The stronger the positive correlation between the two types, the closer the expected surplus is in comparison with the first-best outcome. Currently we plan to test these predictions in a laboratory setting.

In a project with Amalia Álvarez Benjumea, Katharina Luckner, and Fabian Winter, we use the advantage of a laboratory setting to disentangle the effect of group identity and public information provision on norm-following behavior. We use a game-theoretical setting to derive hypotheses how group identity and uncertainty about the expected behavior of a group member affects cooperation (norm-following behavior). In order to test our hypotheses, we use an asymmetric linear public-goods game. We provide the participants with a normative recommendation privately or publicly. In addition, we manipulate the group identity of participants using an unpaid puzzle task. Participants are randomly assigned to one of the four treatments (2x2 design) resulting from the combination of the two mechanisms stated above. We analyze the level of contribution as a proxy for norm-consistent behavior, which we introduce to participants as a recommendation based on a survey of 192 other participants about fair behavior in that environment.

Research Agenda

In the future, I plan to apply the general finding in the robust mechanism literature to concrete information problems in the insurance literature. The current literature on robust mechanism design introduces concepts where the mechanism designer is allowed to have more uncertainty with respect to detailed knowledge (about type distribution or utility function) than in classical approaches. In a first step, I would like to know to which extent the results with no underlying risk can be directly transferred to an environment with one. As contracts (mechanisms) are used in the insurance literature in order to overcome information asymmetries, the results from the certain environment might improve behavioral aspects in the risky (or uncertain) environment. In addition the robust mechanism literature mainly focuses on hidden information. It might be worth investigating their implication on contracts preventing moral hazard, i.e., targeting hidden action problems.

Publications (since 2014)

Articles in Peer-reviewed Journals

Hoepfner, S., Freund, L. & Depoorter, B. (2017). The Moral-Hazard Effect of Liquidated Damages: An Experiment on Contract Remedies. *Journal of Institutional and Theoretical Economics JITE*, 173(1), 84–105

Preprints

Engel, C. & Freund, L. (2017). Behaviorally Efficient Remedies – An Experiment. Bonn: Max Planck Institute for Research on Collective Goods, Preprint 2017/17

Lectures and Seminar Presentations

2017

Compulsory versus Voluntary Insurance: How Contract Formation Affects Fraudulent Behavior

Conference on Public Economics and Behavioural Economics, Catania, Italy

September 2017

Compulsory versus Voluntary Insurance: How Contract Formation Affects Fraudulent Behavior

JDM Meeting, Bonn

June 2017

Compulsory versus Voluntary Insurance: How Contract Formation Affects Fraudulent Behavior

LUISS, Rome, Italy

March 2017



Minou Ghaffari

Summary Report

My research aim is to investigate the underlying cognitive processes and mechanisms on which decisions are based. To do this, I am using a game-theoretic decision environment where the participants' attention is measured using eye-tracking. In the following, I will summarize the research projects I have conducted in the past two years and present their respective findings. While studying the underlying processes of decisions, I was particularly interested in social dilemma decisions. Social dilemmas are referred to as situations when there is a conflict between individual and collective interests. For example, the global climate crisis represents

such a social dilemma. All people benefit from a stable climate, but individuals are often reluctant to reduce CO₂ emissions. Their benefit from maintaining the current behavior is larger than giving up resources for the greater good. Hence, future payoff (the extent of climate change) is determined by how many people decide to contribute resources. If everybody decided to maximize their current payoff, detrimental consequences for the environment and future societies could follow. The goal of my research is to study how decisions in social dilemmas come about and increase societies' awareness for such dilemmas in the long term.

Previous research has found that a very reliable predictor of human behavior in social dilemmas is their social preferences. Social preferences are displayed when a person not only cares about resources allocated to her (self-interest), but also about consequences for other people. The concept of Social Value Orientation (SVO) has been developed to measure how much people weigh their own outcomes in comparison to how much they weigh the outcomes of others. Past studies found that individuals with a more prosocial value orientation direct more attention to the outcomes of other people in non-strategic games. In a first pilot study (joint work with Susann Fiedler), we investigated attention patterns in a strategic context, namely a prisoner's dilemma. The symmetric game matrix that was used here displayed the four possible outcome combinations of cooperation and defection. Using eye-tracking, we predicted attention patterns during information search using SVO. Analyzing attention allocation in the strategic setting of a Prisoner's Dilemma, our results show that prosocial individuals are more likely to attend to the scenario where both players cooperate with each other. A possible interpretation of these findings is that individuals who decide to cooperate do this based on the assumption that the other will cooperate too.

In the next project, we decided to study the link between attention and choice behavior in more detail. According to research studying the processes underlying decisions, a two-channel mechanism connects attention and choices: top-down and bottom-up processes. Yet, little is known about the respective magnitude of each channel's contribution. Using eye-tracking, we recorded the participants' gaze behavior, and by interrupting the decision-making process based on the last information intake, we disentangled top-down and bottom-up processes. Participants were asked to answer a number of moral and other-regarding choices in a binary choice task. We find that the link between attention and choices is driven up to 40% through the bottom-up influence of attention on choices, while the remaining variance is explained by top-down preference formation. Specifically, last fixations were a stronger predictor of choices as part of the preference formation (top-down) than when experimentally manipulated (bottom-up). Thus, we show that varying only the timing of the decision based on people's last fixation has a causal influence on following choices. We consider potential differences between moral and other-regarding choices and discuss the gaze-contingent paradigm. I was able to present and receive feedback on this project at the European Group of Process Tracing Studies meeting (EGPROC) in June 2016. The EGPROC is an annual gathering of researchers interested in process tracing research in the area of Judgment and Decision Making, which we had the pleasure of hosting at our institute this year. We have written up the paper for

this project and submitted it to *Psychological Science*. We have received the invitation to revise and resubmit the paper to the journal.

Research Agenda

Our work on individual differences in decision processes has stimulated a new line of research that I am currently developing further in cooperation with Susann Fiedler and Bettina von Helversen (University of Zurich). In this line of research, we will investigate the link between social preferences and memory for interaction partners. Imagine you are working on a joint project with a new colleague. Shortly after, you are asked to give an estimation of whether your colleagues should be promoted. In order to make your decision, you recall information about your work together. Did he cooperate with you? Or did he use a chance to get ahead by making you look bad? The memory for your previous interaction with this colleague will have important consequences. Within the study we aim to find out whether some people are better at remembering these interactions than others. Due to the differences in attention patterns depending on social preferences that we found in previous studies, we assume that encoding of information will be affected. If some pieces of information are attended to for longer, these will also be encoded more extensively. Therefore, individuals who are more prosocial should be more likely to encode information about outcomes for others. Research on memory has reliably shown that, if information is encoded more extensively, it is more likely to be successfully recalled. Here, our goal is to investigate whether individuals who are more prosocial will have a better memory for their interaction partners' behavior than individuals who are selfish. This study will contribute to the literature explaining differences in cooperation behavior on a process level.

In cooperation with Rima-Maria Rahal, I am organizing the 10th JDM meeting at our institute in Bonn this year. The JDM meeting is an annual event organized and run by PhD students for other early-career researchers in the area of Judgment and Decision Making. The meeting will consist of participants' contributions, workshops, and a keynote lecture by Prof. Armin Falk (University of Bonn). During their presentations, participants will have the chance to present their research and receive feedback on their own work. The aim of the workshops is for participants to acquire applied skills on a topic that is relevant to their work.

Working Papers

Ghaffari, M. & Fiedler, S., The influence of SVO on information search in a strategic environment: An eye-tracking analysis

Ghaffari, M. & Fiedler, S., The Power of Attention: Using Eye Gaze to Predict Other-regarding and Moral Choices

Ghaffari, M., Fiedler, S. & von Helversen, B., The cost of imperfect memory in social interactions

Lectures and Seminar Presentations

2015

Focusing Attention on Cooperation: An Eye-tracking Analysis of Social Preferences

57th Meeting of Experimental Psychologists (TEAP), Hildesheim

March 2015

Using Eye Gaze to Bias Social Preferences: An Eye-tracking Analysis

JDM Workshop for early-career researchers, Göttingen

July 2015

2016

The Influence of SVO on Information Search in a Strategic Environment (Poster)

17th Society for Personality and Social Psychology Annual Convention (SPSP), San Diego

January 2016

The Power of Attention: Using Eye Gaze to Bias Social Preferences

58th Meeting of Experimental Psychologists (TEAP), Heidelberg

March 2016

The Power of Attention: Using Eye Gaze to Bias Social Preference Choices

Internal colloquium at the University of Zurich

May 2016

The Power of Attention: Using Eye Gaze to Bias Social Preference Choices

JDM Workshop for early-career researchers, Basel

June 2016

The Power of Attention: Using Eye Gaze to Bias Social Preference Choices

35th Annual Meeting of the European Group of Process Tracing Studies, Bonn

June 2016

2017

The Cost of Forgetting: Understanding the Link between Memory and Social Preferences

36th Annual Meeting of the European Group of Process Tracing Studies, Galway

June 2017

Teaching

summer term 2016

Spezielle Aspekte des Urteilens und Entscheidens in ökonomischen Kontexten
University of Erfurt

Professional Activities

Memberships

Member of the European Association of Decision Making

Reviewer for

Experimental Psychology



Alia Gizatulina

Research achievements

I left the institute in August 2014; however, several projects that I worked on afterwards were initiated during my time as postdoc at the MPI.

In the area of mechanism design, two large corresponding projects are:

A. The genericity of full surplus extraction

In a joint paper with Martin Hellwig (now published in *JET*), we show that the necessary and sufficient condition for full surplus extraction, developed in McAfee and Reny (1992), holds in a generic subset of models. As usual, the sense of a "generic subset" needs to be precisely defined. In the paper, we show the genericity of the McAfee-Reny condition in two possible settings: in the space of abstract-type space models, i.e., where agents' beliefs are represented by belief mappings (i.e., a mapping from agent types to the space of probability distribution over types of others); in the space of subsets of the universal type space, where agents' beliefs are represented by belief hierarchies (or, equivalently, by the Kolmogorov extension of belief hierarchies). Our result is topological, and we show its validity under a variety of relevant topologies used so far in the literature (e.g., the strategic topology of Dekel, Fudenberg, and Morris (*TE*, 2006)).

The technical part aside, our result implies that the fact that full surplus extraction mechanisms are rarely observed in reality cannot be due to the "non-genericity" of surplus extraction environments. Instead, it might be due to, e.g., the absence of knowledge by the designer of the agents' type space (this knowledge is necessary for the McAfee-Reny or Crémer-McLean result).

The title of the corresponding paper is: "The generic possibility of full surplus extraction in models with large type spaces".

B. Surplus extraction and the designer's uncertainty about the agents' type space

Motivated by the previous result, I characterize the limits, in a separate paper, of the full surplus extraction result of Crémer-McLean, in a setting where the designer does not exactly know the agents' type space. Instead, the designer believes that it belongs to a subset of possible type spaces. The usual argument in such setting is to use a two-stage procedure where the designer first runs the shoot-the-liar mechanism to learn the agents' type space, before then using the optimal mechanism given the discovered type space. The agents' type space is commonly known among agents, and they can be induced to reveal it truthfully by the standard arguments of implementation under complete information. The key drawback of such a mechanism is the multiplicity of rationalizable reports about the type space. This, in turn, results in the multiplicity of equilibria of the entire two-stage mechanism.

My paper constructs a new mechanism which overcomes such a multiplicity of equilibria. The new mechanism is rather simple. The designer should first construct, for each type space that he deems possible, the corresponding full surplus extraction mechanism (which resumes in finding essentially the optimal transfers). Then, the designer offers to agents a union of those transfer schemes, i.e., he runs a mechanism which is a union of individual mechanisms. I show that – provided a modified version of the convex hull property of Crémer-McLean holds for each agent and within each possible type space – the unique dominance-solvable action for each type of each agent is to report his type truthfully. The paper hence contains three non-trivial parts: an extension of the surplus extraction mechanism of Crémer-McLean, to allow for the convex hull property to appear at higher orders of beliefs (not the first order, as it is in their original paper). Second, an extension of their mechanism to obtain equilibrium uniqueness. Third, to demonstrate

that, even with the union of extended mechanisms, one obtains truthful reporting as the unique (dominance-solvable) equilibrium.

The title of the corresponding paper is: "Betting on Others' Bets: Robustness of Full Surplus Extraction".

Another area of my research which was initiated at the MPI is field experiments:

C. Division of surplus from trade on eBay

In a joint paper with Olga Gorelkina, we conducted a natural field experiment aimed to document how a buyer and a seller share surplus from trade in a large competitive market. If a buyer and a seller trade, there is necessarily some surplus generated from the trade. When valuations of trading parties and their outside options are commonly known, the price indicates how surplus is divided from trade.

In our experiment, we acted as the eBay sellers of Amazon gift cards of different nominal values. Randomly arriving buyers, users of eBay who were unaware that they were participating in an experiment, made us price offers through eBay's trading format "Buy it now or best offer". This format is a three-round bargaining game, where buyers and sellers exchange price offers. In our experiment, we focused on the amount of surplus behind the first offer made to us by the buyers (we never replied with any counter-offer, and statistical analysis shows that buyers did not expect us to reply with offers). The key problem was to decompose a single price offer into the amount of surplus that is behind this offer and the buyers' beliefs about other buyers' (competing) offers made to the seller.

As no decomposition of each individual offer is feasible, we provide instead an aggregate decomposition of price offers. For that, we have developed a new statistical method that decomposes the observed distribution of offers into two distributions: of shares of surplus and of estimates of buyers of the seller's outside option (e.g., trade with another buyer). Our main result is that, once all effects of competition are distilled out, the distribution of shares of surplus offered by the buyers to the seller on eBay is similar to the distributions of shares of surplus offered by proposers in a one-stage ultimatum game. Namely, about 40% of buyers offer half of the surplus from the trade to the seller. There are also about 30% of buyers who offer a share of zero, i.e., just the seller's outside option. Interestingly, the buyers from the former East Germany made offers that were much less competitive, compared to West German participants.

Research Agenda (related to the topics developed in MPI)

The first project that I am currently developing is a generalization of the idea used in the paper "Betting on Others' Bets". The aim is to characterize the set of social choice functions that could be fully implemented and where the designer's uncertainty about the agents' type space does not play a role. This work contributes to an extensive literature on robust mechanism design.

The second project is a rewrite of our paper with Martin Hellwig on genericity of the families of full surplus extraction (FSE) models. A family of FSE models is a collection of models where each model in the family satisfies the McAfee-Reny condition for full surplus extraction. A family of models essentially represents the support of a designer's beliefs about agent types, and hence also about their type spaces. Given our genericity result for separate type spaces (models,) published in *JET* in 2017, the goal is to extend it to the genericity statement about families of FSE models.

Publications (since 2014)

Articles in Peer-reviewed Journals

Gizatulina, A. & Hellwig, M. F. (2017). The Generic Possibility of Full Surplus Extraction in Models with Large Type Spaces. *Journal of Economic Theory*, 170, 385–416

Gizatulina, A. & Hellwig, M. F. (2014). Beliefs, Payoffs, Information: On the Robustness of the BDP Property in Models with Endogenous Beliefs. *Journal of Mathematical Economics*, 51, 136–153

Preprints

Gizatulina, A. & Hellwig, M. F. (2017). The Generic Possibility of Full Surplus Extraction in Models with Large Type Spaces. Bonn: Max Planck Institute for Research on Collective Goods, Preprint 2017/2

Gizatulina, A. & Gorelkina, O. (2016). Selling Money on Ebay: A Field Study of Surplus Division. Bonn: Max Planck Institute for Research on Collective Goods, Preprint 2016/20

Gizatulina, A. & Hellwig, M. F. (2015). The Genericity of the McAfee-Reny Condition for Full Surplus Extraction in Models with a Continuum of Types. Bonn: Max Planck Institute for Research on Collective Goods, Preprint 2015/8

Working papers that originated at the MPI

Gizatulina, A., Betting on Others' Bets: Robustness of Full Surplus Extraction

Gizatulina, A. & Gorelkina, O., Selling 'Money' on eBay: A Field Study of Surplus Division

Gizatulina, A. & Hellwig, M. F., On the Designer's Uncertainty and the Genericity of Full Surplus Extraction in Families of Models

Gizatulina, A. & Ménager, L., Contagion-Proof Trading Mechanisms

Gizatulina, A. & Hellmann, Z., Heterogeneous Priors and Trade

Gizatulina, A., Wondering How Others' Interpret It: Social Value of Public Information

Lectures and Seminar Presentations

Betting on Others' Bets: Robustness of Full Surplus Extraction

University of Cologne

January 2014

The generic possibility of full surplus extraction in models with large type spaces

University of St Gallen

February 2014

Betting on Others' Bets: Robustness of Full Surplus Extraction

Paris School of Economics

February 2014

The generic possibility of full surplus extraction in models with large type spaces

Institut Henri Poincaré, Paris

February 2014

The generic possibility of full surplus extraction in models with large type spaces

CESifo Conference on Applied Microeconomics, Munich

March 2014

Betting on Others' Bets: Robustness of Full Surplus Extraction

University of Nottingham

April 2014

Betting on Others' Bets: Robustness of Full Surplus Extraction

EEA-ESEM Meeting, Toulouse

August 2014



Andreas Glöckner

Summary

I have been Senior Research Fellow at the institute in part-time for the last four years. This was after the psychological research group Intuitive Experts that I was leading had run out. At the same time, I took over a chair of psychology at the University of Göttingen, and in 2015 I moved to the University of Hagen.

My main goal for the work at the institute was to continue contributing a psychological perspective to investigations of the behaviorally informed design of institutions for the provision of public goods. I continued multiple cooperation projects and aimed to bring fresh perspectives from my new experiences at universities to the institute.

The research concerned (I) investigations of cognitive models for individual decision-making; (II) research on the determinants of behavior in public goods, social dilemmas, and cheating; (III) methodology developments, open science, and replications, and (IV) empirical investigation of legal issues and institutions.

In the following, I will briefly present the research projects published in the last four years, as well as some plans for the future.

Investigations of Cognitive Models for Individual Decision-making

In previous work, we had suggested the parallel constraint satisfaction (PCS) model for decision-making. The connectionist network model describes and formalizes decision-making as a process of forming coherent interpretations (narratives) of tasks or situations. Over the last four years, we have extended the model by taking into account interindividual differences concerning the sensitivity to validities with one free parameter (Glöckner, Hilbig & Jekel, 2014) and by including a formal part for modelling information search (Jekel, Glöckner & Bröder, under review). We empirically showed that the PCS model accounts for choice behavior better than competing models for (a) standard probabilistic inferences (Glöckner, Hilbig & Jekel, 2014), (b) recognition-based decisions (Glöckner & Bröder, 2014), as well as (c) situations with missing information (Jekel et al., 2014). Furthermore, we found support for (d) information intrusion effects (Söllner et al., 2014), uniquely predicted by PCS, and (e) attraction-search effects for information acquisitions (Jekel et al., under review). We also show that some divergent previous findings in the literature in favor of heuristics are partially due to method artifacts (Jekel & Glöckner, in press).

In a second line of research, we investigated cognitive models in the domain of risky choice. Specifically, we investigated the “description-experience gap”, stating that probabilities are overweighted in decisions from descriptions, but underweighted in decisions from experience. We show that most previous work is plagued by various artifacts. In a rigorous test, using econometric modeling and an improved selection of tasks, we demonstrate that the standard finding does not hold and even partially reverses (Glöckner et al., 2016). We demonstrate that Cumulative Prospect Theory can account better for risky choices in both kinds of environments than competing cognitive models. In a further project, we investigated the predictive capabilities of various implementations of attention-based drift-diffusion models for choice (Ashby et al., 2016).

Determinants of Behavior in Public Goods, Social Dilemmas, and Cheating

In the last years, I have intensified my investigations that involve strategic dependencies and consequences for other persons. Using a fundamentally new research approach, we investigated cross-societal

cooperation in incentivized one-shot prisoner's dilemmas, using representative samples of participants from six different nations (Dorrough & Glöckner, 2016). We show that cooperation between individuals from various nations is driven by strong and transnationally shared cooperation stereotypes. For example, it is commonly assumed that people from Japan cooperate most and that people from Israel are the least cooperative. These stereotypes, however, do not correspond to reality and even correlate negatively with the average behavior of individuals from the respective nations.

In a second line of research, we connected prosocial and cooperative behavior with standard personality traits in psychology. We show that the broad personality trait honesty-humility is the best predictor for prosocial behavior measured as social preferences / social value orientation (Hilbig, Zettler & Glöckner, 2014).

Furthermore, we show that the prominently published spontaneous cooperation effect (i.e., the assumed effect that all people have a general spontaneous tendency to cooperate, which can be overruled by later deliberation) has to be qualified in that it only holds for people who are generally pro-social and have high values on honesty-humility (Mischkowski & Glöckner, 2016).

In further work, we investigated various factors influencing cooperation and show that (a) ingroup favoritism in anonymous repeated social dilemmas is mainly due to differentiated contrast effects after the outgroup becomes visible (Dorrough, Glöckner, Hellmann & Ebert, 2014), (b) cooperation in public-goods games decreases in constellations with unequal, unstable punishment power due to a race for power effect (Dorrough, Glöckner & Lee, in press), (c) cooperation is driven by a perceived similarity to the other player above and beyond social preferences and beliefs (Glöckner et al., under review), (d) first impressions have a strong effect on cooperation (Engel et al., 2014), and (e) pricing of risky prospects in an anticommens dilemma is only marginally influenced by endowment status, whereas participants readily respond to incentives to overprice and to the interdependence of outcomes (Glöckner et al., 2015).

In a fourth line of research, we investigated the determinants that drive people's tendency to cheat – typically just a little bit. In one study, using eye-tracking, we show that cheating is driven by both conscious and unconscious influences in that people are more aroused even before they know whether cheating is required or not (i.e., conscious), and that they have an unconscious tendency to look more at the advantageous information (Hochman et al., 2016). Building on this work, we discuss the general advantages of eye-tracking technology for cheating research and have reviewed the respective findings (Fiedler & Glöckner, 2016). Finally, we show that cheating is increased both by observing and producing counterfactuals (Bassarak et al., in press). Both kinds of counterfactuals seem to be used to a similar degree as justifications for cheating to maintaining a positive self-image (i.e., “confusing the counterfactual with the true incentivized dice roll can happen to everybody”).

Method Developments, Open Science, and Replications

In recent years, psychological research has been involved in an intense debate concerning how to improve scientific methods. As a first discipline, we conducted a large-scale project that provided a first estimate for the reproducibility of psychological findings (Open Science Collaboration, 2016). This probability turned out to be surprisingly low. In follow-up publications, I was involved in a many-lab replication project that showed that the spontaneous cooperation effect is only observed if some people are excluded from the analysis (Bouwmeester et al., in press) and / or under certain conditions (cf. Mischkowski & Glöckner, 2016). In one publication, we discuss ways out of the replication crisis, and methods for conducting more efficient science (Glöckner et al., in press).

Furthermore, we have contributed to the development of an open-source tool for conducting web-based studies on strategic games (Seithe, Morina & Glöckner, 2016).

Empirical Investigation of Legal Issues and Institutions

A considerable part of my time in the last four years was also dedicated to interdisciplinary work on legal issues and institutions.

In a work on potential implicit discrimination, we have shown that grades in the state exam for lawyers in Germany involve systematically worse grades for female as compared to male students and also for persons with names indicating foreign origin as compared to classic German names (Towfigh et al., 2014; Glöckner & Towfigh, 2016).

In a work on consumer protection, we show that loyalty rebates impede rational switching and therefore can cause financial harm for consumers (Morell, Glöckner & Towfigh, 2015). In a related study on consumer decision-making and attention, we show the effect of attentional allocation on product valuations (Ashby et al., 2015).

In a further line of research, we investigated aspects of legal procedure in several projects. In one empirical work, we show that the magnitude of anchor effects on sentencing decisions in legal cases are enhanced for anchors that contain some validity (e.g., information provided by judges or a state attorney), as compared to completely random anchors (Glöckner & Englich, 2014). In a simulation work, I re-visited the “irrational hungry judge effect”, that is, the assumed effect that parole decisions in Israel are mainly driven by a serial ordering of cases (potentially due to the fact that the judges become hungry or exhausted). I show that, due to various analysis artifacts, the effect is at least overestimated, if it exists at all (Glöckner, 2016). Finally, we empirically show that having the last word in court provides a considerable memory advantage, and we argue that this advantage should – due to the “in dubio pro reo” principle – be given to the defendant (Engel, Glöckner & Timme, in revision).

In further projects at the intersection between law and public policy, we showed that (a) the implementation of quota rules for achieving gender equality has the negative side-effect of reducing cooperation in a group (Dorrough, Leszczyńska, Barreto & Glöckner, 2016), (b) direct democracy increases public acceptance of governmental decisions, as compared to representative democracy, particularly for issues of high personal relevance (Towfigh et al., 2016), and (c) in a theoretical paper I discuss why we do not see looming disasters and how our way of thinking causes them (Glöckner, 2016).

Research Plan

My future research at the institute will focus on continuing collaborations concerning legal decision-making processes with Christoph Engel and concerning investigations of other legal issues (e.g., gender quota rules, gender discrimination) with lawyers and economists. Furthermore, I will continue the investigations of cognitive processes in public-goods games, social and economic decisions, as well as cheating, with Susann Fiedler and other economists. Finally, I will continue my work on social factors influencing cooperation in social dilemmas with a special focus on the newly established paradigm involving cross-societal cooperation.

Publications (since 2014)

Articles in Peer-reviewed Journals

(IF = ISI Impact Factors 2015)

Glöckner, A., Fiedler, S. & Renkewitz, F. (forthcoming). Belastbare und effiziente Wissenschaft: Strategische Ausrichtung von Forschungsprozessen als Weg aus der Replikationskrise. *Psychologische Rundschau*. (IF: 1.107)

Mischkowski, D., Thielmann, I. & Glöckner, A. (2018). Think it through before making a choice? Processing mode does not influence social mindfulness. *Journal of Experimental Social Psychology*, 74, 85–97. (IF: 2.159)

Bassarak, C., Leib, M., Mischkowski, D., Strang, S., Glöckner, A. & Shalvi, S. (2017). What provides justification for cheating – producing or observing counterfactuals? *Journal of Behavioral Decision Making*, 30(4), 964–975. (IF: 2.768)

Bouwmeester, S., Verkoeijen, P. P. J. L., Aczel, B., Barbosa, F., Bègue, L., Brañas-Garza, P., ... Wollbrant, C. E. (2017). Registered Replication Report: Rand, Greene, and Nowak (2012). *Perspectives on Psychological Science*, 12(3), 527–542. (IF: 7.658)

Dorrough, A., Glöckner, A., Betsch, T. & Wille, A. (2017). When knowledge activated from memory intrudes on probabilistic inferences from description – the case of stereotypes. *Acta Psychologica*, 180, 64–78. (IF: 1.816)

Dorrough, A., Glöckner, A. & Lee, B. (2017). Race for Power in public good games with unequal, unstable punishment power. *Journal of Behavioral Decision Making*, 30(2), 582–609. (IF: 2.768)

Ashby, N.J.S., Jekel, M., Dickert, S. & Glöckner, A. (2016). Finding the right fit: A comparison of cognitive process assumptions underlying popular drift-diffusion models. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 42(12), 1982–1993. (IF: 2.776)

Dorrough, A., Leszczyńska, M., Barreto, M. & Glöckner, A. (2016). Revealing side effects of quota rules on group cooperation. *Journal of Economic Psychology*, 57, 136–152. (IF: 1.677)

Dorrough, A. & Glöckner, A. (2016). Multinational investigation of cross-societal cooperation. *Proceedings of the National Academy of Sciences*, 113, 10836–10841. (IF: 9.423)

Glöckner, A. (2016). The irrational hungry judge effect revisited: Simulations reveal that the magnitude of the effect is overestimated. *Judgment and Decision Making*, 11(6), 601–610. (IF: 1.856)

Glöckner, A. (2016). Psychology and Disaster: Why we don't see looming disasters and how our way of thinking causes them. *Global Policy*, 7(51), 16–24. (IF: 0.837)

Glöckner, A., Hilbig, B.E., Henninger, F. & Fiedler, S. (2016). The reversed description-experience gap: disentangling sources of presentation format effects in risky choice. *Journal of Experimental Psychology: General*, 145(1), 486–508. (IF: 4.07)

Hochman, G., Glöckner, A., Fiedler, S. & Ayal, S. (2016). “I can see it in your eyes”: biased processing and increased arousal in dishonest responses. *Journal of Behavioral Decision Making*, 29(2/3), 322–335. (IF: 2.768)

Jekel, M. & Glöckner, A. (2016). How to identify strategy use and adaptive strategy selection: The crucial role of chance correction in Weighted Compensatory Strategies. *Journal of Behavioral Decision Making*. (IF: 2.768)

- Mischkowski, D. & Glöckner, A. (2016). Spontaneous cooperation for prosocials, but not for proselves: Social value orientation moderates spontaneous cooperation behavior. *Scientific Reports*, 6, (21555). (IF: 5.228)
- Seithe, M., Morina, J. & Glöckner, A. (2016). Bonn eXperimental System (BoXS): An Open Source Platform for Interactive Experiments in Psychology and Economics. *Behavioral Research Methods*, 48(4), 1454–1475. (IF: 3.048)
- Towfigh, E. V., Goerg, S., Glöckner, A., Leifeld, P., Kurschilgen, C. & Bade, S. (2016). Do Direct-Democratic Procedures Lead To Higher Acceptance Than Political Representation? Experimental Survey Evidence from Germany. *Public Choice*, 167(1), 47–65. (IF: 0.9)
- Ashby, N. J. S., Walasek, L. & Glöckner, A. (2015). The effect of consumer ratings and attentional allocation on product valuations. *Judgment and Decision Making*, 10(2), 172–184. (IF: 1.856)
- Dorrough, A. R., Glöckner, A., Hellmann, M. & Ebert, I. (2015). The development of ingroup favoritism in repeated social dilemmas. *Frontiers in Psychology*, 6(476). (IF: 2.463)
- Fiedler, S. & Glöckner, A. (2015). Attention and moral behavior. *Current Opinion in Psychology*, 6, 139–144. (no IF)
- Glöckner, A. & Englich, B. (2015). When relevance matters: anchoring effects can be larger for relevant than for irrelevant anchors. *Social Psychology*, 46(1), 4–12. (IF: 1.979)
- Glöckner, A., Tontrup, S. & Bechtold, S. (2015). Disentangling Psychological Sources of Overpricing in Anticommons Dilemmas: Strategic Incentives, Endowment Effects, and Interdependence of Outcomes. *Journal of Behavioral Decision Making*, 28(3), 224–238. (IF: 2.768)
- Morell, A., Glöckner, A. & Towfigh, E. (2015). Sticky rebates: Loyalty rebates impede rational switching of consumers. *Journal of Competition Law and Economics*, 11(2), 431–461. (IF: 0.728)
- Open Science Collaboration. (2015). Estimating the reproducibility of psychological science. *Science*, 349(6251). (IF: 34.661)
- Engel, C., Beckenkamp, M., Glöckner, A., Irlenbusch, B., Hennig-Schmidt, H., Kube, S., Kurschilgen, M., Morell, A., Nicklisch, A., Normann, H.-T. & Towfigh, E. (2014). First impressions are more important than early intervention: qualifying Broken Windows Theory in the lab. *International Review of Law and Economics*, 37, 126–136. (IF: 0.543)
- Glöckner, A. & Bröder, A. (2014). Cognitive integration of recognition information and additional cues in memory-based decisions. *Judgment and Decision Making*, 9(1), 35–50. (IF: 1.856)
- Glöckner, A., Hilbig, B. E. & Jekel, M. (2014). What is Adaptive about Adaptive Decision Making? A Parallel Constraint Satisfaction Account. *Cognition*, 133(3), 641–666. (IF: 3.411)
- Hilbig, B. E., Glöckner, A. & Zettler, I. (2014). Personality and pro-social behavior: Linking basic traits and Social Value Orientations. *Journal of Personality and Social Psychology*, 107(3), 529–539. (IF: 4.736)
- Jekel, M., Glöckner, A., Bröder, A. & Maydych, V. (2014). Approximating rationality under incomplete information: Adaptive inferences for missing cue values based on cue-discrimination. *Judgment and Decision Making*, 9(2), 129–147. (IF: 1.856)
- Söllner, A., Bröder, A., Glöckner, A. & Betsch, T. (2014). Single-process versus multiple-strategy models of decision making: Evidence from an information intrusion paradigm. *Acta Psychologica*, 146, 84–96. (IF: 1.816)

Editor-reviewed Articles

Glöckner, A. & Towfigh, E. (2016). Messgenauigkeit und Fairness in Staatsprüfungen: Aktuelle Studien zeigen Gruppen-Unterschiede in juristischen Examina auf. *Anwaltsblatt*, 10, 706–709

Glöckner, A. & Towfigh, E. (2015). Entscheidungen zwischen „Intuition“ und „Rationalität“. *Deutsche Richterzeitung*, 93(7/8), 14–17

Towfigh, E., Traxler, C. & Glöckner, A. (2014). Zur Benotung in der Examensvorbereitung und im erstem Examen. *Zeitschrift für Didaktik der Rechtswissenschaft*, 1(1), 8–27

Submitted Articles & Preprints

Engel, C., Glöckner, A. & Timme, S. (2017). Defendant should have the last word: Experimentally manipulating order and provisional assessment of the facts in criminal procedure. Bonn: Max Planck Institute for Research on Collective Goods, Preprint 2017/24

Dorrough, A. & Glöckner, A. (under review). An analysis of sex differences in prisoner's dilemma games: Evidence from 12 nations

Glöckner, A., Goerg, S., Schlegelmilch, R. & Fischer, I. (under review). Similarity drives cooperation in social dilemmas above and beyond general cooperativeness and beliefs

Hellmann, M., Fiedler, S., Dorrough, A. & Glöckner, A. (under review). Cross-national in-group favoritism in altruistic behavior: Evidence from Latin and North America

Jekel, M., Glöckner, A. & Bröder, A. (under review). A new and unique prediction for cue-search in a parallel-constraint satisfaction network model: The Attraction Search Effect

Mischkowski, D., Glöckner, A. & Lewisch, P. (under review). From spontaneous cooperation to spontaneous punishment – Distinguishing the underlying motives driving spontaneous behavior in first and second order public goods

Waubert de Puiseau, B., Glöckner, A. & Towfigh, E. (to be re-submitted). Comparing and integrating theories of law obedience: Deterrence, self-control, and perceived legitimacy

Teaching

summer term 2014	Lecture and Seminar, Judgment & Decision-making I (BSc) University of Göttingen
	Seminar, Judgment & Decision-making: Controversies I & II (MSc) University of Göttingen
winter term 2014/15	Seminars, Judgment, Decision-making, and Individual Differences I & II (BSc) University of Göttingen
	Lecture, Psychological Assessment (BSc) University of Göttingen
	Seminars, Personnel Assessment (MSc) (x 2) University of Göttingen
summer term 2015	Lecture and Seminar, Judgment & Decision-making I (BSc) University of Göttingen

	Seminar, Judgment & Decision-making: Controversies I & II (MSc) University of Göttingen
winter term 2015/16	Lecture, Cognitive Psychology I: Perception, Attention, Consciousness (BSc) University of Hagen
	Lecture, Cognitive Psychology II: Learning, Memory, Knowledge, Language, Thinking, and Problem Solving (BSc) University of Hagen
summer term 2016	Lecture, Cognitive Psychology I: Perception, Attention, Consciousness (BSc) University of Hagen
	Lecture, Cognitive Psychology II: Learning, Memory, Knowledge, Language, Thinking, and Problem Solving (BSc) University of Hagen
	Seminar, Judgment and Decision-making (BSc) x2 University of Hagen
winter term 2016/17	Lecture, Cognitive Psychology I: Perception, Attention, Memory (BSc) University of Hagen
	Lecture, Cognitive Psychology II: Language, Thinking, Judgment, Decision-making, and Consciousness (BSc) University of Hagen
	Seminar, Judgment and Decision-making (BSc) x2 University of Hagen
summer term 2017	Lecture, Cognitive Psychology I: Perception, Attention, Memory (BSc) University of Hagen
	Lecture, Cognitive Psychology II: Language, Thinking, Judgment, Decision-making, and Consciousness (BSc) University of Hagen
	Seminar, Judgment and Decision-making (BSc) x2 University of Hagen

Memberships

Society for Judgment and Decision Making (SJDM); European Association for Judgment and Decision Making (EADM); German Psychological Society (Deutsche Gesellschaft für Psychologie) – sections (Fachgruppen) for Cognitive Psychology, Social Psychology, and Law & Psychology

Professional Activities

Member of the Executive Board of the European Association for Decision Making, 2014–2017
 President of the European Association for Decision Making, 2017–2019
 Associate Editor Judgment and Decision Making, since 8/2012
 Associate Editor Journal of Behavioral and Experimental Economics, since 1/2013
 Member of the Editorial Board of Social Cognition, since 2/2011

Member of the Editorial Board of Journal of Behavioral Decision Making, since 2/2011
Review Editor Frontiers in Cognitive Science, since 1/2011

Reviewer for peer-reviewed journals

Acta Psychologica; Behavioral Research Methods; British Journal of Mathematical and Statistical Psychology; Cognition; Cognition and Emotion; Cognitive Science; Cognitive Psychology; Decision; Educational Psychology; European Journal of Personality; European Journal of Psychological Assessment; European Journal of Psychology of Education; Experimental Psychology; Frontiers in Cognitive Science; Games; Human Movement Science; Journal of Applied Research in Memory and Cognition; Journal of Behavioral and Experimental Economics; Journal of Behavioral Decision Making; Journal of Cognitive Psychology; Journal of Economic Behavior & Organization; Journal of Economic Psychology; Journal of Empirical Legal Studies; Journal of Experimental Psychology: General; Journal of Experimental Psychology: Learning, Memory, and Cognition; Journal of Experimental Psychology: Applied; Journal of Personality and Social Psychology; Journal of Research in Personality; Judgment and Decision Making; Learning and Individual Differences; Management Science; Medical Decision Making; InMind; Organizational Behavior and Human Decision Processes; Personality and Social Psychology Bulletin; Philosophical Psychology; PlosOne; Proceedings of the National Academy of Sciences; Psychological Review; Psychological Science; Psychologische Rundschau; Psychology Press; Psychonomic Bulletin & Review; Quarterly Journal of Experimental Psychology; Social Cognition; Social Behavior and Personality; Spanish Journal of Psychology; Synthese; Thinking and Reasoning

Reviewer for funding organizations

Deutsche Forschungsgemeinschaft (DFG); European Research Council (ERC); Fulbright Commission (USA); German Israeli Foundation (Israel); Israel Science Foundation (Israel); Leibnitz-Gemeinschaft; Deutscher Akademischer Austauschdienst (DAAD); Studienstiftung des Deutschen Volkes; Margarete von Wrangell-Habilitationsprogramm für Frauen; National Science Foundation (USA); Nation Science Center (Poland); Netherlands Organisation for Scientific Research (Netherlands); Schweizer Nationalfonds (Switzerland); Österreichischer Wissenschaftsfonds (Austria)



Sebastian Goerg

Summary of Research Interests and my Research Agenda

How do incentives, information, and (legal) institutions impact human behavior in economically relevant situations? I investigate these and related questions using methodology from laboratory and field experiments and relate my findings to different fields within Economics, primarily Organizational Economics, Personnel Economics, and Law & Economics. However, insights are not limited to Economics, and consequently I pursue an interdisciplinary research agenda together with my coauthors, who have backgrounds in Economics, Law, Political Sciences, and Psychology. In the following, I will organize my work around three

broader themes: *I. Incentives, Productivity, and Motivation, II. Cooperative Behavior and Generosity, and III. Impact of Norms, Regulations, and the Law.* I will focus on papers that originated during my time as a Senior Research Fellow or during my research visits at the institute.

I. Incentives, Productivity, and Motivation

In Chmura, Goerg & Weiss (2016, *European Economic Review*), we demonstrate how the home province of migrant workers in China can provide motives for wage discrimination. We observe systematic differences in wages that can be linked to natural groups and economic characteristics of the workers' home provinces. In-group favoritism increases wages for employees who share the same origin as the employer, while an increased probability of being matched with an employee with a different ethnicity reduces wages. Furthermore, wages are correlated with the actual wage level in the employees' home province. Our findings are important as they illustrate that discrimination is not necessarily based on an individual's characteristics (e.g., race, gender, or age), but also on subtle cues derived from the origin of a worker.

In a series of field experiments I investigate the interplay between self-chosen work goals, monetary incentives, and work performance (Brookins, Goerg & Kube, 2017). Employees are observed in a natural work environment, working on an effort-intensive task. A regular piece-rate contract serves as a benchmark, while in some treatments workers are paid the same piece rate, but asked in addition to choose a non-binding work goal. We observe that the use of personal work goals leads to a significant increase of outputs. Strikingly, the positive effect of self-chosen goals persists even without any additional monetary incentives, i.e., without the piece rate. However, then the impact of self-chosen goals depends on the accuracy of the goal and the difficulty of the task. Our results suggest that work contracts where workers themselves set goals and expectations can help improve performances, even in the absence of monetary incentives. Relatedly, I also published a short review article on the literature of goal-setting (Goerg, 2015, *IZA World of Labor*).

In another ongoing project, I investigate how the success of relational contracts in a work environment depends on cheap-talk signals about the duration of the interaction (joint with E. Cromwell & M. Ziolkowska).

II. Cooperative Behavior and Generosity

Together with C. Engel, I investigate how uncertainty influences generosity. In our dictator-game experiments, we introduce uncertainty about recipients' deservingness and measure its impact on dictators' giving decisions (Goerg & Engel, 2016, revision requested, *European Economic Review*). We argue that dictators do not focus on expected outcomes, but on the worst possible outcome. Thus, donors in our experiment tend to become more generous under uncertainty as they are particularly concerned about outcomes that leave recipients without any payoff.

In Glöckner et al. (2016, revision requested, *Scientific Reports*), we test predictions derived from Subjective Expected Relative Similarity theory (SERS), a theory which predicts cooperation whenever the similarity among opponents exceeds the similarity threshold, derived from the expected payoffs. We show that similarity predicts cooperation in prisoner's dilemmas above and beyond the previously established factors, and demonstrate that similarity can be influenced by a minimal-group manipulation.

III. Impact of Norms, Regulations, and the Law

During my time as a Senior Research Fellow at the Max Planck Institute, I was inspired by lawyers and psychologists and became interested in the potential frictions of incentives and (legal) norms. In major legal orders such as the UK, the US, Germany, and France, bribers and recipients face equally severe criminal sanctions. In contrast, countries like China, Russia, and Japan treat the briber more mildly. In Engel, Goerg & Yu (2016, *American Law and Economics Review*), we conjecture that asymmetry in punishment might have the downside of making the enforcement of the corrupt deal easier, and we confirm this intuition in a series of experiments. Our experiments demonstrate that this result holds regardless of culture and legal background. Another project in this area investigates social-enterprise legislation as a case in which rules are established on behalf of constituencies, but without institutionalized enforcement (Fischer, Goerg & Hamann, 2015, *Review of Law & Economics*). We demonstrate that legislation such as the US Benefit Corporation and the German Corporate Governance Code fail to achieve their objectives as long as the corporate incentive structures remain unaltered.

Another interdisciplinary paper that I coauthored with economists, psychologists, political scientists, and lawyers explores whether direct-democratic decisions are perceived as more legitimate than decisions arrived through representative procedures (Towfigh, Goerg, Glöckner, Leifeld, Kurschilgen, Llorente-Saguer & Bade, 2016, *Public Choice*). Our experimental online vignette study demonstrates that, for topics that are important to voters, a direct-democratic decision results in higher acceptance, while for topics of limited importance, acceptance does not differ between mechanisms.

In an ongoing project (joint with Himmler & König), I investigate the spillovers of unethical behavior. We are interested in the spillover and spreading of unethical behavior across individuals and situations. In a series of lab experiments, we show that norm-compliance depends on the norm compliance of others, the similarity of violated norms, and previous norm violations. We complement the lab experiments with a field experiment in which we demonstrate that exposure to tax evasion leads to significantly higher incidences of theft at the workplace, but no change in outputs.

Awards and Grants

2014 CRC Planning Grant, Pls: Luke Boosey and Sebastian J. Goerg, FSU, Budget: \$13,000

2015 Nominated for University Teaching Award, FSU

Publications (since 2014)

Articles in Peer-Reviewed Journals

Goerg, S., Johnson, D. B. & Rogers, J. D. (2017). Endowments, Perceived Similarity and Dictator Giving. *Economic Inquiry*, 55(2), 1130–1144

Chmura, T., Goerg, S. & Weiss, P. (2016). Natural groups and economic characteristics as driving forces of wage discrimination. *European Economic Review*, 90, 178–200

Engel, C., Goerg, S. & Yu, G. (2016). Symmetric vs. Asymmetric Punishment Regimes for Collusive Bribery. *American Law and Economics Review*, 18(2), 506–556

Goerg, S., Hennig-Schmidt, H., Walkowitz, G. & Winter, E. (2016). In Wrong anticipation – Miscalibrated beliefs between germans, israelis, and palestinians. *PLoS ONE*, 11(6)

Goerg, S., Lightle, J. P. & Ryvkin, D. (2016). Priming the charitable pump: an experimental investigation of two-stage raffles. *Economic Inquiry*, 54(1), 508–519

Goerg, S., Neugebauer, S. J. & Sadrieh, A. (2016). Impulse Response Dynamics in Weakest Link Games. *German Economic Review*, 17(3), 284–297

Towfigh, E. V., Goerg, S., Glöckner, A., Leifeld, P., Llorente-Saguer, A., Bade, S. & Kurschilgen, C. (2016). Do direct-democratic procedures lead to higher acceptance than political representation? Experimental survey evidence from Germany. *Public Choice*, 167(1), 47–65

Fischer, S., Goerg, S. & Hamann, H. (2015). Cui Bono, Benefit Corporation? An Experiment Inspired by Social Enterprise Legislation in Germany and the US. *Review of Law & Economics*, 11(1), 79–110

Chmura, T., Goerg, S. & Selten, R. (2014). Generalized Impulse Balance: An experimental test for a class of 3x3 games. *Review of Behavioral Economics*, 1, 27–53

Articles (not peer-reviewed)

Goerg, S. (2015). Goal setting and worker motivation. *IZA World of Labor*, 178

Books

Goerg, S. & Hamman, J. (Eds.). (2016). Experiments in Organizational Economics, 19. Biggleswade: Emerald Group Publishing

Towfigh, E. V., Petersen, N., Englerth, M., Goerg, S., Magen, S., Morell, A. & Schmolke, K. U. (2015). Economic Methods for Lawyers (revised and extended English edition of *Ökonomische Methoden im Recht*), 224 p. Cheltenham: Edward Elgar International Academic Publisher

Book Chapters

Goerg, S., Kube, S., Radbruch, J. & Weinschenk, P. (2016). Do teams procrastinate? Strategic procrastination in a dynamic environment. In S. J. Goerg & J. Hamann (Eds.), *Experiments in Organizational Economics, Research In Experimental Economics*, 19, 229–250. Biggleswade: Emerald Group Publishing

Goerg, S., (2015). Empirical research and statistics. In E. V. Towfigh, N. Petersen, M. Englerth, S. Goerg & S. Magen (Eds.), *Economic methods for lawyers*, 146–176. Cheltenham: Edward Elgar Publishing

Working Papers

Goerg, S. Kube, S. & Radbruch, J. (reject & resubmit). The effectiveness of incentive schemes in the presence of implicit effort costs, *Management Science*

Goerg, S. & Engel, C. (revise & resubmit). If the Worst Comes to the Worst: Dictator Giving When Recipient's Endowments are Risky, *European Economic Review*

Goerg, S., Meise, J., Walkowitz, G. & Winter, E. (reject & resubmit). Experimental Study of Bilateral Cooperation Under a Political Conflict, *Public Choice*

Babington, M., Goerg, S. & Kitchens, C. (2017). How Robust is the Superstar Effect in Tournaments, IZA DP No. 10755

Goerg, S., Rand, D. & Walkowitz, G. (2017). Framing effects in the Prisoner's Dilemma but not the Dictator Game, Working Paper

Brookins, P., Goerg, S. & Kube, S. (2017) Self-chosen goals, incentives, and effort, Working Paper

Lectures and Seminar Presentations

2014

Goals (th)at Work, Self-chosen Goals, Incentives, and Workers' Performance

UC San Diego

February 2014

Goals (th)at Work, Self-chosen Goals, Incentives, and Workers' Performance

University of Cologne

July 2014

Norm Violations and Spillovers – Evidence from the Lab and Field

ESA Fort Lauderdale

October 2014

Norm Violations and Spillovers – Evidence from the Lab and Field

SEA Atlanta

November 2014

2015

Norm Violations and Spillovers – Tax Evasion Leads to Theft at the Workplace

ESCR Seminar, University of Düsseldorf

April 2015

Norm Violations and Spillovers – Tax Evasion Leads to Theft at the Workplace

SNI, ETH Zürich

May 2015

Goals (th)at Work, Self-chosen Goals, Incentives, and Workers' Performance

SEA New Orleans

November 2015

2016

Norm Violations and Spillovers – Evidence from the Lab and Field

University of Duisburg

July 2016

Norm Violations and Spillovers – Evidence from the Lab and Field

ESA Tuscon

November 2016

2017

Goals (th)at Work, Self-chosen Goals, Incentives, and Workers' Performance

TU Munich

July 2017

Goals (th)at Work, Self-chosen Goals, Incentives, and Workers' Performance

University of Paderborn

July 2017

Teaching

Organizational Theory of the Firm (Bachelor)

Applied Microeconomic Analysis (Bachelor)

Intermediate Microeconomic Theory (Bachelor)

Personnel Economics (Master, Ph.D.)

Experimental Economics Workshop (Ph.D.)



Olga Gorelkina

Summary Report

I am a former member of the Max Planck Institute, having joined the University of Liverpool Management School in a tenure-track position in September 2016.

My research agenda relates to game theory and its applications to public-goods problems, finance, and political economy. Within the current review period, two papers were accepted for publication: “The Expected Externality Mechanism in a Level- k Environment” in the *International Journal of Game Theory* [1] and “Information Aggregation through Stock Prices and the Cost of Capital” (joint with Wolfgang Kuhle, MPI) in the *Journal of Institutional and Theoretical Economics* [2]. Two further papers were submitted to the institute's Working Paper series: “One Strike and You’re Out: The Effects of the Master Lever on Senator Positions” (with Ioanna Grypari, MPI) [3] and “Selling Money on eBay: A Field Study of Surplus Division” (with Alia Gizatulina, University of St. Gallen) [4]. The proposal written with Prof. Engel and Dr. Fedorets was chosen for inclusion in the SOEP Innovation sample. I describe these projects below in more detail.

“The Expected Externality Mechanism in a Level- K Environment” (*IJGT*, forthcoming [1]) studies the performance of the standard expected externality mechanism in the framework where the subjects conduct a finite, instead of an infinite, number of cognitive iterations to find their optimal response to the mechanism. “Implementation in a Level- K Environment” shows that the expected externality mechanism, designed to implement the efficient allocation in a Bayes-Nash equilibrium (d’Aspremont, Gerard-Varet, 1979; Arrow, 1979), remains fairly robust to changes in the assumption of rationality, with efficiency carrying over to the finite K -level case. Distortions are possible when there is a discrepancy between the true type distribution and the distribution of the perceived random strategies. However, the discrepancy levels off in two cases: the groups are heterogeneous in the number K , and second, when the mechanism is run repeatedly – due to the convergence to truth-telling in K . Another result concerns a first-price auction. The auction is shown to be inefficient when the bidders are finitely rational.

In “Information Aggregation through Stock Prices and the Cost of Capital” (*JITE*, forthcoming; joint with Wolfgang Kuhle, MPI [2]), we study a firm’s optimal capital structure in an environment where the firm’s stock price serves as a public signal for its creditworthiness. When information structure is exogenous, we find that firms that are financially healthy benefit from a stock price signal which reveals its financial position with great precision to bond investors. In a second step, we endogenize the stock price signal’s precision, allowing equity investors to choose how much information to acquire privately. In equilibrium, this induces a positive relation between the amount of equity issued and the stock price signal’s precision. We find that a firm with a strong fundamental will issue more equity and less debt than it would if the informational spillover did not exist, to generate stock price signals which communicate its strong financial position with greater precision to bond investors.

“One Strike and You’re Out: The Effects of the Master Lever on Senator Positions” (with Ioanna Grypari, MPI) [3] accounts for the effects of the master lever (ML), aka the straight-ticket voting option, on elected US senators from 1960 till 2012. The ML, still present in some states, allows voters to select a specific party for all elections listed on a ballot, as opposed to filling in each office individually. Introducing it leads to an increase in the number of partisan votes, thus changing the groups of voters targeted by parties and shifting the positions of senatorial candidates. Theoretically, we examine this change in trade-offs by building a model of multidimensional pre-election competition. Empirically, we identify the effect of the ML by using a triple difference estimator to account for selection into treatment. Controlling for party trends, we find that it leads to a right-wing shift of senatorial positions, an effect that is larger for the Republican

Party. We use the theory to explain how the political climate, as observed by the data, implies the specific result.

In "Selling Money on eBay: A Field Study of Surplus Division" (with Alia Gizatulina, University of St. Gallen) [4], we study the division of trade surplus in a competitive market environment by conducting a natural field experiment on German eBay. Acting as a seller, we offer Amazon gift cards with face values of up to 500 Euro. Randomly arriving buyers, the subjects of our experiment, make price offers according to eBay rules. Using a new decomposition method, we infer offered shares of trade surplus and find that the average share proposed to the seller amounts to 29%. Additionally, we document: (i) insignificant effects of stake size; (ii) poor use of strategically relevant public information; and (iii) behavioral differences between East and West German subjects.

To conclude, I will briefly describe the joint project with Prof. Engel (MPI) and Dr. Fedorets (DIW), which uses the SOEP Innovation Sample (SOEP-IS). This unique innovation sample offers great potential as a source of household micro-data, for example specific information on households or on people's opinions. The data from SOEP-IS modules is provided exclusively to the team for an initial 12-month period. After this embargo has ended, the data are released to the entire SOEP user community for secondary analysis.

Ours is an economic behavioral experiments run with a subsample of SOEP respondents. The data will shed light on an important question: Do households behave as single agents when it comes to the choice under uncertainty? The experiment will allow us (1) to test empirically the theory of risk preference aggregation, (2) to study the role of information, bargaining power, and wealth effects, and (3) to compare experimental results and field behavior, as we are able to link the experimental results to the survey information on observed consumption and investment behavior of the SOEP-IS respondents.

Publications (since 2014)

Articles in Peer-reviewed Journals

Gorelkina, O. (forthcoming). The Expected Externality Mechanism in a Level-k Environment. *International Journal of Game Theory*

Gorelkina, O. & Kuhle, W. (forthcoming). Information Aggregation Through Stock Prices and the Cost of Capital. *Journal of Institutional and Theoretical Economics*

Preprints

Gizatulina, A. & Gorelkina, O. (2016). Selling Money on Ebay: A Field Study of Surplus Division. Bonn: Max Planck Institute for Research on Collective Goods, Preprint 2016/20

Gorelkina, O. (2015). The Expected Externality Mechanism in a Level-k Environment. Bonn: Max Planck Institute for Research on Collective Goods, Preprint 2015/3

Gorelkina, O. (2014). Delayed Verification Mechanism for Dynamic Implementation. Bonn: Max Planck Institute for Research on Collective Goods, Preprint 2014/11

Gorelkina, O. (2014). Bidder Collusion and the Auction with Target Bids. Bonn: Max Planck Institute for Research on Collective Goods, Preprint 2014/10

Working papers

Gorelkina, O. & Grypari, I. (2016) One Strike and You're Out: The Effects of the Master Lever on Senator Position

Lectures and Seminar Presentations

Invited Talks

Precluding Collusion in a Vickrey Auction

Paris Game Theory Seminar

March 2014

Estimate-based Dynamic Implementation

Humboldt University Berlin

October 2014

Selling Money on eBay: A Field Study of Surplus Division

Paris School of Economics

February 2015

Selling Money on eBay: A Field Study of Surplus Division

Paris Dauphine

March 2015

Selling Money on eBay: A Field Study of Surplus Division

Ecole Polytechnique

June 2015

Selling Money on eBay: A Field Study of Surplus Division

Yale University

September 2015

Selling Money on eBay: A Field Study of Surplus Division

Rochester University

November 2015

Estimate-Based Dynamic Implementation

University of Bonn

June 2016



Dominik Grafenhofer

Summary Report

My main research focus lies in applied microeconomic theory, especially in industrial organization, and game theory. I am interested in coordination games, two-sided markets, network industries, mechanism design, innovation, and intellectual property rights. Since the last report, I have expanded my research to encompass issues in coordination games, a more pure theory topic. In that I am working together with Wolfgang Kuhle from our institute. Apart from starting new paper projects, I have polished and rewritten existing papers. In the following paragraphs, I provide a brief summary of these projects:

In the paper “Price discrimination and the hold-up problem – with an application to the net-neutrality debate”, I study ex-ante investment incentives of a buyer facing a monopoly input seller, who employs second-degree price discrimination. As a benchmark, I extend an adverse-selection model by a non-contractible investment stage, which allows the buyer to improve her type. The buyer underinvests due to partial rent extraction by the seller. When the buyer uses the seller's product as an input in a downstream production process, and the seller also charges downstream customers of the buyer, the seller faces a two-sided market. I show that the underinvestment problem in the two-sided setting is less severe compared to the one-sided market, because the seller cross-subsidizes the content provider in order to extract more rent from downstream customers. Under competition, this result is reversed: first-best investment can be achieved in the one-sided case, while even fierce competition can leave investment incentives unchanged in the two-sided setting. An application of this model is the net-neutrality debate where an internet server provider can be thought of as an input seller for a content provider (input buyer). I provide conditions under which a net-neutrality regulation (no charges for the buyer) can alleviate the hold-up problem and demonstrate that net neutrality might arise endogenously.

The article “Taste for exclusivity and intellectual property rights” is joint work with Christian Kiedaisch from the University of Zurich. We analyze the effects of intellectual property rights protection on innovation in a quality-ladder model in which part of the consumers value being the exclusive consumers of the newest generation of a (consumable) good. In the case of a monopoly innovator, we show that reducing IP protection can increase the average innovation rate by regularly destroying exclusivity and thereby creating incentives to invent new exclusive goods. In the case of R&D being undertaken by entrants, however, the innovation rate increases in the strength of IP protection for most market structures. In each case, we derive the welfare-maximizing strength of IP protection. We recently completed the analysis by solving for the durable goods case. We consider different contractual environments available to the innovator (leasing, buyback programs, price and innovation commitment), and show that the innovation-increasing effect of a reduction of IP protection is still present in many of these cases.

Together with Klaus Peter Hellwig from the International Monetary Fund and Tobias Salz from Columbia University, I am working on dynamic price competition in the gasoline market. The theoretical literature suggests the presence of a plethora of equilibria (Edgeworth price cycles) in markets for homogeneous goods with highly price-sensitive consumers. This makes it hard to study collusive behavior just using theory in such a context. This is especially true for the gasoline retail sector, which is characterized by a high degree of price volatility with frequent price adjustments even within a given day. We collect real-time price data for all gas stations in Austria and Germany. These data are then used in a structural econometric model, which shows local gasoline markets as an auction. We are working on deriving results on the behavior of market participants and try to find or disprove traces of collusive behavior. We also strive to provide an empirical answer to whether new regulatory rules that limit the retailers' freedom to adjust

prices and allow for greater price transparency indeed lower gasoline prices and help to protect consumers from surprises.

As mentioned in the introduction, I have expanded my research towards studying coordination games. It is crucial to understand this class of games well in order to study important topics like the stability of banks, the banking system, fixed exchange-rate regimes, etc. In the paper “Observing Each Other’s Observations in a Bayesian Coordination Game”, we study a Bayesian coordination game where agents receive private information on the game’s payoff structure. In addition, agents receive private signals that inform them of each other’s private information. We show that, once agents possess these different types of information, there exists a coordination game in the evaluation of this information. Even though the precision of both signal types is exogenous, the precision with which agents forecast each other’s actions in equilibrium turns out to be endogenous. As a consequence, there exist multiple equilibria which differ with regard to the way agents weight their private information to forecast each other’s actions.

I am continuing to work on the topic of Bayesian coordination games together with Wolfgang Kuhle. In “Observing Each Other’s Observations in a Bayesian Coordination Game”, we take the electronic mail game as a starting point for our analysis. The next step is to bring this result and/or similar results to the global games literature. These games allow for the selection of unique equilibria in coordination games by the introduction of parameter uncertainty and private information about parameters. In applied theory, equilibrium selection is crucial, in that it allows one to make precise predictions. However, our preliminary results indicate that adding other forms of additional private information, e.g., information about other players’ actions, actually increases the number of equilibria dramatically (instead of reducing them). This sheds serious concerns on the viability of using the global games approach in applied theory. On top of that, we want to improve our understanding of how equilibrium selection works in these Bayesian coordination games.

In the future, I plan to finish and submit previously unpublished papers. Additionally, I would further like to investigate issues related to coordination games, network industries, and two-sided markets. Apart from my research, I taught the course “Topics in Microeconomic Theory – Foundations and recent advances in decision theory” together with Olga Gorelkina (a colleague from the MPI) in the summer semester 2013 at the University of Bonn. This course was aimed at advanced PhD students. In the summer semester 2014, I taught a course on industrial economics (“Wettbewerbstheorie und -politik”) for Bachelor students at the University of Erlangen-Nürnberg. Furthermore, I co-organized our weekly research seminar “MPI Econ Workshop” and the 10th Competition Law and Economics European Network (CLEEN) Workshop 2016 in Bonn.

Publications (since 2014)

Articles in peer-reviewed journals

Grafenhofer, D. and Kuhle, W. (2016). Observing Each Other’s Observations in a Bayesian Coordination Game, *Journal of Mathematical Economics*, 67, 10–17

Lectures and Seminar Presentations

Taste for Exclusivity and Intellectual Property Rights

IIOC conference, Chicago Northwestern University, Evanston/IL
April 2014

Giving Advice

NOEG conference, WU Vienna, Austria
May 2014

Price Discrimination and the Hold-Up Problem: A Contribution to the Net-neutrality Debate

IT conference, Toulouse
January 2015

Observing Each Other's Observations in a Bayesian Coordination Game

SFB workshop, University of Munich
October 2015

Observing Each Other's Observations in a Bayesian Coordination Game

Game theory conference, Lisbon
November 2015

Observing Each Other's Observations in a Bayesian Coordination Game

Seminar, University of Naples
November 2015

Taste for Exclusivity and Intellectual Property Rights

Innovation conference, Tilburg University
December 2015

Observing Each Other's Observations in a Bayesian Coordination Game

NOeG Conference, University of Bratislava
May 2016

Observing Each Other's Observations in a Bayesian Coordination Game

ASSET conference, Thessaloniki
November 2016

Observing Each Other's Observations in a Bayesian Coordination Game

Seminar, Tilburg University
November 2016

Taste for Exclusivity and Intellectual Property Rights

Seminar ZEW, University of Mannheim
December 2016



Ioanna Grypari

Summary Report

In the last three years, most of my research has focused on understanding theoretically and empirically the implications of the “political process” on voting and implemented policy.

Ballot Design and Extreme Politicians

“One Strike and You’re Out! The Effects of the Master Lever on Senators’ Positions” – In this joint paper with Olga Gorelkina (University of Liverpool Management School), we examine the effects of the master lever (ML) on the positions of elected US senators from 1962 to 2012. The ML,

still present in some states and in different versions across the world, allows voters to select a specific party for all elections listed on a ballot, as opposed to filling in each office individually. Introducing it leads to an increase in the number of partisan votes, thus changing the groups of voters targeted by parties and shifting the positions of senatorial candidates. Theoretically, we examine this change in tradeoffs by building a model of pre-election competition. Empirically, we use a difference-in-differences estimator to account for selection into treatment and find that, controlling for party trends, the ML has led to a right-wing shift of senatorial positions, an effect that is larger for the Republican Party. We use the theory to explain how the political climate, as observed in the data, has implied the specific result.

“Reverse Political Coattails: The Case of the Rust Belt” – This is also a joint paper with Olga Gorelkina and continues the work above. Specifically, we examine reverse coattail effects in the US Presidential election of 2016. In other words, we consider the possibility that popular candidates for “down-the-ballot” offices affected the voters’ choice for President. In order to identify the effect empirically, we focus on counties with very small winning margins and also use the variation across states in terms of offering a ML on their ballots. We build a theoretical model of multi-office political competition to explain the mechanism behind our findings.

Campaigning, Voting, and Policy

“The Demand for Politicians: Campaigning and Voting in US Presidential Elections” – This paper accounts for the effect of political campaigns on U.S. Presidential election outcomes from 1952 to 2012. I use two measures of political campaigning: the positions of Presidential candidates (as perceived by the electorate) and issue emphasis. The latter refers to the fraction of a political campaign dedicated to a specific issue. Noting the similarity between two campaign-setting political candidates and two price-setting oligopolists, I borrow from the applied microeconomics literature on product demand estimation to estimate the demand for Presidential candidates in the U.S. as a function of their campaigns and characteristics. I construct a data set of issue emphasis, using the Nominating Convention acceptance speeches and use it in conjunction with the American National Election Studies data to find that issue emphasis on economic policy, political authority and corruption, and traditional values issues are all significant determinants of vote choice. The effect of each varies according to the party and position of a Presidential candidate, as well as the unemployment level in the economy. I also estimate a random-effects version of the model using BLP (2004), to account for the variation of campaign effects by demographic and partisan group in the voting population.

“Political Campaigning and Policy Implementation in the US” – This paper, joint with Grigorios Siourounis (Panteion University and Brown University), is the follow-up to the paper above, as it empirically establishes the relationship between pre-election competition and post-election policy-making, in the same setting. Specifically, we account for the effect of political campaigning, through issue emphasis, on bills proposed

and passed during a presidency. First, we construct a “campaign effect” variable by isolating the fraction of post-election bill proposals that is solely due to campaign promises. We do so by exploiting the observed difference in behavior between the winning and losing party of the Presidential election. Second, using data from the Policy Agendas Project and the American National Election studies, as well as our constructed variables from the first part of the paper, we calibrate a legislative bargaining model that quantifies the effects of political campaigning on actual bills passed into law, through agenda priorities. Campaign effects dissipate or persist depending on the party that controls Congress, the term of the President, and whether an issue was high on the agenda for both parties.

Interaction of Formal and Informal Institutions

The research described above has focused on the effects of formal institutions on outcomes. Lately, I have started two new projects with the goal of shifting my research towards the interaction of formal and informal institutions (social norms etc.)

“Microcredit and the Development of Business Networks: Evidence from Germany” – In this paper, joint with Anna Kochanova (Cardiff Business School), we use the difference in informal institutions amongst natives and immigrants in order to identify the effects of microfinance on economic and social networks formed around small businesses in Germany between 1994 and 2014. First, we show that immigrant networks are the least affected by such programs, due to better intra-group lending. Using them as a control group and matching them with natives, we run a difference-in-differences estimation exploiting the 2004-2006 boost in microcredits. We find that microfinance is able to expand pre-existing networks, but the effects on the creation of new networks are less significant.

“Networks, Productivity and Happiness: Should You Hire Your Cousin?” – This paper, also joint with Anna Kochanova, exploits the exogenous variation in networks, identified in the paper above, to examine the effects of structure and other network characteristics on the perceived productivity and life satisfaction of small-business owners in Germany.

Award

One of best-evaluated individual papers for the 2016 SIOE Conference (for the paper “One Strike and You’re Out! The effect of the Master Lever on Senators’ Positions”).

Working Papers and Work in Progress (since 2014)

Gorelkina, O. & Grypari, I. (2017), One Strike and You’re Out! The Effects of the Master Lever on Senators’ Positions

Gorelkina, O. & Grypari, I. (2017), Reverse Political Coattails: The Case of the Rust Belt

Grypari, I. & Kochanova, A. (2017), Microcredit and the Development of Business Networks: Evidence from Germany

Grypari, I. & Kochanova, A. (2017), Networks, Productivity, and Happiness: Should You Hire Your Cousin?

Grypari, I. (2016), The Demand for Politicians: Campaigning and Voting in US Presidential Elections

Grypari, I. & Siourounis, G. (2015), Political Campaigning and Policy Implementation in the US

Lectures and Seminar Presentations

2014

Political Campaigning and Policy Implementation in the US

North American Summer Meeting of the Econometric Society, Minneapolis, MN

June 2014

2015

One Strike and You're Out! The Effects of the Master Lever on Senators' Positions

Conference on Research on Economic Theory and Econometrics, Crete

July 2015

One Strike and You're Out! The Effects of the Master Lever on Senators' Positions

Congress of the European Economic Association, Mannheim

August 2015

The Demand for Politicians: Campaigning and Voting in US Presidential Elections

Conference of the Southern Economic Association, New Orleans, LA

November 2015

2016

One Strike and You're Out! The Effects of the Master Lever on Senators' Positions

Seminar Presentation at Goethe University, Frankfurt

January 2016

The Demand for Politicians: Campaigning and Voting in US Presidential Elections

Conference on Research on Economic Theory and Econometrics, Tinos

July 2016

One Strike and You're Out! The Effects of the Master Lever on Senators' Positions

Symposium of the Spanish Economic Association, Bilbao

December 2016

2017

One Strike and You're Out! The Effects of the Master Lever on Senators' Positions

Seminar Presentation at London Business School, London

February 2017

One Strike and You're Out! The Effects of the Master Lever on Senators' Positions

Seminar Presentation at the Institute for International Studies (IIES), Stockholm

March 2017

One Strike and You're Out! The Effects of the Master Lever on Senators' Positions

Seminar Presentation at the Institute for the Study of Labor (IZA), Bonn

April 2017

The Demand for Politicians: Campaigning and Voting in US Presidential Elections

Seminar Presentation at the ALBA Graduate Business School, Athens

April 2017

One Strike and You're Out! The Effects of the Master Lever on Senators' Positions

Seminar Presentation at the London School of Economics and Political Science (LSE), London

May 2017

One Strike and You're Out! The Effects of the Master Lever on Senators' Positions

Erasmus Political Economy Workshop, Rotterdam

June 2017

One Strike and You're Out! The Effects of the Master Lever on Senators' Positions

Conference of the Society for the Advancement of Economic Theory, Faro

June 2017

Teaching

winter term 2015/16

Topics in Applied Microeconomics: Empirical Political Economy

(together with Anna Kochanova)

Topics course, University of Bonn

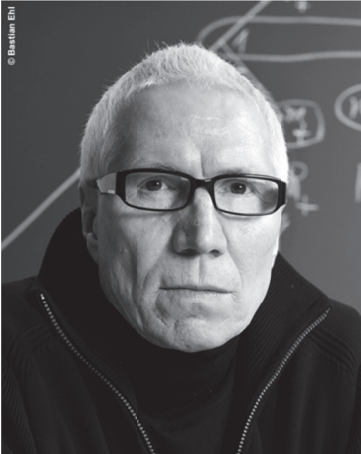
Professional Activities

Academic Visit: Visiting Faculty at London Business School Economics Department (Jan–May 2017)

Organizer of the institute's economics workshop (2015-2017)

Referee for

Journal of Dynamics and Games, Journal of Public Economics



Werner Güth

Summary Report

After my retirement at the end of 2014 I have been coopted by the Max Planck Institute in Bonn and have twice successfully applied for Emeritus funding: once for 2015/16 and once for 2017/18. I plan to try again for 2019/20 if possible. Additionally I have been affiliated for two years (2015/16) with the Frankfurt School of Finance and Management (fs) in Frankfurt/Main as a senior professor and with LUISS Guido Carli in Rome as a professor fama clara. My initial first three-year contract with LUISS has been extended till the end of 2019. Most of the recent lab studies in which I have been involved have been conducted at LUISS and have been

financed by my Emeritus grants. I am very thankful for the generous support by the Max Planck Society and I hope that our research output justifies such support.

Major topics during this time have been:

(a) Further elaboration of bounded rationality theory

- viewing decision-making as a process including mental modeling, scenario generation, aspiration formation and various feedback loops (see Güth and Ploner, 2017) and
- exploring this experimentally by direct elicitation of cognitive deliberation results in addition to choice data, i.e., by going beyond the revealed preferences/aspirations approach (see, for instance, Di Cagno, Galliera, Güth, Marzo & Pace, 2017)

(b) Ever since joining the MPI in Bonn in 2015, I have been busier in using public-goods games as an experimental workhorse, for example, to

- investigate purely behavioral spillovers across structurally independent games in circular neighborhood (see Angelovski, DiCagno, Güth, Marazzi & Panaccione, 2017a and 2017b)
- directly observe conditioning in the form of conditional cooperation or trust, based on hybrid “public good and trust games”, as well as of conditioning on others’ purely counterfactual generosity intentions (DiCagno, Galliera, Güth & Panaccione, 2017a and 2017b) and
- run a testbed experiment for an institutional reform which substitutes partial by general compulsory solidarity (Angelovski, Galliera, Güth, 2017)

(c) Further experimental studies on concession bargaining monitoring versus trusting etc. (see for example, Alberti, Fischer, Güth & Tsutsui, forthcoming; Felli, Güth, Mata-Pérez & Ponti, 2016)

(d) The tradition of theoretical studies on indirect evolution has been revised by Güth & Pezanis-Christou (2015 and 2017) rationalizing risk neutral equilibrium bidding without counterfactual bids, respectively investigating the evolutionary stability of so-called “Corporate Social Responsibility” (Güth & Kirchkamp, 2016).

(e) Further conceptional studies (see, for instance, Güth & Kliemt, 2015; Bünstorf, Engel, Fischer & Güth, 2016; DiCagno, Güth & Sillari, 2015).

(f) Procedurally fair game forms and their experimental results (Cicogani, D’Ambrosio, Güth, Pfuderer & Ploner, 2015; Güth, 2015; Güth, Koukouvelis, Levati, Ploner, 2014; Güth, Levati, Montinari, 2014; Güth, Kliemt, Koukouvelis, Levati & Ploner, 2015)

Publications (since 2014)

Articles in Peer-reviewed Journals

- Alberti, F., Fischer, S., Güth, W. & Tsutsui, K. (forthcoming). Concession Bargaining – An Experimental Comparison of Protocols and Time Horizons. *The Journal of Conflict Resolution*
- Avrahami, J., Güth, W., Kareev, Y. & Uske, T. (2017). On the Incentive Effects of Sample Size in Monitoring Agents – A Theoretical and Experimental Analysis. *German Economic Review*, 18(1), 91–98
- Di Cagno, D., Galliera, A., Güth, W., Marzo, F. & Pace, N. (2017). (Sub) Optimality and (non) optimal satisficing in risky decision experiments. *Theory and Decision*, 83(2), 195–243
- Güth, W., Pull, K., Stadler, M. & Zaby, A. (2017). Blindfolded Ultimatum Bargaining – a theoretical and experimental analysis. *German Economic Review*, 18(4), 444–467
- Güth, W. & Ploner, M. (2017). Mentally perceiving how means achieve ends. *Rationality and Society*, 29(2), 203–225
- Felli, C., Güth, W., Mata-Pérez, E. & Ponti, G. (2016). Ultimatum Concession Bargaining: An Experimental Study. *Journal of Conflict Resolution*, 1-32
- Güth, W., Levínský, R., Pull, K. & Weisel, O. (2016). Tournaments and piece rates revisited: a theoretical and experimental study of output-dependent prize tournaments. *Review of Economic Design*, 20(1), 69–88
- Di Cagno, D., Galliera, A., Güth, W., Pace, N. & Panaccione, L. (2016). Make-up and suspicion in bargaining with cheap talk: An experiment controlling for gender and gender constellation. *Theory and Decision*, 80(3), 463–471
- Güth, W., Häger, K., Kirchkamp, O. & Schwalbach, J. (2016). Testing Forbearance Experimentally: Duopolistic Competition of Conglomerate Firms. *International Journal of the Economics of Business*, 23(1), 63–86
- Gehrig, T., Güth, W. & Levinsky, R. (2016). On the value of transparency and information acquisition. *German Economic Review*, 17(3), 337–358
- Bünstorf, G., Engel, C., Fischer, S. & Güth, W. (2016). Non-Compete Clauses, Employee Effort and Spin-off Entrepreneurship: A Laboratory Experiment. *Research Policy*, 45(10), 2113–2124
- Berninghaus, S. K., Güth, W., Klempt, C. & Pull, K. (2016). Assessing Mental Models via Recording Decision Deliberations of Pairs. *Homo Oeconomicus*
- Güth, W., Ploner, M. & Soraperra, I. (2016). Buying and Selling Risk: An Experiment Investigating Evaluation Asymmetries. *Review of Behavioral Economics*, 3(3/4), 389–419
- Di Cagno, D., Galliera, A., Güth, W. & Panaccione, L. (2016). A Hybrid Public Good Experiment Eliciting Multi-Dimensional Choice Data. *Journal of Economic Psychology*, 56, 20–38
- Güth, W., Levati, M. V., Nardi, C. & Soraperra, I. (2016). An ultimatum game with multidimensional response strategies. *Review of Behavioral Economics*, 3(3/4), 281–310
- Bäker, A., Güth, W., Pull, K. & Stadler, M. (2015). The willingness to pay for partial vs. universal equality: Insights from three-person envy games. *Journal of Behavioral and Experimental Economics*, 56, 55–61
- Güth, W., Levati, M. V. & Soraperra, I. (2015). Common and private signals in public goods games with a point of no return. *Resource and Energy Economics*, 41, 164–184

Güth, W. & Pezanis-Christou, P. (2015). Believing in correlated types in spite of independence: An indirect evolutionary analysis. *Economics Letters*, 134, 1–3

Güth, W. (2015). Collectively ranking candidates via bidding in procedurally fair ways. *Theory and Decision*, 78(1), 23–31

Güth, W., Pull, K. & Stadler, M. (2015). Delegation, worker compensation, and strategic competition. *Journal of Business Economics*, 85(1), 1–13

Cicognani, S., D'Ambrosio, A., Güth, W., Pfuderer, S. & Ploner, M. (2015). Community projects: An experimental analysis of a fair implementation process. *Social Choice and Welfare*, 44(1), 109–132

Güth, W. & Kocher, M. G. (2014). More than thirty years of ultimatum bargaining experiments: Motives, variations, and a survey of the recent literature. *Journal of Economic Behavior & Organization*, 108, 396–409

Güth, W. (2014). Institutional Regulation of Public Provision. *Review of Law & Economics*, 10(1), 81–94

Bruttel, L. V., Stolley, F., Güth, W., Kliemt, H., Bosworth, S., Bartke, S., ... Funk, L. (2014). Nudging als politisches Instrument — gute Absicht oder staatlicher Übergriff? *Wirtschaftsdienst*, 94(11), 767–791

Bäker, A., Güth, W., Pull, K. & Stadler, M. (2014). Entitlement and the efficiency-equality trade-off: an experimental study. *Theory and Decision*, 76(2), 225–240

Berninghaus, S. K., Güth, W. & Schosser, S. (2014). Backward Induction or Forward Reasoning?— An Experiment of Stochastic Alternating Offer Bargaining. *International Game Theory Review*, 16(01), 1–30

Freytag, A., Güth, W., Koppel, H. & Wangler, L. (2014). Is regulation by milestones efficiency enhancing? An experimental study of environmental protection. *European Journal of Political Economy*, 33, 71–84

Güth, W. (2014). Endogenous community formation and collective provision – A procedurally fair mechanism. *Journal of Economic Behavior & Organization*, 108, 389–395

Güth, W. (2014). Observing Mental Modeling-Methods and Results. *Review of Behavioral Economics*, 1(1-2), 99–114

Güth, W., Koukoulis, A., Levati, M. V. & Ploner, M. (2014). Providing revenue-generating projects under a fair mechanism: An experimental analysis. *Journal of Economic Behavior & Organization*, 108, 410–419

Güth, W., Levati, M. V. & Montinari, N. (2014). Ranking alternatives by a fair bidding rule: A theoretical and experimental analysis. *European Journal of Political Economy*, 34, 206–221

Güth, W., Pull, K., Stadler, M. & Zaby, A. (2014). Endogenous price leadership – A theoretical and experimental analysis. *Journal of economic behavior & organization*, 108, 420–432

Articles (not peer-reviewed)

Di Cagno, D., Galliera, A., Güth, W., Pace, N. & Panaccione, L. (2017). Experience and Gender Effects in Acquisition Experiment with Value Messages. *Small Business Economics*, 48(1), 71–97

Brosig-Koch, J., Güth, W. & Weiland, T. (2016). Comparing the effectiveness of collusion devices in first-price procurement: An auction experiment. *Evolutionary and Institutional Economics Review*, 13(2), 269–295

Güth, W. & Kliemt, H. (2015). How to cope with (new) uncertainties: A bounded rationality approach. *Economics ejournal*, 46

Güth, W. & Kliemt, H. (2015). Response to referee reports and comments on “How to cope with (new) uncertainties”: A bounded rationality approach. *Economics ejournal*, 46

Book chapters

Güth, W. & Kliemt, H. (forthcoming). Corporate Social Responsibility. In L. Degli Sacconi & G. Antoni (Eds.), *Handbook on the economics of social responsibility: individuals, corporations and institutions*, Cheltenham: Edward Elgar

Güth, W. & Kliemt, H. (forthcoming). Experimental Economics – A philosophical Perspective. In *Oxford Handbook of Philosophy*

Güth, W. (2017). Mechanism design and the law. *The Oxford Handbook of Law and Economics: Methodology and Concepts*, (1), 483–492.

Güth, W. (2015). Behaviorism, optimization and policy advice. In C. Müller & N. Otter (Eds.), *Behavioral Economics und Wirtschaftspolitik, Schriften zu Ordnungsfragen der Wirtschaft*, 47, 53–66. Stuttgart: Lucius & Lucius

Güth, W. & Kliemt, H. (2015). Experts and evidence in economic policy. In M. Held, G. Kubon-Gilke & R. Sturm (Eds.), *Reformen und ihre politisch-ökonomischen Fallstricke*, 14, 35–54

Güth, W., Kliemt, H., Koukoulis, A., Levati, M. V. & Ploner, M. (2015). Procedurally fair collective provision: its requirements and experimental functionality. In Ramser & Stadler (Eds.), *Entwicklung und Perspektiven der Wirtschaftswissenschaft*, 41, 357–377. Tübingen: Mohr Siebeck

Güth, W., de Jasay, A. & Kliemt, H. (2014). Who will guard the guardians? In H. Kliemt (Ed.), *The collected papers of Anthony de Jasay: Social Justice and the Indian Rope Trick*, 164–172. Indianapolis: Liberty Fund

Submissions

Adam, M., Brecht, F., Güth, W., Koroleva, (2016). *Comparing reservation prices for own and other's prospects: an experimental analysis of altruistic behavior*. *Metroeconomica*.

Angelovski, A., Di Cagno, D., Güth, W., Marazzi, F., Panaccione, L. (2017a). *Behavioral Spillovers in Local Public Good Provision: an experimental study*. *Journal of Economic Psychology*.

Angelovski, A., Di Cagno, D., Güth, W., Marazzi, F., Panaccione, L. (2017b). *Does Heterogeneity Spoil the Basket? Local Public Good Provision in Neighborhood Experiments*. *Journal of Behavioral Decision Making*.

Angelovski, A., Di Cagno, D., Güth, W., Marazzi, F. & Panaccione, L. (2017). Voluntary Cooperation in Local Public Goods Provision – An Experimental Study. *Economic Psychology*

Angelovski, A., Di Cagno, D., Grieco, D., Güth, W. (2017). *Trusting versus Monitoring: An Institutional Choice Experiment*. *Small Business Economics*

Angelovski, A., Güth, W. (2017). *When to Stop – A Cardinal Secretary Search Experiment*. *Theory and decision*

Angelovski, A., Galliera, A. Güth, W. (2017). *Excluding the Rich From Compulsory Solidarity: A Lab Experiment*. *Journal of the European Economic Society*

Anjum, G. & Güth, W. (2016). On becoming Honorable and Respecting Honor – An Experimental Study. *Journal of Economic Psychology*

- Avrahami, J., Güth, W., Kareev, Y. (2016). *To Be The Tail Of The Lions Or The Head Of The Foxes*. Management Science
- Bruttel, L., Felgendreher, S., Güth, W., Hertwig, R. (2016). *Strategic Ignorance in repeated Prisoner's Dilemma experiments and its effects on the dynamics of voluntary cooperation*. Journal of Economic Behavior & Organization
- Bruttel, L. & Güth, W. (2016). Asymmetry in voluntary cooperations – a repeated sequential best shot experiment. *Journal of Conflict Resolution*
- Chlaß, N., Güth, W., Miettinen, T. (2017). *Purely Procedural Preferences – Beyond Procedural Equity and Reciprocity*. Public Choice
- Crosetto, P., Güth, W., Mittone, L., Ploner, M. (2015). *Equity Seeking and Punishment in a Public Good Experiment*. Economics and Philosophy
- Fischer, S., Güth, W., Kaplan, T. R., Zultan, R. (2017). Auctions and Leaks: A Theoretical and Experimental Investigation. *International Journal of Industrial Organization or Economic Theory*
- Güth, W. & Otsubo, H. (2014). *Trust in generosity: An experiment of the repeated Yes-No game* (No. 2014-024). Journal of Behavioral and Experimental Economics
- Güth, W. & Winter, F. (2015). *Sorting via Screening versus Signaling: A Theoretic and Experimental Comparison*. Journal of Institutional and Theoretical Economics
- Güth, W., Kirchkamp, O. (2016). *Believing in Corporate Social Responsibility – An Indirect Evolutionary Analysis*. Corporate Governance: An International Review.
- Güth, W., Klempt, C., Pull, K. (2017). *Reactions to Different Sharing Game Experiments in Choice and Belief Data*. Economics Bulletin
- Güth, W., Koukoulis, A., Levati, V. (2016). *Voluntarily providing public projects that raise mixed feelings by a procedurally fair rule*. Journal of Institutional and Theoretical Economics
- Güth, W., Pull, K., Stadler, M. & Zaby, A. (2016). *Compulsory Disclosure of private Information: Theoretical and Experimental Results for the "Acquiring-a-Company" Game*. Economic Inquiry
- Güth, W., Stadler, M., Zaby, A. (2017). *Capacity precommitment, price messages, and collusive behavior. Theoretical benchmark and experimental evidence*. Journal of Industrial Economics
- Güth, W., Stadler, M., Zaby, A. (2017). *Coordination failure in Capacity-then-price setting games*. Journal of Economic Behavior & Organization
- Conte, A., Güth, W., Pezanis-Christou, P. (2017). *More money or more certainty: Behaviour in stochastic alternating-offer experiments*. Management Science
- Di Cagno, D., Galliera, A., Güth, W., Panaccione, L. (2017a). *Behavioral Patterns in Conditional Generosity Experiments*. Journal of Economic Psychology
- Di Cagno, D., Galliera, A., Güth, W., Panaccione, L. (2017b). *Learning About Another's Generosity Intention in an Impunity Experiment*. Oxford Economic Papers

Projects (experiments run)

LUISS Guido Carli Rome

1. Network and Voluntary Cooperation in a Public-goods Game – an experiment on how a group position affects voluntary contribution in a public-goods game (with Daniela DiCagno, Andrej Angelovski, Federica Marazzi, and Luca Panaccione)
2. Strictly Lying versus Only Moderating the Truth – experimental research on why people do not always lie if lying is the payoff-maximizing strategy (with Daniela DiCagno and Luca Panaccione)
3. Rationality with(out) Noise versus (non-) Optimal Satisficing – experimental test for "optimality with noise" by comparing the distribution of – too low or too high – risky investment and experience effects (with Daniela DiCagno and Luca Panaccione)
4. Compulsory Solidarity: when excluding the rich from compulsory solidarity – an experimental analysis (with Andrej Angelovski & Arianna Galliera)
5. Game-playing Behavior: a series of experiments examining strategic interactions in different situations
6. Decision-making and Game-playing

Frankfurt School of Finance and Management

1. Does Pre-trust Breed Trustworthiness? – Experimental test whether a trustee's decision on allocation of a fixed pie with impunity is influenced by the trustor's choice to pre-trust (with Hartmut Kliemt and Roee Sarel)
2. New Ultimatum Game with Cooling-off Periods (with Paul Bose, Hartmut Kliemt and Chiara Nardi)

University of Potsdam – Faculty of Economic and Social Sciences

Asymmetric Voluntary Cooperation – A Repeated Sequential Best Shot Experiment (with Lisa Bruttel)

University of Cologne

(Not) Letting You Know

Experiments with Endogenously Hiding or Revealing Own Private Information and Past Behavior (with Viola Ackfeld)

Lectures and Seminar Presentations

2014

Procedural Fairness: Axioms and Experiments (coauthors Federica Alberti, Hartmut Kliemt, Tassis Konkoumelis, Vittoria Levati, Matteo Ploner, Kei Tsutsui)

Business Research Seminar / Universität Tübingen

November 2014

Procedural Fairness: Axioms and Experiments (coauthors Federica Alberti, Hartmut Kliemt, Tassis Konkoumelis, Vittoria Levati, Matteo Ploner, Kei Tsutsui)

LUISS Guida Carli, Rome

May 2014

Rationalität und Moralität in der Unternehmensführung (with Hartmut Kliemt)

Berlin

January 2014

Bounded Rationality – Theoretical Framework and Experimental Evidence – & Procedural Fairness: Axioms and Experiments (coauthors Federica Alberti, Hartmut Kliemt, Tassis Konkoumelis, Vittoria Levati, Matteo Ploner, Kei Tsutsui)

School of Economics / The University of Adelaide

September 2014

2015

Rationalität und Moralität in der Unternehmensführung (with Hartmut Kliemt)

Frankfurt School of Finance and Management

September 2015

Procedural Fairness – Procedurally fair codetermination in corporate governance

UMR GAEL INRA / Université de Grenoble

October 2015

Egalitarian Corporate Governance – Experimental exploration of decision co-determination in terms of fair bidding (with Federica Alberti, Hartmut Kliemt & Kei Tsutsui)

Lecture Presentation / University of Portsmouth

October 2015

2016

Egalitarian Corporate Governance – experiment on co-determination via fair bidding (coauthors Federica Alberti, Hartmut Kliemt and Kei Tsutsui)

Lectio Magistralis / Università di Trento

January 2016

Rationality with(out) noise versus (non) optimal satisficing – a portfolio choice experiment (coauthors Daniela Di Cagno, Arianna Galliera, Francesca Marzo, Noemi Pace)

Seminar / Department of Economics / Ca' Foscari University of Venice

April 2016

On Behavioral Economics and Ultimatum-Like Experiments

Third International Meeting on Experimental and Behavioral Social Sciences / LUISS Guido Carli, Rome

April 2016

Egalitarian Corporate Governance – experiment on co-determination via fair bidding (coauthors Federica Alberti, Hartmut Kliemt and Kei Tsutsui)

Seminar Lecture / Università di Trento

May 2016

Ultimatum Concession Bargaining: an Experimental Study

Labsi_Lab2 Workshop on Game Theory and Experiments / Capua, Naples

June 2016

On Behavioral Economics and Ultimatum Experiments

Opening Ceremony of the Graduate School Economic Behavior and Governance / University of Kassel
November 2016

Egalitarian Corporate Governance – experiment on co-determination via fair bidding (coauthors Federica Alberti, Hartmut Kliemt and Kei Tsutsui)

Lecture / University of East Anglia
December 2016

2017

Egalitarian Corporate Governance – experiment on co-determination via fair bidding (coauthors Federica Alberti, Hartmut Kliemt, Kei Tsutsui)

Seminar Lecture / University of Luxembourg
February 2017

Reinhard Selten – Leading Scholar of Perfect and Bounded Rationality and Pioneer of Experimental and Interdisciplinary Research

Gedenkfeier / Goethe-Universität, Frankfurt/Main
March 2017

On Behavioral Economics and Ultimatum-Like Experiments

Lecture at the Wirtschaftsuniversität, Vienna
June 2017

On Behavioral Economics And Ultimatum Experiments & Egalitarian Corporate Governance – Experiment on Co-Determination via Fair Bidding & Push, Pull or Both? – On Indirect Evolution & Rationality With(out) Noise Versus (non) Optimal Satisficing – A Portfolio Choice Experiment

Schumpeter Lectures: Games and Experiments / University of Graz
November 2017

Teaching

Jan 2015 – Dec 2016 Business Economics (with Hartmut Kliemt)
Frankfurt School of Finance & Management

since January 2015 Game Theory; Microeconomics & Experimental Economics (with Daniela Di Cagno & Andrej Angelovski)
LUISS Guido Carli / Rome



Hanjo Hamann

My research centers on five broad themes:

Empirical Legal Studies. Over the last ten to fifteen years, lawyers have increasingly employed empirical methods and quantitative statistics to enrich and supplement traditional methods (canons) of legal interpretation. My JSD-equivalent doctoral studies (Dr. iur.) concluded with a thesis on the “Methods and Epistemic Value of Empirical Research in Law”, which was published in 2014 (ISBN 978-3-16-153322-8). I subsequently worked on different empirical projects in law, such as “A Comparative and Empirical Perspective on Groups in Corporate Decision-making” (Berkeley Bus. L. J. 2014), “The Potential and Limits of Journal Citations

Analysis” (RW 2014), “Facts and Reflections about the Structure of German Laws” (ZG 2015), and “Empirical Findings in Legal Exams and Term Papers” (JURA 2017). In 2016, I reported some general observations and future considerations for Empirical Legal Studies for the Max Planck Society yearbook (MPI 2017), and in my most recent project (jointly with my institute colleague Leonard Hoeft), we engaged with a newly published proposal to enrich contract interpretation empirically, and combined our methodological critique with suggestions for further developing this field (AcP 2017).

Legal Corpus Linguistics. A particularly fruitful interplay of legal questions and empirical methods is developing at the intersection of legal scholarship and a branch of language sciences called corpus linguistics, which analyzes statistical patterns in big data (of legal text). The theoretical framework for this methodology has been developed over the last fifty years, which I reviewed in 2014 for a handbook article published in 2017 (ISBN 978-3-11-029579-5). In 2014, I also teamed up with corpus linguist Prof. Friedemann Vogel, then at the University of Freiburg, to secure a grant that enabled us to establish the junior research group “Computer Assisted Legal Linguistics (CAL²)” at the Heidelberg Academy of Sciences. In 2015, I was elected to represent the Academy’s 25 junior fellows as a spokesperson, and two years later we won another grant to prolong our group until 2019. Various papers came out of this collaboration, both in German (ISBN 978-3-11-034894-1; DHd 2016; HAW 2015; 2016; 2017) and internationally (JURIX 2016; Law & Soc. Inq. 2017; JLL 2017; BYU L. Rev. 2018). We organized the “Fabric of Language and Law” conference in Heidelberg 2016 to bring together European and US scholars (see Winnower 2016), and were invited in 2017 as the only Europeans to the first US “Law & Corpus Linguistics” conference (BYU L. Rev. 2018). Apart from our own work, we edit the peer-reviewed Open Access journal “Language & Law” (ISSN 2194-7414), of which I am currently the managing editor.

Open Legal Science. Managing an OA journal is one of several ways in which I try to introduce legal academics to a movement that has recently gained momentum in other disciplines: Open Science. After participating in two conferences and publishing several reports on the state of Open Access in German jurisprudence (RW 2016; blogdroiteuropéen 2016; GRUR 2016; sui generis 2016/2016; LTO 2017), I successfully applied for an Open Science grant (“Free Knowledge Fellowship”), jointly established by Wikimedia Germany and the Stifterverband, a donors' association for the promotion of humanities and sciences in Germany. This grant enabled me to carry out a project to increase the transparency of the German judiciary, and to open it up for historical and social science research: The Federal Courts Dataset (www.Richter-im-Internet.de). Reports on this dataset and its potential applications have been published in German (WMde 2017; fhi 2017), and it subsequently won the German government’s 2017 “Open your mind and unfold new ideas” Competition, being signed by President Frank-Walter Steinmeier into a list of 17 scientific Landmark Ideas of 2017. This came shortly after I was elected a Junior Fellow at the Center for Interdisciplinary Research (Young ZfI) in Bielefeld for a five-year period starting in late 2016, where I subsequently initiated a working group on “Open Access in Humanities and Book Disciplines”.

Behavioral Law and Economics. Another empirical interface of law is its long-standing cooperation with economic analysis, which enables legal scholars to explicate their intuitions on the law's operating mechanisms, and to test them either experimentally or using field data. After trying both of these modes of inquiry in joint work with my colleagues at the institute, Dr. Sven Fischer, Dr. Sebastian Goerg, and Prof. Christoph Engel (Rev. Law & Econ. 2015; PLOS ONE 2016), I submitted a PhD-equivalent dissertation thesis (Dr. rer. pol.) to the University of Jena entitled "Behavioral Second-Order Strategies. Exploiting Market Myopia and Agent Delegation in Economic Decision-Making" (ISBN 978-3-00-051495-1), which I defended in early 2016. Another study in experimental economics, conducted in Pretoria (South Africa) and coauthored by Nicky Nicholls, PhD, is currently under review.

Legal Didactics. An even more recent research area concerns the didactics of teaching law, which have rarely been studied or developed systematically. Apart from my paper on empirical findings in legal exams and term papers (see above), as well as some smaller contributions to educational journals (JuS 2015; JA 2016), I have been most interested in mnemonics in legal education (ZDRW 2016), which resulted in a "Law School Mnemonics" online portal (www.EselBrueckDich.de). A new empirical study on exam requirements for graduating law students, as well as a didactic paper on a problem from German contract law are in the making, inspired by my teaching experiences at the universities of Bremen, Bonn, and Mannheim.

Prizes and Awards

- 2017 Conference Scholarship, Right to Research Coalition, Washington
- 2017 "Landmark Idea" Award, Land der Ideen Initiative
- 2015 Conference Scholarship, Right to Research Coalition, Washington
- Grants awarded 2014–2016: See "Professional activities – Fellowships"
- 2014 Publication Subsidy, Deutsche Forschungsgemeinschaft (DFG)
- 2014 Finalist, Deutscher Studienpreis, Körber Foundation, Hamburg
- 2014 Otto Hahn Medal, Max Planck Society (Humanities Section)
- 2014 Thesis Award, University of Bonn, Department of Legal Studies ("Telekom-Preis")
- 2014 Dissertation Prize, Esche Schümann Commichau Foundation, Hamburg

Publications (since 2014)

Articles in Peer-reviewed Journals

- Vogel F., Hamann H., Gauer I., (2017). Computer Assisted Legal Linguistics: Corpus Analysis as a New Tool for Legal Studies, *Law & Social Inquiry (LSI)*, 43
- Hamann, H. & Hoefft, L. (2017). Die empirische Herangehensweise im Zivilrecht. Lebensnähe und Methodenehrlichkeit für die juristische Analytik? *Archiv für die civilistische Praxis (AcP)*, 217(3), 311–336
- Engel, C. & Hamann, H. (2016). The Hog Cycle of Law Professors. An Econometric Time Series Analysis of the Entry-level Job Market in Legal Academia. *PLOS One*, 11(7), 1–22, e73531

Hamann, H. (2016). Freier Zugang zur juristischen Fachliteratur im Spiegel der Open-Science-Bewegung. Reflexionen zur Tagung «Open Access in den Rechtswissenschaften» vom 27. Mai 2016 an der Universität Bern. *sui-generis – Die juristische Open-Access-Zeitschrift*, 3, 94–104

Hamann, H. (2016). Gedächtniskunst in der Rechtsdidaktik. Zum Wert von Eselsbrücken für Studium, Referendariat und Rechtspraxis. *Zeitschrift für Didaktik der Rechtswissenschaft (ZDRW)*, 3, 116–135

Hamann, H. (2016). Mauerfall in den Wissenschaften. Tagung “OpenCon 2015 – Empowering the Next Generation to Advance Open Access, Open Education and Open Data” vom 14. bis 16. November 2015 in Brüssel. *Rechtswissenschaft. Zeitschrift für rechtswissenschaftliche Forschung (RW)*, 7, 318–326

Fischer, S., Goerg, S. & Hamann, H. (2015). Cui Bono, Benefit Corporation? An Experiment Inspired by Social Enterprise Legislation in Germany and the US. *Review of Law & Economics*, 11(1), 79–110

Hamann, H. (2014). Die Fußnote, das unbekannte Wesen. Potential und Grenzen juristischer Zitationsanalyse. *Rechtswissenschaft. Zeitschrift für rechtswissenschaftliche Forschung*, 5(4), 501–534

Articles (not peer-reviewed)

Hamann, H. & Vogel, F. (forthcoming 2018). Evidence-Based Jurisprudence meets Legal Linguistics. Unlikely Blends Made in Germany. *Brigham Young University Law Review (BYU L. Rev.)*, 43

Hamann, H. (2017). Empirische Erkenntnisse in juristischen Ausbildungsarbeiten. Prüfungsschema, Zitier- und Arbeitshilfen für das Jurastudium und danach. *JURA – Juristische Ausbildung*, 39, 759–769

Hamann, H. (2017). Richter im Internet. Editionsbericht zur Digitalisierung der Geschäftsverteilungspläne der deutschen Bundesgerichte seit dem Zweiten Weltkrieg. *forum historiae iuris (fhi)*, 21(8)

Hamann, H. & Vogel, F. (2017). The Fabric of Language and Law. Towards an International Research Network for Computer Assisted Legal Linguistics (CAL²). *International Journal of Language & Law (JLL)*, 6, 101–109

Hamann, H. (2016). Open Access in der Rechtswissenschaft. Tagung an der Universität Bern am 27. Mai 2016. *Gewerblicher Rechtsschutz und Urheberrecht (GRUR)*, 118, 1140–1142

Hamann, H. (2016). Per Anhalter durch die Urteilsformalien. Ein vergleichendes Muster für Referendare. *Juristische Arbeitsblätter (JA)*, 48, 450–453

Hamann, H., Vogel, F., Stein, D., Abegg, A., Biel, Ł. & Solan, L. M. (2016). “Begin at the beginning”. Lawyers and Linguists Together in Wonderland. *The Winnower*, 3, 4919

Dellit, K. & Hamann, H. (2015). Forderungserlass und Insolvenzplan. Zur Entmystifizierung „der Naturalobligation“ durch systematische und funktional-teleologische Auslegung. *Zeitschrift für Wirtschaftsrecht*, 35, 308–316

Hamann, H. (2015). Das Buch der Bücher, im Original mit Untertiteln. Rechtstatsachen und Reflexionen zur Gliederung deutscher Gesetze. *Vierteljahresschrift für staatliche und kommunale Rechtsetzung (ZG)*, 30, 381–395

Hamann, H. (2015). Fliegende Schweine im Recht. Prolegomena zu einer wissenschaftlichen Faselei. *Neue Juristische Wochenschrift*, 68(7), 459–461

Hamann, H. (2015). Referendarsstation im juristischen Wissenschaftsverlag Mohr Siebeck. *Juristische Schulung (JuS)*, 55(3), 32–34

Hamann, H. (2014). Bovigus. Revisiting a Legal Discovery. *Journal of Irreproducible Results*, 52(4), 29–31

Hamann, H. (2014). Moderne Verwaltung und E-Mail – oder: Eine Nummer über die Nummer. *JuristenZeitung (JZ)*, 69(6), 295–296

Hamann, H. (2014). Redaktionsversehen. Ein Beitrag zur Legislativfehlerlehre und zur Rechtsförmlichkeit. *Archiv des öffentlichen Rechts (AöR)*, 139(8), 446–475

Hamann, H. (2014). Unpacking the Board: A Comparative and Empirical Perspective on Groups in Corporate Decision-Making. *Berkeley Business Law Journal (BBLJ)*, 11(1), 1–54

Books

Hamann, H. (2016). Behavioral Second-Order Strategies. Exploiting Market Myopia and Agent Delegation in Economic Decision-Making. 112 p. Raspberry: SciPress publishers

Hamann, H. & Idler, M. (2015). Zeitgeistreiches. Scherz und Ernst in der Juristenzeitung: Glossen aus sechzig Jahren. 207 p. Tübingen: Mohr Siebeck

Hamann, H. (2014). Evidenzbasierte Jurisprudenz. Methoden empirischer Forschung und ihr Erkenntniswert für das Recht am Beispiel des Gesellschaftsrechts. (H. Dreier, U. Müßig & M. Stolleis, Eds.). 23, 414 p. Tübingen: Mohr Siebeck

Book Chapters

Hamann, H. (2017). Text, Kontext und Textualismus in der juristischen Methodenlehre. Frank Easterbrook neu gelesen und übersetzt. In F. Vogel (Ed.), *Recht ist kein Text: Studien zur Sprachlosigkeit im verfassten Rechtsstaat*, 135–150. Berlin: Duncker & Humblot

Hamann, H. (2017). Strukturierte Rechtslehre als juristische Sprachtheorie. In E. Felder & F. Vogel (Eds.), *Handbuch Sprache im Recht*, 175–186. Berlin: de Gruyter

Hamann, H. & Vogel, F. (2017). Computergestützte Rechtslinguistik (CAL²). Das Gewirk von Sprache und Dogmatik des Rechts am Beispiel des JuReko-Referenzkorpus. In Heidelberger Akademie der Wissenschaften (Ed.), *HAW Jahrbuch 2016*

Hamann, H. (2017). Müssen Richter mit allem rechnen? Empirische Realitäten im Rechtssystem. In Max-Planck-Gesellschaft (Ed.), *Jahrbuch der Max-Planck-Gesellschaft 2016*

Hamann, H. & Vogel, F. (2016). Juristisches Referenzkorpus (JuReko). Computergestützte Zugänge zu Sprache und Dogmatik des Rechts. In Heidelberger Akademie der Wissenschaften (Ed.), *HAW Jahrbuch 2015*, 288–291

Hamann, H., Gauer, I. & Vogel, F. (2016). Das juristische Referenzkorpus (JuReko). Computergestützte Rechtslinguistik als empirischer Beitrag zu Gesetzgebung und Justiz. In E. Burr (Ed.), *DHd 2016: Modellierung – Vernetzung – Visualisierung. Die Digital Humanities als fächerübergreifendes Forschungsparadigma*, 129–131

Hamann, H., Vogel, F. & Gauer, I. (2016). Computer Assisted Legal Linguistics (CAL²), in: Legal Knowledge and Information Systems. In F. Bex & S. Villata (Eds.), *Legal Knowledge and Information Systems – JURIX 2016: The Twenty-Ninth Annual Conference*, 294, 195–198. Amsterdam, Berlin, Washington, D.C.: IOS Press

Hamann, H. (2015). Der „Sprachgebrauch“ im Waffenarsenal der Jurisprudenz: Die Rechtspraxis im Spiegel der quantitativ-empirischen Sprachforschung. In F. Vogel (Ed.), *Zugänge zur Rechtssemantik*, 184–204. Berlin: de Gruyter

Vogel, F., Hamann, H., Gauer, I. & Rook, M. (2015). Vom corpus iuris zu den corpora iurum. Konzeption und Erschließung eines juristischen Referenzkorpus. In *Jahrbuch – Heidelberger Akademie der Wissenschaften*, III, 275–278. Heidelberg: Universitätsverlag Winter

Blogs

Hamann, H. & Graf, F. (2017). VGH Mannheim verhandelt über Open Access. Müssen Wissenschaftler ihre Ergebnisse frei zugänglich machen?, Legal Tribune Online (LTO), http://lto.de/persistent/a_id/24747

Hamann, H. (2017). Gerichtsurteile als Menschenwerk. Zum Editionsprojekt „Die Namen der Justiz“. Wikimedia Deutschland Blog, <http://blog.wikimedia.de/2017/02/23/gerichtsurteile>

Hamann, H. (2016). Open Access in German legal academia. Challenges and Perspectives. *Blog Droit Européen*, <http://blogdroiteuropeen.com/?p=2841>

Professional Activities

Editorial Activity

Managing Editor, International Journal of Language & Law (JLL), www.languageandlaw.de

Fellowships

Fellow Freies Wissen, Wikimedia / Stifterverband, Berlin

Das junge ZiF, Zentrum für interdisziplinäre Forschung, Bielefeld

Nachwuchskollegiat / Kollegiatensprecher, Akademie der Wissenschaften, Heidelberg

Teaching

summer term 2014	Law and Legal Science – Institutions in Practice IMPRS Uncertainty Jena
summer term 2016	Empirische Forschung im Recht University of Bremen
winter term 2016/17	Typische Fehler in der zivilrechtlichen Examensklausur University of Bonn
winter term 2016/17	Examensrepetitorium Schuldrecht AT University of Mannheim
winter term 2016/17	Law in Economics: Perspectives / German Civil Law Max Planck Institute Bonn
summer term 2017	Empirische Forschung im Recht University of Bremen
winter term 2017/18	Klausurtechnik und häufige Fehlerquellen im Zivilrecht University of Bonn
	Examensrepetitorium Schuldrecht AT University of Mannheim



Martin F. Hellwig

My work over the past four years has again covered several areas. Issues of regulatory reform after the financial crisis have still taken up a large part of my time and energy, but I have also managed to return to theoretical work, to wind up some projects there, and to pursue new ideas. However, I have continued to do policy work. Whereas I left the Advisory Scientific Committee of the European Systemic Risk Board in May 2015, I became a member of the European Parliament's Expert Panel on Banking Union/Bank Resolution in 2016 and have also participated actively in recent work of the Advisory Committee of the Ministry for the Economy and Energy in Berlin. Further policy activities involved lectures, op-eds and interviews on the so-called euro crisis and on the role of the Europe-

an Central Bank in that crisis. In much of this work, I have followed the MPI's Academic Advisory Council's suggestion in 2010 that we should bring our work more into the public debate than we had done so far.

Theoretical Work on Mechanism Design and Public-Good Provision

Theoretical work on mechanism design and public-good provision has been pursued jointly with Felix Bierbrauer. The article "Robustly coalition-proof incentive mechanisms for public-good provision are voting mechanisms and vice versa", in the *Review of Economic Studies* 2016 considers a model with finitely many participants and with a public good that can be provided at levels zero or one and shows that a social choice function can be implemented by a robustly incentive-compatible and robustly coalition-proof mechanism if and only if it can be implemented by a voting mechanism, i.e. a mechanism that merely asks whether people want the public good to be provided or not and that makes the outcome depend on whether the votes in favour exceed a certain threshold or fall short of it, without considering preference intensities.

Given that the *Review of Economic Studies* wanted only an analysis with finitely many participants, another paper, "Public-Good Provision in Large Economies", MPI Preprint 12/2015, considers the question of what can we say when individuals feel that they are too insignificant to affect aggregate outcomes, in this case, the level of public-good provision. Besides looking at large, rather than finite economies, this paper makes the following contributions: First, it uses a weaker concept of coalition proofness, which does not allow a deviating coalition to know the distribution of taste parameters in the rest of the population. Second, whereas the paper in the *Review of Economic Studies* assumed that deviating coalitions cannot stipulate side payments between members, in the large economy, absence of side payments is a result, rather than an assumption. Third, we allow for an arbitrary number of public-good provision levels (rather than two), with non-decreasing marginal provision costs. The paper has two major results: First, in the large economy, a first-best social choice function can be implemented by a robustly incentive compatible mechanism with budget balance. Second, a monotonic social choice function, i.e., a social choice function under which the level of public good provision does not drop if distribution of the parameters that indicate people's willingness to pay is shifted "to the right", can be implemented by a robustly incentive-compatible mechanism with budget balance that is immune to robust collective deviations, if and only if it can be implemented by a voting mechanism. Under a certain additional condition, any such voting mechanism is characterized by a non-decreasing sequence of thresholds such that the public good is provided at level k , if and only if in a binary vote between levels $k-1$ and k , the specified threshold is met, and in a binary vote between levels k and $k+1$, the specified threshold is not met. We are currently working on extensions to allow for decreasing marginal costs.

The stochastic specification in “Public-Good Provision in Large Economies” involves aggregate as well as individual uncertainty. The specification is an instance of a large class of models in which (i) the payoff for any one agent depends only on the agent's own characteristics and actions and on the cross-section distribution of actions in the population, (ii), there are many agents, and each agent considers the effect of his own actions on the cross-section distribution of actions to be negligible, and (iii) uncertainty can be decomposed into an aggregate component and an agent-specific component, and the latter satisfies an exact law of large numbers. Other applications appear in the analysis of currency attacks and bank runs, takeover battles, electoral competition and voting. In a forthcoming new paper, “Incomplete-Information Games in Large Populations with Anonymity”, I provide mathematical foundations for the analysis of such games, which until now are missing because the notion of a continuum of (conditionally) independent variables involves serious technical and conceptual problems. These problems can be resolved by introducing the notion of a rich Fubini extension of the product of the space of agents and the space of states of nature. More interestingly, I show that, if a condition that I call “anonymity in beliefs” is satisfied, then the decomposition of uncertainty into an aggregate component and an individual component arises naturally in the sense that conditionally on the cross-section distribution of agent characteristics, individual characteristics are (essentially pairwise) independent and identically distributed with a conditional probability distribution equal to the cross-section distribution.

In models with aggregate as well as individual uncertainty, the characteristics of different individuals are correlated. For mechanism design, the question arises to what extent such correlations might be used to extract information about the participants' valuations without losing the ability to extract payments from them. Crémer and McLean (*Econometrica* 1989) and McAfee and Reny (*Econometrica* 1992) had shown how this might be done. Subsequent work by Heifetz and Neeman (*Econometrica* 2006) and by Chen and Xiong (*Econometrica* 2013) discussed in what sense these results can be taken to generic; Heifetz and Neeman argued that they are “exceptional”, Chen and Xiong, that they are “generic”. In “The generic possibility of full surplus extraction in models with large type spaces”, *Journal of Economic Theory* 2017, provides a set of very general results showing that (approximately) full surplus extraction is generic in the sense that for a residual set of model specifications, appropriate mechanisms can be found for this purpose. The analysis in Gizatulina and Hellwig (2017) is more general than the previous analyses in that it applies to both, abstract-type-space and universal-type-space formulations, and it allows for many specifications of topologies on type spaces and beliefs, including the stronger topologies that have recently been proposed in order to ensure certain desirable continuity of optimizing behaviour. The analysis also differs from the earlier work in that it focuses on belief functions, taking seriously the interpretation of belief functions as conditional distributions reflecting agents' information.

In an earlier paper, “Beliefs, Payoffs, Information: On the Robustness of the BDP Property in Models with Endogenous Beliefs”, *Journal of Mathematical Economics* 2014, we had already used this approach to show that the so-called BDP property, i.e. the property that an agent's payoff parameters can be inferred from his beliefs, is generic. The property in question is necessary but not sufficient for full surplus extraction, moreover the earlier result applied to abstract type spaces only and then only for one particular topology on beliefs. The new paper contains the earlier result, but besides concerning a stronger condition, it is much more general.

The application of genericity results to the universal type space with the stronger topologies that allow for lower as well as upper strategic continuity requires an account of the relation between the space of hierarchies of beliefs about the other agents' payoff parameters, first-order, second-order, etc. beliefs, and the space of measures on other agents' hierarchies. In the classical paper on the universal type space by Mertens and Zamir (*International Journal of Game Theory* 1985), the finding that these spaces are homeomorphic stands at the core of the analysis. It was therefore surprising to find that the literature proposing new and stronger topologies for the universal type space did not contain such a result. The gap is filled by the paper “A homeomorphism theorem for the universal type space with the uniform topology”, MPI

Preprints 2016, revised 2017, with additional mathematical tools developed in the 2017 MPI Preprint “Probability measures on product spaces with uniform metrics”.

Financial Stability and Financial Regulation

The book “The Bankers’ New Clothes: What’s Wrong with Banking and What to Do about It”, co-written with Anat Admati, was published in 2013, but it continued to keep me busy for quite a while. A paperback edition with a new preface was published in 2014. Demand for lectures and interviews on the subject remained steady for quite a while. By now the book has also been published in German, Spanish, Japanese, Complex Chinese, Simplified Chinese, Hebrew, Portuguese, and Italian.

Discussion of the book’s messages has gone on unabated. We have therefore updated “The Parade of the Bankers’ New Clothes Continues” several times. The last update, from January 2016, refers to “31 Flawed Claims Debunked”. A further update, addressing at least 33 flawed claims, is due to come out shortly.

Further revisions were done on “The Leverage Ratchet Effect” (MPI Preprint 2013/13), with Admati, Demarzo, and Pfleiderer. This paper is now forthcoming in the *Journal of Finance*. The paper makes three contributions. First, it shows that, in addition to the effects of tax discrimination and bailout subsidies favouring debt funding over equity, shareholder resistance to recapitalization also reflects a debt overhang effect: Putting in money (or raising money by issuing new equity) in order to buy back debt makes the debt holders better off but, unless shareholders have a way to appropriate this rent, they become worse off. At the same time, shareholders are always willing to increase leverage. The effect is very robust and prevents recapitalizations even if these recapitalizations would raise the value of the firm by a lot.

Second, the paper discusses the implications of debt-overhang-driven shareholder resistance to recapitalizations when this resistance is anticipated by potential creditors. Using numerical examples, the paper shows that initial leverage is likely to be lower than predicted by traditional trade-off theories, but once the firm is in debt, over time, leverage will rise to levels much higher than predicted by the traditional theories. Responses to exogenous shocks, e.g. changes in corporate tax rates, are asymmetric in that the leverage goes up when a shock reduces the cost of debt, but fails to go down when the shock increases the cost of debt. The explanatory power of traditional theories of corporate finance thus comes into doubt in a fundamental way.

Third, the paper considers the reactions of shareholders to increases in regulatory capital requirements that take the form of a higher ratio of required equity to total assets. Under certain conditions, shareholders are shown to be indifferent between (i) asset sales accompanied by a reduction in debt, (ii) an issue of equity through a rights offering accompanied by a reduction in debt, and (iii) an issue of equity through a rights offering accompanied by asset purchases. The conditions are: a single class of debt, homogeneous assets, and a price of assets that equals the expected present value of returns (taking account of tax and bankruptcy cost effects) after the operation. The empirical observation that banks prefer alternative (i) over (ii) and (iii) can be explained by deviations from these conditions, namely, with heterogeneous debt, asset sales accompanied by a reduction in *junior* debt impose a burden on senior debt whose exposure to losses in bankruptcy is increased. If the externality on incumbent senior debt is sufficiently strong, the preference for asset sales is present even if these sales destroy value.

Like other effects that favour debt over equity, the debt overhang and leverage ratchet effects are driven by private benefits to shareholders, which are not social benefits. From an ex ante point of view, the effect can actually be harmful to shareholders because at the time of initial contracting debt holders will anticipate it. If it were possible to precommit future behaviour, it would be mutually advantageous to impose an obligation to recapitalize and buy back debt when there is a danger of financial distress.

In the last report, I discussed a new project, “Liquidity Provision and Equity Funding of Banks”. The purpose of the project was and is to investigate whether the “production” of liquid claims such as deposits, which are legally debt, is in conflict with bank funding by equity as well as debt. In recent discussions about equity regulation of banks, resistance against higher equity requirements has been justified with the argument that such requirements would involve a decrease in funding by deposits and other liquid claims and would thus contravene the very function of banks in the economy. A counter-argument would be that higher equity makes the bank safer, strengthens trust in the bank and thereby enhances the liquidity of deposits and other short-term claims produced by the bank. Moreover, the increase in the share of equity in bank funding would not come at the expense of funding by liquid debt, if this increase was achieved by raising additional equity and investing the proceeds, e.g. in the market. The latter argument presumes that there are additional funds to be raised, i.e. that we are not starting from an equilibrium in which investors only hold debt and equity of banks. This presumption is not unrealistic but its place in the overall conceptual framework is unclear. The paper “Liquidity Provision and Equity Funding of Banks” is intended to clarify the issues. One objective is also to clarify what market failures might arise and might call for statutory regulation.

Work on this project has not yet been brought to completion because I have had problems in proving the existence of an equilibrium for the model I developed. The reasons for these problems seem to be technical, rather than economic, namely I work with a continuum of investors and a continuum of banks (to avoid all concerns about market power), and, e.g. with a constant-returns-to-scale technology, I do not have any natural bounds on the positions taken by any given bank. These features cause problems for the application of standard fixed-point arguments; the fixes that I have tried so far have not worked. At the point, the question is whether to try some more or to accept “defeat” and to change the model into something uglier, less well suited to articulate the economic issues, where existence of an equilibrium is not a problem, e.g., by introducing an artificial bound on the positions of banks.

The economic structure is very simple: Banks issue deposits, bonds, or shares in order to fund investments that earn returns under a stochastic constant-returns-to-scale technology. Bonds and shares provide their holders with monetary returns only. Deposits provide their holders additionally with liquidity benefits, direct contributions to utility. However, these liquidity benefits are available only if the bank is not defaulting on its debt. I also allow for the possibility that deposit provision might be costly.

If uncertainty about returns is sufficiently small, default is not a relevant concern. In this case, an equilibrium necessarily exists and involves bank funding by deposits up to the point where the marginal resource cost of additional deposits is equal to the marginal liquidity benefit. If investors have more funds to invest, the extra funds go into shares or bonds but the mix is irrelevant as long as bond finance doesn’t induce a prospect of default. In the absence of default, laissez-faire is efficient. If uncertainty about returns is large, e.g. if the rate of return on investments can be close to zero with positive probability, default may be unavoidable. In this case, some equity funding of banks is desirable because it reduces the probability of default and increases expected liquidity benefits from deposits. However, if banks are unable to pre-commit and communicate their overall funding mixes to investors, equilibrium deposit funding will be excessive and liquidity provision inefficiently low. The argument is akin to the debt overhang effect in the “leverage ratchet” paper: In negotiating with any one depositor, the externalities of additional debt on the other depositors’ liquidity benefits are neglected. If the technology exhibits constant returns to scale, equilibrium liquidity benefits are in fact zero and *any* form of statutory regulation of bank equity would improve the allocation. (In this version of the model, an equilibrium can be shown to exist.) If banks are able to pre-commit and to communicate their overall funding mixes to investors, and if an equilibrium exists, the equilibrium allocation will in fact be constrained-efficient and will provide for bank funding by equity as well as deposits. In these equilibria, the equity supports the liquidity benefits from deposits, i.e. liquidity provision and equity funding are complementary rather than substitutes.

The paper “Systemic Risk and Macroprudential Policy” was written for a conference at the Dutch central bank and provides a critical assessment of our understanding of the terms “systemic risk” and “macroprudential”. Both terms have made it into European legal norms such as the Regulation creating the European Systemic Risk Board, but both terms are unclear. For example, do we think of “systemic risk” as risks from the financial system to the macro-economy, as risks from the macro-economy to the financial system, or of risks to both from interactions inside the financial system? Whereas some of the economics literature has assumed that the term “systemic risk” refers to a well-defined object and has begun to propose measuring it, the paper shows that there are many kinds of systemic interactions that can make a difference and that the incidence of these effects is highly contingent on the state of the system. The paper also suggests that many “systemic” effects are due to market participants’ exposing themselves to risks associated with macro shocks, e.g. changes in interest rates or exchange rates and then hiding these risks through complex contractual arrangements, fooling themselves as well as others. An example would be the mid-1990s US Dollar lending of international banks to Thai banks and of Thai banks to Thai firms, which was intended to immunize the banks against exchange rate risk and proved useless when, after the 1997 devaluation of the Baht, Thai firms that were earning their money in Baht found that they could no longer service their dollar-denominated debts. The paper observes that, whereas the taking of macroeconomic risks, on which one can earn risk premia, is a constant in the behavior of banks and other financial institutions, the devices that they use to downplay the risks are forever different. It concludes that we should not endeavor to “measure” systemic risk, as its nature is forever changing, but to observe ongoing developments and try to infer where the macro risks are hidden this time around. This analysis leads on to further conclusions about the design of macro-prudential institutions and of macro-prudential policies.

I conclude this account of work on financial stability and financial regulation with a reference to three papers that I have recently written for the European Parliament’s Committee on Economic and Monetary Affairs: “Total Assets versus Risk-Weighted Assets: Does It Matter for MREL Requirements?”, MPI Preprint 12/2016, “Carving Out Legacy Assets: A Successful Tool for Bank Restructuring”, MPI Preprint 03/2017, and “Precautionary Recapitalizations: Time for a Review”, MPI Preprint 14/2017. The first of these papers concerns the question on what basis the minimum requirements for a bank’s funding by bail-in-able debt (minimum required eligible liabilities – MREL), i.e. debt that can be made to bear losses in resolution, should be determined, whether such requirements should be calibrated to the risks attached to the bank’s assets or whether they should just be calibrated to the bank’s balance sheet. The second paper provides a critical assessment of the proposal that was recently made by the Chair of the European Banking Authority, to deal with the € 1 trillion non-performing loans in European banks by having an EU-wide, government-guaranteed or even government-funded asset management company take over the non-performing loans and dispose of them with a clawback condition on banks to immunize (!?) taxpayers from the associated risks. The third paper discusses the use of government funds to inject equity into failing banks as a way to avoid insolvency, at least for another while. Whereas some such measure would be warranted for institutions with systemically important operations in multiple jurisdictions, the actual practice, in the cases of Monte dei Paschi di Siena and of the Venetian banks, is quite objectionable. Here again the contribution is to lay out the issues, the existing rules and the actual practice.

Financial Stability and Monetary Policy

In previous work (“Quo vadis Euroland? European Monetary Union between Crisis and Reform”, Preprint 2011/12), I had studied the interdependence of sovereigns and banks, sovereign debt crises and banking crises, as a major reason why it has been so difficult to disentangle the issues and resolve the various crises in the euro area. As Chair of the Advisory Scientific Committee of the European Systemic Risk Board (ESRB), in 2012, I was the lead author of a report (“Forbearance, resolution, and deposit insurance”) of the Advisory Scientific Committee, which proposed a common system of bank supervision and a common

system of bank resolution as a way to overcome procrastination of Member State authorities in dealing with the need to clean up the debris from the crisis.

The actual development of the European Banking Union, with a single supervisory mechanism and a single resolution mechanism, stopped well short of what was needed. The paper “Yes, Virginia, there is a European Banking Union, but it may not make all your wishes come true!”, which was written for a 2014 conference at the Austrian National Bank on Banking Union, gave a critical assessment of developments leading up to the creation of the Banking Union, the flaws of the previous institutional setup, the changes that were introduced and the shortcomings of the reforms. Echoing the old newspaper headline “Yes, Virginia, there is a Santa Claus!”, and running counter to the prevailing ailing attitude among officials, the paper argued that Banking Union would not be a panacea (a Santa Claus) for the problems of the euro area financial and monetary systems. The Single Supervisory Mechanism would be hampered by the need to cooperate with national authorities and to apply national laws that implement European directives; this would make for fragmentation even if the ECB was in charge.

Most importantly, drawing on earlier work, discussed in the previous report, the paper criticized the legal procedures for the recovery and resolution of institutions in difficulties: If banks with systemically important operations in several countries enter into resolution, there is no way to prevent the breakdown of these operations and to limit the resulting systemic damage. Further, the legislation makes no provisions for the liquidity needed for maintaining systemically important operations at least temporarily. Finally, there is no fiscal backstop. Because of the deficiencies, the paper suggested that the “too-big-to-fail” syndrome would still be present. Developments since then, in particular the weakness of the resolution mechanism, have confirmed the criticism. This year’s requests from the European Parliament for papers on how to deal with legacy problems and on precautionary recapitalizations are evidence of the prevailing reluctance to even use the available resolution mechanism. National authorities continue to prefer procrastination over cleanups of their banks’ problems.

The persistent weakness of many banks presents a challenge for monetary policy because banks are an important part of the monetary system: Bank deposits share important functions of money, they are the basis of the payment system, and bank loans are an important part of the transmission mechanism for monetary policy. In 2012, it seemed that the ECB had to provide liquidity to banks in order to maintain the monetary system; since the banks in turn lent to their governments, this meant that governments got indirect access to the printing press. Since then, banking systems have been more stable, but now the ECB is engaging in monetary policies that put banks at risk the idea being that if banks lend to the real economy, economic growth will pick up and deflation will be pre-empted.

Two papers, “Financial Stability and Monetary Policy, Banking Supervision and Central Banking” and “Financial Stability and Monetary Policy”, try to clarify the conceptual issues that underlie these developments. The former was commissioned for the first ECB Forum in Sintra 2014, the second one for a 2015 conference at the Federal Reserve Bank of Atlanta. For the Sintra conference, the ECB actually wanted a paper on central banking and banking supervision, but I thought it important to also consider the relation between financial stability and monetary policy as the argument just given suggests that this relation is really crucial. I also thought that a more systematic treatment might address some of the issues raised in the legal proceedings, before the German Constitutional Court and the European Court of Justice, about the legality of ECB policies.

Both papers begin with systematic accounts of the evolution of central banking and monetary policy mandates. Historically, financial stability has figured prominently among central banks’ objectives, with policies ranging from interest rate stabilization to serving as lender of the last resort. With the ascent of macroeconomics and with the shift from convertible currencies to pure paper currencies, these traditional concerns of central banks have been displaced by macroeconomic objectives, price stability, full employ-

ment, growth. The financial crisis and the euro crisis have shifted the focus back to financial stability even though there no longer is any financial stability mandate. Given the prominence of concerns about central bank solvency in political and legal discussion, I argue in some detail that these concerns are misplaced in a world in which the issue of paper money does not impose any obligation on the issuer (unlike the world of the gold standard, where the issuer had to be ready to exchange notes into gold).

The Sintra paper goes on to a discussion of moral hazard in banking and banking supervision as a threat to monetary dominance and to the effective independence of central bank decision making in an environment in which financial stability is an essential precondition for reaching the central bank's macroeconomic objective, e.g. price stability. It concludes with a discussion of the challenges for institution design in particular the appropriate design of the relation between supervisory institutions and central banks so as to ensure that the central bank is fully informed about the state of the financial systems and the likely consequences of monetary policy decisions financial stability while also ensuring that supervisory decisions, e.g. a decision on whether to put a bank into a resolution regime, do not become hostage to the central bank's monetary policy.

After establishing the principle that financial stability matters for monetary policy, the Atlanta paper goes on to discuss two challenges. First, what should be done to assess the relevance of financial stability concerns in any given situation? How should one deal with the fact that systemic interdependence takes multiple forms and is changing all the time and that many contagion risks cannot be measured? The discussion here draws heavily on the paper "Systemic Risk and Macroprudential Policy" that I discussed above.

Second, what is the relation between financial-stability and macroeconomic-stability objectives? To what extent do they coincide, to what extent are they in conflict? How should tradeoffs be handled and what can be done to reduce the risk of the central bank's succumbing to financial dominance? The above observation that in 2012, the ECB rescued the banks in order to maintain the monetary system (and to protect the macroeconomy) and since 2015 has been pressuring the banks to lend to the real economy even if they could hardly bear the risks suggests that we need some principles on which to decide such prioritizations.

To conclude this account, I note that I was also co-chair of the ESRB expert group that prepared the ESRB Report on the Regulatory Treatment of Sovereign Exposures, which came out in 2015. Beyond the obvious facts about biases from privileged treatments of sovereigns, the most important insight from that report was the finding that, in dealing with risks from lending to sovereigns, large-exposure regulation is much more important and capital regulation, which hardly bites because, prior to a crisis, ratings of sovereigns are usually very good so, under the risk-based approach to assessing required equity, not much equity is needed to back investments in sovereign debt.

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- Hellwig, M. F. (Interview), (28.02.2014). Banken nach der Krise: Wie sicher sind sie?, *Süddeutsche Zeitung*
- Hellwig, M. F. (10.03.2014). Mehr Eigenkapital!, *NZZ, Neue Zürcher Zeitung* – Folio, 272, p. 22–29
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- Hellwig, M. F. (Interview), (27.08.2014). Das Too-big-to-fail-Problem ist nicht gelöst, *NZZ, Neue Zürcher Zeitung online – Wirtschaft*
- Hellwig, M. F. Admati, (12.09.2014). A Reckless Banking Industry is a Drag on the Economy, *Financial Times online*
- Hellwig, M. F. (Interview), (24.10.2014). Banken sollten ihr Eigenkapital auf 30 % aufstocken, *VDI Nachrichten*, no. 43, *Technik & Gesellschaft*, p. 4
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- Hellwig, M. F. (17.12.2014). “Wider das ‘Business as Usual’” in der Eigenkapitalregulierung für Banken, *Audit Committee Quarterly IV/2014: Bankenunion*, p. 19–21

Policy Reports

“Is Europe Overbanked?” Report 04/2014 of the Advisory Scientific Committee of the European Systemic Risk Board, June 2014.

ESRB Report on the regulatory treatment of sovereign exposures, European Systemic Risk Board, March 2015.

Brief des Wissenschaftlichen Beirats beim Bundesministerium für Wirtschaft und Energie zu den Vorschlägen des Basler Ausschusses für Bankenaufsicht zur Behebung von Missständen bei den Eigenkapitalvorschriften für Banken (Letter of the Academic Advisory Committee of the Ministry for the Economy and for Energy on the Proposals of the Basel Committee on Banking Supervision Concerning the Abolition of Abuses under Existing Capital Regulation of Banks), November 2016.

Gutachten des Wissenschaftlichen Beirats beim Bundesministerium für Wirtschaft und Energie zur Diskussion um Bargeld und die Null-Zins-Politik der Zentralbank (Report of the Academic Advisory Committee of the Ministry for the Economy and for Energy Concerning the Discussion about Cash and about the Zero-Interest-Rate Policy of the Central Bank), February 2017.

Brief des Wissenschaftlichen Beirats beim Bundesministerium für Wirtschaft und Energie zur Neugestaltung der Wirtschaftsbeziehungen mit Großbritannien (Letter of the Academic Advisory Committee of the Ministry for the Economy and for Energy Concerning the Future of Economic Relations with the United Kingdom), April 2017.

In addition, the above-listed Preprints 12/2016 (“Total Assets versus Risk-Weighted Assets”), 03/2017 (“Carving out Legacy Assets”), and 14/2017 (“precautionary Recapitalizations”) were written as reports to

the European Parliament's Committee on Economic and Monetary Affairs, and the above-listed article in *Credit and Capital Markets* contains the written version of a statement made at a hearing of the German Constitutional Court in May 2017.

Lectures and Seminar Presentations (since 2014)

2014

The Bankers' New Clothes – What is Wrong with Banking and What to Do about It

Bharat Ram Memorial Seminar, New Delhi

15 January 2014

On the regulation of banks – The Bankers New Clothes

The Norwegian Association of Economists, Oslo

3 February 2014

Ist die Finanzmarktregulierung auf dem richtigen Weg?

Ludwig-Erhard-Stiftung e.V., Bonn

4 February 2014

The Bankers' New Clothes – What's Wrong with Banking and What to Do about It

Trinity College Dublin

14 February 2014

Des Bankers neue Kleider: Zur Reform der Bankenregulierung nach der Finanzkrise

CFA Society Germany e.V., Frankfurt am Main

17 Februar 2014

Governments, Banks, and Monetary Union in the Crisis: What is the Role of the Central Bank?

Erasmus School of Economics, Erasmus University Rotterdam, Rotterdam

24 February 2014

Neues Denken über Banken und Finanzmärkte

Konferenz des Handelsblatt Research Institute, Frankfurt/M.

26 February 2014

Warum sind die bisherigen Reformen unzureichend?

Gesellschaft für Finanzwirtschaft in der Unternehmensführung (GEFIU), Munich

7 March 2014

Staaten, Banken und Zentralbank in der Währungsunion – Warum ist die „Euro-Krise“ so schwer zu bewältigen?

Frankfurter Gesellschaft für Handel, Industrie und Wissenschaft e.V., Frankfurt/M.

26 March 2014

Banks, Governments and Monetary Union in the Crisis

Athens University of Economics and Business in cooperation with Foundation for Economic and Industrial Research (IOBE), Athens

6 May 2014

Yes Virginia, There is a European Banking Union! But It May Not Make Your Wishes Come True
Austrian National Bank's 42nd Economics Conference, Vienna
13 May 2014

Neoliberales Sektierertum oder Wissenschaft? Zum Verhältnis von Grundlagenforschung und Politikanwendung in der Ökonomie
Otto-von-Guericke-Universität Magdeburg
16 May 2014

Des Bankers neue Kleider: Warum reichen die bisherigen Reformen der Finanzmarktregulierung nicht aus?
Vortrag an der Frankfurt School of Finance and Management, Frankfurt/M.
20 May 2014

Has Financial System Safety been increased?
Konferenz University of Bonn/CEPR/Deutsche Bundesbank, Bonn
22 May 2014

Financial Stability, Monetary Policy, Banking Supervision and Central Banking
European Central Bank Forum on Central Banking, Sintra
26 May 2014

“Des Bankers neue Kleider” – Warum die bisherige Reform von Bankenregulierung und Bankenaufsicht nicht genügt
Forum Feldafing e.V., Feldafing
2 June 2014

Regulatory Reform since 2008: Has the Financial System Become Safe?
Bulgarian National Bank, Sofia
6 June 2014

Systemic Risk and Macro-prudential Policy
De Nederlandsche Bank, Amsterdam
10 June 2014

After the Reform of Banking Regulation: Has the Financial System Become Safe?
International Monetary Fund and De Nederlandsche Bank, Amsterdam
12 June 2014

After the Reform of Banking Regulation: Has the Financial System Become Safe? Or is it Business as Usual?
Louis-André Gerard-Varet Conference, Aix-en-Provence
24 June 2014

Warum reichen die Reformen der Finanzregulierung nicht aus?
Maklerfachtagung der Sparkassen Versicherung, Frankfurt/M.
25 June 2014

The Law and Economics of Bank Resolution

European Summer Symposium in Economic Theory, Gerzensee

3 July 2014

Das Too-big-to-fail Problem ist nach wie vor nicht gelöst!

Finanz und Wirtschaft Forum "Vision Bank – Vision Finanzplatz Schweiz", Zurich

26 August 2014

Governments, banks and monetary policy – challenge of the European Banking Union

The Mentor Group Boston, Vienna Forum 2014, Vienna

11 September 2014

"Des Bankers neue Kleider" – Warum die bisherige Reform von Bankenregulierung und Bankenaufsicht nicht genügt

3SAT/ARTE, Mainz

15 September 2014

Do Bank(er)s Earn Too Much?

Berlin Brandenburg Academy of Science, Berlin

29 September 2014

"Niedrigzinsphase – Herausforderung für Aufsicht und Industrie"

Österreichische Finanzmarktaufsicht, Vienna, Austria

30 September 2014

The Too-Big-to-Fail Problem is Still with us – Why Legal and Regulatory Reform after the Crisis have been Insufficient

Wissenschaftskolleg zu Berlin, Berlin

9 October 2014

Warum reichen die bisherigen Reformen der Finanzregulierung nicht aus?

CFS Colloquium Reihe an der Goethe-Universität Frankfurt/M.

22 October 2014

Liquidity Provision and Equity Funding of Banks

Max Planck Institute for Research on Collective Goods, Bonn

27 October 2014

Financial Stability, Monetary Policy, Banking Supervision and Central Banking

Seminar of National Bank of Poland, Warsaw

14 November 2014

Liquidity Provision and Equity Funding of Banks

Leo Hurwicz Memorial Lecture 2014, Warsaw

15 November 2014

What can be achieved by structural reform in banking

European Parliament Public Hearing on Bank Structural Reform, Brussels

2 December 2014

Warum reichen die bisherigen Reformen der Finanzregulierung nicht aus?

University of Tuebingen, Tuebingen

3 December 2014

Banking regulation: What do the banks do?

Finance Watch Conference, Berlin

4 December 2014

Warum die europäische Währungsunion eine funktionsfähige Bankenunion braucht, aber wohl nicht bekommt

Seminarreihe "Münchner Seminare" der CESifo Munich

8 December 2014

Heraus aus der Dunkelheit – die Regulierung der Schattenbanken

Gesprächskreis "Finanzmarkt und Finanzpolitik" des SPD-Parteivorstandes, Frankfurt/Main

10 December 2014

Systemic Risk and Macroprudential regulation

Isaac Newton Institute for Mathematical Sciences, Cambridge

17 December 2014

2015

Zurück zur guten alten Zeit? Warum hat sich der Finanzsektor so verändert?

Rotary Club Bonn

20 January 2015

Des Beirats neue Kleider – Anmerkungen zur Stellungnahme 01/2014 des Wissenschaftlichen Beirats beim BMF

Bundesministerium der Finanzen, Berlin

23 January 2015

Money Creation in the modern economy

European Central Bank, Frankfurt/M.

27 January 2015

Liquidity Provision and Equity Funding of Banks

Aix-Marseille School of Economics, Marseille

11 February 2015

Regulatory Reform after the Crisis: Why the Financial System is Not Safe Enough

London School of Economics and Political Science, London

10 March 2015

Liquidity Provision and Equity Funding of Banks

School of Economics, Edinburgh University, Edinburgh

11 March 2015

Banks, Governments, and the Central Bank in the European Crisis

School of Law, Edinburgh University, Edinburgh

11 March 2015

Has regulatory reform made the financial system safer?

Center for Interdisciplinary Research University of Bielefeld

20 March 2015

Financial Stability and Monetary Policy in a Time of Crisis

Federal Reserve Bank of Atlanta, Stone Mountain, Georgia

1 April 2015

Yes Virginia, There is a European Banking Union! But It May Not Make

Your Wishes Come True

Leiden University, Leiden

21 April 2015

Die Deutschen und die EZB in der "Euro-Krise"

IÖZ Karlsruhe, Frankfurt/M.

28 April 2015

Warum kommen wir nicht aus der Krise heraus?

Bundestiftung Erinnerung, Verantwortung und Zukunft, Hannover

29 April 2015

Des Bankers neue Kleider: Was bei Banken wirklich schief läuft und was sich ändern muss

Vienna Insurance Group AG, Vienna

4 May 2015

Die Symbiose von Staat und Banken als ordnungspolitisches Problem

Forschungsinstitut für Wirtschaftsverfassung und Wettbewerb e.V., Berlin

7 May 2015

The next crisis will come for sure: What can we do about it?

Institute for Financial Research, Stockholm

19 May 2015

Liquidity Provision and Equity Funding of Banks

5th ETH-NYU Law and Banking Conference, Zurich

30 May 2015

Zur Reform der Bankenregulierung nach der Finanzkrise

2. Leipziger Tagung zu Kontinuität und Wandel bei europäisierten Aufsichts- und Regulierungsstrukturen,
Leipzig

11 June 2015

Corporate Governance als ordnungspolitisches Problem

Nordrheinwestfälische Akademie der Wissenschaft und Künste, Dusseldorf

18 June 2015

Finanzkrise und Wirtschaftstheorie

Universität Ulm

23 June 2015

Banks, governments and central banks in the financial and economic crisis

PET 2015 Luxemburg

1 July 2015

European Banking Union – Where are we and what is missing?

Florence Forum, Florence

16–19 September 2015

Der Wirtschaftswissenschaftler als Politikberater

Handelskammer Hamburg

8 October 2015

Governments, Banks and Monetary Policy in a Time of Crisis

W.A. Mackintosh Lecture, Queen's University, Department of Economics, Kingston, Ontario

13 October 2015

Liquidity Provision and Equity Funding of Banks

Queen's University, Department of Economics, Kingston, Ontario

14 October 2015

Key things that need to be changed in regulation

Queen's University, Department of Economics, Kingston, Ontario

15 October 2015

Liquidity Provision and Equity Funding of Banks

SFB/TR 15 Conference, Tübingen

28-30 October 2015

Banken, Staaten und Zentralbank in der Eurokrise

The Berlin-Brandenburg Academy of Sciences and Humanities, Berlin

23 November 2015

Banks, Governments, and Central Banks in the Crisis

Copenhagen Business School – Department of Law, Copenhagen

1 December 2015

Systemische Risiken im Finanzsektor – Herausforderung für Analyse und Politik

Dortmunder Alumni-Tag, Dortmund

4 December 2015

Regulatory Reform after the Crisis: Has the Financial System Become Sufficiently Safe?

Institut d'études politiques de Paris

9 December 2015

2016

Why do bankers take so many risks they cannot bear?

Erasmus University Rotterdam

21 January 2016

Five Years of Common EU Standards and Policies in Banking

European Banking Authority, London

5 February 2016

Zum Verhältnis von Recht und Ökonomie

Max Planck Institute for Research on Collective Goods, Bonn

22 February 2016

Liquidity Provision and Equity Funding of Banks

Yale University, Economics Department, New Haven, CT

1 March 2016

Financial Stability and Monetary Policy in a Time of Crisis

Yale University, Law School, New Haven, CT

3 March 2016

Financial Stability and Monetary Policy in a Time of Crisis

Columbia Law School, New York

7 March 2016

Liquidity Provision and Equity Funding of Banks

Federal Reserve Bank of New York

8 March 2016

Regulatory Reform after the Crisis: Has the Financial System Become Safe?

Columbia Business School, New York

8 March 2016

“Alternativlosigkeit” als Problem für Rechtsstaat und Demokratie?

Römerberggespräche e.V., Frankfurt/M.

12 March 2016

Central Banking in a Time of Crisis

European Central Bank, Frankfurt/M.

19 April 2016

Public Good Provision in Large Economies

Tagung des Theoretischen Ausschusses, Basel

23 April 2016

Zentralbanken in der Krise

Notenstein Akademie, Zurich

28 April 2016

Financial Stability and Monetary Policy in a Time of Crisis

Bank of Slovenia/IMF High Level Seminar, Portorož

19 May 2016

Financial Stability and Monetary Policy in a Time of Crisis

Joint Meeting of the Slovak Economic Association (SEA) and the Austrian Economic Association, University of Economics, Bratislava

27 May 2016

Real estate finance and systemic risk

European Macrohistory Workshop, University of Bonn

3 June 2016

Contracts versus Institutions: A Critique of Corporate Governance Theory

Global Corporate Governance Colloquia Conference (GCGC), Stockholm

10 June 2016

Systemic Risks and Banking Regulation

Swiss Federal Institute of Technology (ETH Zurich), Zurich

13 June 2016

The Financial System and the Market Economy

University of Leipzig, Institute for Economic Policy, Leipzig

21 June 2016

Banking Supervision, Banking Risks and Fiscal Risks

Bundesrechnungshof, Bonn

22 June 2016

Discussion of: The FinTech Opportunity

Bank for International Settlements, Conference on Financial Structure and Economic Growth, Lucerne

24 June 2016

Die Unabhängigkeit der Zentralbank

Max-Planck-Institut für ausländisches und internationales Privatrecht, Hamburg

8 October 2016

Wirtschaftswachstum, Finanzstabilität, makroökonomische Politik

Wirtschaftsdienst Hamburg, Berlin

10 October 2016

Geld und Banken

Symposium "Joseph Schumpeter heute", University of Vienna, Faculty of Business, Economics and Statistics, Vienna

14 October 2016

Financial Stability and Monetary Policy

Max Planck Institute for Research on Collective Goods, Bonn

24 October 2016

Finanzstabilität und Geldpolitik

Verleihung des "Ernst Hellmut Vits-Preises 2016", Universitätsgesellschaft e.V. Münster

17 November 2016

Warum ist die Verschuldung der Banken so hoch?

Institut für Genossenschaftswesen, Westfälische Wilhelms-Universität Münster

17 November 2016

Banks, Governments, and Central Banks in the European Crisis

Monetärer Workshop e.V., Brussels

2 December 2016

2017

Globalisierung, "Shareholder Value" und Unternehmenslenkung

VDE Köln e.V. and VDI Kölner Bezirksverein e.V., Bonn

18 January 2017

Pourquoi avons-nous besoin des sciences économiques pour comprendre la réalité?

(Why do we need Economics to understand the real world?)

Académie des Sciences Morales et Politiques, Paris

27 February 2017

The Future of Banking in Europe: Regulation, Supervision, and the Changing Competitive Landscape

Delphi Economic Forum II, Delphi

4 March 2017

Acht Jahre nach Lehman Brothers: Wie steht es um die Finanzstabilität?

Rotary Club Kreuzberg, Bonn

6 March 2017

Carveouts of Legacy Assets – a Tool for Successful Bank Restructuring?

Max-Planck-Institut zur Erforschung von Gemeinschaftsgütern Bonn

20 March 2017

Bankenregulierung und Bankenaufsicht nach der Krise: Sind wir jetzt sicher?

Warum nicht?

Rotary Club Köln-Kastell, Cologne

29 March 2017

The Too-Big-To-Fail Problem Remains Unsolved

Inter-Academy Symposium Law and Economics of the German National Academy of Sciences Leopoldina and the Israel Academy of Sciences and Humanities, Berlin

3 April 2017

Bargeld

Bundesministerium für Wirtschaft und Energie, Berlin

5 April 2017

Alternative Truths and Fake News: The Example of Banking Regulation

Ambrosetti's Finance Workshop, The European House, Cernobbio

7 April 2017

The return of jurisdictional borders in the financial system

Public Finance Dialogue, Centre for European Economic Research, Berlin

25 April 2017

Ideologie oder Wissenschaft? Was kann orthodoxe Wirtschaftstheorie leisten?

Ringvorlesung, University of Cologne

26 April 2017

Europa in der Krise

Stiftung der Deutschen Wirtschaft, Frankfurt/M.

13 May 2017

A Treasury for the Banking Union?

Banco de España, Madrid

18 May 2017

Wissenschaft im Banne von "Exzellenz" und "Sichtbarkeit": Gründe, Methoden, Kosten, Alternativen

Symposium der Geistes-, Sozial- und Humanwissenschaftlichen Sektion der Max-Planck-Gesellschaft, Weimar

21 June 2017

Are Banks still special?

2017 Law and Banking/Finance Conference, Bad Homburg

23 June 2017

Liquidity Provision and Equity Funding of Banks

Society for the Advancement of Economic Theory (SAET), Faro

25 June 2017

Systemrisiko im Finanzsektor

Austrian National Bank, Vienna

4 July 2017

Systemic Risk, Macro Shocks, and Macro-prudential Policy

Leibniz-Institut für Wirtschaftsforschung Halle (IWH), Halle/Saale

29 August 2017

Geldtheorie, Bargeld und Giralgeld

Jahrestagung des Vereins für Socialpolitik, Vienna

4 September 2017

'Too big to fail' bleibt ein Problem

European Center for Financial Services, University Duisburg-Essen, Duisburg

7 September 2017

Bank Resolution in Europe – bail in or bail out

Bank of America Merrill Lynch European Credit Conference 2017, London

13 September 2017

Revisiting central bank governance

Bruegel-Graduate School of Economics, Brussels

2 October 2017

Nichts gelernt? Regulierung internationaler Finanzmärkte

Bund Katholischer Unternehmer e.V., Munich

6 October 2017

“Regulatory Capture” – Welche Effekte hat der Einfluss der Großindustrie auf die Gesetzgebung und die Behörden und was lässt sich verbessern?

Bundesarbeitsgemeinschaft Wirtschaft & Finanzen: Bündnis 90/Die Grünen, Berlin

7 October 2017

Bankenregulierung und Bankenaufsicht nach der Krise: Sind wir jetzt sicher?

Warum nicht?

Rotary Club Bonn-Siebengebirge, Bonn

20 November 2017

Systemische Risiken als Herausforderung für die Regulierung des Finanzsektors

Deutsche Bundesbank, Frankfurt am Main

23 November 2017

Dissertations

March 2014	Rafael Aigner, University of Bonn Essays in Public Economics
August 2014	Emanuel Hansen, University of Bonn Essays in Public Economics
December 2014	Markus Behn, University of Bonn Five Essays on Bank Regulation
February 2015	Paul Schempp, University of Bonn Essays on Financial Stability
November 2015	Stephan Luck, University of Bonn Essays on Financial Stability

Teaching

fall term 2014	Systemic Risk and Financial Regulation Topics course, Bonn Graduate School of Economics, Bonn
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Public Service

Member, Scientific Advisory Council, Federal Ministry of Economics and Technology, Berlin, since 1995

Advisory Scientific Committee of the European Systemic Risk Board: Chair 2011–2012, Vice-Chair 2012–2015; ex officio Member of the General Board of the European Systemic Risk Board (ESRB), 2011–2015

Co-Chair, ESRB Expert Group on “Regulatory Treatment of Sovereign Exposures”, 2012–2015

Member, Expert Panel of the European Parliament on Banking Union – Resolution, since 2016

Professional Activities

Scholarly Organizations

Fellow of the Econometric Society, since 1981

Fellow (Past President) of the European Economic Association, since 1988

Honorary Member, American Economic Association, since 1995

Member (Past President) of the Verein für Socialpolitik

Member, Academia Europaea, London, since 1990

Member, Berlin-Brandenburg Academy of Sciences, since 1994

Foreign Honorary Member, American Academy of Arts and Sciences, since 2002

Inaugural Fellow, European Corporate Governance Institute, since 2002

Economic Theory Fellow of the Society for the Advancement of Economic Theory (SAET), since 2013

Editorial Activities

Associate Editor, German Economic Review, 2000–2016

Member, Advisory Board, European Business Organization Law Review, 2002–2014

Associate Editor, Journal of Public Economics, since 2007

Member, Advisory Board, Journal of the European Economic Association, since 2003

Associate Editor, Journal of Economics, 2005–2016

Advisory Committees etc. of Scholarly Institutions

Member, Scientific Advisory Committee, Centre for Economic Policy Research, London, since 2003

Member of the Board of the Foundation for the Lindau Nobel Symposia, 2004–2017

Member, University Council, University of Mannheim, 2010–2016

Member, Selection Committee for Humboldt Professorship, Alexander von Humboldt-Stiftung, 2013–2015

Member, Academic Advisory Council of the Bonn Academy for the Research and Teaching of Applied Politics, 2014–2017



Yoan Hermstrüwer

Summary Report

After a two-year break from research as a law clerk (Rechtsreferendar), I rejoined the Institute for post-doc research in late 2016. During the last months, I have extended the scope of my research in view of my habilitation project. While my research draws on methods from (experimental) law and economics and empirical legal studies, in substance I have come to focus around three topics: (a) privacy law and Big Data, (b) public (international) economic law, and (c) legal mechanism design.

(a) Privacy law rests on the implicit assumption that consent to the analysis of Big Data is a purely individual choice. Accordingly, privacy lawyers mainly focus on how to empower users to make free and informed choices, for instance through debiasing and nudging. In my dissertation and a recent paper, I show that strategic considerations may be a driving force of consent under certain conditions. In environments where Big Data are analyzed and combined with social graphs, consent is likely to impose negative privacy externalities on other users and impinge upon their freedom of choice. By contrast, a behavioral analysis suggests that users are subject to bounded rationality and bounded willpower. While nudges, like default options, can enable users to make protective privacy choices in some cases, correcting cognitive deficits might facilitate market failures and accelerate the erosion of privacy in other cases. This counterintuitive conclusion shows that legal rules on consent and privacy contracts should be designed with a view of both standard economics and behavioral economics. In addition, a sharper distinction between ‘paternalistic nudging’ and ‘non-paternalistic soft regulation’ to counter market failures is warranted.

In a joint paper with Stephan Dickert, we start from the assumption that government surveillance may increase the general level of conformity and thus generate a chilling effect. Combining elements of a lab and a field experiment, we show that salient and incentivized consent options are sufficient to trigger this behavioral effect. Salient ex-ante consent options may lure people into giving up their privacy and increase their compliance with social norms, even when the only immediate risk of sharing information is publicity on a digital platform. The study suggests that consent architectures may play out on social conformity rather than on consent choices and privacy valuations. Salient notice and consent options may not just empower users to make an informed consent decision. Instead, they can trigger the very effects that privacy law intends to curb.

In current projects, I tackle the law of public health and the use of social bots on digital platforms from a behavioral angle. In the public health context, I explore the conditions under which patients may be incentivized and nudged towards medication adherence and compliance. In the social bot context, I investigate how the user-bot interaction affects the construction of public opinion and whether restrictions on the use of bots may be a helpful tool in media regulation.

(b) In my work on public (international) economic law, I focus on the behavioral impact of institutional design, specifically in the field of international financial institutions. While most scholars and practitioners agree on the need for strong institutions to fight corruption, there is fierce disagreement on how to design an effective global anti-corruption regime. Recent approaches establishing a link between human rights violations and corruption or the proposal to create an International Anti-Corruption Court are driven by an idealistic conception of State behavior. Taking a political economy approach in a joint paper with David Hawkes, we argue that a new international anti-corruption framework could be developed from existing administrative anti-corruption regimes of international financial institutions such as the World Bank. Drawing on behavioral research, we also discuss potential improvements of the sanctions framework and depict the design features of an international anti-corruption regime.

One of the unresolved issues in this context is how to design sanctions for collusion in public tenders backed by loans from international financial institutions. Unlike in antitrust law, the standard sanction is debarment. The widespread use of debarments contrasts with the scarcity of knowledge about their actual effects. Tackling this conundrum in a project with Claudia Cerrone and Pedro Robalo, we conduct a theoretical and experimental investigation of the impact of debarments. More specifically, we explore the question whether debarments deter collusion (bidder cartels) in procurement auctions. The starting point of our analysis is that an exogenous reduction of the market size entails a decrease of competition and might facilitate collusion. Debarments might therefore foster the very effects they aim to prevent. Our investigation is partly related to the Beckerian analysis of deterrence in the law and economics literature. However, our analysis also considers a dimension that has not been investigated in the literature on collusion, namely whether the impact of sanctions differs depending on whether all members of a cartel are debarred or only the ringleader is sanctioned. The differential design of debarments might trigger social preferences and thereby affect the level of collusion.

(c) Finally, as part of my habilitation project, I have started to investigate allocation problems that do not necessarily involve the exchange of money. Some of these allocation problems (e.g. kidney exchanges) have been extensively studied by economists in the field of market design and specifically matching. Market designers are driven by the desire to design (feasible) mechanisms yielding outcomes that are stable, efficient and strategy-proof. While there are some applications of matching systems in the US (e.g. in school choice and legal clerking), the use of algorithms to solve allocation problems remains scarce in Europe. My objective is to explore the normative and legal implications of such systems and their application in the European context. Existing and potential applications can be found in refugee law, the law of organ transplantation or the law of university admission. My analysis starts from the observation that mechanisms have different properties that may foster or collide with legal principles. The legal questions are far-reaching: Assuming that mechanisms require a coherent arrangement of legislative and administrative acts, what are the constraints that the separation of powers imposes? To what extent can judicial control or transparency be maintained without hampering strategy-proofness? To what extent is a centralized clearinghouse compatible with local and national sovereignty? How can a mechanism be implemented in the presence of distributional constraints like anti-discrimination laws? I intend to explore these issues using experimental and empirical methods.

Publications (since 2014)

Articles in Peer-reviewed Journals

Hermstrüwer, Y. & Dickert, S. (2017). Sharing is daring: An experiment on consent options, chilling effects and a salient privacy nudge. *International Review of Law and Economics*, 51, 38–49

Hermstrüwer, Y. (2017). Contracting Around Privacy: The (Behavioral) Law and Economics of Consent and Big Data. *Journal of Intellectual Property, Information Technology and Electronic Commerce Law (JIPITEC)*, 8, 9–26

Hermstrüwer, Y. & Werkmeister, C. (2016). Using the Internet's Fast Lane: Exemptions from Net Neutrality. *Cambridge International Law Journal*, published online 12 May 2016

Articles (not peer reviewed)

Werkmeister, C. & Hermstrüwer, Y. (2015). Ausnahmen vom Grundsatz der Netzneutralität – Wer darf auf die Überholspur im Internet? *Computer und Recht (CR)*, 31(9), 570–576

Book

Hermstrüwer, Y. (2016). Informationelle Selbstgefährdung. Zur rechtsfunktionalen, spieltheoretischen und empirischen Rationalität der datenschutzrechtlichen Einwilligung und des Rechts auf informationelle Selbstbestimmung, 31, 480 p. Tübingen: Mohr Siebeck

Book Chapter

Hermstrüwer, Y. (forthcoming). Die Regulierung der prädiktiven Analytik: Eine juristisch-verhaltenswissenschaftliche Skizze. In W. Hoffmann-Riem (Ed.), *Big Data – Regulative Herausforderungen*

Working Papers

Hermstrüwer Y., Hawkes D., A Behavioral (Political Economy) Approach to International Anti-Corruption Law, Draft, 2017

Work in Progress

Cerrone C., Hermstrüwer Y., Robalo P., Debarment and Collusion in Procurement Auctions

Hermstrüwer Y., Überwachung versus Autonomie im Recht der öffentlichen Gesundheit

Hermstrüwer Y., Prädiktive Analytik als Triebfeder des Datenrechts

Hermstrüwer Y., The Law of Social Bots

Hermstrüwer Y., Matching im öffentlichen Recht

Hermstrüwer Y., Geteilte Finanzierungsverantwortung und Verhaltenslenkung durch Finanzierungsinstrumente (habilitation project)

Lectures and Seminar Presentations

Schöne neue Privatheit. Die Wirkungen der Einwilligung und des Rechts auf Vergessenwerden

Symposium zu Ehren von Ernst-Joachim Mestmäcker, Max Planck Institute for Research on Collective Goods

March 2014

Behavioral Law and Economics of Corruption

INT Workshop, World Bank, Washington, D.C.

March 2016

(Verhaltens-)Ökonomik der datenschutzrechtlichen Einwilligung

PinG Workshop, HÄRTING Rechtsanwälte Berlin

October 2016

Contracting around Privacy – The (Behavioral) Law and Economics of Consent

Conference on Contracts on Digital Goods and Services, Humboldt University Berlin

October 2016

The Sanctions Regime of Multilateral Development Banks: A Behavioral Law and Economics Approach

Workshop on Behavioral and Experimental Economics at LUISS – Rome
March 2017

Kollektiv-orientierter Datenschutz. Nudging, Datenschutzpaternalismus oder modernes Datenrecht?

Karlsruher Dialog zum Informationsrecht, Karlsruhe Institute of Technology (KIT)
June 2017

Überwachung versus Autonomie im Recht der öffentlichen Gesundheit

Tagung des Instituts für Europäische Gesundheitspolitik und Sozialrecht, Goethe University Frankfurt
September 2017



Thomas Hettig

Summary Report

Monetary policy in the European Monetary Union is arguably constrained in offsetting the negative shocks to the economy since the Great Recession by an effective lower bound (ELB) on interest. At the ELB, it not only seems natural to turn to fiscal policy for additional support; it has also been documented that fiscal policy is likely to be particularly effective under such circumstances. My research at the MPI was concerned with the optimal provision of government spending in this very situation.

In a joint paper with Gernot Müller, we consider a New Keynesian model of a currency union where a common monetary policy operates jointly with many fiscal policies. Assuming that the common monetary policy is unable to stabilize area-wide inflation and output because of the lower bound, we ask whether there is a need to coordinate government spending policies across the member states of the union. This possibility arises because uncoordinated fiscal policies induce movements of the terms of trade which are internalized by a coordinated policy response.

Our analysis is based on the model of a currency union by Galí and Monacelli (2008), which we extend in order to account for the ELB and the absence of fiscal policy coordination. In the absence of coordination, we find – in line with earlier results in the literature – that each country seeks to improve its terms of trade as long as the ELB is not binding. In a symmetric equilibrium, however, the terms of trade are unchanged and government spending is too high relative to the outcome under coordination. At the ELB, instead, we find that the optimal fiscal response implies too little fiscal stimulus in the absence of coordination. In this case, governments seek to avoid an appreciation of the terms of trade in order to prevent a loss of competitiveness in times of economic slack.

Hence, in the absence of coordination, the terms-of-trade externality has a differential impact on the optimal level of government spending, depending on whether the ELB binds or not. Accounting for both dimensions, we find that the welfare loss due to the lack of coordination increases in the expected duration of the ELB episode. We thus conclude that there is indeed a case for coordinating fiscal stabilization policies in a currency union, once monetary policy is constrained by an ELB.

Working Paper

Hettig T., Müller G. J., (revise and resubmit). Fiscal policy coordination in currency unions at the effective lower bound, CEPR Discussion paper 11780, *Journal of International Economics*



Adrian Hillenbrand

Summary Report

I joined the institute in October 2012 as a Ph.D. student of the Bonn Graduate School of Economics (BGSE). Naturally, the last years at the institute have been very exciting. I published my first paper, finished my Ph.D., and joined Fabian Winter's Max Planck Research Group, "Mechanisms of Normative Change", as a post-doc.

In my research, I use theoretical models to structure a problem and then use experiments to test actual behavior in the lab. I work in two main fields, cooperation/coordination and consumer policy. I am mainly interested in how small and seemingly irrelevant changes in the decision environment influence behavior. To study these questions, I collaborate with psychologists, sociologists, and other economists at the institute.

In *Leadership effectiveness and institutional frames* (published in *Experimental Economics*), which is joint work with Sebastian Kube, we show that leadership is more effective in a give-some frame where subjects contribute to a public good, compared to a take-some frame where the decision is reframed as taking from a public good. Interestingly, revealed preferences of the followers seem to be malleable by the frame.

One of the most prominent frames is gain-loss framing. In *Gain-Loss Framing in Interdependent Choice*, which is joint work with Susann Fiedler, we use eye-tracking to understand the underlying processes of framing effects better. We find that, in a dictator game, subjects are more likely to choose a selfish option if the decision is framed as a loss for both the dictator and the recipient, compared to it being framed as a gain. The eye-tracking data reveal that subjects in the loss-frame focus much more on their own payoff and less on social cues like the recipient's payoff or the sum of payoffs.

Together with Fabian Winter, we started a series of projects on population uncertainty. In the experimental literature on cooperation and coordination, common knowledge about a certain group size is often a standard assumption. In *Volunteering under Population Uncertainty*, we show theoretically and in a laboratory experiment that this assumption is not innocent. In a situation where a single volunteer is sufficient to provide a public good, population uncertainty increases the probability to volunteer. Surprisingly, subjects expecting others to volunteer are more likely to volunteer themselves, even though they should reduce their own volunteering probability in this case. In the paper, we suggest that population uncertainty shifts the norm of volunteering.

Frames play a crucial role in policy. In financial decision-making, financial disclosure documents provide investors with product details to facilitate informed investment decisions. In *Beyond Information: Disclosure, Distracted Attention and Investor Behavior* (joint with André Schmelzer), we manipulate the appearance – the visual frame – of actual key investor information documents. We investigate whether this impacts risk and return expectations and investment behavior. In our experiment, subjects decide about investments in real-life mutual funds. We find that subjects expect a smaller return variance, invest more, and gather less correct information if visual distractors are present in the visual frame. Distracted attention is one explanation of our results suggesting that disclosure policies should take the visual frame into account.

In my newest paper, I shift my attention to the Industrial Organization literature. In *Strategic Rational Inattention: An Experiment on Consumer Search with Hidden Costs*, we study the strategic interaction of buyers searching for a product and sellers who offer a search technology, but can observe the search behavior of the buyer. Examples for these interactions might be found on booking websites and in general in e-commerce. While these companies immensely simplify the product search for consumers, allowing

them to get a better product fit, the search behavior is also easily traceable by the company. This opens the door for behavior-based price discrimination, so that consumers might be better off if they restrict their search. We designed a laboratory experiment to capture the key aspects of this environment. Our results show that consumers are indeed not fully capable of staying inattentive and do not restrict their search enough. However, we also observe that our experimental sellers do not exploit the situation fully and set fairer prices than predicted by our model.

Publications (since 2014)

Articles in Peer-reviewed Journals

Hillenbrand, A. & Schmelzer, A. (forthcoming). Beyond Information: Disclosure, Distracted Attention, and Investor Behavior, *Journal of Behavioral and Experimental Finance*, available online 9 September 2017

Frackenpohl, G., Hillenbrand, A. & Kube, S. (2016). Leadership Effectiveness and Institutional Frames, *Experimental Economics*, 19(4), 842–863

Preprints

Hillenbrand, A. & Hippel, S. (2017). Strategic Inattention in Product Search. Bonn: Max Planck Institute for Research on Collective Goods, 2017/21

Working Papers

Hillenbrand, A. & Winter, F., (revise & resubmit). Volunteering under Population Uncertainty, *Games and Economic Behavior*

Hillenbrand, A., The Curse of the Empty List – Opting In or Opting Out

Hillenbrand, A. & Fiedler, S., Gain-Loss Framing in Interdependent Choice

Lectures and Seminar Presentations

Gain-Loss Framing in Interdependent Choice

9th Nordic Conference on Behavioral and Experimental Economics, Aarhus
2014

Gain-Loss Framing in Interdependent Choice

10th Nordic Conference on Behavioral and Experimental Economics, Tampere
2015

Volunteering under Population Uncertainty

7th Thurgau Experimental Economics Meeting (theem), Kreuzlingen
2016

Volunteering under Population Uncertainty

11th Nordic Conference on Behavioral and Experimental Economics, Oslo
2016

Volunteering under Population Uncertainty

ESA European Meetings, Bergen

2016

Strategic Inattention in Product Search

12th Nordic Conference on Behavioral and Experimental Economics, Oslo

2017

Strategic Inattention in Product Search

ESA European Meetings, Vienna

2017

Volunteering under Population Uncertainty

Congress of the Swiss Sociological Association (SSA)

2017



Oliver Himmler

Research Summary

Lately, my research has focused on the Behavioral Economics of Education. I have also worked on the behavioral consequences of perceived norm violations, and on the effects of firearm ownership. In terms of methodology, field and laboratory experiments have been my primary approach, but in the recent past I have also finished a theory project in political economy, which is concerned with the demand for political information in the presence of mass media.

Behavioral Economics of Education

At the core of my research activities over the past years has been a large-scale project in the economics of education (with Robert Jaeckle, TH Nuremberg). Against the backdrop of long study durations and high dropout rates, the project aims at testing whether findings from behavioral economics can be used to improve outcomes in higher education. In 2014, we started conducting field experiments at German universities, where we evaluate the effect of small changes in institutions and the decision environment that students face. The main appeal of our measures is that, in contrast to “standard” education interventions (e.g., smaller lectures, hiring additional staff), they cost very little.

The three areas we focus on are: (1) procrastination and the effect of offering a commitment device; (2) performance feedback letters and the effect of social comparison; and (3) the effects of changing default exam sign-up procedures from opt-in to opt-out.

In the first intervention, we offer students the opportunity to sign a non-binding agreement with the university, in which they can commit to staying on track for graduation. We find that those who were offered the soft commitment device are more likely to sign up for, take part in, and pass exams. At the same time, a pure reminder treatment does not change behavior, which suggests that the effects of commitment are not driven by increased salience. To qualify our results further, we introduce a measure of procrastination tendencies based on actual behavior, and find that procrastinators benefit most from the commitment device.

The second intervention is based on research findings which suggest that social comparisons affect human behavior in many domains. Individuals evaluate outcomes not only in absolute levels, but rather also relative to those of others. It is reasonable to assume this is also the case in a higher-education setting. This is why we provide students with information about the progress they make in their studies – in relation to a relevant peer group. The intervention is scheduled to run until students graduate. While we are mainly interested in the long-term effects, preliminary results suggest that feedback has a performance-enhancing effect, but only for those students in the upper half of the performance distribution. We believe one reason may be that even if there is a motivating effect for the weaker students, they probably lack the learning tools or technologies which are necessary in order to translate motivation into performance. This is also an important aspect in terms of showing the limitations of such information “nudges”.

The final intervention changes the default exam signup procedure for part of a cohort of incoming students. Standard procedures at German universities are such that students actively sign up for the exams they want to take part in, i.e., it is an opt-in procedure. Our intervention replaces this with an opt-out procedure. Students are by default signed up for the exams that are recommended by the university in the first semester, and can opt out if they do not want to take these exams. Prior research in domains different from education suggests that this small modification of the decision environment may have large behavioral effects. However, our intervention is still in the pilot phase, and no results are available yet.

Together with a coauthor, I have acquired funding from the German Ministry of Education for the continuation and further development of these projects (561,000 Euro).

Norm violations and spillovers

In a joint project with Sebastian Goerg (Florida State University) and Tobias Koenig (Humboldt University, Berlin), we connect evidence from the lab and field on spillovers in norm violation behavior. In the lab, we have participants take part in three different tasks where they are supposed to follow a clearly defined rule or norm. The incentives are always such that norm-breaking pays. The main manipulation consists of informing participants about how an earlier participant behaved in one of these tasks.

When subjects observe that the earlier participant violated the norm, they are more likely also to break the norm when they are participating in the exact same task. This could be labeled a “peer effect” in norm-breaking. In addition, we also find an aggravating effect of observing a norm violation by others on own norm-violating behavior in a different task. In other words, there seem to be spillovers in norm-breaking from one situation to a different one. We can also show that the occurrence of such spillovers depends on the dissimilarity of the situations, i.e., if the situations are very different, we observe no spillover. However, we can induce such spillovers to distant situations, by first giving participants the opportunity to break the same norm the earlier participant was faced with.

In order to show the economic relevance of such spillovers, we connect these findings to results from a field experiment. Here, we are interested in the response to perceived norm violations in the realm of taxation. We recruited university students to catalogue books which had not yet been indexed by the University Library in Hanover. Prior to this task, participants were given either a “tax evasion treatment” or a “neutral treatment”. In the tax sessions, the participants were confronted with information about the amount of taxes evaded by celebrities. Individuals in the tax treatments exhibited much higher rates of stealing pens from the workplace, when compared to the neutral sessions. At the same time, the tax treatment did not affect work effort. These results are consistent with the findings from the lab, and suggest that norm violation spillovers from one situation to another do occur in economically relevant settings such as the workplace.

Mass media and information acquisition

This project was a continuation of previous work with Christian Bruns (University of Göttingen) on the relation between information services provided by mass media and public policy. The paper, published in the *Journal of Public Economics*, builds on this mainly empirical earlier work by providing an instrumental explanation for the existence of “accountability journalism”. According to the common Downsian reasoning, rational voters should not be willing to pay for information out of purely instrumental motives because the individual probabilities of casting the decisive vote are typically very low. We show that this rationale does not apply when a group of voters shares a common goal, such as accountability, and information is delivered via mass media. In contrast to the pessimistic Downsian view, rational voters can show a considerable willingness to pay for the provision of instrumental information in these scenarios. The upshot is that our model can reconcile the rational voter approach with the common perception of journalism as a watchdog that holds elected officials accountable.

The effect of firearm ownership on suicide

In joint work with Christian Traxler, I have obtained data on the prevalence of firearms across the German *länder*. The focus of the project is on estimating the effects on crime and suicide. To this end, we have linked the firearms data to the official German crime statistics and the death registry. The project is new in two ways. First, it uses data on the actual number of guns in circulation. This is a large advantage over studies from other countries such as the US, where there is no mandatory firearm registration in many states – which is why previous studies often had to rely on estimates of or proxies for gun ownership (such as ammunition sales or subscriptions to gun magazines). Second, most of the literature in economics has

focused on the effects of firearm prevalence on the crime rate. While we also estimate these effects, the main interest of our work is to quantify the effect on people taking their own life. The economics literature has sometimes treated suicide as a rational decision (see, e.g., Hamermesh 1974). However, there is evidence from psychology that this is often not the case, and a link between guns and suicide could potentially imply large costs of firearm ownership to society. Our identification strategy uses historical county-level data from Prussia on the number of deer and killed deer per county to isolate exogenous variation in current gun ownership.

Publications (since 2014)

Articles in Peer-reviewed Journals

Himmler, O. & Jaeckle, R. (forthcoming). Literacy and the migrant-native wage gap. *Review of Income and Wealth*

Himmler, O. & Bruns, C. (2016). Mass Media, Instrumental Information, and Electoral Accountability. *Journal of Public Economics*, 134, 75–84

Current working papers

Himmler, O., Jaeckle, R. & Weinschenk, P. (2017) Soft Commitments, Reminders and Student Outcomes – A Field Experiment in Higher Education, MPRA Working Paper 76832

Himmler, O. & Bruns C. A Theory of Political Accountability and Journalism, mimeo, (this is an extended, previous version of 'Mass Media, Instrumental Information, and Electoral Accountability')

Himmler, O., Goerg, S. & Koenig, S. Tax Evasion Spillovers – A field Experiment, mimeo

Himmler, O. & Koenig, T. Self-Evaluations and Performance – Evidence from Adolescence. Hannover Discussion Paper 507

Lectures and Seminar Presentations

2014

Tax evasion spillovers – a field experiment

Trier Economics Seminar, Trier
June 2014

2015

Soft Commitments, Reminders and Academic Performance

Economics of Education Committee of the German Economic Association, Berlin
Marc 2015

Soft Commitments, Reminders and Academic Performance

IZA Brown Bag Seminar, Bonn
July 2015

Soft Commitments, Reminders and Student Outcomes – A Field Experiment in Higher Education

10th Nordic Experimental Economics Conference, Tampere

September 2015

Soft Commitments, Reminders and Academic Performance

Workshop Behavioral Economics of Education, Mainz

September 2015

Soft Commitments, Reminders and Academic Performance

Florida State University, Tallahassee

November 2015

Soft Commitments, Reminders and Student Outcomes – A Field Experiment in Higher Education

Southern Economic Association, New Orleans

November 2015

2016

Behavioral Interventions and Complex Task Performance

Luxembourg Institute of Socio-Economic Research, Luxembourg

February 2016

Behavioral Interventions and Complex Task Performance

Economics Department, University of Cologne

March 2016

Behavioral Interventions and Complex Task Performance

Bard College, Berlin

March 2016

Soft Commitments, Reminders and Student Outcomes – A Field Experiment in Higher Education

IMEBESS Conference, Rome

April 2016

Behavioral Interventions and Complex Task Performance

University of Maastricht Graduate School of Governance, Maastricht

May 2016

2017

Soft Commitments, Reminders and Academic Performance

University of Erfurt, Staatswissenschaftliches Seminar

February 2017

VStud – Verhaltensökonomisch motivierte Maßnahmen zur Sicherung des Studienerfolgs

Workshop “Studienerfolg und Studienabbruch” of the German Federal Ministry of Education

June 2017

Norm Violations and Spillovers – Evidence from the Lab and Field

Kiel University

July 2017



Svenja Hippel

Summary Report

I joined the institute as well as the International Max Planck Research School on Adapting Behavior in a Fundamentally Uncertain World in the fall of 2014. Hence, I am now in my third year and slowly but steadily approaching the end of my PhD. When I arrived at the institute, I came with a background in microeconomic theory and the strong wish to work in a more applied field and to learn how to gather empirical data by myself.

Although now conducting laboratory experiments, I am still attracted by the conceptual clarity of theoretical models and the clean hypotheses that can be derived from them. As Professor Engel once put it nicely, I go to the lab since this is what my theoretical curiosity calls for. My areas of research are far less uniform than my method, and I currently have projects in the different fields of public economics, mechanism design, and information economics.

In one project with Konstantin Chatziathanasiou and Michael Kurschilgen, we examine social order and the efficiency of redistribution to stabilize hierarchical systems. Social order yields benefits from coordination, but usually also brings inequality, and people at the top of a hierarchy benefit more than people at the bottom. For a social order to be stable, low ranks must see it as the preferable option. In an indefinitely repeated coordination game, we offer a group a coordination device that would allow maximization of the joint welfare. The coordination device, however, induces a hierarchy such that the gains from coordination are very unevenly distributed. According to standard theoretical predictions, everyone should simply follow the device, but minor inequity aversion suffices for the order to collapse. Experimentally, this is exactly what we observe in the absence of redistribution. As a treatment, we implemented an ex-post stage where players interacting in this period can voluntarily send money to each other, potentially to reduce the payoff differences. This significantly increased cooperation rates. At conference presentations, we repeatedly got the advice from different sides to test redistribution schemes that are closer to the notion of taxes. Therefore, we ran additional treatments in which transfers of a certain amount were enforced and transfers among the group were pooled. It turned out, though, that the form of the transfer scheme does not influence coordination rates.

Together with Christoph Engel, I take a first step to build a bridge between the experimental and the mechanism design literature on public goods that tend mutually to neglect each other despite dealing with the same topic. From the mechanism design perspective, the normative problem originates in the heterogeneity of preferences. The experimental literature, however, mostly assumes this problem does not exist. Typically, valuations are induced by the design of the experiment, homogeneous and common knowledge. We introduce the problem of the mechanism design literature into the classical setup of a public-goods experiment. This time, we induce heterogeneous valuations and endowments, and we also add an experimental authority. In a within-subject design, we vary whether the group members' valuations for the public good are public or private information. We also vary whom we entrust with choosing from a set of payment rules: the uninvolved authority or an involved member of the group. The results show that uninvolved authorities predominantly choose a rule that equalizes outcomes, while the choices of involved authorities are split about evenly between efficiency and payoff equality. Most experimental authorities stick to their choice of payment rule when valuations become private information. This result is driven by their belief that highly overestimates the proportion of group members revealing their true valuation. We conclude that our authorities are good-natured, but overly optimistic and seducible.

A paper together with Adrian Hillenbrand is on strategic inattention of consumers in online platform markets. The project has benefited considerably from my research stay at Northwestern University in the

beginning of 2017. There, I fortunately met Assistant Professor Daniel Martin, who is working on related topics and gave a lot of helpful advice for designing the experiment in a field. Adrian and I were completely new to and where experiments in general are still very rare. This is because online platforms are still a relatively new phenomenon. They considerably increase the market transparency and consumers can profit through reduced transaction costs and a better fit of offers. A potential drawback is that consumer search behavior is more easily traceable than ever before and so-called behavior-based price discrimination is on the rise. We first developed a theoretical model capturing the strategic interaction of sellers and buyers when sellers can observe the search behavior of the buyer. We designed a laboratory experiment to capture the key aspects of this environment, where buyers use filters to search for their preferred product and sellers can observe this information and set prices. We find that consumers are indeed not fully capable of staying inattentive and do not restrict their search enough. But we also observe that our experimental sellers do not exploit the situation fully and set fairer prices than predicted by our model.

I am currently working on the last and single-authored project of my dissertation which subsumes again under the topic of mechanism design and is meant to be a theory test. A relatively recent stream of literature concerns robust mechanism design and aims at making mechanisms theoretically more robust against structural assumption, but also, bluntly speaking, less complicated and easier to understand for participating agents. There is a growing amount of theoretical and experimental work, developing and experimentally validating mechanism features that are robust against various forms of bounded rationality. What has remained untested so far is a set of well-developed conditions for robustness against any kind of (unreasonable) beliefs that agents may have. I wish to shed some light on the practicability of exactly these theoretical achievements that were initially developed to make mechanisms more applicable in reality.

Prizes and Honors

NABE Foundation Scholarship for the 33rd Annual NABE Economic Policy Conference, Washington, D.C.

Publications (since 2014)

Preprints

Engel, C., Hoppel, S., Experimental Social Planners: Good-natured, but Overly Optimistic and Seducible, Bonn: Max Planck Institute for Research on Collective Goods, 2017/23

Hillenbrand, A. & Hoppel, S. (2017). Strategic Inattention in Product Search. Bonn: Max Planck Institute for Research on Collective Goods, 2017/21

Work in Progress

Chatziathanasiou, K., Hoppel, S., Kurschilgen, M., Social Order, Efficiency, and Redistribution: An Experimental Study

Engel, C., Hoppel, S., Experimental Social Planners: Good-natured, but Overly Optimistic and Seducible

Hoppel, S., Robust Mechanism Design: Testing Informational Robustness against Beliefs

Lectures and Seminar Presentations

2015

Social Order, Efficiency, and Redistribution: An Experimental Study

9th Summer Meeting of Young Philosophers and Economists, Nuremberg
July 2015

Social Order, Efficiency, and Redistribution: An Experimental Study

9th IMPRS Uncertainty Topics Workshop, Maastricht
September 2015

2016

Legal Uncertainty

PhD@maxlaw Workshop, MPI Private Law, Hamburg
May 2016

Social Order, Efficiency, and Redistribution: An Experimental Study

ESA World Meeting, Jerusalem
July 2017

Social Order, Efficiency, and Redistribution: An Experimental Study

Third WINIR Conference, Boston, MA
September 2016

Strategic Inattention in Product Search

10th Summer Meeting of Young Philosophers and Economists, Berlin
October 2016

2017

Experimental Social Planners: Good-natured, but Overly Optimistic and Seducible

NYU CESS 10th Annual Experimental Political Science Conference, New York, NY
February 2017

Strategic Inattention in Product Search

33rd Annual NABE Economic Policy Conference, Washington, D.C.
March 2017

Experimental Social Planners: Good-natured, but Overly Optimistic and Seducible

Northwestern University, Kellogg School of Management, Evanston, IL
March 2017

Strategic Inattention in Product Search

ESA World Meeting, San Diego, CA
June 2017

Experimental Social Planners: Good-natured, but Overly Optimistic and Seducible

ESA World Meeting, San Diego, CA

June 2017

Teaching

winter term 2016/17

Project Supervisor: Project Module in Management and Applied Microeconomics
University of Bonn

Public Service

Member, Selection Committee for New Scholarship Holders, Max Weber Program, Elite Network of Bavaria, since 2015

Professional Activities

Memberships

Economic Science Association

World Interdisciplinary Network for Institutional Research



Leonard Hoeft

Summary Report

My main interests lie at the intersection of legal philosophy and social science. The former specifies theories of law which rely on specific assumptions concerning human behavior and the effect of institutions. Those assumptions are often grounded in shared intuitions, but lend themselves to the challenge of empirical testing and the incorporation of interdisciplinary views.

My specific interdisciplinary approach focuses on the intersection with (behavioral) experimental economics. I believe that legal philosophy as a subject lends itself more naturally to this field as its theories are often purported to be general, meaning independent of a specific legal culture and context. Furthermore, they are highly abstract and specify the relationship of institutional mechanisms. At least for laboratory findings, this allows one to test theoretical propositions in a domain they are intended to hold, thus relieving the burden of external validity to some extent. To further the exchange with legal philosophers, I organized a workshop on the foundations of law and social science with Prof. Muhlmann (University of Zurich) as a keynote speaker.

My main project in this vein is to relate the legal theory of H. L. A. Hart, who is widely considered to be the most influential legal philosopher of the 20th century, to laboratory work on norm compliance in experimental economics. Hart proposed that the predominantly sanction-oriented concepts of law in his time fundamentally misunderstood the nature of norm compliance. Instead, he proposed that legal compliance be a shared endeavor and a subset of social norm compliance. Participants in this practice take an "internal point of view" towards norms, accepting them as guidelines, criticizing others, and accepting their criticism as legitimate. While Hart believed that in a coercive state only few officials must have such a point of view, he argued that a healthy system would show a considerable number of people taking the internal point of view towards legal norms. My book examines whether laboratory findings instruct us that social norms are indeed a shared practice, and whether we have reason to believe that institutional features pervasive in legal systems interact with this practice. I find that, indeed, concepts such as authority, voting, focal points etc. influence norm compliance, often by changing the beliefs about the shared practice in the respective experimental community. A short introduction to the experimental literature and arguments against sanction-based theories of law exists as a working paper aimed at legal philosophy journals.

My interest in the experimental method has led to different empirical projects that are related to my thesis in varying degrees. The first experimental project investigated power abuse in a laboratory setting. We implemented a linear public-goods game with only one second-party punisher and varied transparency and punishment power to see under which conditions punishers are willing to abuse their power by implementing contribution norms they do not adhere to themselves. Indeed, we find a large amount of abuse mediated by transparency but only under high power. We have published a short letter and are now working on a longer working paper.

Another project with the aim of contributing to the question of legal norm compliance investigates the effect of authority on pro-social and selfish decision-making. We hypothesize that authority does not just influence people in a setting of full information and authority-independent preferences, but also when there is missing information. Here, authority could be particularly influential, as it cuts short the search for information and the formation of preferences over the fully specified set of options. To that end, we implement a dictator game in which the payoffs of the other participants are not known to the dictator. We use the position of authority that an experimenter has to ask for specific actions and to investigate when partici-

pants defer to authority, when they refuse to, and when they decide to uncover the information about the payoffs of the recipient.

The last laboratory project investigates moral decision-making. We use eye-tracking to investigate what kind of information participants focus on in moral dilemmas. According to the prevalent dual process theory of moral decision-making, deontological decisions should feature a relatively shorter and less complex decision process, while utilitarian decisions should require more information search and deliberation. We hope to find systematic differences between typically utilitarian and typically deontological decision-makers. We expect utilitarian decision-makers to undergo a more effortful decision process with longer decision times and more fixations. Additionally, utilitarian decision-makers should direct their attention more towards outcomes, while deontological decision-makers should focus more on cues about the respective action in question.

Finally, I have written a response to a survey study on contract interpretation with another coauthor for a German law journal. We caution against the somewhat careless use of empirical methods for specific legal questions and show various pitfalls of a naïve interpretation of experimental results. Specifically, we argue that selecting specific decontextualized quotes from a ruling can distort the meaning of the specific passage as a whole and is therefore in need of justification. The article takes a stance against the suggestion of implementing semi-empirical methods among judges, in which they conduct informal polls among friends to justify contractual interpretation. It warns that this understanding of contractual implementation would reap little of the benefits of empirical studies and boils down to an untransparent authority argument. This article is forthcoming.

Publications (since 2014)

Articles in Peer-reviewed Journals

Hoeft, L. & Mill, W. (2017). Selfish Punishers – An Experimental Investigation of Designated Punishment Behavior in Public Goods, *Economics Letters*, 157, 41–44

Articles (not peer-reviewed)

Hamann, H. & Hoeft, L. (2017). Die empirische Herangehensweise im Zivilrecht. Lebensnähe und Methodenehrlichkeit für die juristische Analytik? *Archiv für civilistische Praxis (AcP)*, 217(3), 311–336

Working Papers

Hoeft, L. Beyond the Bad Man: The Internal Point of View as Seen from the Social Sciences

Work in Progress

Rahal, R. M., Hoeft, L. & Fiedler, S., Eyes on Morals: Investigating the Cognitive Processes underlying Moral Decision-making via Eye-tracking

Hoeft, L., Mill, W., Kurschilgen, M., Authority & Wiggle Room

Lectures and Seminar Presentations

Selfish Punishers

ESA World Meeting, Jerusalem, Israel
July 2016

Zwetelina Iliewa

General Overview

I have been a Senior Research Fellow at the Max Planck Institute for Research on Collective Goods since January 2018. I have a PhD in Finance from the Ludwig Maximilian University of Munich and an MSc degree in Economics from the University of Mannheim. Before starting at the MPI, I worked as a postdoctoral researcher at the Centre for European Economic Research (ZEW) in Mannheim. My primary research interests lie in the fields of behavioral and experimental finance with applications to household finance and expectation formation. In the past, I have examined possible determinants of framing effects and other behavioral biases in financial markets. In order to test the boundaries of behavioral biases, I have combined laboratory experiments with field experiments with financial professionals and empirical analysis.

My most representative paper, titled “Thinking about Prices versus Thinking about Returns in Financial Markets” (joint work with Martin Weber and Markus Glaser), examines violations to the invariance assumptions of normative decision theory induced by two formats used extensively and interchangeably in financial markets – the format of prices and the format of returns. We document that asking subjects about expected returns as opposed to expected prices induces optimism, whereas showing them return charts as opposed to price charts induces pessimism. In search of the boundaries of the two framing effects, we show that neither performance-based incentives nor decades of experience in the finance industry and abundant information could be effective remedies. We also find that the format of returns is superior to the format of prices, as the former reduces the “recognition” of non-existing patterns. In a follow-up project, Martin Weber and I experimentally examine how to mitigate the difference between price charts and return charts. We focus on experience sampling as a potential remedy. We chose experience sampling as a starting point for two reasons: Firstly, Martin Weber’s previous work has showed that experience sampling is a useful way to communicate financial risk to investors. Secondly, my empirical paper “Wall Street Crosses Memory Lane: How Witnessed Returns Affect Professionals’ Expected Returns” (joint work with Arvid Hoffmann and Lena Jaroszek) suggests that experience sampling may be effective even for expert investors. We show that the finance professionals’ expected returns are affected by the stock market returns the professionals have witnessed in their career, even though the witnessed returns are not informative for the future.

Research Agenda 2018–2021

In the future I will extend my current focus on determinants of behavioral biases by examining ways of improving the financial decision-making of low-financial-literacy and low-income investors. Retail investors need “money doctors” to guide them through the challenges of financial risk-taking, but the empirical literature shows that financial advisors and money managers are expensive, biased, and/or ineffective. The new European regulations under MiFID II are set out to change the provision of financial advice in Europe with the hope of levelling the playing field. Furthermore, new technology (i.e., robo-advisors) aims at providing inexpensive and accessible financial advice for low-income investors. My research agenda will revolve around improving the financial decision-making of low-income investors (i) by improving the information presentation (e.g., the design of robo-advisors), (ii) by financial literacy/education and (iii) by promoting more efficient provision of financial advice (e.g., MiFID II). To this end, I will combine laboratory experiments with field experiments and empirical analysis.

Improving the Information Presentation in Financial Markets

Together with Martin Weber, I will work on developing solutions for the design of digital tools (i.e., robo-advisors) to improve the investors’ understanding of risk, the invariance, and the time consistency of their investment decisions.

Financial Literacy/Education

Together with Matthias Sutter and Anna Untertrifaller, I will work on examining the channel through which financial literacy affects economic preferences.

Provision of Financial Advice

Together with Matthias Sutter, I will examine aspects of the new European regulations alongside other potential factors that can promote a more efficient provision of financial advice (which is to be considered a typical example of a credence good).

Working Papers

Glaser, M., Iliewa, Z. & Weber, M. (2016). Thinking about Prices versus Thinking about Returns in Financial Markets, Available at SSRN: <https://ssrn.com/abstract=2750064> (Revise and Resubmit at *The Journal of Finance*)

Hoffmann, A. O. I., Iliewa, Z. & Jaroszek, L. (2016). Wall Street Crosses Memory Lane: How Witnessed Returns Affect Professionals' Expected Returns, Available at SSRN: <https://ssrn.com/abstract=2877366>



Marco Kleine

Summary Report

I was a Research Fellow at the Max Planck Institute between 2011 and 2014. During this time, I was also member of the International Max Planck Research School on Adapting Behavior in a Fundamentally Uncertain World. I received my PhD in economics from the University of Jena in 2015. Currently, I am working as a Senior Research Fellow at the Max Planck Institute for Innovation and Competition in Munich. By applying experimental economics methods, I pursue projects at the intersection of innovation research, behavioral economics, law and economics, and personnel economics.

Research Projects

At the Max Planck institute in Bonn, many of my research projects focused on the role and impact of communication on behavior in economic interactions.

The role of communication as a means for procedural fairness was studied in a joint project with Pascal Langenbach and Lilia Zhurakhovska. More precisely, we analyzed how participation in decision procedures affects people's reactions to the deciding authority. In our laboratory experiment, having voice, i.e., the opportunity to state one's opinion prior to a decision, significantly increases the subordinates' subsequent kindness towards the authority. These positive effects occur irrespectively of the decisions' content. The experimental findings stress the positive effects of voice when subordinates and authorities interact. Our results suggest that in organizations, but also in the legal and political arena, participative decision-making can be used to guide people's actions after decisions have been taken.

In a further paper with Pascal Langenbach and Lilia Zhurakhovska (published in *Economics Letters* in 2016), we were interested in the question to which extent distributive fairness decisions by impartial authorities are influenced by stakeholders' fairness opinions. In a three-player allocation game, we compare *Communication* treatments, in which one of the stakeholders states her opinion prior to the allocation decision, to a *Baseline* without communication. We find that stakeholders who state their opinion are allocated significantly less money than their counterparts in the *Baseline*. Asymmetric reactions to the statements appear to be the driving force behind this result: Authorities deviate from their initial fairness judgment and follow the stakeholders' opinions if the requests are moderate; they largely ignore high monetary requests.

Moreover, Sebastian Kube and I have pursued a research project in which we study how communication affects the effectiveness of gift exchange as a contract-enforcement device in a multi-agent team environment. Furthermore, in a single-authored project, I study experimentally the role of communication on the decision to disguise selfish behavior in front of others.

Besides these projects on communication in economic interactions, Christoph Engel and I conducted an experimental project at the intersection with innovation research (published in *Research Policy* in 2015). We study the willingness to invest in innovative activities under the risk that others might benefit from successfully appropriating the innovative project. We model a situation of investment opportunities in risky innovation and appropriation as a game and test it in the lab. We find more appropriation than predicted by standard theory. But the risk and the experience of appropriation does not deter innovation. We find even more innovation than predicted by theory, and actually more than would be efficient. In the lab, the prospect of giving imitators a free lunch does not have a chilling effect on innovation.

In my current position at the Max Planck Institute for Innovation and Competition, I have intensified my work on innovation research. Topics range from the role of incentives for creativity to the institutional design of patent examination processes. In these recent projects, I have increased the variety of quantitative-empirical approaches. In addition to laboratory experiments, my recent work comprises “lab-in-the-field” experiments with special target groups (e.g., patent experts), field experiments in form of “randomised controlled trials”, and surveys (e.g., of managers, and entrepreneurs).

Publications (since 2014)

Articles in Peer-Reviewed Journals

Kleine, M., Langenbach, P. & Zhurakhovska, L. (2017). How Voice Shapes Reactions to Impartial Decision-Makers: An Experiment on Participation Procedures. *Journal of Economic Behavior & Organization*, 143, 241–253

Kleine, M., Langenbach, P. & Zhurakhovska, L. (2016). Fairness and Persuasion. How Stakeholder Communication Affects Impartial Decision Making. *Economics Letters*, 141, 173–176

Engel, C. & Kleine, M. (2015). Who Is Afraid of Pirates? An Experiment on the Deterrence of Innovation by Imitation. *Research Policy*, 44(1), 20–33

Preprints

Kleine, M. & Kube, S. (2015). Communication and Trust in Principal-Team Relationships: Experimental Evidence. Bonn: Max Planck Institute for Research on Collective Goods, Preprint 2015/6

Work in progress

Kleine, M., Hiding Selfishness with and without Communication

Professional Activities

Membership

Collaborative Research Center TRR 190 Rationality and Competition, Innovation Growth Lab Research Network, and the Economics Science Association

Reviewer for

Research Policy, Journal of Behavioral and Experimental Economics, and the research grant program of the “Innovation Growth Lab” (UK)



Anna Kochanova

Summary report

I specialize in applied economics and econometrics. My research interests lie at the intersection of political economy, institutional economics, the economics of transition, international development and growth, and the economic impact of information and communication technologies. Although these areas seem to be broad, they keep me excited in pursuing economic research.

My published research can be divided into two parts. The first part is related to the impact of bureaucratic corruption on firm performance and on the firms' ability to borrow from banks. I have two firm-level studies, which utilize data from Central and Eastern European countries. I combine two datasets to obtain information on corruption, firm performance, and borrowing. The data on bribery practices are from the BEEPS database compiled by the World Bank and EBRD, while the remainder of the firm-level data comes from the Amadeus database. I use these data to measure the average level of bribery in a local environment where firms operate, as well as the dispersion of individual firm bribes in a local environment, which captures the pervasiveness of corruption and the possibility to extract benefits from bribery for some firms. In a joint paper with Jan Hanousek, we show that the sales and labor productivity growth of firms decline with the average level of bribery. However, a higher dispersion of bribes facilitates firm performance. This suggests that, in more dispersed local bribery environments, at least some firms which engage in bribery receive preferential treatments from public officials, and non-bribing firms are likely to be efficient in production and growth. The existence of a certain number of bribing firms in a local market therefore stimulates aggregate firm performance. This result can explain the divergent effects of corruption found in previous studies.

In a joint paper with Zuzana Fungacova and Laurent Weill, we show that a higher bribery level in a local environment is associated with a higher total bank debt ratio of firms, which suggests that bribery might improve firm access to credit through bribing bank officials. The positive effect, however, exists for short-term debt, but not for long-term debt. This can explain why investments and subsequent economic growth are low in highly corrupt environments. Finally, we find that, in countries with better financial development and higher shares of foreign banks, the positive relationship between bribery and the bank debt of firms is lower. This has important policy implications, as it suggests that it is possible to fight corruption through developing the banking industry and the financial sector.

The second part of my published research is related to information and communication technologies (ICT). In a joint paper with Vahagn Jerbashian, we demonstrate that telecommunication technologies can improve the functioning of the markets by increasing product market competition. We also show that this effect is stronger in countries where the quality of telecommunications infrastructure is higher. In another paper with the same co-author, we show that country-level regulations of business activities can significantly reduce investments in ICT. Thus, I highlight a channel through which regulations impact the level of competition, as well as economic performance at industry and country level.

In one of my current projects, co-authored with Zahid Hasnain and Bradlay Larson, we focus on two aspects of e-government: filing of taxes and procurement by the means of ICT, e-filing, and e-procurement. In a cross-country empirical study, we provide evidence that e-government can improve government capacity to raise taxes, enhance business climate, and to some extent reduce tax evasion in less developed countries. For example, we show that the adoption of e-filing systems is associated with a reduction of the firms' tax compliance costs measured by the time to prepare and pay taxes, the incidents and frequency of firms being visited by public officials, and the perception of tax administration as an obstacle to firm

operation and growth. E-filing effects, however, are often stronger when countries adopt the most advanced e-filing systems with the option of paying taxes online. In turn, the number of firms securing or attempting to secure a government contract increases with e-procurement implementation only in countries with higher levels of development and better quality of institutions.

I have several ongoing projects, which are at varying stages of development. In one of them, co-authored with Bob Rijkers and Mary Hallward-Driemeier, we analyze the impact of political connections in Indonesia on product market competition in Indonesian industries. We exploit a quasi-natural experiment on the resignation of President Suharto in May 1998, who was notoriously corrupt. We compare industry outcomes before and after the Suharto era, between industries with different degrees of political connections. We use plant-level census data for the manufacturing sector, in which firms with political connections are identified, and I measure the extent of the political connections in an industry using the output share of politically connected firms. We expect that the Suharto resignation removed political connections, which in turn decreased the barriers to entry and improved competition.

Another ongoing project, co-authored with Maryam Naghsh Nejad, is about the effect of sociopolitical and economic institutions on the development of non-cognitive skills (personality traits) of individuals. We exploit the breakdown of the Soviet Union as a quasi-natural experiment. We focus on three post-Soviet countries – Armenia, Georgia, and Ukraine – and compare the non-cognitive skills of people who were born much before the collapse of the Soviet Union with those who were born shortly before or after, relative to individuals from the other developing countries that had never gone through the same institutional changes. We find significantly lower scores of extraversion, openness, and grit, and higher scores of hostility in people who lived under the communist regime for a considerable amount of time. This suggests that institutions can shape the non-cognitive skills of individuals.

Publications (since 2014)

Articles in Peer-Reviewed Journals

Jerbashian V. & Kochanova A. (2017). The Impact of Telecommunication Technologies on Competition in Services and Goods Markets: Empirical Evidence, *The Scandinavian Journal of Economics*, 119(3), 628–655

Hanousek J. & Kochanova A. (2016). Bribery Environment and Firm Performance: Evidence from CEE Countries, *European Journal of Political Economy*, 43, 14–28

Jerbashian V. & Kochanova A. (2016). The Impact of Doing Business Regulations on Investments in ICT, *Empirical Economics*, 50(3), 991–1008

Fungacova Z., Kochanova A. & Weill L. (2015). Does Money Buy Credit? Firm-level Evidence on Bribery and Bank Debt, *World Development*, 68, 308–322

Working papers

Kochanova A., Hasnain Z. & Larson B. (2016). Does e-Government Improve Public-sector Capability? Evidence from Tax Administration and Public Procurement, *World Bank Policy Research*, Working Paper No. WPS 7657

Work in progress

Kochanova, A., Rijkers, B. & Hallward-Driemeier, M., Cronyism and Competition in Indonesian Manufacturing, Pre- and Post-Suharto

Kochanova, A. & Naghsh Nejad, M., Minds for the Market: Non-cognitive Skills in Post-Soviet Countries

Lectures and Seminar Presentations

Bribery Environment and Firm Performance: Evidence from CEE Countries

University of Cologne, Cologne

April 2014

The impact of telecommunication technologies on competition in services and goods markets: Empirical evidence

8th CLEEN Workshop, Norwich

June 2014

Bribery Environment and Firm Performance: Evidence from CEE Countries

EEA-ESEM conference, Toulouse

August 2014

Bribery Environment and Firm Performance: Evidence from CEE Countries

First WINIR Conference, London

September 2014

Bribery Environment and Firm Performance: Evidence from CEE Countries

Arnoldshain Seminar XII, Valencia

September 2014

Does money buy credit? Firm-level evidence on bribery and bank debt

IOS Regensburg, Regensburg

October 2014

Cronyism and industry structure in Indonesian manufacturing: pre and post Suharto

CESifo 8th Workshop on Political Economy, Dresden

November 2014

Cronyism and industry structure in Indonesian manufacturing: pre and post Suharto

Markets, Labor and Regulation Conference, New Delhi

December 2014

Cronyism and industry structure in Indonesian manufacturing: pre and post Suharto

10th Annual Conference on Economic Growth and Development, New Delhi

December 2014

Cronyism and industry structure in Indonesian manufacturing: pre and post Suharto

XVIth April International Academic Conference on Economic and Social Development, Moscow

April 2015

Cronyism and industry structure in Indonesian manufacturing: pre and post Suharto

International Conference on Globalization and Development, Göttingen

May 2015

Cronyism and industry structure in Indonesian manufacturing: pre and post Suharto

Transparency Governance and Innovation, Beirut

May 2015

Cronyism and industry structure in Indonesian manufacturing: pre and post Suharto

ISNIE, Boston

June 2015

Cronyism and industry structure in Indonesian manufacturing: pre and post Suharto

3rd DIAL conference, Paris

June 2015

Bribery Environment and Firm Performance: Evidence from CEE Countries

SITE Academic Conference, Stockholm

September 2015

Minds for the market: Non-cognitive skills in post-soviet countries

Second WINIR Conference, Rio de Janeiro

September 2015

Minds for the market: Non-cognitive skills in post-soviet countries

3rd InsTED Workshop, Indiana University

May 2016

Does e-government improve government capacity? Evidence from tax compliance costs, tax revenue and public procurement competitiveness

Journées Louis-André Gérard-Varet, Aix-en-Provence

June 2016

Minds for the market: Non-cognitive skills in post-soviet countries and Does e-government improve government capacity? Evidence from tax compliance costs, tax revenue and public procurement competitiveness

SIOE 2016, Paris

June 2016

Minds for the market: Non-cognitive skills in post-soviet countries

EACES-HSE workshop, Moscow

June 2016

Cronyism and industry structure in Indonesian manufacturing: pre and post Suharto

University of Barcelona, Barcelona

October 2016

Cronyism and industry structure in Indonesian manufacturing: pre and post Suharto

SEA Annual Meeting, New Orleans

November 2016

Does e-government improve government capacity? Evidence from tax compliance costs, tax revenue and public procurement competitiveness

RES, Bristol

April 2017

Does e-government improve government capacity? Evidence from tax compliance costs, tax revenue and public procurement competitiveness

EPCS, Budapest

April 2017

Minds for the market: Non-cognitive skills in post-soviet countries

Ronald Coase Workshop, Xiamen

May 2017

Does e-government improve government capacity? Evidence from tax compliance costs, tax revenue and public procurement competitiveness

WIDER Development Conference, Maputo

July 2017

Teaching

winter term 2015/16

Topics in Applied Microeconomics: Empirical Political Economy
(together with Ioanna Grypari)
Topics course, University of Bonn



Sebastian Kube

I joined the institute in March 2007.

After receiving my diploma in Economics from the University of Bonn in 2002, I joined *SURVIVE*, a project about traffic control in North Rhine-Westphalia, funded by the German Federal Ministry of Education and Research (BMBF), as a research assistant at the Laboratory for Experimental Economics at the University of Bonn (BonnEconLab). In 2003, I became a research and teaching assistant at the chair of Prof. Dr. Clemens Puppe at the University of Karlsruhe, Germany. During my time in Karlsruhe, I wrote my PhD thesis entitled *Homo Oeconomicus vs. Homo Aequus – Experimental Investigations of Social Preferences*, which

was supervised by Prof. Dr. Clemens Puppe, Prof. Dr. Reinhard Selten, and Prof. Dr. Christof Weinhardt, and finally accepted in January 2007. From 2010 to 2016, I was an affiliated researcher at the CENs (Center for Economics and Neuroscience) in Bonn. Since 2008, I have been a Research Fellow at the IZA (Institute of Labor Economics), also in Bonn. In April 2009, I became Professor of Economics at the University of Bonn. I have also been Vice Director of the BonnEconLab since 2009, and local coordinator in Bonn of the European Doctoral Program in Quantitative Economics (EDP) since 2015. In 2015, I was granted a research grant from the German Science Foundation (DFG) – on which I spent most of my research time during the past years.

Research Agenda

I am very interested in the importance of interdependent preferences for economic behavior. In general, I am using field and laboratory experiments to explore corresponding research questions from the areas of personnel economics, labor economics, and public economics. My research in the past years mainly focused on the following two topics:

Incentives and Motivation (not only) at the Workplace

So far, I have studied the importance of non-monetary gift exchange, as well as the consequences of negative reciprocity in natural employment relationships that feature contractual incompleteness. Moreover, I explored whether communication can help to overcome some of the problems that are usually observed in gift-exchange games between one principal and multiple agents.

I also looked at the interactions between team performance, remuneration schemes, and production functions; in particular with respect to the equity principle and the phenomenon of incentives reversal. In recent years, I have studied the importance of goals and milestones for worker motivation and work behavior. For that research project, I heavily relied on field experiments that were conducted at the MPI library and in collaboration with the library team. I recently complemented these field experiments with lab experiments, which formed the basis for a methodological paper on the use of real-effort lab experiments and the role of implicit effort costs.

Cooperation, Sanctions, Institutions, and Norms

My research here covers factors that shape cooperation in groups. Although my findings in that area are also applicable to working teams, most of the work here is based on questions that are at the heart of the institute's research agenda. Thus, many studies were carried out jointly with former and current members of the institute.

So far, I have explored how decentralized social sanctions can help to mitigate social dilemmas; for example, in the presence of counter-punishment opportunities, latent payback mechanisms, or probation. I also studied to what extent cooperation can be shaped by (changing first) impressions – be it by information management, leading-by-example, or the framing of the decision situation. I also looked at situations where players are heterogeneous in their returns from a public good. In these studies, I highlighted potential problems when it comes to the endogenous formation of institutions to mitigate social dilemmas, demonstrated the importance of redistribution and stressed that the details of the institution formation process matter. I further explored the interaction of legal and social norm enforcement, which included a new method to measure the disposition of individuals to enforce norms. The latter formed the basis for my DFG-funded project, *“Peer Punishment in Social Dilemmas: Individual Punishment Profiles, Type Heterogeneity, and Consistency across Games”*. There, i) I elicit peer punishment behavior at the individual level and explore its correlation with individual-level cooperation behavior; ii) identify the extent to which peer punishment is driven by deterrence rather than retribution; and iii) check the robustness of individual peer punishment behavior between different environments or between different countries.

Awards and Grants

- 2015 Excellence in Teaching Award from the Department of Economics at the University of Bonn
- 2016 Excellence in Teaching Award from the University of Bonn
- 2017 Excellence in Teaching Award from the University of Bonn

DFG Research Grant: “Decentralized Peer Punishment in Social Dilemmas” (223,000 Euro)

Publications (since 2014)

Articles in Peer-reviewed Journals

- Frackenhohl, G., Hillenbrand, A. & Kube, S. (2016). Leadership effectiveness and institutional frames. *Experimental Economics*, 19(4), 842–863
- Engel, C., Hennig-Schmidt, H., Irlenbusch, B. & Kube, S. (2015). On Probation. An Experimental Analysis. *Journal of Empirical Legal Studies*, 12(2), 252–288
- Kube, S., Schaube, S., Schildberg-Hörisch, H. & Khachatryan, E. (2015). Institution Formation and Cooperation with Heterogenous Agents. *European Economic Review*, 78, 248–268
- Kube, S., Khachatryan, E. & Volland, B. (2015). Mitigating Extortive Corruption? Experimental Evidence. *Journal of Economics and Statistics*, 235(2), 228–241
- Beckenkamp, M., Engel, C., Glöckner, A., Irlenbusch, B., Hennig-Schmidt, H., Kube, S., ... Towfigh, E. V. (2014). First Impressions are More Important than Early Intervention. Qualifying Broken Windows Theory in the Lab. *International Review of Law and Economics*, 37, 126–136
- Corazzini, L., Kube, S., Maréchal, M. A. & Bernasconi, M. (2014). Elections and Deceptions. An Experimental Study on the Behavioral Effects of Democracy. *American Journal of Political Science*, 58(3), 579–592
- Kube, S., Klor, E., Winter, E. & Zultan, R. (2014). Can Higher Rewards Lead to Less Effort? Incentive Reversal in Teams. *Journal of Economic Behavior and Organization*, 97, 72–83

Book Chapter

Goerg, S., Kube, S., Radbruch, J. & Weinschenk, P. (2016). Do teams procrastinate? Strategic procrastination in a dynamic environment. In S. Goerg & J. Hamann (Eds.), *Experiments in Organizational Economics, Research In Experimental Economics*, 19, 229–250. Emerald Group Publishing

Preprints

Kleine, M. & Kube, S. (2015). Communication and Trust in Principal-Team Relationships: Experimental Evidence. Bonn: Max Planck Institute for Research on Collective Goods, Preprint 2015/6

Working Papers

Albrecht, F., Kube, S. & Traxler, C., Cooperation and Punishment: The Individual-Level Perspective

Kube, S. & Schaub, S., Cooperation and Redistribution: Does “Bundling” Foster Institution Formation?

Goerg, S., Kube, S. & Radbruch, J. (2017). The Effectiveness of Incentive Schemes in the Presence of Implicit Effort Costs, ZA Discussion Paper No. 10546

Glöckner, A., Kube, S. & Nicklisch, A. (2014). The Benefits of Latent Payback in Social Dilemmas, WiSo HH Working Paper Series 2014, No. 13

Lectures and Seminar Presentations

Institution Formation and Cooperation with Heterogeneous Agents

Invited Presentation at the Meeting of the Southern Economic Association in Atlanta
November 2014

Institution Formation and Cooperation with Heterogeneous Agents

Presentation at the Meeting of the Economic Science Association in Fort Lauderdale
October 2014

Teaching

summer term 2014	Vorlesung Experimentelle Wirtschaftsforschung [Lecture, Experimental Economics] University of Bonn
winter term 2014/15	<i>on sabbatical leave</i>
summer term 2015	Vorlesung Experimentelle Wirtschaftsforschung [Lecture, Experimental Economics] University of Bonn
winter term 2015/16	Vorlesung Grundzüge der Mikroökonomik [Lecture, Introductory Microeconomics] University of Bonn
summer term 2016	Vorlesung Experimentelle Wirtschaftsforschung [Lecture, Experimental Economics] University of Bonn

winter term 2016/17	Vorlesung Grundzüge der Mikroökonomik [Lecture, Introductory Microeconomics] University of Bonn
winter term 2016/17	Projektmodul Experimental Economics [project seminar Experimental Economics] University of Bonn
summer term 2017	Vorlesung Experimentelle Wirtschaftsforschung [Lecture, Experimental Economics] University of Bonn

Professional Activities

Referee for

Econometrica; Quarterly Journal of Economics; American Economic Review; Review of Economic Studies; Journal of the European Economic Association; American Political Science Review; Management Science; Journal of Labor Economics; Review of Economics and Statistics; Journal of Economic Behavior and Organization; Games and Economic Behavior; Economic Journal; European Economic Review; AEJ Microeconomics; Games; Scandinavian Journal of Economics; Social Choice and Welfare; Experimental Economics; Economic Inquiry; Journal of Economic Psychology; BuR Business Research; Labour Economics; Review of Managerial Science; Contemporary Economic Policy; The Social Science Journal;

Referee for Project Proposals and Conferences

US National Science Foundation (NSF)
The Netherlands Organization for Scientific Research (NWO)
Israeli Science Foundation (ISF)
German Science Foundation (DFG)
Danish Council for Independent Research (DFF)
American Academy in Berlin
Canadian Social Sciences and Humanities Research Council (SSHRC)
Annual Conference of the Verein für Socialpolitik
EDP Jamboree in Bonn



Wolfgang Kuhle

Economics is best understood in terms of simple parables. Such parables relate predictions in a clear manner to the assumptions upon which they rest. This transparent structure allows one to identify, without recourse to complex data, the circumstances under which a model's results apply. Taking this view, I work on market microstructure, incomplete information games, and macroeconomic equilibrium models.

Market Microstructure

My work on market microstructure resulted in a joint paper with Olga Gorelkina on "Information Aggregation through Stock Prices and the Cost of Capital", which is forthcoming in the *Journal of Institutional and Theoretical Economics*. This paper studies a firm's optimal capital structure in an environment where the firm's stock price serves as a public signal for its creditworthiness. In equilibrium, equity investors choose how much information to acquire privately, which induces a positive relation between the amount of equity issued and the stock price signal's precision. And the firm can, through its capital structure, internalize the informational externality that stock prices exert on bond yields. Firms with a strong fundamental therefore issue more equity and less debt than they would if the informational spillover did not exist.

In "An Equilibrium Model with Computationally Constrained Agents", I study an economy in which firms cannot compute exact solutions to the equations that characterize future equilibrium prices. Instead, firms use polynomial expansions to approximate prices. In equilibrium, the precision with which firms can compute prices is endogenous and depends on the level of aggregate supply. At the same time, the firms' individual supplies, and thus aggregate supply, depend on the precision with which firms compute prices. This interplay between supply and the price forecast's precision induces multiple equilibria, with inefficiently low output, in economies that otherwise have a unique, efficient, rational expectations equilibrium. Moreover, exogenous parameter changes, which would increase output were there no computational frictions, can diminish the precision of the agents' price forecasts, reducing output. The model therefore accommodates the intuition that interventions, such as unprecedented quantitative easing, can put agents into "uncharted territory".

The paper "Darwinian Adverse Selection" was published in *Algorithmic Finance*. It develops a model to study the role of individual rationality in economics and biology. The model's agents differ continuously in their ability to make rational choices. The agents' objective is to ensure their individual survival over time or, equivalently, to maximize profits. In equilibrium, however, individually rational agents who maximize their objective survival probability are, individually and collectively, eliminated by the forces of competition. Instead of individual rationality, there emerges a unique distribution of irrational players who are individually not fit for the struggle of survival. The selection of irrational players over rational ones relies on the fact that all rational players coordinate on the same optimal action, which leaves them collectively undiversified and thus vulnerable to aggregate risks.

I have also been working on several still incomplete papers, among them "Information Aggregation with Correlated Errors" and "Informational Spillovers in Sequential Markets," which is again joint work with Olga Gorelkina. Together with Dominik Grafenhofer, I worked on Bertrand and Cournot equilibria in models with "endogenous competition". This work was discontinued due to literature overlap.

Incomplete Information Coordination Games

Jointly with Dominik Grafenhofer, I analyzed Bayesian coordination games where agents draw on heterogeneous pieces of information. This resulted in two papers. The first, entitled "Observing Each Other's

Observations in a Bayesian Coordination Game”, appeared in the *Journal of Mathematical Economics*. The second paper, “Observing Actions in Bayesian Coordination Games”, studies the conditions under which (bank) runs feed on themselves. Taken together, both papers show that the particular form and number of equilibria that obtain in incomplete information games is very sensitive towards the particular types of information that agents can use to forecast each other's actions.

My paper “A Global Game with Heterogenous Agents” appeared in the *Economic Theory Bulletin*. It relaxes the common prior assumption in the public and private information game of Morris and Shin (2004). For the generalized game, where an agent's prior expectations are heterogenous, it derives a sharp condition for the emergence of multiple equilibria. If prior dispersion is small, equilibrium multiplicity depends on the relative precision of private information and the subjective prior. If priors are sufficiently dispersed, equilibria are unique, irrespectively of the relative weights that players assign to private signals and priors. If prior dispersion vanishes, the original multiplicity condition for the common prior economy obtains. Extensions to environments with public signals of exogenous and endogenous quality show that prior heterogeneity, unlike heterogeneity in private information, provides a robust anchor for unique equilibria. Finally, regardless of whether priors are unique or not, we show that public signals can induce equilibrium uniqueness, rather than multiplicity, if they are of high precision.

Overlapping Generations

I discontinued my work on overlapping generations. In the last years, I worked on revisions and offshoots to existing papers. The neoclassical overlapping generations (OLG) model is characterized by a young working-age cohort, which supplies labor and saves for retirement. This young cohort overlaps with an old cohort, which supplies capital and lives in retirement. Moreover, there is a government which can implement transfers between different cohorts by issuing public debt or through pension schemes. My contributions to this framework are:

“The Optimum Structure for Government Debt”, printed in *Metroeconomica*. This paper studies the interaction between risk-sharing and government debt in a two-generations-overlapping model with stochastic factor prices. If a government can issue safe bonds and claims to wage-indexed social security to service a given initial obligation, there exists a set of Pareto-efficient ways to do so. This set is characterized by the conflicting interests of the current young and the still unborn generations regarding the allocation of factor-price risks. If the government can change both the size and the composition of the debt, it is possible to reconcile these conflicting interests. Changes in the composition of the public debt reallocate factor-price risks, while changes in the size of the debt reallocate resources. Using both instruments, the government can separate the risk-sharing properties from the crowding-out associated with public debt. This separation allows for a narrowing of the set of efficient debt structures in a Pareto-improving manner.

In the course of the previously mentioned revisions of papers, I wrote two complementary papers. “The Dynamics of Utility in the Neoclassical OLG Model” was published in the *Journal of Mathematical Economics*. This paper develops a method to study how the life-cycle utility of a sequence of cohorts converges towards its steady state level in the neoclassical two-generations-overlapping model. This method allows one to characterize the utility changes associated with marginal variations in exogenous policy parameters along the entire transition path between two steady states. At the same time, it is no more complicated than a pure steady state analysis. Moreover, it can be applied to economies for which an explicit solution of the transition path is not available.

The second paper, “The Dynamics of Utility in the Neoclassical OLG Model II”, is currently under review.

Publications (since 2014)

Publications in Peer-reviewed Journals

Gorelkina, O. & Kuhle, W. (forthcoming). Information Aggregation Through Stock Prices and the Cost of Capital. *Journal of Institutional and Theoretical Economics*

Grafenhofer, D. & Kuhle, W. (2016). Observing Each Other's Observations in a Bayesian Coordination Game. *Journal of Mathematical Economics*, 67, 10–17

Kuhle, W. (2016). Darwinian Adverse Selection. *Algorithmic Finance*, 5(1), 31–36

Kuhle, W. (2016). A Global Game with Heterogenous Priors. *Economic Theory Bulletin*, 4(2), 167–185

Kuhle, W. (2014). The Dynamics of Utility in the Neoclassical OLG Model. *Journal of Mathematical Economics*, 52, 81–86

Kuhle, W. (2014). The Optimal Structure for Public Debt. *Metroeconomica*, 65(2), 321–348

Book Chapter

Kuhle, W. (2017). Demographic Change and the Rates of Return to Risky Capital and Safe Debt. In B. Bökemeier & A. Greiner (Eds.), *Inequality and Finance in Macrodynamics*, 23, 177–190

Working Paper (selection)

2016 An Equilibrium Model with Computationally Constrained Agents

2016 The Dynamics of Utility in the Neoclassical OLG Model II

Work in Progress (selection)

2017 Observing Actions in Bayesian Coordination Games (with Dominik Grafenhofer)

2017 Transitive Competition

2016 Thinking Ourselves into Recession (with Dominik Grafenhofer)

Lectures and Seminar Presentations

Invited Talks

2017, Birkbeck College, University of London; 2017, University of Kent; 2017, Schloß Ringberg MEA; 2016, University of Bielefeld; 2015, University of St. Gallen; 2015, Tel Aviv University; 2015, Bar Ilan University; 2014, DIW Berlin; 2014, Iowa State University (informal seminar)

Conferences

2017, Econometric Society NASM; 2014, 2015, 2016, 2017, International Game Theory Conference, Stony Brook; 2015, EEA Mannheim; 2014, ESEM Toulouse; 2014, Max Planck Institute, Munich



Michael Kurschilgen

Summary Report

After graduating from the IMPRS doctoral program in early 2013, I took on a postdoc position at the MPI, was named a “Young Fellow” of the North Rhine-Westphalia Academy of Sciences in 2015, and accepted a position as a W2 Assistant Professor (with tenure-track) at the Technical University of Munich. Since November 2015, I have been a research affiliate at the MPI.

A trained economist, I work on questions of morality, cooperation, coordination, and conflict. My research aims at better understanding the determinants of human behavior, and in particular the determinants of collective perceptions of “right and wrong” behavior, in order ultimately to find better ways of organizing teams, firms, and society as a whole.

In a project with Sebastian Kube and Christoph Engel, we show that initial beliefs about other people’s behavior may turn out to be a self-fulfilling prophecy: The mere pre-game expectation of an uncooperative environment leads to low initial cooperativeness, which in turn triggers an irrevocable dynamic of low cooperation and ineffective sanctioning throughout the game. Our results thus stress the importance of “setting the right tone” as a politician, a manager, or a chairman, in order to attain socially desirable outcomes.

Together with Christoph Engel, we analyze the effect of introspection (i.e., the conscious assessment of one’s own normative expectations) on people’s willingness to cooperate in a social dilemma. We show that introspection may enhance cooperation by increasing the relative cost of deviating from one’s self-image. Our results thus yield support to the effectiveness of measures that promote a corporate identity, often practiced in companies, schools, and the military.

In fact, an increasing number of companies invest heavily in their “moral culture”. But could emphasis on morality possibly have unintended side-effects? In a single-authored paper, I show – theoretically and experimentally – that, when people derive utility from self-image, raising moral awareness may not only make people’s behavior less selfish, but also more polarised as diverging conceptions of morality are exacerbated.

A more recent set of projects is dedicated to better understanding hierarchical social order, starting from the observation that the benefits from a given social order are often not evenly distributed. In ancient societies, it was generally better to be born an aristocrat than a peasant; in a free market economy, it is better to have scarce skills than redundant skills; in many multi-ethnic societies, a person’s ethnicity critically affects individual economic success. Even if on aggregate such an order is preferable to chaos, it crucially relies on being accepted by a critical mass of people. In the light of well-documented difference aversion, it is less than clear why low ranks should support a given hierarchical order. Potentially, redistribution could help, but high ranks face an obvious free-riding problem.

To study the emergence and stability of hierarchical order, I propose – together with Konstantin Chatzathanasiou and Svenja Hippel – a new game. Players in an indefinitely repeated BoS game with stranger re-matching are given an arbitrary ranking as a handy coordination device. Whenever two players meet, the preferred equilibrium of the more highly-ranked player is focal. Theoretically, in a population of rational money-maximizers, a perfectly efficient and stable hierarchical order emerges, as everyone follows the device. Yet, minor difference aversion suffices for the order to unravel.

Experimentally, this is exactly what happens in the absence of redistribution. The lower a player's rank is, the less she follows the device, resulting in substantial miscoordination and thus efficiency loss. Strikingly, the problem dissolves when players are given the opportunity to transfer income voluntarily, strongly underpinning the power of indirect reciprocity.

In a related project with Carlos Kurschilgen, I project the two basic ingredients of the BoS game onto an n-player setting. The pure Nash equilibria are efficient, but generate large inequality. On the other hand, the mixed-strategy equilibrium is egalitarian, but very inefficient. Through repeated interaction, however, groups of partners could in principle converge on a stable social norm which reconciles efficiency with equality. Yet, successful coordination on such a norm would require substantial collective reasoning.

In a controlled laboratory experiment, we show that, when inequality is low, behavior quickly converges on one of the pure equilibria. However, when inequality increases, the pure equilibria are no longer behaviorally stable. In that case, the shadow of the future becomes critical. Facing a short time horizon, behavior sinks into chaos (i.e., substantial miscoordination). Yet, when the time horizon is long, groups quickly converge on behavioral patterns that achieve both high efficiency and high equality.

Honors (since 2014)

Named "Young Fellow" of the of North Rhine-Westphalia Academy of Sciences
Research Grant: 40,000 EUR
January 2015

Publications (since 2014)

Articles in Peer-reviewed Journals

Kurschilgen, M., Morell, A. & Weisel, O. (2017). Internal Conflict, Market Uniformity, and Transparency in Price Competition between Teams. *Journal of Economic Behavior and Organization*, 144, 121–132

Kurschilgen, M. (2014). Coercion and Consent: Comment. *Journal of Institutional and Theoretical Economics*, 170(1), 79–82

Beckenkamp, M., Engel, C., Glöckner, A., Irlenbusch, B., Hennig-Schmidt, H., Kube, S., ... Towfigh, E. V. (2014). First Impressions are More Important than Early Intervention. Qualifying Broken Windows Theory in the Lab. *International Review of Law and Economics*, 37, 126–136

Preprints

Engel, C. & Kurschilgen, M. (2015). The Jurisdiction of the Man Within – Introspection, Identity, and Cooperation in a Public Good Experiment. Bonn: Max Planck Institute for Research on Collective Goods, 2015/1

Engel, C., Kube, S. & Kurschilgen, M. (2011, revised 2014). Can We Manage First Impressions in Cooperation Problems? An Experiment. Bonn: Max Planck Institute for Research on Collective Goods, 2011/5

Working Papers

Kurschilgen M. (under review). Less Selfish, More Polarized: An Experiment on Moral Awareness

Work in Progress

Kurschilgen, C., Kurschilgen, M., Conflict, Agreement, and the Shadow of the Future

Chatziathanasiou, K., Hippel, S., Kurschilgen, M., What Stabilizes Hierarchical Social Order? The Role of Transfers

Hoeft, L., Kurschilgen, M., Mill, W., Authority and Moral Wiggle Room

Kurschilgen, M., Marcin, I., Schneeberger, A., Strategic Information Search and Social Norms

Lectures and Seminar Presentations

2014

Identity and Other-regarding Preferences

CEPR European Summer Symposium in Economic Theory, Gerzensee
June 2014

Identity and Other-regarding Preferences

Konstanz Workshop on Attitudes and Preferences
June 2014

Can We Manage First Impressions in Cooperation Problems? An Experiment

Economic Science Association, Fort Lauderdale FL
October 2014

2015

Internal Conflict, Transparency, and Competition – An Experimental Study

Tilburg University, Department of Economics
March 2015

Internal Conflict, Transparency, and Competition – An Experimental Study

Spanish Law and Economics Association, Santander
June 2015

Identity and Other-regarding Preferences

London Experimental Workshop
June 2015

Identity and Other-regarding Preferences

Tilburg University, Governance and Social Preferences Workshop
September 2015

Conflict, Agreement, and the Shadow of the Future

Economic Science Association, Dallas
October 2015

Conflict, Agreement, and the Shadow of the Future

New York University, Department of Politics
November 2015

2016

Conflict, Agreement, and the Shadow of the Future

Max Planck Institute for Research on Collective Goods, Bonn

February 2016

Conflict, Agreement, and the Shadow of the Future

European University Institute, Joint Seminar of Economics and Politics Departments, Florence, 2016

Conflict, Agreement, and the Shadow of the Future

International Meeting on Experimental and Behavioral Social Sciences, Rome

April 2016

What Stabilizes Hierarchical Social Order? The Role of Transfers

University of Marburg, Marburg Centre for Institutional Economics

June 2016

What Stabilizes Hierarchical Social Order? The Role of Transfers

Economic Science Association, Tucson AZ

October 2016

2017

Less Selfish, More Polarized? An Experiment on Moral Awareness

University of Michigan, School of Information

March 2017

Internal Conflict, Transparency, and Competition – An Experimental Study

Tel Aviv University, School of Management

May 2017

Less Selfish, More Polarized? An Experiment on Moral Awareness

Bar-Ilan University, Department of Law

May 2017

Internal Conflict, Transparency, and Competition – An Experimental Study

Haifa University, Department of Economics

May 2017

Less Selfish, More Polarized? An Experiment on Moral Awareness

Ludwig-Maximilian-University Munich, Department of Economics

June 2017

Less Selfish, More Polarized? An Experiment on Moral Awareness

Public Economic Theory Annual Conference, Paris

July 2017

Teaching

spring 2017	Strategic Interaction in Theory, Lab, and Field (MA) TUM School of Management
spring 2017	Topics in Behavioral and Experimental Economics (PhD) TUM School of Management
fall 2016	Microeconomics (BA) TUM School of Management
spring 2016	Strategic Interaction in Theory, Lab, and Field (MA) TUM School of Management
fall 2015	Topics in Experimental Economics (PhD) TUM School of Management
fall 2014	Law and Economics (BA) University of Bonn, Department of Law

Professional Activities

Memberships

Scientific Council of the Bavarian Graduate Program in Economics

Referee for

Journal of Public Economics, Journal of Economic Behavior and Organization, Journal of Legal Studies,
Journal of Institutional and Theoretical Economics, Business Research



Pascal Langenbach

Summary Report

I was a student in the IMPRS “Uncertainty” from August 2011 to August 2015. Since then I am a trainee lawyer (“Rechtsreferendar”) at the Regional Court in Bonn. At the MPI, I still hold a part-time position. As a result of my doctoral studies in the IMPRS program, I earned a doctoral degree in law (Dr. jur.) from the University of Bonn in 2016, and a doctoral degree in economics (Dr. rer. pol.) from the University of Jena in 2017.

Research Agenda

As a real “homegrown player” of the Max Planck Institute in Bonn, my research combines the two major fields practiced here: legal and experimental work. On the “traditional” legal side, I work in the field of public law with a current focus on administrative procedures and constitutional law. The most notable result of this work is my doctoral dissertation on the behavioral effects of administrative hearing rights. The dissertation, submitted in 2015, was published with Mohr Siebeck in Tübingen in 2017. In the book, I argue that, for the sake of the effectiveness and the efficiency of the public administration, as well as for “democratic” reasons, citizen’s hearing rights should be given more weight in administrative procedures, particularly in the German Administrative Procedural Code. To support this claim, I present the social-scientific findings on the acceptance enhancing effects of hearing rights – mainly from the procedural justice literature, but also from an own experimental study. While the book is therefore heavily influenced by social-science research, it also takes the legal discourse about administrative procedures seriously. I tried not *only* to use the empirical findings to point to a legally relevant behavioral effect (which I did in other studies and deem in itself a valuable research goal), but I tried to connect these findings with the doctrine and policy questions debated in the field of administrative and constitutional law. I am very happy that the book came out in a publication series genuinely directed at the administrative law academia.

My own experimental work mainly contributes to the literature in “Experimental Law and Economics”. I use the toolbox of economic lab experiments to investigate legally inspired research questions. The main topics of my research during the past years have been the effects of participation opportunities in (legal) decision-making. In particular, I studied the effects of procedural participation on authority decisions, on the acceptance of these decisions, and on people’s compliance and cooperation.

As mentioned before, one of the studies (conducted together with Marco Kleine and Lilia Zhurakhovska) was interpreted with regard to administrative hearing rights in my legal dissertation. The study tests how pre-decision participation affects post-decision evaluations of a neutral decision-maker – independent of outcomes. Recent research in experimental economics raises doubts about the validity of the widely replicated finding in the psychological literature that participation independently leads to the acceptance of decisions and to support for authorities. In our study, however, we validate the psychological findings using the experimental economics methodology. While we initially drafted the paper in 2013, it was recently published in the *Journal of Economic Behavior & Organization*.

A prequel of this paper, analyzing only one particular part of the experiment, looked at the effects of participation on the decision of the neutral third party. In contrast to dictator game studies where participation benefits the party given the opportunity to communicate, we find an overall negative monetary effect for the participating party. Subjects receive less than their counterparts in a treatment without participation. This study provides insights on how the right to be heard might affect third-party decision-makers, e.g., a judge or an arbitrator, and how it could be used effectively. The study (also together with Marco Kleine and Lilia Zhurakhovska) was published in *Economics Letters* in 2016.

In a complementary vein, I wrote an experimental paper on the values of pre-decision and post-decision messages in a dictator game setting. I studied how the different forms of participation change dictator decisions and which values receivers attach to them. Experiments were initially run in 2013 and an initial version drafted in 2014. However, I ran new sessions in September 2015, and a heavily revised version just came out in spring 2016. Currently, the paper has working-paper status.

In two related studies (both together with Franziska Tausch), I shifted the research focus from individual to collective decision-making in social dilemmas. Both studies are motivated by the observation that many institutional settings (such as legal regimes) are persistent over generations. The first study tests whether the fact that other people in a previous generation voted on a rule matters for people's cooperation in a public-goods setting. We find that the asymmetrical effects of democratic decision procedures (i.e., the fact that the democratic adoption of a sanction scheme supports cooperation, whereas the democratic rejection of the same institution reduces cooperation) only partly occur in an inter-generational setting. While the negative effect of a democratically rejected rule persists in a future generation, the positive effect of a democratic adoption vanishes. This finding can be interpreted as a sign for the law's constant need of democratic legitimization. The fact that a law was initially adopted democratically is not sufficient. Democratically rejected institutions may have long-term negative effects. The *Journal of Law, Economics, and Organization* invited us to revise and resubmit the paper.

The second study assesses how the opportunity of people to repeal a rule democratically may be influenced by the status quo bias. Even if laws need constant democratic legitimization, it is not feasible to vote constantly on already existing laws also. One way to deal with this problem is to give people the opportunity to repeal an existing law. However, if people vote on an existing institution, compared to introducing a new institution, the status quo bias could distort voting outcomes. Yet, we do not find empirical support for this hypothesis in a public-goods setting. So far, only an unpublished manuscript of the paper exists.

Currently, I am also working on an experimental project (together with Niels Petersen) which studies cultural and gender biases in constitutional adjudication. Using a case from German immigration law, we try to elicit these biases by using differing case material in mock exams of first-year law students at a major German University. We are currently coding the students' essays. We assume that some regulations, in our case the German-language proficiency requirement in immigration law, are designed with certain real-world situations in mind. We further hypothesize that, when applying a proportionality test to these regulations, the students' assessments of the constitutionality will be affected by how closely the case resembles the idealized situations. Therefore, we hope to identify how doctrinally irrelevant characteristics of a legal case might change constitutional adjudication.

Publications (since 2014)

Articles in Peer-reviewed Journals

Kleine, M., Langenbach, P. & Zhurakhovska, L. (2017). How Voice Shapes Reactions to Impartial Decision-Makers: An Experiment on Participation Procedures. *Journal of Economic Behavior & Organization*, 143, 241–253

Kleine, M., Langenbach, P. & Zhurakhovska, L. (2016). Fairness and Persuasion: How Stakeholder Communication Affects Impartial Decision Making. *Economics Letters*, 141, 173–176

Book

Langenbach, P. (2017). *Der Anhörungseffekt: Verfahrensfairness und Rechtsbefolgung im allgemeinen Verwaltungsverfahren*. Tübingen: Mohr Siebeck

Preprints

Langenbach, P. & Tausch, F. (2017). Inherited Institutions: Cooperation in the Light of Democratic Legitimacy. Bonn: Max Planck Institute for Research on Collective Goods, Preprint 2017/1 (revise & resubmit, *Journal of Law, Economics, and Organization*)

Langenbach, P. (2014). The values of ex-ante and ex-post communication in dictator games. Bonn: Max Planck Institute for Research on Collective Goods, Preprint 2014/7

Lectures and Seminar Presentations

Fairness and Persuasion

The Law and Boundaries Conference , Sciences Po, Paris
May 2014

Fairness and Persuasion

Annual Conference of the European Association of Law and Economics, University Aix-Marseille
September 2014

Fairness and Persuasion

Conference for Empirical Legal Studies, Duke Law School
November 2016

Other

I organized (together with Konstantin Chatziathanasiou) the 1st Max Planck Young Legal Scholars' Meeting at the MPI in April 2015. The workshop was directed at PhD students from all Max Planck institutes engaging in legal research. Participants had the opportunity to discuss their research projects. This is a "bottom up" initiative to advance the exchange of the legal institutes in the Max Planck Society at PhD level. The initiative has developed into an annual meeting hosted by one of the different Max Planck institutes.

Lisa Lenz

Summary Report

Course Program

I started with my PhD program at the university of Cologne in October 2016. During the first year of my PhD program, I focused on primarily completing the course program of the Cologne Graduate School in Management, Economics and Social Sciences. In choosing these courses, I am pursuing the aim of deepening my knowledge in two distinct economic fields.

First, I want to deepen my understanding of behavioral economics, both concerning formal economic theory as well as the methodological skill required to perform well- designed experiments. Thus, I participated in a very challenging advanced course in game theory, in a demanding course in behavioral economic theory, as well as in an experimental design course. Second, in order to improve my econometric skills set, I took a course in advanced econometrics as well as a course in Bayesian Econometrics. Additionally, I took a course in public economics and taxation and participated in a two-day workshop in structural estimation given by Charles Bellemare. I will have completed the course program in July 2017.

First Research Topic – Guilt Aversion in Groups

In my first PhD research project, I attempt to tackle the question whether an individual decision-maker with preferences for not betraying the expectations of others (a guilt-averse agent) will act more or less selfishly if she interacts with a group compared to a one-to-one relationship. More precisely, I investigate whether a decision-maker will state more selfish decisions if she is protected by the anonymity of the mass and the consequences of her decisions affect a group of agents, compared to a situation where she interacts with only one other agent.

My new experimental design combines a classic trust game with an insurance setting in a way that allows me to discriminate between four different potential behavioral channels associated with an adjusted multi-level guilt aversion model. In particular, I study how image concerns affect the decision-making process in groups where actions cannot be assigned to individual decisions stated. I also test whether the concept of guilt aversion can be equalized with the idea that decision-makers anticipate the loss aversion of other individuals. This would imply that the marginal disutility from not living up to the expectations of others is diminishing with a larger deviation from the other individuals' reference points. In contrast, it is also plausible that economic agents experience a larger disutility if they violate the expectations of someone who already experiences a large disappointment. Hence, I would like to address empirically the question whether the psychological guilt term reflecting the guilt aversion of an individual agent should be modeled as a concave or a convex utility term.

The curvature characteristics of the psychological guilt term in the decision-makers' utility function have far-reaching implications how the preferences for not violating the expectations of others alter the way people interact with groups, compared to a one-to-one setting. A linear guilt term would imply that people are indifferent between taking away 10 € from the expected income of one person or taking away 1 € from the expected income of ten individuals. In contrast, a diminishing sensitivity to a deviation from the reference points of others would imply that people prefer unexpectedly to take away 10 € from one person over taking away 1€ from ten people. An increasing sensitivity would trivially implicate the opposite and could thus be a potential explanation why people are more reluctant to betray a single person than to betray a group of people, such as a community of insured customers.

Moreover, I want to inquire whether decision-makers tend to free-ride on the moral behavior of others and to what extent decision-makers make up for the immoral behavior of other decision-makers given that a group of agents affect the outcome of a single agent or a group of other agents.

Last, I also investigate to what extent the three previously discussed channels impact the belief formation process of the people affected by the decisions stated by the decision-makers, and to what extent the anticipation leads to self-fulfilling prophecies.

Overall, I would like to investigate the question whether the decision-makers' preferences can be represented by an adapted version of the guilt model by Battigalli and Dufwenberg (2007).

I am also concerned about the extent to which the experimental findings as well as the proposed model can be applied to elucidate real-life phenomena, such as supply-side-induced moral hazards in credence-goods markets. Thus, I explore whether empirical evidence that sellers exploit their customers' naivety by increasing the extent or price of the service in a market setting where customers' expenses are covered by third parties (supply-side-induced moral hazards) can be explained by belief-based preferences.

Until now I have already discussed this project in front of three different audiences. First, I presented a preliminary version of the project at the IMPRS uncertainty thesis workshop 2017 at Gut Gremmlin. I also presented a slightly updated version of the project at a research seminar of the Center for Macroeconomic Research at the University of Cologne, and finally I have discussed the latest version of my experiment at the Brown Bag Seminar at the University of Cologne. I am very thankful for the good advice I received from the participants of the workshops.



Monika Leszczyńska (née Ziolkowska)

In my research, I experimentally investigate behavioral reactions towards legal institutions with a goal of providing evidence-based arguments to the ongoing legal discussions in areas of corporate governance and contract law. I aspire to communicate my projects to the legal and experimental community.

This is illustrated by my study on mandatory quota rules, which have yielded one article for an experimental and another for a primarily legal audience. In the first paper (published in the *Journal of Economic Psychology*), my co-authors (Angela Dorrough, Manuela Barreto, and Andreas Glöckner) and I reported results of two independent studies

testing the impact of a quota rule on group cooperation. This study was motivated by a claim made by policy-makers advocating the introduction of mandatory quota rules for the corporate boards of public companies in the European Union. The policy-makers asserted that quota rules would increase gender diversity in corporate boards, and this in turn would improve team performance. We examined whether this positive effect can indeed be achieved if diversity is introduced through quotas. In our experiments, we observed that quota rules negatively influence group cooperation, compared to performance-based promotion.

In a single-author paper (accepted by the *European Business Organization Law Review*), I took a closer look at the Impact Assessment (IA) issued by the European Commission together with a Directive proposing a 40 per cent obligatory female representation on the boards of directors in European public companies. I presented both field and laboratory studies investigating the influence of mandatory quotas on company performance, individual attitudes, and group cooperation. Next, I discussed implications of these findings for the evaluation of the IA quality as well as the legality of the Directive.

In 2016, Angela Dorrough, Andreas Glöckner, and I received a grant from the Fernuniversität Hagen to continue research on quota rules and group behavior. We are currently working on a project that looks at the impact of gender-based selection procedures on the quality of group decision-making in a hidden-profile paradigm.

My more recent research questions are related to contracts and contract law. For instance, in one project (jointly with Sebastian Goerg and Erich Cromwell), we investigated whether payoff-irrelevant terms of a contract that are perceived as unkind lead to negative reactions of a contractual partner. We compared the impact of two economically equivalent contracts – a fixed-term renewable and an open-ended at-will contract. Each provides partners with full flexibility regarding the length and termination of their interaction. However, when both contracts are available, offering a fixed-term contract might be perceived as unkind. For instance, it might be perceived as a sign of skepticism about the prospects of a contractual interaction. This can be detrimental when a contract is incomplete and reciprocal behavior is crucial for the success of a transaction. Our results show that in isolation the two contracts do not differ – people interact efficiently with each of them. However, when both contract types are available, fixed-term contracts are perceived as less kind than open-ended ones. Importantly, we revealed that offering a fixed-term instead of an open-ended contract triggers negative responses of agents and leads to less profitable relations. I presented this study at the 10th Annual Conference on Empirical Legal Studies in 2015. A part of the travel expenses was covered by a Conference Travel Grant that I received from the DAAD.

Another research project I started while still working at the MPI looks at the cautionary function of contractual formalities. Legal scholars have long assumed that contractual formalities, such as a formal writing, protect individuals from entering into ill-considered contracts. Recently, it has been questioned whether digital contract formation can adequately fulfill this function. In an incentivized laboratory experiment, I

compared four forms of concluding a contract – clicking “OK”, typing in one’s name, entering a PIN code (which should reflect a qualified e-signature), and handwritten signing. I examined how these different forms of confirming a decision influence a choice between a smaller/sooner and a larger/later reward. I found that individuals are more impulsive when clicking on “OK” or typing their name than when signing on paper to confirm their decision. No differences were observed between handwritten signing and entering a PIN code.

During my time at the MPI, I also worked on an article (with Konstantin Chatziathanasiou, revised and resubmitted to *Die Rechtswissenschaft*) that aims at introducing the experimental method to the broader legal community. The structure of this paper follows the typical structure of an article reporting an experimental study. Starting with research questions, we present the kinds of legal questions that might be addressed by experimental research. Next, we discuss the basic elements of experimental design, hypothesis, and results, using examples introduced in the first part.

Publications (since 2014)

Chatziathanasiou, K. & Leszczyńska, M. (forthcoming). Experimentelle Ökonomik im Recht. *Rechtswissenschaft. Zeitschrift für rechtswissenschaftliche Forschung*, 8

Leszczyńska, M. (forthcoming). Mandatory quotas for women on boards of directors in the European Union: harmful to or good for company performance? *European Business Organization Law Review*

Dorrough, A.R.* , Leszczyńska, M.* , Barreto, M. & Glöckner, A. (2016). Revealing side effects of quota rules on group cooperation. *Journal of Economic Psychology*, 57, 136–152

* shared first authorship

Working papers

Leszczyńska, M., Cromwell, E. & Goerg, S., It is not only about money: payoff-irrelevant terms and relational contracts

Leszczyńska, M., Think twice before you sign! An experiment on a cautionary function of contractual formalities



Fedor Levin

Summary Report

I have been working in the Max Planck Institute for Research on Collective Goods since August 2016, although my PhD program, MaxNetAging Research School, started earlier, in February of 2016, with a six-month initial training period at the Max Planck Institute for Demographic Research in Rostock. My research topic is the relationship between aging and decision-making. Studying aging and its consequences is considered relevant in the context of the world population aging. Changes in the population age structure, with an increasing share of older adults, are expected to have an impact on both the economy and society, for example through challenges to institutions such as healthcare systems or pension systems. Apart from that, some authors point out possible consequences of differences in quality and competence of the decision-making of older adults, which is more relevant to my research. Overall processes of aging constitute a complex multifaceted topic which is also reflected in the multidisciplinary composition of the MaxNetAging Research School.

Among the consequences of biological aging on the level of individuals is a change in cognitive abilities, specifically a decline in those abilities that strongly depend on intact neural systems. It is well-established that older adults experience decreases in some aspects of their cognitive abilities, even in the absence of overt neuropathological processes or diseases such as dementia. However, individual trajectories of cognitive changes differ and some individuals preserve higher levels of performance. A decrease in performance in cognitive tests has been linked to real-life outcomes. Age-related cognitive decline has been associated with changes in decision-making and often with decreased decision quality. Previous research has already linked aging and cognitive decline to worse financial decisions and worse health-related decisions, which can both potentially have an adverse impact on the well-being of older adults. Overall, research on the effects of cognition on various aspects of decision-making in older adults would be helpful to identify those effects and ways possibly to help compensate for them. It could inform potential interventions such as decision aids or regulating the way information about various products is disclosed to consumers. At the same time, insights into decision-making and cognitive functions are informative for the decision science and neuroeconomics in general.

One of the functions strongly affected by aging is the episodic memory, which is usually assumed to be responsible for remembering personal experiences. Past research in neuroeconomics and neuroimaging has suggested that – apart from allowing us to recollect past events – the episodic memory and its neural substrate, the hippocampus, are involved in choices based on personal preferences. More specifically, it has been proposed that they support the construction of values of alternatives during choice by supplying evidence in favor of the options under consideration. Therefore, the episodic memory and its role in value-based choice are especially interesting in the context of aging.

I have been working together with Dr. Susann Fiedler and Prof. Bernd Weber to address this issue in a current study. We examined the relationship between the episodic memory and value-based decision-making in a sample of older adults. Our underlying expectation was that a lower episodic memory function would affect the way that information relevant to values of alternatives, such as personal experience, is retrieved. If this process of value construction is indeed less efficient, it should result in less accurate and thus less consistent choices. Less efficient value construction would also increase the time needed to make each decision. We therefore predicted that a lower episodic memory, as measured by a verbal learning test, would be associated with less consistent value-based decisions, as well as with slower choices. Taken together, speed and accuracy would allow us to make conclusions about the process of value construction and how it might depend on episodic memory. We have used photos of regular food products from a

supermarket as stimulus material in a behavioral food choice task. We assessed choice accuracy using a measure of intransitivity, which has already been used for similar purposes in previous studies and requires presenting participants with all possible combinations of stimuli. Additionally, we collected liking ratings for each product, marked choices that were inconsistent with those ratings, and summarized them into individual measures of inconsistency for each participant.

The results of the study partially support our account. As expected, our sample was heterogeneous with regard to their cognitive performance and performance on the value-based task. We confirmed a link between difficulties of choices and both reaction times and errors. Contrary to expectations, we have not established a significant relationship between intransitivities and episodic memory. However, we have found a significant relationship between episodic memory and errors when controlling for Montreal Cognitive Assessment scores. We have also found a significant relationship between episodic memory and average reaction time, as well as significant interaction between episodic memory and choice difficulties predicting reaction times for each trial. An interaction between episodic memory and difficulties predicting errors was significant as well, but it had an unexpected sign meaning that differences between people with high and low memory were more pronounced in the hardest trials, as opposed to the stronger differences in easier trials that we had initially predicted. On the whole, the mixed results of the study seem to support both a relationship between episodic memory and reaction times, and a relationship between episodic memory and choice accuracy, with the caveat that the evidence for the latter is not as strong. The link between the memory performance of older adults and their decision-making could inform future research and hopefully prompt a more in-depth investigation of the roles of memory and of the age-related memory decline in choice.

Lectures and Seminar Presentations

2016

The Aging Decision-maker: Investigating Cognitive Processes underlying Decision-making over the Life Span – The Influence of Episodic Memory Decline on Food Choice

MaxNetAging Meeting, Rostock

December 2016

2017

The Influence of Episodic Memory Decline on Food Choice

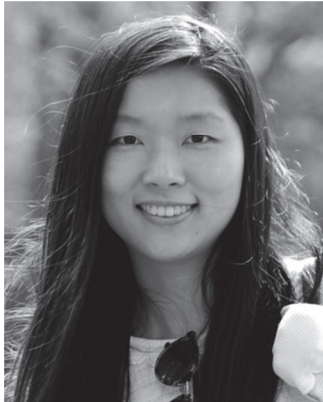
Max Planck Institute, Bonn

January 2017

The Influence of Episodic Memory Decline on Food Choice

MaxNetAging Graduate Workshop 2017, Berlin

June 2017



Mengyao Li

Summary Report

I recently joined the Max Planck Institute for Research on Collective Goods as a Senior Research Fellow, in June 2017. Before joining the institute, I completed my PhD in Social Psychology with a concentration in the Psychology of Peace and Violence at the University of Massachusetts Amherst. Below, I summarize my main research projects in the past four years, and describe the current project that I am working on at the MPI.

Three basic questions drive my research. First, why does group-based violence tend to spread and perpetuate itself? Second, how do violence and other moral transgressions impact the parties involved? Third, what are the constructive ways to respond to moral transgressions? I have examined these questions in various intergroup contexts using different theoretical and methodological approaches. My work explores both individual difference and contextual factors in intergroup processes. To achieve a comprehensive understanding of moral transgressions and moral repair, my research also aims to take a 360-degree approach, where victim, perpetrator, and third-party (bystander) perspectives are examined in tandem.

The Perpetuation of Violence. Perplexed by the endless cycles of violence, I have investigated how and why conflicts have the tendency to beget more conflicts in different international contexts. In five experiments conducted in South Korea and the U.S., we show that reminders of the past engagement of one's own country in interstate conflict can increase the support of citizens for future violence against unrelated third-party states. This war contagion effect was particularly strong among individuals who glorified their country, viewing it as superior to other countries and revering its norms, institutions, and authorities. We further demonstrate that learning about their country's past interstate conflict increased the high glorifiers' support for future violence because it increased their perceived threat from, and negative images of, foreign countries in general. This work was published in *Personality and Social Psychology Bulletin* (Li, Leidner, Euh & Choi, 2016).

The victims' desire for retribution can also perpetuate violence. Based on data that I collected in Serbia and the U.S., I found that due to the victim group members' strong demand for retributive justice (i.e., punishment of perpetrators), they are more supportive of future violence and less open to reconciliation, compared to perpetrator group members. Again, victims who glorify their group are more susceptible to being trapped in such a cycle of violence. This work was recently accepted for publication in the *European Journal of Social Psychology* (Li, Leidner, Petrovic, Orazani & Rad, in press). People also tend to use various strategies to disengage from, or even actively justify, the moral transgressions of their ingroup. My recent research examined the morally disengaging function of perspective-taking with ingroup (but not outgroup) perpetrators in intergroup conflicts. We found that, when confronted with the ingroup's moral failures, taking the perspective of perpetrators reduces the high glorifiers' support for retributive justice (Li, Leidner, Fernandez-Campos, invited resubmission).

The Impact of Moral Transgressions on Health and Well-being. One of the key features of group-based violence is that it can take a toll on group members who were not directly victimized by or responsible for the violence. Although extensive prior work has documented the health consequences of violence and other moral transgressions for victims, little attention has been paid to the health and well-being of perpetrators and perpetrator group members. Addressing this gap, I have conducted empirical studies to uncover the effects of ingroup-committed harm on the mental health of group members, particularly those who were not directly involved in causing harm. In two experiments, we demonstrate that, when the ingroup (as opposed to an unrelated outgroup) committed wrongdoings, low (but not high) glorifiers reported significantly more intense stress-related emotions, higher levels of distress, and more anxiety-related symptoms.

Ingroup glorification, I argue, serves as a psychological buffer against the otherwise adverse effects of ingroup-committed wrongdoings on health. We are currently preparing follow-up studies to assess the physiological markers of stress and anxiety in addition to using self-report measures.

Constructive Responses to Moral Transgressions. The ultimate goal of my research is to identify constructive ways to change destructive human behaviors and social relations. In the context of moral transgressions, I have focused on the complex role of justice in peace and reconciliation processes. In the EJSP paper mentioned above, we also show that, although the victim group members' strong desire for retributive justice can translate into support for future violence, the implementation of criminal justice mechanisms such as tribunals can help satisfy the legitimate justice demand of victims, thereby promoting their willingness to reconcile. Therefore, retributive justice does not always have an adverse effect on peace; rather, it can facilitate peace if it is properly addressed through a formal justice mechanism. I have also extended this line of work to other intergroup contexts, including the conflicts between China and Japan and between Jewish Israelis and Palestinians.

Funded by a SPSSI Grant-in-Aid and the Topol Peace Fellowship, my dissertation investigated how the attitudes of victim and perpetrator groups toward past conflict and international tribunals change over time. The project was inspired by the question of when justice can be served with support from both sides of the conflict. To approach this question, I have adopted a multi-method approach, including secondary data analyses, quasi-experimental and experimental designs. This research also showed that people's subjective perceptions of "time" vary depending on whether their own group has primarily committed or suffered violence during the conflict. Whereas perpetrators tend temporally to distance themselves from their criminal past, victims perceive their sufferings as relatively close in time, potentially in order to pursue the need for justice.

Moral Courage. With Dr Anna Baumert's research group at the MPI, I am currently conducting research on bystander intervention against moral violations (i.e., moral courage). The project uses a multi-methodological approach to investigate the psychological processes underlying morally courageous behavior. At this early stage, we are working toward a unifying definition of moral courage, and a comprehensive taxonomy of the various dimensions relevant to moral courage situations. Some of the key dimensions include the presence or absence of perpetrators and victims, the type of norm violated, the severity of costs, and the perceived ambiguity of the situation. This taxonomy not only serves to categorize types of situations in which moral courage can be displayed, but it also guides future research concerning the situational factors that motivate or inhibit morally courageous behavior.

Publications (since 2014)

Articles in Peer-reviewed Journals

Li, M., Leidner, B., Petrović, N., Orazani, S. N. & Rad, M. S. (forthcoming). The Role of Retributive Justice and the Use of International Criminal Tribunals in Post-conflict Reconciliation. *European Journal of Social Psychology*.

Li, M., Leidner, B., Euh, H. & Choi, H.-S. (2016). The contagion of interstate violence: Reminders of historical interstate (but not intrastate) violence increase support for future violence against unrelated third-party states. *Personality and Social Psychology Bulletin*, 42(8), 1003–1024

Leidner, B., Li, M. & Kardos, P. (2015). Healthy and unhealthy wars: The effects of ingroup-committed violence on physical and mental health. *Peace and Conflict: Journal of Peace Psychology*, 21(3), 334–358

Li, M., Rovenpor, R. D. & Leidner, B. (2016). Regulating the scope of an emotion regulation perspective on intergroup reconciliation. *Psychological Inquiry*, 27(2), 117–123

Leidner, B. & Li, M. (2015). How to (re)build human rights consciousness and behavior in post-conflict societies: An integrative literature review and framework for past and future research. *Peace and Conflict: Journal of Peace Psychology*, 21(1), 106–132

Li, M. (2014). Towards a comprehensive taxonomy of dehumanization: Integrating two senses of human-ness, mind perception theory, and stereotype content model. *Testing, Psychometrics, Methodology in Applied Psychology*, 21(3), 285–300

Book Chapter

Li, M. & Leidner, B. (forthcoming). Understanding Intergroup Violence and Its Aftermath from Perpetrators' and Victims' Perspectives. In L. S. Newman (Ed.), *Why are they doing this to us? The social psychology of genocide and extreme intergroup violence*

Under Review

Li, M., Leidner, B. & Fernandez-Campos, S. (invited resubmission). Stepping into Perpetrators' Shoes: How Ingroup Transgressions and Victimization Shape Support for Justice Through Perspective-taking with Perpetrators. *Personality and Social Psychology Bulletin*

In Preparation

Li, M., Leidner, B., Petrović & Prelic, N. (in prep.). Close or Distant Past? The Role of Temporal Distance in Responses to Intergroup Violence from Victim and Perpetrator Perspectives

Li, M., Leidner, B. (in prep.). Collective Harm-doing, Ingroup Identification, and Mental Health from the Perspective of the Perpetrator Group

Li, M., Leidner, B. & Petrović, N. (in prep.). Changes in Attitudes toward the International Tribunal for the Former Yugoslavia from 2004 to 2011: A Case Study of Serbia Using Secondary Data

Li, M. & Leidner, B. (in prep.). When Victims Demand Justice: How Perpetrator Group Members Respond to Victims' Retributive Versus Restorative Justice Demand

Other Publications

Robinson, A. R., Li, M., Louis, W. R., Selvanathan, H. & Snyder, M. (2016). Complex and Simple Responses to Tragedy: Both Needed. Forward (Society for The Psychological Study of Social Issues Newsletter), (256), 7–8

Lectures and Seminar Presentations

2014

Conflict Resolution and Reconciliation from Perpetrator and Victim Perspectives: The Mediating Role of Retributive and Restorative Justice (with with Leidner, B., Petrović, N., Orazani, S. N. & Rad, M. S.)

Biannual Meeting of the International Society for Justice Research, New York City
June 2014

Violence Begets Violence: Perceived Images and Threat Explain Why Countries Repeatedly Engage in Interstate Wars (with Leidner, B.)

Annual Meeting of the International Society for Political Psychology, Rome
July 2014

2015

Stepping Into Perpetrators' Shoes: How Ingroup Transgressions and Victimization Shape Support for Justice Through Perspective Taking of Perpetrators (with Leidner, B. & Fernandez-Campos, S.)

Annual Meeting of the Society of Australasian Social Psychologists, Newcastle
April 2015

Stepping Into Perpetrators' Shoes: How Ingroup Transgressions and Victimization Shape Support for Justice Through Perspective Taking of Perpetrators (with Leidner, B. & Fernandez-Campos, S.)

Small Group Meeting on Collective Harm-doing: Developing the Perspective of the Perpetrator, Brisbane
April 2015

The Cycle of Interstate Violence and How It Can Be Broken: Evidence from the United States, South Korea, Serbia, Iran, and Israel (invited talk)

Bard College Psychology Colloquium, Annandale-On-Hudson, NY
October 2015

2016

The Contagion of Interstate Violence: Historical Interstate (But Not Intrastate) Violence Increases Support for Future Violence against Unrelated Third-Party States (with Leidner, B., Euh, H. & Choi, H.-S.), (invited talk)

Eastern Psychological Association Annual Meeting, New York, NY
March 2016

The Role of Retributive Justice and the Use of International Criminal Justice in Post-conflict Reconciliation (Leidner, B., Petrović, N., Orazani, S. N. & Rad, M. S.)

Annual Meeting of the Society of Australasian Social Psychologists, Brisbane, Australia
April 2016

Reminders of Historical Violence Increase Support for Future Violence against Unrelated States (with Leidner, B., Euh, H. & Choi, H.-S.)

Society for the Psychological Study of Social Issues Conference, Minneapolis, MN.
June 2016

2017

Close or Distant Past? The Role of Temporal Distance in Responses to Intergroup Violence from Victim and Perpetrator Perspectives (with Leidner, B., Petrović & Prelic, N.)

Annual Meeting of the Society of Australasian Social Psychologists, Melbourne
April 2017

Close or Distant Past? The Role of Temporal Distance in Responses to Intergroup Violence from Victim and Perpetrator Perspectives (with Leidner, B., Petrović & Prelic, N.)

Morality of Conflict and Cooperation Conference, Melbourne
April 2017

Organized Symposia

The Danger of Glorifying the Ingroup: Implications for Intragroup Behavior and Intergroup Relations

General Meeting of the European Association of Social Psychology, Granada
July 2017

Challenges and Opportunities for Intergroup Reconciliation: An Integration of Victim and Perpetrator Perspectives from Multiple Countries

Association for Psychological Science Annual Convention, New York City, NY
May 2015



Aniol Llorente-Saguer

Summary Report

My research mainly lies at the intersection of political economy and political science, with particular interest in the areas of voting, electoral rules, and political processes. Most countries, international organizations, or committees make their decisions through different voting rules. Understanding the properties of such rules to aggregate preferences and/or information – and ultimately their welfare properties – cannot be drawn without understanding how people make use of their vote. In order to analyze and compare various electoral rules, I combine standard microeconomic theory with experimental methods.

In this report, I will review recently published research papers that were started, funded, and developed during my years at the Max Planck institute.

Unanimous Rules. In many sensitive situations, group decisions are required to be unanimous. For instance, many international organizations could not exist without granting some sort of veto power to their members. In such cases, the constraint stems from sovereignty and enforceability issues (Zamora 1980; Posner and Sykes 2014; and Maggi and Morelli 2006). Other examples include partnerships and other unlimited liability companies (Romme 2004), or criminal trials by jury in the US, where a unanimous verdict is required by the constitution.

Unanimous decision-making can be seen as a means of ensuring that a reform will only be adopted if it constitutes a Pareto improvement over the status quo (Wicksell 1967 [1896]; Buchanan and Tullock 1962). However, when information is incomplete, whether or not a reform is adopted also depends on how information is aggregated (Holmstrom and Myerson 1983). The literature focuses on the so-called unanimity rule. Unfortunately, this rule features poor information aggregation properties (Feddersen and Pesendorfer 1998; Austen-Smith and Banks 2006).

In Bouton, Llorente-Saguer, and Malherbe (forthcoming), we study unanimous decision-making under incomplete information. We argue that not all unanimous decision rules are not equivalent. We show that majority rules with veto power are (i) Pareto-superior to commonly used unanimous rules, and (ii) ex-ante efficient in a broad class of situations.

Our results suggest that a number of voting bodies that use unanimity should consider using a majority rule with veto power instead. Examples include international organizations such as the North Atlantic Treaty Organization, the Council of the European Union in the case of most sensitive topics (a k-Veto rule is already in use for matters of Common Foreign and Security Policy), and the Southern Common Market (Mercosur). Furthermore, their Pareto dominance, and their relative simplicity, hint that such an institutional reform may not encounter too much resistance.

In Bouton, Llorente-Saguer, and Malherbe (2017), we study the information aggregation properties of unanimous voting rules in the laboratory. In line with theoretical predictions, we find that majority rule with veto power dominates unanimity rule. We also find that the strategic voting model is a fairly good predictor of subject behavior. Finally, we exploit a framing effect to study how the presence of less sophisticated agents affects the welfare properties of majority rule with veto power.

Approval Voting (AV). In Bouton, Castanheira, and Llorente-Saguer (2016), we study theoretically and experimentally the properties of approval voting with those of plurality when a majority divided by information imperfections faces a unified minority. This comparison is motivated by the theoretical predictions that, in our aggregate uncertainty setup, AV should produce close to first-best outcomes, while plurality will

not. The experiment shows, first, that welfare gains are substantial. Second, both aggregate and individual responses are in line with theoretical predictions, and thus with strategic voting. Finally, the subjects' behavior under AV highlights the need to study equilibria in asymmetric strategies.

Direct-democratic procedures. Are decisions by political parties more or less legitimate than direct-democratic decisions? The literature on parties as brand names or labels suggests that the existence of political parties lowers the information and transaction costs of voters by providing ideological packages. Building on this important argument, in Towfigh et al. (2016) we posit that this informational rationale for parties is not universally applicable and is contingent on the context of the decision that is made. Intermediary political decision-making institutions may impose additional costs on voters in situations where the decision is perceived to be personally important to the individual voter. Parties and expert committees are more efficient in terms of procedural legitimacy for everyday decision-making when stakes are low, while direct-democratic institutions are more legitimate in contexts of highly relevant issues. When an issue is perceived to be important, voters have an intrinsic interest in becoming well-informed anyway; thus, rendering savings on transaction costs becomes largely meaningless. In these situations, intermediary decision-makers like parties would generate a perception of low control over decision-making, while plebiscites are more accepted. We conduct an experimental online vignette study to substantiate these claims. The results imply that a combination of representative democracy and direct democracy, conditional on the distribution of issue importance among the electorate, is optimal with regard to input legitimacy.

Collusion in Auctions. The theoretical literature on collusion in auctions suggests that the first-price mechanism can deter the formation of bidding rings. However, such analyses neglect to consider the effects of failed collusion attempts, wherein information revealed in the negotiation process may affect bidding behavior. In Llorente-Saguer and Zultan (2017), we experimentally test a setup in which theory predicts no collusion and no information revelation in first-price auctions. The results reveal a hitherto overlooked failing of the first-price mechanism: failed collusion attempts distort bidding behavior, resulting in a loss of seller revenue and efficiency. Moreover, the first-price mechanism does not result in less collusion than the second-price mechanism. We conclude that, while the features of the first-price mechanism may have the potential to deter bidder collusion, the role of beliefs in guiding bidding behavior makes it highly susceptible to distortions arising from the informational properties of collusive negotiation. Auction designers should take this phenomenon into account when choosing the auction mechanism.

Publications (since 2014)

Articles in Peer-reviewed Journals

Bouton, L., Llorente-Saguer, A. & Malherbe, F. (forthcoming). Get rid of unanimity: The superiority of majority rule with veto power. *Journal of Political Economy*

Bouton, L., Llorente-Saguer, A. & Malherbe, F. (2017). Unanimous rules in the laboratory. *Games and Economic Behavior*, 102, 179–198

Llorente-Saguer, A. & Zultan, R. (2017). Collusion and information revelation in auctions. *European Economic Review*, 95, 84–102

Bouton, L., Castanheira, M. & Llorente-Saguer, A. (2016). Divided majority and information aggregation: Theory and experiment. *Journal of Public Economics*, 134, 114–128

Towfigh, E.V., Goerg, S., Glöckner, A., Leifeld, P., Llorente-Saguer, A., Bade, S. & Kurschilgen, C. (2016). Do direct-democratic procedures lead to higher acceptance than political representation? *Public Choice*, 167(1), 47–65



Stephan Luck

I am an economist with a focus on financial economics, in particular financial intermediation, financial stability, and monetary policy.

I joined the institute in 2012 as a PhD student from the Bonn Graduate School of Economics (BGSE). I completed my PhD thesis at the University of Bonn in 2015 and remained at the institute as a postdoc. Since 2015, I have started to work on a number of new projects, while also preparing the projects from my PhD thesis for publication. After applying for jobs via the economics job market, I left the institute in August 2016 to become an economist at the Board of Governors of the Federal Reserve System. During my time at the institute, I also had the chance to spend the fall

term of 2014/2015 at Princeton University, where I taught at graduate and undergraduate level.

At the MPI, I have mostly worked with my colleague Paul Schempp, and this collaboration resulted in several working papers. Our earlier papers, which also resulted in my PhD thesis, were mainly concerned with financial instability in the sense of self-fulfilling crisis. We showed that, next to the well-studied thread of classical panic-based bank runs (which can be ruled out by a deposit insurance), the increasing reliance on wholesale funding creates a similar fragility. We showed that a strong government has the ability to stabilize the financial system by issuing a sufficient amount of sovereign debt that the banks can use for their liquidity management. However, if the sovereign is not fiscally strong, then banks holding government bonds can intertwine sovereign and banking crisis. Analyzing a model of a political union in which banks hold government bonds of foreign sovereigns, we argue that self-fulfilling crises in weaker countries are contagious to stronger ones. Thus, a joint (supra-national) deposit insurance might be in the best interest of all participating countries.

Our more recent projects focus more on optimal regulation of financial intermediation, especially in the presence of potential regulatory arbitrage through shadow banking. Considering the reasons for the 2007/08 financial crisis and realizing that German (public) banks were affected so strongly because they had given liquidity guarantees to subsidiaries without having to support these guarantees with equity, we develop a model in which banks and shadow banks coexist. We show that, while liquidity guarantees can sometimes eliminate self-fulfilling runs on shadow banks, crises become more severe and spread to the regulated banking sector if they cannot be eliminated.

In order to understand better what exactly went wrong with the German Landesbanken and their subsidiaries, we started to collect data on the WestLB, its subsidiaries, and their financing and asset purchases. While these data are generally not public, we used US court files from cases in which the WestLB's successors sued the American issuers of securities which WestLB had bought. Thus, we see a part of the bank's exposure to the subprime housing market and can track the performance of the purchased securities. However, we need to collect more data to reach robust conclusions.

In an ongoing project, we examine a situation where banks and shadow banks are alternative ways of creating liquidity for investors. We analyze how fire sales of assets in a crisis and their pecuniary externalities determine the equilibrium composition of the financial system, and show that the equilibrium is generally inefficient. However, standard macro-prudential policy has no bite because its target can always be offset by shadow-banking activities. We conclude that subsidies on bank equity might be the only effective tool for reaching macro-prudential goals.

In another ongoing project with Paul Schempp and Tanju Yorulmazer, we point out a shortcoming of current regulation theory and regulation. It might not be sufficient to focus on a bank's level of equity and other loss-absorbing claims, but also on the financing of such. If the bank's debt holders rely on infor-

mation from equity prices, there can be information contagion if the bank equity markets become illiquid. If bank equity is held by investors who themselves have a fragile financing structure, we argue, then fire sales can occur that are not related to the banks' solvency, but trigger a run on the bank nonetheless. The issue becomes more severe in case of common ownership: If a large investor holds the equity of many banks, fire sales can lead to information contagion across otherwise unrelated banks.

In my most recent research, finally, I collaborate with colleagues from the Federal Reserve Board on evaluating the effect of unconventional monetary policy on the behavior of commercial banks. In particular, we study how large-scale asset purchases affected bank lending and risk-taking, as well as the real economic outcomes such as employment.

Awards

Stephan Luck has been awarded the Otto Hahn Medal for his work on liquidity provision by banks, shadow banks and the government, and the implications for financial stability. A particular focus of his dissertation has been on studying how the circumvention of regulatory requirements can erode financial stability, and how regulatory authorities can implement financial stability in the presence of regulatory arbitrage. The medal is awarded to young scientists in recognition of outstanding scientific achievements.

Best Poster Paper at the First ECB Forum on Central Banking, Sintra, Portugal, 2014

Publications (since 2014)

Dissertation

Luck, S. (2016). *Essays on financial stability*, 116 p. Bonn: Universität Bonn

Preprints

Luck S. & Schempp P. (2014). Outside Liquidity, Rollover Risk, and Government Bonds, Bonn: Max Planck Institute for Research on Collective Goods, 2014/14

Luck S. & Schempp P. (2014). Sovereign Defaults, Bank Runs, and Contagion, Bonn: Max Planck Institute for Research on Collective Goods, 2014/15

Working Papers

Kurtzman, R., Luck, S., Zimmermann, T., Did QE lead to lax bank lending standards? Evidence from QE, SSRN working paper 2966362, 2017

Luck, S., Schempp, P., Banks, Shadow Banking, and Fragility, ECB Working Paper No. 1726, 2014. (*Winner of the 2014 Young Economist Prize at the ECB Forum in Sintra, Portugal*)

Luck, S., Zimmerman, T., Employment Effects of Unconventional Monetary Policy: Evidence from QE, SSRN working paper 3002047, 2017

Work in Progress

Luck, S., Schempp, P., Excessive Shadow Banking

Luck, S., Schempp, P., Regulatory Arbitrage and Systemic Liquidity Crisis

Luck, S., Schempp, P., Yorulmazer, T., On the Financing of Loss Absorbing Claims: Financial Markets, Short-term Debt and Information Contagion

Teaching

spring 2014	TA in "Banking and Securitization" (MSc) University of Bonn
fall 2014	ECO 467/ FIN567 "Institutional Finance, Trading and Markets" (MFin) Princeton University
spring 2015	Research Seminar on "Banking and Banking Crises" (BSc) University of Bonn
spring 2015	ECO 526 "Corporate Finance" (PhD, with Maryam Farboodi and Atif Mian) Princeton University
fall 2015	ECO 467/ FIN567 "Institutional Finance, Trading and Markets" (MFin) Princeton University
fall 2016	ECO 467/ FIN567 "Institutional Finance, Trading and Markets" (MFin) Princeton University



Nathan Maddix

Background

I joined the Max Planck Institute for Research on Collective Goods in November 2017. Prior to joining the EEG group, I completed a Master's degree at Harvard University, where I also worked for two years as research manager of the behavioral and experimental economics lab at Harvard Business School. I am interested in cross-cultural research projects in behavioral research, behavioral economics and law, consumer behavior, behavioral policy, and behavioral interventions. During the last few years, I have done involved work with the United Nations Development Programme and Bloomberg LP on how best to apply behavioral economics to international development contexts and energy efficient products, respectively. To research and apply insights, I make use of experimental methodologies across the social sciences to find creative ways to gather meaningful data, design and test behavioral interventions that may improve subjective well-being, generate wealth, and empower financial decision-making.

Research Interests

My experimental research interests in behavioral economics are diverse. They include judgment and decision-making, behavioral interventions and design, consumer financial decision-making (e.g., savings and debt), behavioral finance (investment decisions), consumer regulations and public policy, and the effects of cultural differences on consumer behavior and consumption. For example, I am interested in how both risk preferences and time preferences affect financial categories and mental accounts, as well as how cognitive science theories can inform theories of budgeting and accounting. I am also interested in cultural differences that emerge from preferences, with or without economic incentives.

In my PhD thesis, I will focus on designing behavioral economics studies that combine insights from management sciences with research in behavioral finance. I am interested in the question of what motivates individuals to manage categories and feelings of ownership over time, which includes how mental accounts can influence economic outcomes. In this direction, it is not clear how mental accounts and cultural categories affect temporal discounting, and I aim to investigate how risk preferences mediate the relationship between temporal discounting and various mental accounts. When high-importance information is made salient, it seems to affect one's ability to plan and save for the future. Recent research with Cass Sunstein (Maddix and Sunstein, 2016) shows how debt concerns may speed up concerns for retirement savings. Within this thesis, research projects can be broken down into three separate themes:

Consumer Financial Decision-making: I investigated the effects of nudging consumers to make tradeoffs between debt and savings, in order to identify how frames and nudges influence behavior. I have also been interested in both risk and time preferences as they relate to planning, time management, and investments. In the coming years, I will continue conducting related experimental research questions to understand better how consumers make inconsistent decisions between financial categories over time and contribute to theoretical work on mental accounts.

Cultural Differences in Preferences and Decision-making Styles: It is not clear how time horizons differ between cultures in terms of financial and risk preferences/attitudes. I plan to design cross-cultural experimental work with other researchers across Europe and the United States that showcases how cultures differ in decision-making styles. Additionally, I will compare how preferences differ for demographic groups. By

comparing and analyzing segmented and demographic data, I hope to generate further insights into theoretical research.

Behavioral Interventions: I have studied behavioral interventions in the context of consumer finance, and I will continue to investigate well-known behavioral interventions to test their merits and, in the context of behavioral policy, identify which policy mechanisms best facilitate behavioral change. Behavioral interventions allow greater insight into causal mechanisms for social and economic behavior, and they have the added benefit that they can be run in large-scale field experiments to impact thousands of lives when implemented in public policies. When it comes to experimental research, I hope to include field experiments in upcoming research projects if laboratory data turn out promising.

While at the MPI, I plan to continue developing these research projects and themes, but I am also excited and privileged to collaborate with other researchers on interesting projects that we develop together.

Working Papers

Maddix, N. & Sunstein, C. (2016). Spend SMarT: Reconciling Debt and Savings

Maddix, N., Behavior by Spending More on Consumer Debt. Target Journal: *Harvard Law Review*



Isabel Marcin

Summary Report

From March 2013 to September 2016, I worked as a Research Fellow at the institute and joined the International Max Planck Research School on Adapting Behavior in a Fundamentally Uncertain World. During this time, I completed my PhD dissertation “Strategic Communication, Voting, and Political Institutions: Essays in Behavioral Political Economy”, which I defended in January 2017 at the University of Jena. The following description of my research reflects the three papers of my dissertation.

Central to my research are the topics of information aggregation and legitimacy of institutions. From a methodological perspective, my research contributes to the recent discipline of behavioral political economy, which studies the actual behavior of people within political institutions as opposed to traditional approaches relying on the assumptions of rational and self-interested actors. Relaxing the standard assumptions of full rationality and self-interested preferences, and integrating cognitive constraints and behavioral motives such as image concerns and legitimacy in economic models, is in my view key to understanding political behavior.

Information Aggregation

I am interested in the question of which factors determine whether people decide to share information honestly with others, and how context affects this decision. Information-sharing is of particular importance for political decision-making. While political decisions are most accurate when based on aggregated information, individuals with heterogeneous preferences over political issues often have no incentives to share their private information sincerely.

In a joint paper with Mark Le Quement, we study such committee decision-making situations in which members face a trade-off between the social goal of making a correct decision and pursuing one’s self-interest. More precisely, we test in a laboratory experiment whether social preferences or cognitive constraints drive the (non-)existence of strategic communication. On an aggregate level, neither of the two motives can explain the data. Further disaggregating results, the data support a model of cognitive heterogeneity assuming two cognitive sophistication levels. The numerically dominant naive subjects tell the truth and use a fixed decision heuristic. In contrast, sophisticated subjects follow their type-specific payoff-maximizing decision rule and lie in a way that allows them to influence the committee’s decision in their favor.

In a subsequent single-authored paper, I study whether the desire to show one’s own expertise induces sincere communication. When sharing knowledge-based information, a sender may want to signal that she is knowledgeable due to social image concerns, and thus more inclined to tell the truth. The social image benefits may, in turn, depend on the type of knowledge and its perceived social status. Experimentally, I study a cheap-talk game with completely misaligned preferences, where the sender transmits knowledge-based information to the receiver. In two treatments, I provide senders with multiple-choice questions on (1) broadsheet topics (general knowledge) and (2) tabloid topics, thereby varying the social status of the knowledge area. I find that truth-telling rates are significantly higher in the former case and the driving channel is the ability to signal knowledge.

Legitimacy of institutions

The creation of legitimacy is a key function of voting procedures. It matters, in particular, when the electorate defers decisions to authorities that rule on their behalf and administer decisions over time. Procedur-

al fairness of political authorities can increase their institutional legitimacy, which in turn can enhance their success in implementing effective rules.

In a paper with Franziska Tausch and Pedro Robalo, we study how a political institution's legitimacy influences the extent and efficacy of third-party punishment. Are third-party punishers influenced by the institutional choice procedure that assigns them their role as third-party punisher? Is their punishment more effective when it is considered more legitimate?

We study a public-goods game with third-party punishment. The third-party punishment is either implemented through a democratic institution (majority vote) or a random device. We find that third-party punishment is considerably more effective at disciplining free-riders when punishers have emerged democratically from the voting process. In fact, democratic punishers anticipate their higher effectiveness and thus choose milder sanctions than their exogenous counterparts.

After my position at the institute, I joined the University of Heidelberg as a Postdoc Researcher at the Chair of Public Economics in October 2016 and collaborated with Christoph Vanberg on the DFG-funded project on multilateral bargaining and group decision-making. Since June 2017, I have been working for Google Germany as an experiments specialist.

Publications (since 2014)

Articles in Peer-Reviewed Journals

Marcin, I. & Nicklisch, A. (2017). Testing the Endowment Effect for Default Rules. *Review of Law and Economics*, 13(2), 13(2), 1–27

Preprints

Marcin, I., Robalo, P. & Tausch, F. (2016). Institutional Endogeneity and Third-party Punishment in Social Dilemmas. Bonn: Max Planck Institute for Research on Collective Goods, Preprint 2016/6

Le Quement, M. T. & Marcin, I. (2016). Communication and voting in heterogeneous committees: An experimental study. Bonn: Max Planck Institute for Research on Collective Goods, Preprint 2016/5

Working Papers

Marcin I., Communication is More than Information Sharing: The Role of Knowledge, mimeo. *Submitted*

Work in Progress

Engel, C., Marcin, I., The Perils of Being Predictable – Mixed Strategy with a Handicap in the Lab

Kurschilgen, M., Marcin, I., Schneeberger, A., Strategic Information Search and Social Norms

Lectures and Seminar Presentations

2014

Communication and Voting in Heterogeneous Committees: An Experimental Study

Winter Experimental Social Science Institute, NYU Abu Dhabi, Abu Dhabi

January 2014

2015

Communication and Voting in Heterogeneous Committees: An Experimental Study

Economic Science Association Europa, Heidelberg

September 2015

Communication and Voting in Heterogeneous Committees: An Experimental Study

Political Economy Seminar, New York University, New York

October 2015

Institutional Endogeneity and Third-party Punishment in Social Dilemmas

Economic Science Association USA, Dallas

November 2015

Communication and Voting in Heterogeneous Committees: An Experimental Study

Experimental Reading Group, Florida State University, Tallahassee

November 2015

Communication and Voting in Heterogeneous Committees: An Experimental Study

Behavioral Political Economy Workshop, NYU Abu Dhabi, Abu Dhabi

December 2015

2016

Institutional Endogeneity and Third-party Punishment in Social Dilemmas

International Meeting on Experimental and Behavioral Social Sciences, Rome

April 2016

Communication and Voting in Heterogeneous Committees: An Experimental Study

Behavioral Models of Politics Conference, Pittsburgh

May 2016

Institutional Endogeneity and Third-party Punishment in Social Dilemmas

Technical University of Munich

June 2016

Communication is more than Information Sharing: The Role of Knowledge

Economic Science Association USA, Tucson

November 2016

Communication is more than Information Sharing: The Role of Knowledge

University of Heidelberg, Heidelberg

November 2016

2017

Communication is more than Information Sharing: The Role of Knowledge

George Mason University, Virginia

March 2017

Communication is more than Information Sharing: The Role of Knowledge

The Kiel Institute for the World Economy, Kiel

April 2017

Teaching

spring 2014 Tutorial, Intermediate Microeconomics
University of Bonn

spring 2015 Seminar, Applied Microeconomics: Social Dilemmas and Institutions
University of Bonn

Professional Activities

Reviewer for

Econometrica, Games and Economic Behavior, Journal of Economic Behavior and Organization, Journal of Business Ethics



Sofia Monteiro

General Statement

In October 2017, I started as a PhD student at the University of Cologne and also joined the Max Planck Institute for Research on Collective Goods as part of the EEG group of Prof. Matthias Sutter. Prior to this, I worked as a research assistant at the South African Labor and Development Research Unit. I have a Bachelor (Economics and Psychology), Honors (Economics), and a Master of Social Science (Applied Economics) degree from the University of Cape Town, awarded with distinction. My main research interests are in behavioral and experimental economics. My Master's thesis investigated the effects of inherited-wealth status on effort provision, in particular the interaction between a framed inherited status inside the lab with participants' real intergenerational wealth status outside the lab.

Master's Thesis:

In 2016, I designed and implemented a new lab experiment in Cape Town, South Africa. The design drew from literature on the intergenerational transmission of wealth and the identity effects of relative status. My research investigated whether a high/low inherited-wealth status in the lab affects task performance (measured by the number of sliders solved in a real-effort task on the computer), using a sample of 320 university students. I found that, for individuals who expect to inherit wealth outside the lab, a low inherited-wealth status in the lab leads to significantly higher effort, but high status leads to slacking off. The research suggests that individuals are highly susceptible to framing in ways that reinforce or mitigate differences in background. This has implications for how workplace and educational institutions are constructed.

Research Agenda

I plan to focus on children and teenagers, collaborating with Matthias Sutter and group members to understand the development of behaviors linked to successful economic outcomes, such as patience and grit. One interesting avenue is designing experiments that test nudges (e.g., peer effects, herd mentality) to promote delay of gratification, since children's patience behavior has been shown to be malleable. The efficacy of nudges in shaping adult behavior and improving decisions is well established, but for children there is hardly any evidence.



Alexander Morell

Summary Report

I completed a PhD in law in 2011 and one in economics in 2015. Now I am mainly working on my *habilitation* on streamlining the law of evidence with the incentives the substantive law aims to create.

1. Competition

I have studied fundamental determinants of competition policy, using economic experiments. In a line of experiments I conducted with Andreas Glöckner (Fernuni Hagen) and Emanuel Towfigh (EBS), we find that conditional rebates can create a psychological lock-in of consumers. With

Michael Kurschilgen (TU Munich) and Ori Weisel (Tel Aviv University) I conducted a series of experiments showing that for the bidding behavior of teams in price competition it makes a big difference whether teams know or do not know how aligned their opponents' intra-team incentives are. This effect interacts with the similarity of the competing teams in a market: When teams are alike, knowledge tames competition. When teams are different, knowledge ignites fiercer competition. Ultimately, this paper can shed some light on the important, but largely undefined, notion of a Maverick firm in antitrust law.

2. Capital Market Regulation

Since 2014, I have also worked on the regulation of delisting companies from the stock market. In Germany, stock market listing and the transparency regime of stock companies go hand in hand. A firm that delists goes dark and vice versa. To commit credibly to a transparent information flow to shareholders, firms need regulation. At the same time, regulation should not stifle delisting, excessively forcing stock companies to remain listed although the listing costs exceed the benefits. In a paper on the regulation of delisting, I welcomed that shareholders are compensated in case of delisting, while at the same time proposing to uncouple listing and transparency and also proposing some minor changes. The paper received a positive review in the influential German corporate law blog run by U. Wackerbarth.¹ I went on to criticize the excessive use, by the German legislator, of precise rules in complex business regulation. Standards would capitalize on the ability of the courts to learn case by case. Discussing the courts' ability to learn, I found that it seems largely underestimated. German delisting law would have benefited from a broader use of general standards.

3. Torts

Using the example of cyclists riding without helmets, I studied when an agent should be held contributorily negligent. Taking a law and economics perspective, I criticized two judgments (by the Schleswig-Holsteinisches Oberlandesgericht and the Bundesgerichtshof) for basing their assessment of the cyclist's contributory negligence on untested impressions of the prevalence of bicycle helmets in German traffic. I contrasted this view with empirical studies on the effect of helmets and the law and economics analysis of contributory negligence, finding that – in the particular case – the car driver alone was the “least cost avoider”, and that the protective effect of bike helmets seems to be grossly overestimated. Transposing these findings into German legal doctrine, I built an argument for a more empirical approach to the assessment of (contributory) negligence and against holding a cyclist contributorily negligent on the sole ground that she did not wear a helmet.

¹ <http://blog.fernuni-hagen.de/blawg/2016/05/31/licht-und-schatten-delisting-aus-der-perspektive-der-oekonomischen-analyse-des-rechts/>

Research Agenda

1. Social Norms

Social norms have been modeled as systems of higher-order beliefs that are written into the utility function of the agent. I investigate the conditions under which strategically irrelevant higher-order beliefs induce behavior. I find that shared group identity can confer motivational power to higher-order beliefs. In a project with Gillian Hadfield (USC) and Marcel Schubert, we test whether normative or empirical beliefs induce behavior. Moreover, I study what features of communication activate social norms when issuing promises (a study co-authored with Sebastian Schneiders, University of Cologne).

2. Law of Evidence for Incentivizing Agents

I investigate how to fine-tune legal rules of evidence and realize the incentives the substantive law aims to set (habilitation). Establishing facts correctly in complex business litigation is key to providing agents with efficient incentives. This does not necessarily mean establishing them accurately. The court may have to ignore evidence in order to optimize incentives. At the same time German legal procedure does not provide for pretrial discovery so that parties can withhold decisive pieces of evidence. Courts react by assisting uninformed parties with their proof in sophisticated ways. I study the use of prima facie evidence and find it is used as a substitute for discovery, for shifts of the burden of proof (which doctrinally they are not), and as an important means of complexity reduction. I find justifications for all of these uses. Using these justifications, I can structure jurisprudence that has to date appeared chaotic and rather ad-hoc.

3. Judicial Behavior and Organization

Using regression analysis in real-world settings conducive to causal inference, we analyze how wage motivated judges. Our preliminary results suggest that, controlling for a host of variables and time trends, a 1% wage increase makes it 0.1% more likely that a judge will hear evidence. This, it seems, is reflected by a significant increase in the plaintiff's chance to win after a pay rise. Furthermore, we measure the political influence of government executives on the enforcement of tax offences. And we estimate the extent to which courts prevent lawyers from distorting attorney fees in their favor. (All three studies co-authored with Christian Traxler, Hertie School of Governance.) Moreover, we study whether patent courts in Germany "sell" their forum by granting favors to potential claimants in patent infringement cases (a study co-authored with Stefan Bechtold (ETH). With Lars Klöhn (HU Berlin) and Holger Spamann (Harvard), I investigate whether German judges decide by precedent or by sympathy, and whether the respective stimulus induces behavior in them to a stronger or weaker degree than in judges of other jurisdictions.

Publications (since 2014)

Articles in Peer-Reviewed Journals

Kurschilgen, M., Morell, A. & Weisel, O. (2017). Internal Conflict, Market Uniformity, and Transparency in Price Competition between Teams. *Journal of Economic Behavior and Organization*, 144, 121–132

Morell, A. (2016). Gefahr erkannt, Gefahr gebannt? Ist eine Abfindung beim regulären Delisting aus Effizienzsicht überhaupt geboten? *Zeitschrift für Bankrecht und Bankwirtschaft*, 2, 67–88

Morell, A., Glöckner, A. & Towfigh, E. V. (2015). Sticky rebates: Loyalty rebates impede rational switching of consumers. *Journal of Competition Law and Economics*, 11(2), 431–461

Morell, A. & Helsen, F. (2014). The interrelation of transparency and availability of collateral – German and Belgian law of non-possessory security interests. *European Review of Private Law*, 22, 393–438

Beckenkamp, M., Engel, C., Glöckner, A., Irlenbusch, B., Hennig-Schmidt, H., Kube, S., ... Towfigh, E. V. (2014). First Impressions are More Important than Early Intervention. Qualifying Broken Windows Theory in the Lab. *International Review of Law and Economics*, 37, 126–136

Articles (not peer-reviewed)

Morell, A. (2017). Rechtssicherheit oder Einzelfallgerechtigkeit im neuen Recht des Delistings. *Archiv für die civilistische Praxis*, 217(1), 61–106

Morell, A. (2016). Choosing and Not Choosing with and without Communication: Comment. *Journal of Institutional and Theoretical Economics*, 172(1), 158–162

Morell, A. (2014). Die Rolle von Tatsachen bei der Bestimmung von «Obliegenheiten» im Sinne von § 254 BGB am Beispiel des Fahrradhelms. *Archiv für die civilistische Praxis*, 214, 387–423

Morell, A. (2014). Anmerkung zu BGH Urt. v. 17. Juni 2014, VI ZR 281/13. *JuristenZeitung (JZ)*, 69, 1168–1172

Books

Effer-Uhe, D., Sagan, A., Deckenbrock, C., Höpfner, C., Kilian, M., Morell, A., ... Ulber, D. (Eds.). (2016). Richterliche Rechtsfortbildung und kodifiziertes Richterrecht. Kölner Tagung, 10.–13. September 2014, *Jahrbuch Junger Zivilrechtswissenschaftler 2014*, 479 p. Stuttgart: Boorberg

Towfigh, E. V., Petersen, N., Englerth, M., Goerg, S., Magen, S., Morell, A. & Schmolke, K. U. (2015). *Economic Methods for Lawyers* (revised and extended English edition of *Ökonomische Methoden im Recht*), 224 p. Cheltenham: Edward Elgar International Academic Publisher

Thesis

Morell, A. (2015). *Opportunities of cross-fertilization between law and experimental economics* (PhD Thesis). Friedrich-Schiller-Universität, Jena

Book Chapter

Morell, A. (2017). § 3 – Nachfrage, Angebot und Märkte. In E. V. Towfigh & N. Petersen (Eds.), *Ökonomische Methoden im Recht*, 2. ed., 45–82. Tübingen: Mohr Siebeck

Morell, A. (2015). Demand, supply, and markets. In E. V. Towfigh, N. Petersen, M. Englerth, S. Goerg & S. Magen (Eds.), *Economic methods for lawyers*, 32–60. Cheltenham: Edward Elgar Publishing

Preprints

Morell, A. (2014). The Short Arm of Guilt: Guilt Aversion Plays Out More Across a Short Social Distance. Bonn: Max Planck Institute for Research on Collective Goods, Preprint 2014/19



Nikos Nikiforakis

My main research interests lie at the intersection of behavioral and public economics. I use laboratory and field experiments to evaluate behavioral assumptions and test theoretical predictions in this field. Most of my research in the relevant time period can be classified into two broad categories. The first category includes studies examining the emergence of spontaneous cooperation. The second category includes studies examining individuals' other-regarding preferences (i.e., preferences for helping or hurting others) and their implication for economic outcomes.

The emergence of spontaneous cooperation

In many instances in daily life, private and public interest are at odds. If individuals disregard the public interest, as often assumed by economists, outcomes can be inefficient unless a central authority interferes to enforce cooperation (e.g., Samuelson, 1954). One solution that has received considerable attention is the use of informal sanctions, that is, sanctions meted out by one's peers.

In one series of papers, I investigate the use of punishment to enforce cooperation in natural settings. A robust finding in all lab experiments is the willingness of the majority of individuals to punish selfish behavior even in one-shot interactions at a personal cost. Balafoutas, Nikiforakis, and Rockenbach (2014) explore norm enforcement in a natural field experiment in Cologne, Germany. Actors violated a well-known social norm (no-littering). To ensure interactions were one-shot, the experiment was run in the main railway stations in Cologne, used daily by thousands of passengers. The experimental findings indicate that, in line with lab experiments, some people are willing to use costly punishment to enforce norms, despite the fact that interactions are one-shot. However, unlike in lab experiments, these individuals are a minority. Further, when given the option, individuals prefer to punish norm violators by withholding a reward from the violator rather than directly confronting him/her. (See also Nikiforakis and Mitchell, 2014, for a related lab study.) In another field experiment in Cologne, Balafoutas, Nikiforakis, and Rockenbach (2016) show that a critical condition for cooperation to evolve in evolutionary models is not met in a field experiment with real-life interactions. In particular, we show that, unlike in lab experiments, altruistic punishment does not increase with the severity of the violation, regardless of whether it is direct (confronting a violator) or indirect (withholding help). The reason is that the fear of counter-punishment increases with the severity of the violation. Related to this, in Balafoutas, Grechenig, and Nikiforakis (2014), we show that third-party punishers are likely to be counter-punished even in one-shot interactions.

In another series of studies, I have investigated the limits of spontaneous cooperation through the use of informal mechanisms such as sanctions, rewards and peer-to-peer communication. For instance, most of the empirical research on the efficacy of informal sanctions has been conducted when agents derive the same benefits from cooperation and punishment cannot be retaliated. Heterogeneity is important as it can lead to normative conflict. A normative conflict arises when there exist multiple plausible norms of cooperation. When individuals derive different benefits from cooperation (as is often the case in daily life) there are at least two prominent and plausible norms that individuals may try to adopt and enforce. The first is that all individuals make the same contribution to the public account. The second norm is that individuals with high returns contribute sufficiently more to the public account so that all group members have equal earnings. In such cases, equality concerns may limit the ability of groups to establish efficient cooperation. In Gangadharan, Nikiforakis, and Villeval (2017), we show that, in a similar setting with heterogeneous agents who can communicate and reward one another, outcomes are inefficient. Individuals do not use rewards to reduce earning inequality and alleviate normative conflict. As a result, contributions are substantially below the social optimum. In Engelmann and Nikiforakis (2015), we show that, even in homogeneous groups, the threat of punishment does not lead to increases in group welfare *even in the long run*, if

punishment can be retaliated, refuting previous claims in the literature about the long-run efficiency of punishment.

Other-regarding preferences

Lab experiments have been pivotal in changing the view of many economists that individuals are solely motivated by a desire to maximize their utility without regard for others. The reason is that the laboratory environment allows researchers to isolate incentives for strategic behavior by maintaining participants' anonymity and ensuring interactions are one-shot and not repeated.

Behavioral economists have developed models of other-regarding preferences to provide a parsimonious explanation for the pro-social behavior observed in a wide range of games. Although these models have been used extensively by experimental economists to obtain theoretical predictions for their studies, there is hardly any evidence about the correlation of pro-social behavior across strategically different games at the individual level. In Dariel and Nikiforakis (2014), we discuss the findings from a within-subject analysis of pro-social behavior in the public-goods and gift-exchange game – two of the workhorses of lab experiments. We find that participants classified as cooperators in the public-goods game tend to reciprocate higher wages in the gift-exchange game with higher levels of effort. Non-cooperators do not exhibit such tendency. In Bland and Nikiforakis (2015), we show that externalities imposed on third parties can affect coordination outcomes. In particular, decision-makers are more willing to incur a cost to try to avoid imposing a large negative externality on a third party, than they are to avoid a small negative externality or to generate a large positive externality. However, when decision-makers' incentives are at odds with the interests of third parties, many of them appear to ignore third-party externalities even if they are large in magnitude, and ignoring them implies substantial earning inequalities and reductions in group earnings. Overall, individuals revealed to be other-regarding in a non-strategic allocation task often behave as-if selfishly when trying to coordinate.

Publications (since 2014)

(The list includes only papers I worked on while at the institute.)

Articles in Peer-reviewed Journals

Gangadharan, L., Nikiforakis, N. & Villeval, M. C. (2017). Normative conflict and the limits of self-governance in heterogeneous populations. *European Economic Review*, 100, 143–156

Balafoutas, L., Nikiforakis, N. & Rockenbach, B. (2016). Altruistic punishment does not increase with the severity of norm violations in the field. *Nature Communications*, 7(13327)

Bland, J. & Nikiforakis, N. (2015). Coordination with third-party externalities. *European Economic Review*, 80, 1–15

Engelmann, D. & Nikiforakis, N. (2015). In the long run we are all dead: On the benefits of peer punishment in rich environments. *Social Choice and Welfare*, 45(3), 561–577

Aurelie, D. & Nikiforakis, N. (2014). Cooperators and reciprocators: A within-subject analysis of pro-social behavior. *Economics Letters*, 122(2), 163–166

Balafoutas, L., Grechenig, K. & Nikiforakis, N. (2014). Third-party punishment and counter-punishment in one-shot interactions. *Economics Letters*, 122, 308–310

Balafoutas, L., Nikiforakis, N., Rockenbach, B. (2014). Direct and indirect punishment among strangers in the field. *Proceedings of the National Academy of Sciences*, 111(45), 15924–15927

Nikiforakis, N. & Mitchell, H. (2014). Mixing the Carrots with the Sticks: Third Party Punishment and Reward. *Experimental Economics*, 17(1), 1–23



Niels Petersen

Summary Report

The last four years have seen quite a few changes in my academic career. In November 2013, I submitted the manuscript of my postdoctoral thesis (*habilitation*) to the faculty of law of the University of Bonn. Christoph Engel supervised the thesis. In June 2014, I successfully completed the procedure of my *habilitation* and was awarded the *venia legendi* for public law, public international law, and legal theory. My postdoctoral thesis dealt with the question of whether constitutional courts use the proportionality test as an instrument of judicial activism. The thesis was first published in January 2015 in German with Mohr Siebeck ("Verhältnismäßigkeit als Rationalitätskontrolle"). In March 2017, a refined version was published in English with Cambridge University Press ("Proportionality and Judicial Activism").

I left the institute in February 2015 for a professorship in Public Law, International and European Union Law, as well as Empirical Legal Studies at the University of Münster. However, my research is still very much influenced by the time that I spent at the institute. In November 2015, a textbook entitled *Economic Methods for Lawyers* was published with Edward Elgar, which I edited together with my colleague Emanuel Towfigh. Furthermore, I finished a project on the identification practice of the International Court of Justice for norms of customary international law, which was started while I was still at the institute.

Publications (since 2014)

Articles in Peer-reviewed Journals

Petersen, N. (2017). The International Court of Justice and the Judicial Politics of Identifying Customary International Law. *European Journal of International Law*, 28(2), 375–385

Petersen, N. (2016). Legislative Inconsistency and the "Smoking Out" of Illicit Motives. *American Journal of Comparative Law*, 64, 121–145

Petersen, N. (2015). Balancing and Judicial Self-Empowerment: A case study on the rise of balancing in the jurisprudence of the German Federal Constitutional Court. *Global Constitutionalism*, 4(1), 49–80

Petersen, N. (2014). The German Constitutional Court and Legislative Capture. *International Journal of Constitutional Law*, 12(3), 650–669

Petersen, N. (2014). Proportionality and the Incommensurability Challenge in the Jurisprudence of the South African Constitutional Court. *South African Journal on Human Rights*, 30(3), 405–429

Articles (not peer-reviewed)

Petersen, N. (2015). Wettbewerbsbehörden als subsidiäre Regulierungsbehörden [Competition agencies as second-order regulatory agencies], *Die Verwaltung*, 48(1), 29–54

Petersen, N. (2014). Karlsruhe Not Only Barks, But Finally Bites – Some Remarks on the OMT Decision of the German Constitutional Court, *German Law Journal*, 15, 321–327

Books

Petersen, N. (2017). *Proportionality and Judicial Activism: Fundamental Rights Adjudication in Canada, Germany and South Africa*. 249 p. Cambridge: Cambridge University Press

Towfigh, E. V. & Petersen, N. (2nd ed., 2017). *Ökonomische Methoden im Recht. Eine Einführung für Juristen*, 291 p. Tübingen: Mohr Siebeck

Petersen, N. (2015). *Verhältnismäßigkeit als Rationalitätskontrolle: Eine rechtsempirische Studie verfassungsgerichtlicher Rechtsprechung zu den Freiheitsgrundrechten [Proportionality and the review of legislative rationality]*, 334 p. Tübingen: Mohr Siebeck

Towfigh, E. V., Petersen, N., Englerth, M., Goerg, S., Magen, S., Morell, A. & Schmolke, K. U. (2015). *Economic Methods for Lawyers* (revised and extended English edition of *Ökonomische Methoden im Recht*), 216 p. Cheltenham: Edward Elgar International Academic Publisher

Book Chapter

Petersen, N. (2017). The Role of Consent and Uncertainty in the Formation of Customary International Law. In Lepard, B. (Ed.), *Reexamining Customary International Law*, 111–130, Cambridge: Cambridge University Press

Petersen, N. (2016). Customary International Law and Public Goods. In Bradley, C. (Ed.), *Custom's Future: International Law in a Changing World*, 253–274, Cambridge: Cambridge University Press

Petersen, N. (2016). The Concept of Legal and Constitutional Pluralism. In Englisch, J. (Ed.), *Constitutional and Legal Pluralism in International Taxation*, 1–22, Amsterdam: IBFD

Petersen, N. (2016). The Political Economy of Customary International Law. In Fabbricotti, A. (Ed.), *The Political Economy of International Law: A European Perspective*, 47–6, Cheltenham: Edward Elgar

Petersen, N. (2014). Verfassungsgerichte als Wettbewerbshüter des politischen Prozesses. In D. Elser & A. Eugster (Eds.), *Das letzte Wort – Rechtsetzung und Rechtskontrolle in der Demokratie. 53. Assistententagung Öffentliches Recht*, 59–78, Baden-Baden: Nomos

Lectures and Seminar Presentations

Organization and Competencies of the German Constitutional Court

Invited presentation at the Punjab Judicial Academy, Lahore
March 2014

Legislative Inconsistency and the “Smoking Out” of Illicit Motives

Presentation at the Third Annual Conference of the Younger Comparativists Committee of the American Society of Comparative Law, Lewis & Clark Law School, Portland
April 2014

The Political Economy of Customary Law

Invited presentation at the conference on The Political Economy of International Law, Rome
May 2014

The Concept of Constitutional and Legal Pluralism

Keynote speech at the 9th Annual Conference of the Group for Research on European and International Taxation, University of Münster
September 2014

Customary International Law and Public Goods

Invited presentation at the conference Custom in Crisis: International Law in a Changing World, Duke Law School
October 2014

The German Constitutional Court and the EU Financial Architecture

Invited presentation at the Amsterdam Centre for European Law and Governance, Universiteit van Amsterdam
December 2014

Teaching

march 2014	International Trade Law & EU Trade Policy Centre for Law & Policy, Lahore
summer term 2014	Regulierungsrecht [Economic Regulation] University of Bayreuth
summer term 2014	Allgemeine Staatslehre [Constitutional Theory] University of Bayreuth
summer term 2014	Examensklausurenkurs Öffentliches Recht [Exam preparation class] University of Bayreuth
winter term 2014/15	Europarecht II [Advanced European Union Law] University of Münster
winter term 2014/15	Völkerrecht I [Introduction to Public International Law] University of Münster
winter term 2014/15	Öffentliches Wirtschaftsrecht [Public Economic Law] University of Münster

Professional Activities

Senior Editor of the German Law Journal

Referee for

European Journal of International Law, the International Journal of Constitutional Law, and the Review of Law & Economics



Matthias Praxmarer

General Statement

Since March 2015, I have been a PhD student at the University of Cologne. I joined the Max Planck Institute for Research on Collective Goods on 1 October 2017 as a final year PhD student and Research Fellow. There, I am part of the EEG group of Prof. Matthias Sutter. Before joining the current position, I held a research position at the University of Cologne. I hold a Bachelor (Management and Economics) and a Master's degree (Applied Economics) from the University of Innsbruck. I was nominated for the Student of the Year award in my last Bachelor year and made the dean's list. In addition, I received funding for excellent academic achievement during my undergraduate studies and finished my Master's studies within three semesters. My main research interests are in the areas of behavioral and experimental economics. My dissertation focuses on (i) intergenerational behavior, (ii) team decision-making, and (iii) social reference-dependent behavior.

Intergenerational Behavior (in Strategic and Non-strategic Settings)

Two chapters of my PhD thesis focus on intergenerational behavior.

The first project on intergenerational behavior is joint work with Bettina Rockenbach and Matthias Sutter. We use a lab experiment to learn more about how the age of a player influences behavior with respect to cooperative norms and norm enforcement. In particular, we are interested in how cooperation and punishment behavior differs within and across generations. Therefore, we recruited juniors (university students in their 20s) and seniors (50 years or older) and implemented a prisoner's dilemma game with costly (altruistic) third-party punishment. We find that seniors are more cooperative than juniors and are also much more willing to use the costly punishment tool to enforce the social norm of cooperation. We have a draft for this paper, but need to polish it more.

The second project in this research field is joint work with Stefania Bortolotti, Wilhelm Hofmann, and Matthias Sutter. We run a large lab-in-the-field experiment to investigate solidarity and cooperative norms over the life cycle with a random sample of the Austrian population. The experiment included a strategic (prisoner's dilemma) and a non-strategic (a version of the dictator game) task. We find no clear effect of age on solidarity and cooperation, but older generations seem to be willing to teach cooperative attitudes to the younger ones and observe lower levels of solidarity towards middle-aged people. We hope to have a first draft soon.

Team Decision-making

The third chapter of my PhD thesis (joint with Justin Buffat and Matthias Sutter) compares individual and team decision-making within the context of decision rights. Previous research has shown that individual decision-making may generate inefficiencies because of an overvaluation of the intrinsic value of decision rights (in contrast to the instrumental value of decisions that shape economic outcomes, the intrinsic value measures the value placed on the power to make the decision, irrespective of the outcome). We are interested in whether teams put a lower price on the intrinsic value of decision-making, which would be particularly relevant for organizations where many decisions are made by teams. We find in our lab experiment that teams are closer to the rational decision-maker than individuals, i.e., team decision-making generates less overvaluation of decision rights. Yet, this finding only holds true if the decision-making process of teams is smooth and frictionless. This finding provides another rationale for team

decision-making in organizations besides other features (division of labor, information-sharing, etc.). The project will be submitted soon.

Social Reference-dependent Behavior

The fourth chapter of my PhD thesis is my single-authored paper on social comparison and (dis)honest behavior. Following previous literature on dishonesty, I want to investigate the effect of social comparison on honest behavior. Therefore, I vary the possibility of social comparison and manipulate the level of the social reference point, i.e., I create environments where it is more likely to be better (worse) off than the peer. At the time of writing, I have just finished the data collection and the first analysis and expect a first draft by the end of the year 2017.

Research Agenda

My research agenda for the upcoming years will include:

Intergenerational Behavior (Decision-making over the Life Cycle)

I plan to work with Matthias Sutter, Stefania Bortolotti, and Bettina Rockenbach on this topic. Using lab and lab-in-the-field experiments, we want to understand the role of age (generation) in strategic and non-strategic settings.

Group Decision-making

Group decision-making is a key feature in organizations and other institutions. While the literature suggests that groups are closer to the rational decision-maker than individuals, we know very little about the impact of internal conflicts on the outcomes. We aim to shed light on this part of the team decision-making process (building upon our previous paper on team decision-making).



Shambhavi Priyam

General Statement

As a PhD student with Professor Matthias Sutter, I have been a part of the Experimental Economics Group (EEG) at the Max Planck Institute for Research on Collective Goods since October 2017. I studied economics at St. Xavier's College, Mumbai, and Sciences Po, Paris. Prior to my work at the MPI, I worked as a Research Associate with the Abdul Latif Jameel Poverty Action Lab (J-PAL) in Bangalore, India. I had previously been involved with field research among the indigenous peoples of Central India.

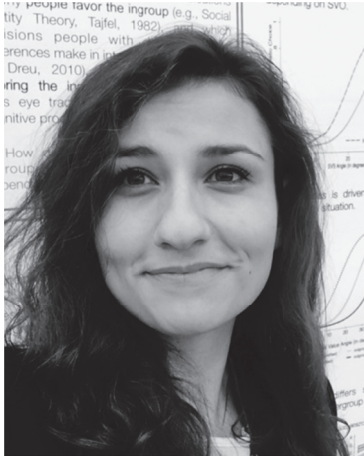
Prior Field Research Work

'Nudging' farmers to adopt new techniques – As part of my work in Central India, I was involved in designing and piloting experiments to find out 'nudging' methods which would help farmers overcome their present bias, and care for their fields growing the nutritious minor millets. We used stickers with smiley faces and grain icons to serve as reminders for adopting the farming practices. Since these farmers were largely illiterate, having a visual reminder in form of a sticker on their doors was found to be a good tool.

Joint lending by microfinance institutions – Working with Arun Chandrasekhar and Xiao Yu Wang, we tried to test a lending model where errors in the credit market could be reduced if the decisions to lend were made in groups rather than alone. We came up with a design involving treatments with different payoff scenarios (dependent and independent of the partner), different amounts of information available to the decision-maker(s), and whether they could communicate. This sparked my interest in wanting to research and understand the dynamics of group decision-making.

Research Agenda

I will collaborate with Matthias Sutter on a field-based project being executed in Bangladesh, where we try to understand better the preferences of children in relation to the socioeconomic status of their families, and the preferences of their parents. I am also working toward exploring group decision-making, focusing on optimal group construction given the biases and preferences of the members involved in the group.



Rima-Maria Rahal

Summary Report

My work focuses on the investigation of the cognitive mechanisms underlying people's decision-making via recordings of eye gaze. Seminal work has established that eye-tracking is a valuable tool in understanding the mechanisms underlying observable behavior, yielding an unobtrusive and objective measure of which information is utilized in the formation of a decision.

Building on prior research, in my dissertation I study the mechanisms of decision formation applied to three specific contexts: intergroup dilemmas, moral dilemmas, and judicial dilemmas. We may have some

indications of who makes which type of choice in these dilemmas, and under which circumstances eye-tracking research allows a more fine-grained investigation of the way decision-makers deal with such a decision problem, requiring them to weight and compare outcomes. In intergroup dilemmas, decision-makers face a struggle between their personal preferences for cooperating with others, on the one hand, and the group norm to favor the in-group and discriminate against the out-group, on the other. In moral dilemmas, decision-makers are asked about right or wrong, and are often required to decide between maximizing welfare or adhering to overarching moral rules, such as the prohibition to harm others. In judicial dilemmas, decision-makers decide between benefits and costs to perpetrators, victims, and society as a whole. Studying these decision problems will unlock deeper insights into the cognitions that drive decision-making, and increase our understanding of how people make choices.

In the first project, we study the cognitive processes underlying decision-making in intergroup settings. In two studies, we investigated three aspects of information search in this setting: to which extent people pay attention to information revealing the group membership of their partner in decomposed dictator games; how they weight their own and the others' outcomes in these tasks; and whether they are biased to invest more effort in informing their choice when facing in-group members. Although we found in-group favoritism in choices, group membership information was visually attended to only infrequently, and determined whether in-group favoritism was shown. Results revealed individual differences in whether people would pay attention to group membership, and also revealed that people seemed deliberately to avoid group membership information in visual information search. Moreover, we report systematic differences in the information search effort, in specifically increased response times and the number of fixations, and in more inspected information with increasingly prosocial SVO and when facing the in- vs. the out-group. Only individualistic decision-makers invested relatively less effort in their information search when making out-group decisions, whereas with increasing SVO, decision-makers showed more similar efforts for in- and out-group decisions. These insights allow us to discuss implications for intergroup research, which often makes knowledge of the others' group membership mandatory, and to assess how these results could be implemented in interventions helping to resolve in-group favoritism in decision-making.

In the second project, we aim to add eye-tracking evidence to the current debate on the formation of moral decisions (e.g., whether to sacrifice the life of one to rescue the lives of many others). While some theories argue that moral decisions stem from rational reasoning, others claim their roots lie in emotionally driven moral intuitions. The Dual Process Theory (Greene, 2001) proposes that decisions driven by utilitarian vs. deontological moral principles are preferentially supported by deliberate vs. intuitive processes. Here, we take a cognitive processing approach to this question, investigating visual attention via eye-tracking. Building on several pilot studies we conducted using trolley-type dilemma vignettes, we use a third-party dictator game with a non-hypothetical moral good (earnings obtained in a real-effort task), which decision-makers can reallocate from the owner to a group of others, increasing the overall amount paid to partici-

pants. We expect differences in the processing effort between chronically deontological and utilitarian decision-makers, where deontologists should show faster decision times and fewer fixations. Moreover, we expect differences in the decision-makers' locus of attention, such that deontologists will direct more attention to information related to taking earnings away from their owner, whereas utilitarians would pay more attention to the outcomes achieved with each action. Additionally, we study attention allocation over the course of the decision, and decision conflict between the two options via drift rates. In a replicating and extending study, we add a manipulation of processing style (cognitive load: high vs. low) to investigate whether the expected shifts in moral decisions will be accompanied by parallel shifts in attention. The insights achieved in this project will allow us to assess whether the dual process theory of moral judgment is supported by evidence from attention allocation and information acquisition.

Finally, in the third project, we aim to use eye-tracking to investigate how people resolve judicial dilemmas in damage sentences. In civil law, a sentence on a damage case must balance addressing the person who caused damage, the person to whom a damage was done, and society in general. However, there are cases where interests severely conflict, such as when a higher sentence would be given to keep third parties from committing the same offence in the future, at the expense of the person having to pay the damages in this particular case. How to resolve such normatively conflicting cases is an ongoing debate in legal research, to which we aim to add empirical evidence addressing the weighting of each party's outcomes prior to accepting or rejecting a ruling.

Awards

Travel Award, Society for Personality and Social Psychology to SPSP Annual Convention, 2015

Publications (since 2014)

Articles in Peer-reviewed Journals

Bouwmeester, S., Verkoeijen, P. P. J. L., Aczel, B., Barbosa, F., Bègue, L., Brañas-Garza, P., Chmura, T. G. H., Cornelissen, G., Døssing, F. S., Espín, A. M., Evans, A. M., Ferreira-Santos, F., Fiedler, S., Flegr, J., Ghaffari, M., Glöckner, A., Goeschl, T., Guo, L., Hauser, O. P., Hernan-Gonzalez, R., Herrero, A., Horne, Z., Houdek, P., Johannesson, M., Koppel, L., Kujal, P., Laine, T., Lohse, J., Martins, E. C., Mauro, C., Mischkowski, D., Mukherjee, S., Myrseth, K. O. R., Navarro-Martínez, D., Neal, T. M. S., Novakova, J., Pagà, R., Paiva, T. O., Palfi, B., Piovesan, M., Rahal, R. M., Salomon, E., Srinivasan, N., Srivastava, A., Szaszi, B., Szollosi, A., Thor, K. Ø., Tinghög, G., Trueblood, J. S., Van Bavel, J. J., van 't Veer, A. E., Västfjäll, D., Warner, M., Wengström, E., Wills, J., Wollbrant, C. E. (2017). Registered Replication Report: Rand, Greene Nowak (2012), *Perspectives on Psychological Science*, 12(3), 527–542

Open Science Collaboration (2015). Estimating the Reproducibility of Psychological Science, *Science*, 349(6251)

Working Papers

Rahal, R. M., Fiedler, S. & De Dreu, C. K. W., Tracking who's in or out modulates in-group favoritism in charitable giving

Work in Progress

Rahal, R. M., Hoefft, L. & Fiedler, S., Eyes on Morals: Investigating the Cognitive Processes underlying Moral Decision Making via Eye-Tracking

Engel, C. & Rahal, R. M., The Damages Conundrum in the Eyes of the Decision Maker: Eye-Tracking Data as Normative Evidence

Lectures and Seminar Presentations

2015

New Look at Intergroup Decisions: Measuring Intergroup Social Value Orientation and Eye-Tracking Information Search

57th Meeting of Experimental Psychologists (TEAP), Hildesheim
March 2015

A New Look at Intergroup Decisions: Measuring the Cognitive Processes underlying In-group Love and Outgroup Hate via Eye-tracking

1st Max Planck Young Legal Scholars' Meeting, Bonn
April 2015

Fresh Eyes on Intergroup Decisions: Underlying Cognitive Processes of In-group love and Out-group Hate

JDM Meeting for Early Career Scientists, Göttingen
July 2015

Looking at In-group Love and Out-group Hate: An Eye-tracking Analysis of the Cognitive Processes involved in Intergroup Decision-making

Subjective Probability, Utility and Decision-making Conference, Budapest
August 2015

A New Look at Intergroup Decisions: Measuring the Cognitive Processes Involved in Outgroup hate and Ingroup Love

Birmingham Ph.D. Decision-making Workshop, Birmingham
October 2015

2016

A New Look at Intergroup Decisions: Tracking the Cognitive Processes involved in Cooperation with In- and Outgroup members

11th Judgment and Decision-making Preconference to the SPSP Annual Convention and
18th Society for Personality and Social Psychology Annual Convention, San Diego
January 2016

Blind to Groups: Understanding Group Membership Consideration in Visual Information Search in Intergroup Dilemmas

58th Meeting of Experimental Psychologists (TEAP), Heidelberg
March 2016

A New Look at Intergroup Decisions: Measuring the Cognitive Processes involved in Cooperation with In- and Outgroup Members

7th Thurgau Experimental Economics Meeting, Kreuzlingen
April 2016

Blind to Groups: Understanding Group Membership Consideration in Visual Information Search in Intergroup Dilemmas

Netherlands Institute for Advanced Study in the Humanities and Social Sciences Workshop, Wassenaar
April 2016

Blind to Groups: Understanding Group Membership Consideration in Visual Information Search in Intergroup Dilemmas

35th Annual Meeting of the European Group of Process-tracing Studies, Bonn
June 2016

Tracking Who's In or Out Modulates In-group Favoritism in Charitable Giving

Society for Judgment and Decision-making Meeting, Boston
November 2016

Teaching

summer term 2016	The Relationship between Behavioral Economics and Psychology University of Erfurt
summer term 2016	Introduction to Eye-tracking Center for Economics and Neuroscience, University of Bonn



Pedro Robalo

Summary Report

My research addresses questions in political economy and individual decision-making under risk through the lens of behavioral economics, experimental economics, and applied game theory. In particular, I am interested in how behavioral economics can contribute to more realistic models of voter behavior and decision-making under risk, while using the laboratory as the testbed for new theoretical and empirical directions.

My paper with Arthur Schram and Joep Sonnemans (forthcoming in the *Journal of Economic Psychology*) explores how other-regarding preferences and group identity might influence the individual decision to bear

the costs of political participation. We implement a pivotal voter game-theoretic framework in the laboratory, collect individual preference measurements, and manipulate the group attachment of subjects. We find that individuals who are more other-regarding and identify more strongly with their group are more willing to bear the costs of participation. Still on the motives that underlie the individual decision to participate in politics, I study the psychological underpinnings of the voters' response to political mobilization in another project. I extend the same theoretical framework to accommodate for mobilization efforts and test it in the laboratory. I find that the crucial ingredient for the effectiveness of mobilization is the transmission of normative appeals by those subjects responsible for mobilizing others; neither mobilization nor normative appeals alone are sufficient to increase participation. In a different project, co-authored with Arthur Schram and Jens Grosser, we set out to test the pivotal voter model in large groups. Most of the experimental studies conducted so far, including the two mentioned above, rely on small-scale convenience samples. Many comparative statics predictions seem to hold for these relatively small electorates (up to 50 subjects); we investigate whether the same is true when we increase the group size tenfold, which will provide a critical test of the model's internal and external validity.

In joint work with two colleagues at the Max Planck institute, Isabel Marcin and Franziska Tausch, we investigate another question with relevance to the political economy. We ask whether the third-party enforcement of cooperation norms in social dilemmas depends on how the enforcer is selected. We conjecture that democratically-elected enforcers should command more legitimacy and therefore would enforce cooperation more effectively (i.e., at lower costs). Our laboratory experiment confirms this conjecture.

On the topic of individual decision-making under risk, I have worked with Rei Sayag on two Bayesian updating projects. The first one, conditionally accepted by the *Journal of Economic Behavior and Organizations*, investigates whether the cost of information influences the way individuals update their beliefs. We find a sunk-cost effect in our laboratory experiment: Costly information leads to more extreme belief updating. On a second project, we study whether biases in Bayesian updating can be attributed to information acquisition strategies. We resort to eye-tracking data to supplement choice data, and find that certain biases in Bayesian updating can be explained by information acquisition patterns. This new source of process data also allows us to characterize individual heterogeneity in more detail than what choice data alone would grant.

More recently, I have started two projects in co-authorship with colleagues at the Max Planck institute. With Susann Fiedler, and also with Thomas de Haan of the Norwegian School of Economics, we set out to investigate a question that is relevant for knowledge workers in the modern workplace. We ask what the productivity impact is of pending menial tasks on deep-thinking, problem-solving ones. We have gathered some preliminary data in the laboratory and will keep working on the project. The second project is a collaboration with Claudia Cerrone and Yoan Hermstrüwer on a law and economics topic. We study the

impact of debarment as a collusion-detering policy device in procurement auctions, both theoretically and experimentally. Our main interest is in assessing the trade-off between the power of debarment as an anti-collusive device and the anti-competitive effects that might result from a reduced number of (debarred) market players.

On the scientific exchange side, Philip Brookins, Claudia Cerrone, Franziska Tausch, and I started a monthly seminar series in behavioral and experimental economics in the academic year 2016–17. The aim of the seminar is to bring young scholars working in these fields to present their work at the institute. We believe this contributes to strengthening the institute's network and visibility among the next generation of behavioral and experimental economics scholars.

Publications (since 2014)

Robalo, P., Schram, A. & Sonnemans, J. (2017). Other-regarding Preferences, In-group Bias and Political Participation: An Experiment. *Journal of Economic Psychology*, 62, 130–154

Preprints

Marcin, I., Robalo, P. & Tausch, F. (2016). Institutional Endogeneity and Third-party Punishment in Social Dilemmas. Bonn: Max Planck Institute for Research on Collective Goods, 2016/6

Working Papers

Robalo, P. & Sayag, R. (conditionally accepted). Paying is Believing: The Effect of Costly Information on Bayesian Updating, *Journal of Economic Behavior and Organization*

Robalo, P. (2017). The Microfoundations of Grassroots Mobilization: Evidence from the Laboratory

Work in Progress

Cerrone, C., Hermstrüwer, Y. & Pedro Robalo. Debarment and Collusion in Procurement Auctions

Robalo, P. & Sayag, R. Eye-tracking Bayes: an Experiment on Belief Updating

Fiedler, S., de Haan, T. & Robalo, P. The Cost of Worrying: The Productivity Impact of Pending Tasks

Grosser, J., Robalo, P. & Schram, A. Voter Participation in Large Electorates: Experimental Evidence

Lectures and Seminar Presentations

Invited

Participation, Mobilization and Reciprocity: Theory and Experiment

Instituto Superior de Economia e Gestão, University of Lisbon

January 2014

Why Does Political Mobilization Work? The Role of Norms and Reciprocity

Political Economy Workshop, ETH Zurich

June 2014

Eye-tracking Bayes: an Experiment on Belief Updating

University of Cologne, Carlos Alós-Ferrer's Chair

September 2016

The Microfoundations of Grassroots Mobilization: Evidence from the Laboratory

University of Cologne

July 2017

Teaching

summer term 2015

Proseminar Wissenschaftliches Arbeiten

University of Bonn

Professional Activities**Reviewer for**

Economics Letters, Economics of Governance, Journal of Applied Mathematics, Journal of Economic Behavior and Organization, Journal of Economic Psychology



Angelo Romano

Overview

I joined Prof. Sutter's team at the MPI on 1 October 2017. Before that, I was a double PhD student of the University of Turin and the Vrije Universiteit Amsterdam. During my PhD, my broad interest was human cooperation. In particular, using methods from psychology, economics, and evolutionary biology, I focused on two main topics: (1) the interplay between reputation and intergroup discrimination to promote cooperation, and (2) the predictive power of competing psychological mechanisms to promote cooperation.

(1) Intergroup Cooperation and Reputation

Individuals tend to cooperate more with ingroup members, compared to outgroup members and strangers. This phenomenon is widely recognized across different disciplines. However, there is still much discussion in the cooperation literature on why and in which circumstances this behavior occurs. Specifically, to address these issues, I conducted a set of studies on the relation between reputation and ingroup favoritism.

First, in a five-study project, my coauthors and I examined whether the benefits of reputation-based cooperation are restricted to interactions with ingroup members (Romano, Balliet & Wu, 2017). Across five studies, we found that reputation (manipulated through gossip and public monitoring) promoted cooperation with both ingroup and outgroup members. Importantly, the results were consistent with different types of groups (minimal vs. natural) and across different experimental games (e.g., dictator game, prisoner's dilemma, public good).

Second, in a cross-cultural experiment involving 17 countries, we examined further questions on why, who, and where individuals tend to favor ingroup members, compared to outgroup members (Romano, Balliet, Yamagishi & Liu, 2017). To address these questions, we investigated the role of reputation, social preferences (social value orientation), gender, and cultural aspects of specific societies, in a trust game. We found people were motivated to trust and cooperate more with their ingroup than harm the outgroup. Reputation-based indirect reciprocity may offset this ingroup favoritism, because we found that reputational concerns universally increased cooperation with both ingroup and outgroup members. We also found that people who are dispositionally cooperative are less parochial and more universal in their cooperation. Overall, our findings suggest that in all societies there exist people whose cooperation transcends group boundaries, and provides a solution to combating parochialism, reputation-based indirect reciprocity.

(2) Testing the Predictive Power of Competing Psychological Mechanisms to Promote Cooperation

In my other line of research, I am interested in investigating the interplay of relevant mechanisms that have been proposed as crucial factors in the evolution of cooperation in humans (Romano & Balliet, 2017). In particular, I tested predictions from two evolutionary perspectives on human cooperation, reciprocity, and cultural group selection. According to a reciprocity perspective, individuals developed a psychology to cooperate when they expected their partner to cooperate, and to withdraw from cooperation when they expected their partner to defect. Alternatively, cultural group selection proposes that individuals imitate their group members, so that they will cooperate when they perceive a cooperative group norm to conform with, and defect when they perceive that the group norm is to defect. These two processes are not mutually exclusive, but no research has previously been conducted to test the predictive power of these processes to promote cooperation, especially in situations where they would promote different behavior. To do so, my coauthor and I developed a paradigm where participants could learn whether their group was cooperative

or not on several previous trials (conformity pull), and also whether their future partner was cooperative or not on several previous trials (reciprocity pull). In other words, we wondered: If another person chooses to cooperate with us, would we return the favor even if other members of our group do not? Or would we follow the group norm and choose not to reciprocate the other person's cooperative behavior? Across three studies, the results of our investigation suggest that cooperation, under the assumption that we will receive benefits in return, outweighs our desire to conform to group norms when we are deciding whether to cooperate with others.

Other Projects

In the past four years, I was involved in several other projects. Part of these projects is still related to cooperation, but more focused on specific aspects of prosocial behavior, such as bystander intervention (Scaffidi et al., 2014), traffic dilemmas (Romano, Mosso & Merlone, 2016; Merlone & Romano, 2017; Merlone & Romano, 2016a), and group size (Romano et al., 2015). Additionally, during the last three years, I collaborated on other projects, such as the psychometric validation of an Italian questionnaire (Spadaro, Romano & Mosso, in press) and the use of simulation methods to investigate food-chain productivity and opinion dynamics (Armendariz et al., 2015; Merlone, Radi & Romano, 2015; Merlone & Romano, 2016b).

Future Research

My plan is to continue working on cooperation on the relevant issues mentioned above. In particular, I am now collaborating in projects involving children with Matthias Sutter and other team members. We are interested in understanding the relative influence of specific channels (e.g., direct and indirect reciprocity) in the emergence of cooperation in children. In particular, we will examine which of these processes make young children more cooperative, and under which circumstances these channels become more influential than the others. To address these questions, we will conduct large-scale experiments involving different types of economic games.

I am also interested in following up the studies on the relation between reputation and group membership by running experiments where I consider more cohesive groups. The goal is to test whether, in these situations, reputation also promotes cooperation with both ingroup and outgroup members.

Publications (since 2014)

Articles in Peer-reviewed Journals

Spadaro, G., Romano, A. & Mosso, C.O. (forthcoming). Contributo alla validazione italiana del CIASS. *Giornale Italiano di Medicina del Lavoro ed Ergonomia*

Romano, A., Balliet, D., Yamagishi, T. & Liu, J. H. (2017). Parochial Trust and Cooperation Across 17 Societies. *Proceedings of the National Academy of Sciences*

Romano, A. & Balliet, D. (2017). Reciprocity outperforms conformity to promote cooperation. *Psychological Science*, 28(10), 1490–1502

Romano, A., Balliet, D. & Wu, J. (2017). Unbounded Indirect Reciprocity: Is Reputation-Based Cooperation Bounded by Group Membership? *Journal of Experimental Social Psychology*, 71, 59–67

Merlone, U. & Romano, A. (2017). Commuter Bridge: A Braess paradox simulation to teach social dilemmas. *Simulation & Gaming*, 48(1), 153–169

Romano, A., Merlone, U., Mosso, C.O. & Spadaro, G. (2016). On the role of group size in social dilemmas. *Psicologia Sociale*, 3–18

Merlone, U. & Romano, A. (2016a). Using the Braess paradox to teach tacit negotiation. *Simulation & Gaming*, 47(6), 780–795

Romano, A., Mosso, C.O. & Merlone, U. (2016). The Role of Incomplete Information and Others' Choice in Reducing Traffic: a Pilot Study. *Frontiers in Psychology*, 7, 135

Merlone, U., Radi, D. & Romano, A. (2015). *Minority influence in opinion spreading*. In Proceedings of the 2015 Winter Simulation Conference, 3997–4008. IEEE Press

Armendariz, V., Armenia, S., Atzori, A. S. & Romano, A. (2015). Analyzing Food Supply and Distribution Systems using complex systems methodologies. *Proceedings in Food System Dynamics*, 36–58

Scaffidi Abbate, C., Boca, S., Spadaro, G. & Romano, A. (2014). Priming Effects on Commitment to Help and on Real Helping Behavior. *Basic and Applied Social Psychology*, 36: 347–355

Book Chapter

Merlone, U., Radi, D. & Romano, A. (2016b). *Opinion dynamics on networks*. In Commendatore, P., Matilla-Garcia, M., Varela, L. M. & Canovas, J. S. (Eds.), *Complex Networks and Dynamics*, 49–63. Cham (ZG): Springer International Publishing



Nicolas Roux

Summary

I was a Senior Research Fellow at the institute from 2013 to 2017. I am an economist interested in collective decision-making, with an emphasis on the information aggregation problem. My research lies at the border with psychology, as I am interested in situations where information aggregation fails due to non-strategic reasons.

I studied the results from mock jury experiments, with the aim of finding evidence that the information dispersed among jurors is being distorted by social concerns during deliberation.

I also conducted perceptive experiments, where information takes the form a visual stimulus. I studied how individual meta-cognition (the ability to self-evaluate) constrains group performance in these tasks.

Besides this main research agenda, I studied a legal problem of evidentiary privilege from a theoretical point of view. I constructed a model where a firm decides how much to invest in a control system that prevents internal fraud. When the firm faces an alleged fraud, it faces a prosecutor who decides whether to indict the firm. The model allowed me to tackle the question of whether the evidence produced by the control system should be shielded from prosecution, the objective being to guarantee the highest level of control in the industry.

Publications (since 2014)

Massoni, S. & Roux, N. (2017). Optimal Group Decision: A Matter of Confidence Calibration. *Journal of Mathematical Psychology*, 79, 121–130

Roux, N. & Sobel, J. (2015). Group Polarization in a Model of Information Aggregation. *American Economic Journal: Microeconomics*, 7(4), 202–232

Professional Activities

Referee for

Econometrica, Rand Journal of Economics, Journal of Economics and Management Strategy, Mathematical Social Science, Decisions in Economics and Finance



Daniel Salicath

General Statement

In October 2017, I started as a PhD student at the University of Cologne and joined the Max Planck Institute for Research on Collective Goods as a member of the EEG group of Prof. Matthias Sutter. Before joining the current position, I worked as a consultant assisting the All Children Reading (ACR) project team at School-to-School International, a non-profit organization in Pacifica, California. I hold a Bachelor (Economics) from the Université Toulouse 1 Capitole and a Master's degree in Science (International and Development Economics) from the University of San Francisco. My Master's thesis passed with honors and I received the

Jacques Artus Award for being one of four finalists for the Outstanding Graduate Student Award. My main research interests are in the areas of behavioral and experimental economics. My thesis focused on changing behavior of low-income students using goal setting, incentives, and support groups.

Master's Thesis

Over the course of four months, I designed and implemented a randomized field experiment in Medellín, Colombia. Inspired by the California-based Family Independence Initiative, my research studies the effects of goal-setting, incentives, and self-help groups on educational outcomes of low-income ninth-graders. In coordination with the Secretary of Education of the Department of Antioquia, we implemented the project in seven schools with over three hundred participants. The results show a very clear picture: Both self-help groups and incentives significantly increase the probability of a student achieving their set goals. A list of goals was created in cooperation with the Secretary of Education, teachers, and principals of the participating schools. The goals focused on improving different educational outcomes, such as a student's grades. The most effective intervention is when incentives and self-help groups are both active, with an increase in the likelihood of achieving an educational goal by 41% compared to merely setting a goal.

Research Agenda

My plan is to continue my research on issues in development and education economics. One likely area for future research is group decision-making with Matthias Sutter and other team members. I would be interested in combining this area with research on the cooperation of children to investigate how internal conflicts affect their decisions. One approach could be to study how children learn to make decisions in teams, and whether team decision-making has an impact on subsequent individual decision-making.



Julia Sasse

Summary Report

In the past four years, and as part of my PhD project at the University of Groningen, I investigated the function of expressed emotions in inter-group conflicts. Together with Russell Spears and Ernestine Gordijn (both from the University of Groningen), I proposed that emotion expression is more than a mere reflection of emotion experience, but may be used to pursue specific goals – in other words, that emotions may be expressed strategically. To investigate this, I looked at how people experience emotions in unjust and disadvantageous situations and express them towards the group that caused the disadvantages (i.e., offensive out-

group) and a group that could provide support to overcome them (i.e., a third party). In several studies, in which we used real and fictitious three-cornered conflicts, we found support for the central hypotheses that emotion expression may be different from emotion experience, can differ depending on audiences, and is more strongly associated with goal pursuit than is emotion experience. These results contribute to our general understanding of the function of emotions, in particular emotion expression, as well as to our understanding of the important role that expressed emotions can play in the communication between groups in conflict.

This work resulted in three papers, of which one was invited for revision and is currently under review again, and two are in preparation. I presented my research at various national and international meetings and conferences for social psychology, political psychology, and emotion research.

Apart from conducting research, I attended several workshops and summer schools with the aim of learning about and discussing current research on (social) psychological topics, to broaden my horizon regarding related fields of research, and to acquire new methodological skills. In 2016, for example, I attended a summer school which the European Association of Social Psychology organizes biannually. The work with fellow PhD students from different countries has resulted in an ongoing collaboration on why people dehumanize others. In addition, I went on a research visit to the Interdisciplinary Center Herzliya, Israel, at the end of 2015. There, I worked in Eran Halperin's group, which is dedicated to investigating the role of emotions in (intractable) conflicts and conflict resolution.

At the Max Planck Institute for Research on Collective Goods I am a member of a newly-established research group, dedicated to investigating psychological processes of bystander intervention against norm violations, also often referred to as moral courage. Despite the fact that moral courage is a well-known concept to lay people, theoretical as well as empirical work is scarce. Importantly, in much of the work that Anna Baumert, Mengyao Li, and I have reviewed so far, we have spotted differences in what is defined as moral courage. Consequently, the first goal of our group is to provide a definition of moral courage. This shall help us to distinguish moral courage from other forms of prosocial behavior and serve as a foundation for a theoretical framework. Such a framework is meant to capture dimensions that characterize different situations in which moral courage is required. Here, we are specifically interested in various situational aspects (such as ambiguity or severity of norm violations) and relational aspects (such as closeness between or group membership of the parties involved). On the basis of this framework, we plan to investigate the cognitive and emotional processes underlying moral courage.

Grants

EASP Travel Grant, awarded to support a research visit at the IDC Herzliya, Israel, to work with Prof. Eran Halperin (October 2015–January 2016)

Publications (since 2014)

Articles in Peer-reviewed Journals

Saab, R., Spears, R., Tausch, N. & Sasse, J. (2016). Predicting Aggressive Collective Action Based on the Efficacy of Peaceful and Aggressive Actions. *European Journal of Social Psychology*, 46(5), 529-543

Bell, R., Sasse, J., Möller, M., Czernochowski, D., Mayr, S. & Buchner, A. (2016). Event-related Potentials in Response to Cheating and Cooperation in a Social Dilemma Game. *Psychophysiology*, 53, 216-228

Other Contributions

Sasse, J. Spears, R. & Gordijn, E.H. (2016). Gar nicht so negativ: Die funktionale Rolle von Ärger in sozialer Interaktion. *In-Mind* magazine

Under Review

Sasse, J., Spears, R. & Gordijn, E.H., (2017). When to Reveal what you Feel: How Emotions towards Antagonistic Out-group and Third-party Audiences are Expressed Strategically

In Preparation

Sasse, J., van Breen, J.A., Spears, R. & Gordijn, E.H. (in preparation). Bite your lip! The Influence of Women's and Feminist Identification and Social Support on Women's Willingness to Express Anger about Sexism

Sasse, J., Spears, R. & Gordijn, E.H., (in preparation). Help – We Need You! How Third-party Stance and Power Influence the Strategic Expression of Support-seeking Emotions and Anger

Lectures and Seminar Presentations

2014

Emotion Expression Depends on the Audience: Playing It Up or Playing It Down? (with Spears, R. & Gordijn, E.H.)

Talk at Consortium of European Research on Emotion conference 2014, Berlin
March 2014

Emotion Expression Depends on the Audience: Sincere When it Suits us (with Spears, R. & Gordijn, E.H.)

Poster presentation at Heymans Symposium University of Groningen, Groningen
April 2014

**Emotion Expression Depends on the Audience: Sincere When it Suits us
(with Spears, R. & Gordijn, E.H.)**

Poster presentation at Kurt Lewin Institute Conference 2014, Zeist
May 2014

**Emotion Expression Depends on the Audience: Sincere When it Suits us
(with Spears, R. & Gordijn, E.H.)**

Poster presentation at EASP General Meeting 2014, Amsterdam
July 2014

**Emotion Expression Depends on the Audience: Playing It Up or Playing It Down?
Talk (with Spears, R. & Gordijn, E.H.)**

SoDoc meeting 2014, Zeppelin University Friedrichshafen
July 2014

**Calling for Support: Strategic Emotion Expression in Intergroup Conflicts
(with Spears, R. & Gordijn, E.H.)**

Talk at ASPO Conference 2014, Groningen
December 2014

2015

**Calling for Support: Strategic Emotion Expression in Intergroup Conflicts
(with Spears, R. & Gordijn, E.H.)**

Talk at Workshop on Identity, Emotions and Intergroup Conflict, Tel Aviv
June 2015

**Calling for Support: Strategic Emotion Expression in Intergroup Conflicts
(with Spears, R. & Gordijn, E.H.)**

Talk at Fachgruppentagung Sozialpsychologie, Potsdam
September 2015

**Calling for Support: Strategic Emotion Expression in Intergroup Conflicts.
Poster presentation (with Spears, R. & Gordijn, E.H.)**

Summer School Emotion Expressions in Human and Nonhuman Communication, Göttingen
September 2015

2016

**We Think it's Good, You Think it's Bad: Perceived Norms in Intergroup Conflicts
(with Spears, R. & Gordijn, E.H.)**

Poster presentation at EASP Medium Size Meeting Promoting a Social Approach to Emotions, Cologne
March 2016

**We Think it's Good, You Think it's Bad: Perceived Norms in Intergroup Conflicts
(with Spears, R. & Gordijn, E.H.)**

Poster presentation at Kurt Lewin Institute Conference 2016, Zeist
May 2016

**Calling for Support: Strategic Emotion Expression in Intergroup Conflicts
(with Spears, R. & Gordijn, E.H.)**

Talk at the 39th Annual Scientific Meeting of the International Society of Political Psychology (ISPP), Warsaw
July 2016

**Strategic Emotion Expression in Intergroup Conflicts. Poster presentation
(with Spears, R. & Gordijn, E.H.)**

EASP Summer School 2016, Exeter
August 2016

2017

**Caught in the Middle? Exploring the Role of Collective Benefits and Individual Costs in Women's
Willingness to Express Anger about Sexism (with van Breen, J.A., Spears, R. & Gordijn, E.H.)**

Talk at small group meeting, Understanding the Winds of Change: Psychological Processes that Change
Individuals in Intergroup Conflict, Appingedam
June 2017

Teaching

2013/14; 2014/15; 2015/16;	Academic Skills Course (BA level) University of Groningen
2014/2015; 2015/2016	Supervision of Master theses University of Groningen
2014; 2015	Research Practicum (BA level) University of Groningen
2015; 2016	Supervision of Bachelor theses University of Groningen
2016	Statistics (BA level) University of Groningen

Professional Activities

Memberships

Postgraduate Member of the European Association of Social Psychology (EASP)

Ad-hoc Reviews

European Journal of Social Psychology



Paul Schempp

I am an applied theorist with a primary focus on financial economics, in particular financial intermediation and financial stability. My secondary field is monetary economics, which I combine with financial economics.

In the last three years, I have completed my PhD thesis at the University of Bonn. In the subsequent time as a postdoc at the MPI, I started to work on some new projects, while also continuing to work on the projects from my PhD thesis. Before leaving the institute in April 2017 to become a Junior Professor at the University of Cologne, I had the chance to spend half a year at the Business School of Columbia University in New York.

In my research, I try to answer questions like the following ones: How does the circumvention of regulatory requirements lead to financial instability? What is the optimal capital and liquidity regulation for financial institutions? How can a sovereign increase the stability and efficiency of financial intermediation? How are sovereign defaults and banking crises interrelated? How do financial panics interact with money demand and money supply, and what are the implications for asset prices and monetary policy?

Most of my research projects touch on normative as well as positive questions: The normative dimension is concerned with the optimal design of financial intermediation. The positive dimension is concerned with understanding why real-world financial intermediation is like it is, and which potential inefficiencies or fragilities are associated with it. Ultimately, I combine the normative and the positive dimension when addressing financial regulation.

At the MPI, I have mostly worked with my colleague Stephan Luck, and this collaboration resulted in several working papers. Our earlier papers, which also resulted in my PhD thesis, were mainly concerned with financial instability in the sense of self-fulfilling crisis. We showed that, next to the well-studied thread of classic panic-based bank runs (which can be ruled out by a deposit insurance), the increasing reliance on wholesale funding creates a similar fragility. We showed that a strong government has the ability to stabilize the financial system by issuing a sufficient amount of sovereign debt that the banks can use for their liquidity management. However, if the sovereign is not fiscally strong, then banks holding government bonds can intertwine sovereign and banking crisis. Analyzing a model of a political union in which banks hold government bonds of foreign sovereigns, we argue that self-fulfilling crises in weaker countries are contagious to stronger ones. Thus, a joint (supra-national) deposit insurance might be in the best interest of all participating countries.

Our more recent projects focus more on the optimal regulation of financial intermediation, especially in the presence of potential regulatory arbitrage through shadow banking. Considering the reasons for the 2007/08 financial crisis, and realizing that German (public) banks were affected so strongly because they had given liquidity guarantees to subsidiaries without having to support these guarantees with equity, we develop a model in which banks and shadow banks coexist. We show that, while liquidity guarantees can eliminate self-fulfilling runs on shadow banks sometimes, crises become more severe and spread to the regulated banking sector if they cannot be eliminated.

In order to understand better what exactly went wrong with the German *Landesbanken* and their subsidiaries, we started to collect data on the WestLB, its subsidiaries, and their financing and asset purchases. While these data are generally not public, we used US court files from cases in which the WestLB's successors sued the American issuers of securities which WestLB had bought. Thus, we see a part of the bank's exposure to the subprime housing market and can track the performance of the purchased securities. However, we need to collect more data to reach robust conclusions.

In an ongoing project, we examine a situation where banks and shadow banks are alternative ways of creating liquidity for investors. We analyze how fire-sales of assets in a crisis and their pecuniary externalities determine the equilibrium composition of the financial system, and show that the equilibrium is generally inefficient. However, standard macro-prudential policy has no bite because its target can always be offset by shadow banking activities. We conclude that subsidies on bank equity might be the only effective tool for reaching macro-prudential goals.

In another ongoing project with Stephan Luck and Tanju Yorulmazer, we point out a shortcoming of current regulation theory and regulation. It might not be sufficient to focus on a bank's level of equity and other loss-absorbing claims, but also on the financing of such. If the bank's debt holders rely on information from equity prices, there can be information contagion if the bank equity markets become illiquid. We argue that, if bank equity is held by investors who themselves have a fragile financing structure, fire-sales can occur that are not related to the bank's solvency, but trigger a run on the bank nonetheless. The issue becomes more severe in the case of common ownership: If a large investor holds the equity of many banks, fire-sales can lead to information contagion across otherwise unrelated banks.

Awards

Paul Schempp has been awarded the Otto Hahn Medal 2015 for his work for work on liquidity provision by banks, shadow banks and the government, and the implications for financial stability. A particular focus of his dissertation has been the liquidity provision by banks, shadow banks and the government, and the implications for financial stability. The medal is awarded to young scientists in recognition of outstanding scientific achievements.

Best Poster Paper at the First ECB Forum on Central Banking, Sintra, Portugal, 2014.

Publications (since 2014)

Dissertation

Schempp, P. (2015). Essays on Financial Stability, 114 p., University of Bonn

Preprints

Luck S. & Schempp P. (2014). Sovereign Defaults, Bank Runs, and Contagion, Bonn: Max Planck Institute for Research on Collective Goods, 2014/15

Luck S. & Schempp P. (2014). Outside Liquidity, Rollover Risk, and Government Bonds, Bonn: Max Planck Institute for Research on Collective Goods, 2014/14

Working Papers

Luck S., Schempp P., Banks, Shadow Banking, and Fragility, ECB Working Paper No. 1726, 2014. (*Winner of the 2014 Young Economist Prize at the ECB Forum in Sintra, Portugal.*)

Work in Progress

Luck S., Schempp P., Excessive Shadow Banking

Luck S., Schempp P., Yorulmazer, T., On the Financing of Loss-absorbing Claims: Financial Markets, Short-term Debt, and Information Contagion

Teaching

summer term 2016 Bankmanagement [Economics / Corporate Finance of Banking] (together with
Hendrik Hakenes)
University of Bonn



André Schmelzer

Summary Report

My research agenda lies at the intersection of behavioral economics and market design. I investigate how institutions should be designed or regulated if individuals are boundedly rational. My work is motivated by real-life problems ranging from school choice to financial market regulation. Are there mechanisms which are optimal, but outperform each other when played by humans instead of rational agents? I am particularly interested in whether individuals have preferences over theoretically identical mechanisms. I use laboratory experiments to infer a causal relationship from changing one aspect of the institutional setting on

behavior. Predictions from standard and behavioral theory serve as benchmarks to test institutional settings in the laboratory.

In my paper “Single versus Multiple Randomization in Matching Mechanisms”, I study a question that has been debated in school choice reforms when introducing central clearinghouses in New York City and elsewhere. There, students can apply to schools according to their preferences with the help of the central deferred-acceptance algorithm. Now, there are large indifference classes of applicants who have the same grades, and the question arises how to break these ties. In expectation, there is no difference whether ties are broken by one single lottery over all students or by having separate, multiple lotteries at each school. However, I find in my experiment that a significant fraction of individuals prefers the multiple to the single lottery mechanism and also perceives it to be fairer. The behavioral theory that the compound lottery structure in the multiple lottery mechanism is disregarded can explain this preference, potentially leading to a larger social acceptance of the decentralized lottery in society.

In a related paper, entitled “Strategy-proofness of Stochastic Assignment Mechanisms”, I compare two lottery mechanisms in the laboratory which randomly assign objects to agents while respecting the agents’ preferences. The two mechanisms’ random serial dictatorship and top trading cycles have been proposed for refugee resettlement within countries. In principle, they could be used whenever an individual has no prior claim for receiving an object and when treating everyone equal is key such as in assigning licenses or permits. Both mechanisms are equivalent in terms of strategy-proofness and efficiency under standard game theory. It turns out that random serial dictatorship outperforms top trading cycles in my experiment. This difference in performance can be attributed to more dominant strategy play under random serial dictatorship. The behavioral theory of obvious strategy-proofness can partly explain this result. Then, one strategy-proof market design performs better with real people than the other.

In a project with Pauline Vorjohann, we study an aspect of financial market batch auctions taking place at the end of the trading day. Here, market participants may submit and cancel orders without costs over a period of time and the market price at the very end of the period clears the market. The question arises whether this period should end at a fix point in time or at a random end. The reasoning behind a random end is that this institutional detail may prevent participants from manipulating the market price by submitting a very large order and canceling it immediately afterwards. In a random end setting, there is a risk that the manipulator cannot cancel this order anymore. Our preliminary theoretical results suggest that there must be a certain fraction of naive participants in the market for a manipulation to work.

Together with Adrian Hillenbrand, I have also been working on a particular EU regulation of disclosure investor documents. We test whether the visual format of key investor disclosure documents has an impact on expectations and investment behavior, while holding the amount of information constant. Again, the question arises whether seemingly unrelated details may affect the decision of individuals. We find in our experiment that individuals invest less and expect a larger return variance if we remove colors and banners

from the format. We suggest that distracted attention can explain the result. Our finding can also inform the growing field of robo-advisors. There, it is important to analyze how best to display information online, and which aspects of the design of online information induce suboptimal investor behavior.

In an experimental law and economics project with Christoph Engel, we investigate the doctrinal divide between common and continental law about the principle of consideration in the laboratory. We test which institutional legal order better reflects the moral intuitions. Our results indicate that promises are not more likely to be kept with consideration. Common law does not outperform continental law in our experiment. In this respect, continental law does not clash with individuals' moral intuitions.

Publications (since 2014)

Articles in Peer-reviewed Journals

Hillenbrand, A. & Schmelzer, A. (forthcoming). Beyond Information: Disclosure, Distracted Attention, and Investor Behavior, *Journal of Behavioral and Experimental Finance*, available online 9 September 2017

Preprints

Engel, C. & Schmelzer, A. (2017). Committing the English and the Continental Way – An Experiment. Bonn: Max Planck Institute for Research on Collective Goods, 2017/16

Schmelzer, A. (2017). Strategy-proofness of Stochastic Assignment Mechanisms. Bonn: Max Planck Institute for Research on Collective Goods, 2017/13

Schmelzer, A. (2016). Single versus Multiple Randomization in Matching Mechanisms, Bonn: Max Planck Institute for Research on Collective Goods, 2016/8

Working Papers/Work in Progress

Schmelzer, A., Vorjohann, P., Batch Auction Design in Financial Markets

Lectures and Seminar Presentations

2015

Beyond Information: Disclosure, Distracted Attention, and Investor Behavior

Competition Law and Economics European Network, Tilburg, Netherlands

May 2015

Beyond Information: Disclosure, Distracted Attention, and Investor Behavior

Experimental Finance Conference, Nijmegen

June 2015

Beyond Information: Disclosure, Distracted Attention, and Investor Behavior

ESA European Meeting, Heidelberg

September 2015

2016

Single versus Multiple Randomization in Matching Mechanisms

Berlin Behavioral Economics Workshop, Berlin

March 2016

Single versus Multiple Randomization in Matching Mechanisms

International Meeting on Experimental and Behavioral Social Sciences, Rome

April 2016

Single versus Multiple Randomization in Matching Mechanisms

Competition Law and Economics European Network, Bonn

May 2016

Beyond Information: Disclosure, Distracted Attention, and Investor Behavior

Behavioral Finance Working Group Conference, London

June 2016

Single versus Multiple Randomization in Matching Mechanisms

ESA North American Meeting, Tucson

November 2016

Single versus Multiple Randomization in Matching Mechanisms

Southern Economic Association, Washington D.C.

November 2016

Single versus Multiple Randomization in Matching Mechanisms

New York University, Center for Experimental Social Science, New York

December 2016

2017

Strategy-proofness of Stochastic Assignment Mechanisms

Humboldt University, Berlin

May 2017



Alexander Schneeberger

Summary Report

In October 2016, I started my PhD at the International Max Planck Research School Uncertainty and the Cologne Graduate School in Management, Economics, and Social Science. From this date onwards, I was mainly preoccupied with completing the required coursework of both programs and therefore attended courses in experimental economics, (applied) microeconomics and behavioral ethics. Nonetheless, I was also able further to specify the topic of my dissertation and started working on my first research project. In general, my dissertation will be concerned with two topics: social norms and information acquisition.

In economic research, it is often implicitly assumed that behavior is guided by social norms. However, little effort is invested to model them explicitly or understand their direct impact on behavior. One example can be found in the case of social preferences. It can be argued that social preferences are mainly an expression of social norms. But instead of directly modeling the impact of those social norms, social preferences assume that individuals, for example, have robust preferences for altruism. While this approach can be very useful, it can also be problematic. The reason for this is that research in psychology and sociology has revealed that social norms are highly context-dependent. Consequently, predictions of models that rely on social preferences may in many cases be limited to very specific environments. To account for this shortcoming, a recent research area in experimental economics measures social norms directly. With these data, the researchers examine how social norms are influenced by the environment and how they influence behavior.

The second topic is concerned with how individuals acquire new information. In most economic models, it is assumed that the value which individuals assign to information is determined by the extent to which the information is able to improve their own decision-making. This assumption could be problematic in many situations, since research in psychology suggests that individuals do not always search for information in an unbiased way. Instead, they may have preferences to gather information which verify their own beliefs, or to avoid information that is incongruent with their established world view. Due to these preferences, individuals may have biased expectations in many situations, and models that do not account for such preferences will thus make biased predictions.

While I intend to conduct distinct research in both areas, I am mostly interested in their intersection and thus in the question "How do social norms influence the way in which individuals acquire information?" Two specific questions that I want to answer in my future research include "Do individuals selectively search for normative cues in order strategically to reshape their perception of the prevailing social norm?" and "Do individuals have preferences to gather information that is consistent with the prevailing social norm?" In my first research project, my two coauthors, Isabel Marcin and Michael Kurschilgen, and I try to answer the first question. In particular, we want to examine whether individuals strategically gather information about the behavior of their peers in order to create a social norm that is more aligned with their own monetary incentives. Furthermore, we want to evaluate how the desire to engage in selective information search depends on the decision environment. The goal of this research project is to distinguish environments where social norms have a strong impact on behavior from environments where the influence of social norms on behavior is weak due to the strategic manipulation of the perceived social norm.

Work in Progress

Kurschilgen, M., Marcin, I., Schneeberger, A., Strategic Information Search and Social Norms

Lectures and Seminar Presentations

The Impact of Personal and Social Norms on Sharing in Dictator Games

10th IMPRS Uncertainty Thesis Workshop, Lalendorf

March 2017



Cornelius Schneider

Summary Report

As a member of the IMPRS, I started my PhD at the Max Planck Institute for Research on Collective Goods in a joint program with the Cologne Graduate School in Management, Economics and Social Sciences in October 2016. Before, I wrote my Master's thesis at the Hertie School of Governance in Berlin with Prof. Christian Traxler, where I empirically analyzed behavioral responses to the German inheritance tax scheme. With Prof. Felix Bierbrauer as my PhD supervisor, I want to pursue my research interest in the nexus of public finance and behavioral economics. Against this background, my coursework during the first months of

this PhD program comprised advanced courses in econometric methods, public economics, and, in particular, various issues of taxation.

General Research Interests

Standard models of optimal taxation impose strong assumptions with objective functions mostly following either purely Utilitarian or Rawlsian rationales. Such normative criteria (i.e., for redistribution) are usually based on philosophical reasoning or, at the very least, aim for Pareto efficiency. In recent research, these strong underlying normative assumptions have become subject to initial empirical investigations, which derive the normative criteria from surveys, experiments, and existing robust policies to develop an objective function that incorporates prevailing public views, thus closing the gap between standard theory and real tax policies. I am interested in building upon this fairly new strand of literature and exploring how experimentally revealed preferences for redistribution could inform standard models of optimal taxation and eventually translate into tangible tax designs.

Along these lines, I am further interested in deriving an analytical framework for optimal taxation which encompasses different types of redistributive policies. To the best of my knowledge, establishing a convincing analytical framework that assesses the "optimal tax-mix" would depict an important extension of classical models that mostly consider individual types of taxation. To complement this endeavor, I would like to explore empirically how public preferences for redistribution form and interact across different types of such policy instruments.

Work in Progress

As one of the first projects for my PhD, I would like to explore which (normative) determinants are decisive in forming preferences towards the taxation of intergenerational wealth. With a broad opposition across the entire political spectrum, the German inheritance and gift tax is one of the most controversial and emotionally discussed taxes in Germany. Whereas critics claim that an inheritance tax is not able to correct for fiscal imbalances (inheritance tax in Germany only accounted for 0.85% of total tax revenues in 2013), supporters argue that this tax has an important role in the redistribution of wealth and especially in facilitating social mobility. Considering that, in Germany, only the top 1.5% is affected, the majority of the population would benefit from such a tax through potential redistribution, additional provision of public goods, or an equivalent decrease in income tax. Against this background, the strong opposition appears particularly paradoxical. With this discussion not being limited to Germany, many countries like Austria, Canada, Norway, and Sweden have abolished inheritance and estate taxation during the last decade. This project attempts to contribute to understanding this paradox. Previous research has suggested that informational treatments, particularly the information about who has to pay the estate tax, have a significant positive effect on the support for the estate tax – in contrast to other policies. However, whether addressing 'misinformation' fully explains the large treatment effect still remains an open question. I hypothesize that the

pronounced opposition towards the inheritance tax stems not only from 'misinformation', but also from value-based arguments, and particularly from underlying behavioral mechanisms, as in the protection of intergenerational family wealth, the often proclaimed double-taxation argument, the lost 'locus of control' (the potential feeling of being 'punished' for something that cannot be controlled), or the nature of being a 'concentrated' one-time payment. With this, I plan to explore these hypotheses by conducting a randomized survey study based on representative SOEP (Germany's socio-economic panel) or similar panel data.

Furthermore, I am currently discussing a potential joint project on fairness perceptions with my former Master's thesis supervisor, Prof. Christian Traxler.



Sebastian Schneider

I joined the Max Planck Institute for Research on Collective Goods as a Senior Research Fellow on 4 December 2017, after having finished my PhD at the University of Göttingen. I hold an MSc and a BSc in Mathematics in Business and Economics from the University of Mannheim.

My research in the past few years has focused on three main areas: (i) risk and time preferences; (ii) their role in financial decision-making; (iii) statistical aspects of experiments.

Risk and Time Preferences

In a joint project with Marcela Ibañez (University of Göttingen) and Gerhard Riener (University of Düsseldorf), I analyze risk and time preferences among the poor in Bogotá, Colombia. We use a lab-in-the-field experiment accompanied by an extensive household survey on socio-economic characteristics to explore whether and how individual characteristics can explain preferences.

In this context, we develop a new, simple, and cost-efficient method to elicit experimentally (higher-order) risk preferences (e.g., prudence). This method addresses inconsistencies in choice tasks in a new way and allows the computation of well-known, theoretically derived intensity measures of prudence and risk aversion.

Risk and Time Preferences in Financial Decision-making

Building on the previously mentioned project, I investigate intertemporal decision-making with respect to household saving in two projects, focusing on the influence of risk preferences on the optimal saving decision, and using the experimental risk measures and survey data from Bogotá, Colombia.

In the first paper (with M. Ibañez), we build on the intertemporal decision model by Kőszegi and Rabin (2009) and find that income uncertainty is related to an increase in savings for loss-averse individuals. This increase is stronger the more loss-averse the individual is, as we theoretically derive from the above-mentioned model.

In the second paper (with M. Ibañez and G. Riener), I extend the theory of precautionary saving connected with prudence, as introduced by Leland (1968), to explain a non-binary saving demand for risk-seeking individuals. The results strongly support the theoretical prediction that uncertainty leads to increases in savings for risk-averse and risk-seeking prudent individuals.

The results of both studies suggest that the poor lack alternative options to smooth consumption, but they also indicate that preferences predict field behavior with respect to household saving. Both insights may inform policy-making in development contexts, as a failure in accumulating capital can result in poverty when income shocks cannot be smoothed.

Statistical Aspects of Experiments

In a joint project with Martin Schlather (University of Mannheim), I develop a method to assign subjects or clusters optimally to possibly multiple treatment and control groups in (field) experiments, using a theoretically derived decision statistic. The method creates comparable experimental groups and increases the validity and efficiency of estimation (Schneider and Schlather, 2017). Additionally, I provide a software implementation as Stata ado-package. I have been involved in applying this method and have applied it myself in a joint project with G. Riener and Valentin Wagner (University of Düsseldorf), in a field experiment with schools in Germany, designed to test the effectiveness of different treatment assignment mechanisms.

Moreover, the method for elicitation of (higher-order) risk preferences mentioned in (i) builds on a statistical approach named P-spline regression, which I have extended by incorporating value constraints and a solution for jointly data-driven smoothing of multiple derivatives of the spline function.

Future plans

I plan to continue investigating risk and time preferences and their role in decision-making. Together with G. Riener, I intend to compare different elicitation methods for higher-order risk preferences, using lab experiments. Continuing the previous work on loss aversion and prudence in Bogotá, I want to apply a spatial model to explain these preferences by geographic variation. One of the foci of the EEG group is to study how financial literacy affects preferences, and I intend to collaborate on this with the other members of the group.

Lastly, I plan to extend the statistical work I have started in both areas.

Working papers

Schneider, S., Schlather, M. (2017). A New Approach to Treatment Assignment for One and Multiple Treatment Groups, Courant Research Centre Discussion Paper No. 228.

Software

Software for the Min MSE Approach to Treatment Assignment for One And Multiple Treatment Groups (realized as Stata ado-package).



Armin Steinbach

Summary Report

My research interest largely rests on two pillars: classical legal analysis surrounding EU law, international law, and constitutional law, as well as topics lying at the intersection of law and economics.

In the field of EU law, my recent work focused on the legal study of spillovers relevant to the determination of competences for financial stability policies and liquidity supplies by central banks in the euro area (*Common Market Law Review*, 2015). Spillover analysis is also at the heart of exploring an effect-oriented line of jurisprudence developed by the Court of Justice of the European Union (CJEU) throughout the debt crisis (*European Law Review*, 2016). However, these analyses have hitherto been largely limited to legal analysis. While references are made to the economic literature, offering insights into macroeconomic and financial interdependencies, the legal analyses do not provide a theoretical or empirical economic underpinning on their own. Against this background, my recent research agenda has been threefold. First, given that from a legal perspective the allocation of competences in economic, monetary, and financial issues is crucial for the future design of the EMU, I sought to gain a better understanding of which legal design may be sound from an economic perspective. As the past legal disputes before the CJEU on ESM and OMT have shown, the allocation of competences on economic and monetary issues has been largely controversial, particularly because economic reality and legal design have not coincided. Therefore, the future design of competences must reflect to the closest possible degree the underlying economic mechanisms at work. Second, and related, I study the emergence of new concepts of financial stability during the crisis, the extent to which they connect to existing legal doctrine, and how they reflect different economic understandings. More specifically, distinct references to financial stability can be found in the ESM Treaty and the European Treaties, which may enshrine different concepts containing different standards. An assessment of these concepts requires a study of both the legal and economic notions underlying these concepts. Third, I want to underscore my legal doctrinal analysis by solid economic analysis. In my view, interdisciplinary approaches in the area of EU law and economics are underrepresented, and this lack does not sufficiently respond to the policy reality in which legal and economic issues are heavily interwoven, making an economic foundation of legal analysis indispensable. In this vein, in a joint law and economics project, we sought to offer an empirical foundation to the CJEU's interpretation of the no-bailout clause and the ban on monetary financing (*International Review of Law and Economics*, 2017, joint with Paul De Grauwe). A further analysis at the law and economics frontier is the study of debt cuts: In a joint project with Eckhard Janeba, we want to explore the economic rationale inspiring the legal analysis of sovereign debt cuts. Employing both theoretical and empirical analysis, we want to model the impact of debt cuts on fiscal compliance. While debt cuts are typically referred to as having moral hazard implications, we want to capture fiscal compliance as depending on both bailout expectations and the level of debt – both determinants may produce ambivalent effects, which renders an analysis of debt cuts worthwhile. On the basis of the theoretical and empirical results, we seek an insight into the interpretation of the respective EU legal rules. In future, I would like to identify further research areas where law and economics coincide and offer additional insight through integrating the methodologies of both disciplines.

Another strand of work connects to policy-related work and is as such also connected to my background as civil servant in the German Ministry of the Economy. Some of my recent work deals with specific legal challenges to policy implementation issues, such as the promotion of structural reforms under the existing SGP (*European Journal of Legal Studies*, 2015). Building on this work, I would like to explore further policy-related legal analyses. One major project is to complement the discussion on an insurance scheme serving as automatic stabilizer (e.g., unemployment insurance) from a legal perspective. The insurance mechanism

referred to in the EU's Five Presidents Report, which aims at performing a macroeconomic function, gave rise to various economic proposals implementing such a mechanism – in turn, I would like to study the legal constraints associated with these institutional mechanisms, with a particular view to assessing which insurance design could be implemented with the current EU Treaty design.

On the more classical law side of my research interests, I have recently focused on three aspects of German constitutional law. First, I looked into the independence of government agencies. The analysis adopts a functional perspective by determining the adequacy of independence as a matter of the function to be performed by the agency. In this vein, judicial restraint must be accepted where asymmetries in knowledge and expertise materialize, to the extent that judicial control would be unable to review agency decisions accurately. The comprehensibility or reproducibility of an agency's decision are crucial in determining the judicial ability to review. More broadly, the role of legislation, ministries, and courts in controlling or reviewing agency decisions depends on the functional characteristics performed by the agency. Second, and following a different strand of legal research, I have dealt with the implications of freedom of speech in times of fake news and hate speeches. By reference to the conventional interpretation on the scope of freedom of speech, I explore the normative foundations of an obligation towards factual truth in speech. The constitutional analysis of this issue must be rooted in the notion of self-determination as characteristic of the basic constitutional freedoms. Third, the freedom of religion is at the heart of a line of jurisprudence by the CJEU, according to which companies enjoy wide leeway in banning religious symbols of employees on the basis of the company's right to self-branding. This jurisprudence raises questions regarding the fundamental relationship between the scope of religious freedoms in the sphere of private employees. While there is a well-established doctrine on religious symbols in the public sphere, the balancing of religious freedom with employer's rights has not been explored yet.

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Maj-Britt Sterba

Summary Report

I am a PhD candidate in economics at the Friedrich Schiller University in Jena and became a Research Fellow at the Max Planck Institute for Research on Collective Goods in January 2017. In the last six months, I have used the broad input from the workshops and seminars given at the institute as well as from the classes offered at the University of Cologne to develop my research focus further for the next years.

Work in progress

At the moment, I am establishing a research collaboration with a German municipality that is interested in implementing a civic crowdfunding project. While most crowdfunding projects are private goods, civic crowdfunding essentially aims at financing public or quasi-public goods, with the initiator often being a local municipality. While civic crowdfunding projects are becoming more and more common, especially in the US, until now there has been no systematic research on what motivates people to participate in a civic crowdfunding project and how these motivations translate into what is actually funded.

Such research is valuable, however, especially given the fact that the concept is often praised not only as an alternative way to finance public goods in times of shrinking budgets, but also as an instrument to increase the feeling of community and citizen participation. This claim, however, critically relies on the assumption that civic crowdfunding is consistent with our ideas of participation in a democracy. Given that there are heterogeneous preferences over the types of public goods needed, the decision of which public goods to finance is likely to be an issue of distributional conflict. With monetary contributions being the crucial instrument of the decision process, one should be even more concerned with questions of social, regional, and material inequality when evaluating civic crowdfunding.

Looking at the concept of civic crowdfunding from a research perspective is particularly interesting, as it comprises elements of usually distinct actions, such as charitable giving, tax paying, or voting. The general questions I would like to address in this project are, first, what influences the amount people contribute, and second, what is their motivation and if, given these motivations, crowdfunding platforms can be designed to counter inequality. Consultation with the municipality will eventually reveal the aspects on which I will focus in most detail.

Regarding the first question, one can build on the behavioral insights into the actions mentioned above and design the instrument accordingly. It is not guaranteed, however, that the reasons why people increase their contributions to charity, for instance, can be directly translated to their giving behavior in a civic crowdfunding project. Comparing the incentives for contributing in civic crowdfunding to other forms of funding and interaction with the state thus leads to a variety of hypotheses on individual behavior. Regarding the second issue, one could enable the citizens to select from a pool of competing proposals by simple voting, and at the same time offer the possibility to commit oneself to contributing a certain amount even if a different project wins. Different ways of informing people about this option could be tested for their effect. To answer these questions, I am planning to conduct a randomized controlled trial, as the cooperation with the municipality offers broad possibilities to treat a large number of people and to achieve a balanced randomization. Once there are insights into the effects of different settings in the implementation of the crowdfunding project, it would be highly instructive to run a lab experiment to clarify the underlying mechanisms.

Research Agenda

A further topic I wish to pursue in the long term are fairness preferences with respect to global economic inequalities. My motivation is that, while there are a number of elaborate normative theories on the role of the individual with regard to global justice and responsibility, such as Thomas Pogge's idea of a coercive global order that one is morally obliged to try to reform, there seems to be a lack of research considering the individual's perception of the assumptions and conclusions postulated in these theories. As individuals are more and more connected globally, the question of just how far our moral intuitions have adapted to these facts is of prime interest.

It is not self-evident that people automatically consider inequality as unfair. As we know from previous research, perceptions of fairness and responsibility are contested and critically hinge on the role we give to individual achievements, luck, and efficiency considerations when forming our judgement. To what extent the normative theories, on the one hand, and the institutions that are in place, on the other hand, are in line with people's individual fairness conceptions is an empirical question that I would like to address, placing a focus on the question when people accept inequality and injustice and where they place their own responsibility when they see that an institution in fact violates their fairness ideals.



Matthias Sutter

I have become a new director at the MPI in August 2017 and have set up a group of 12 post-docs and PhD-students who have started working at the MPI between October 2017 and January 2018. The opportunity to move to the MPI and set up such a large and promising group has come as a surprise to me when I was contacted by the Max Planck Society in 2016 when the society was looking for a successor of Director Martin Hellwig, one of the most eminent German economists. Although I had been working as a generously endowed “Excellence professor” at the University of Cologne – excellence professorships were installed when the University of Cologne had become an “excellence university” and these professorships were extended to researchers by invitation of the University of Cologne – the chance to become director at an MPI was too tempting and too prestigious to resist. Before moving to Cologne in 2015, I had been working as full professor at the European University Institute (EUI) in Florence, Italy. My academic education in economics stems from the University of Innsbruck, where I also held a full professor position for several years before moving to the EUI in Florence.

During my academic education in Innsbruck, the field of experimental economics did not exist in the curriculum and not a single economic experiment had ever been run at the University of Innsbruck. By coincidence, my PhD-supervisor mentioned at the very end of my PhD-phase that my game theoretic analysis of the voting power distribution in the excessive deficit procedure of the European Monetary Union (which was my PhD-thesis) would also be testable in an economic experiment. This sparked my interest in experimental work, and since that time in late 1998 I have been mainly working with experimental methods to investigate questions that were often theory-driven, but even more so applied in nature (with respect to economic policy or educational policies).

In the report on my “Experimental Economics Group” I have highlighted my main areas of research over the past four years. Here I would like to briefly indicate why I am so fascinated by these three areas and how I would like to pursue various questions in these areas.

1. Economic decision-making of children and teenagers

This work helps us better understand how economic preferences are shaped in early childhood and in the formative teenage years. Economic preferences (like risk and time preferences, but also social or competitive preferences) have been found to be very important for labor market success later on in life (see my book for the general public on this topic, Sutter, 2014), but economic theory has treated the formation of these preferences as a black box for ages. Only recently, economists have begun to realize that a better understanding of how economic preferences are formed may help us design interventions (like in school curricula) that will help young humans to thrive later on. While this may sound narrowly concentrated on labor market outcomes, this is not the case, as behavioral and experimental economics has also devoted lots of attention to health related behavior (which is, of course, relevant for labor markets), for instance (see, e.g., Sutter et al., 2013; Sutter and Glätzle-Rützler, 2015). I find it enriching academically, but also for society in general, to study children’s and teenagers’ behavior and what shapes their economic decision-making. In the next few years, I would like to learn more about the relationship of economic preferences within families and turn that into a larger research agenda (that has started with Chowdhury et al., 2017).

2. Group decision-making

Partly driven by my academic background in social psychology (I have a two-year background in it alongside my economics education), I have always been interested in how groups of people make decisions and

what might be the pros and cons of group decision-making – compared to individual decision-making. In reality, there is a considerable degree of self-selection of subjects into individual or group decision-making, making it very hard to identify whether the type of decision maker – individual or group – has a significant effect on economic decisions, experimental work allows for a random assignment of subjects into individual or group decision-making. Since my first experiment on group decision-making (Kocher and Sutter, 2005), I have been fascinated by the observation that group decision-making is much closer to the rational behavior that is postulated in standard economics textbooks than individual decision-making is (see, e.g., Maciejovsky et al., 2013). This finding has upsides and downsides, however, as it can both decrease and increase economic efficiency, depending on the game-theoretic structure of the problem (see Charness and Sutter, 2012). In the coming years, I would like to learn more about the potential downsides, as the economics research on this topic has, so far, concentrated on the upsides (a first contribution is Cooper and Sutter, 2018).

3. Economics of credence goods

Medical services, repair services or taxi-rides in unknown cities are prime examples for credence goods. They are characterized by an informational advantage of expert sellers over customers, leading to large opportunities of sellers to exploit customers by overtreating them (providing too much or too high quality) or overcharging them (for items or services that have not even been provided) (see, e.g., Balafoutas et al., 2013, 2017; Kerschbamer et al., 2016). The market for such goods is huge, and so are the opportunities for fraudulent behavior. Despite these opportunities, most of these markets work surprisingly well and efficient. This can be for two reasons: good institutions (that avoid fraud, for example through warranties and legal restrictions) or good morals. So far, the role of morals has not been explored. In more detail, there is no study on the provision of credence goods that links personal characteristics of sellers with their provision behavior. I plan to fill this gap by studying this link in several credence goods markets (like in the financial industry or in the taxi market), because establishing such a link will help understand why even fairly unregulated credence goods markets might work efficiently.

Besides these three main areas of research, I have expanded my research over the past four years into new areas, such as (i) moral behavior in markets or how fairness concerns are affected if others may have acquired their wealth through amoral behavior (see, e.g., Kirchler et al., 2016; Bortolotti et al., 2017), (ii) analysis of equilibrium selection in coordination games (Charness et al., 2014), (iii) experimental finance (see, e.g., Huber et al., 2017) or how the finance industry attracts less pro-social subjects than other industries (Gill et al., 2018).

In addition to working on my own research, I am heavily involved in editing and refereeing papers. I am Associate Editor for four journals (Management Science, Journal of the European Economic Association, European Economic Review, and Economics Letters), editorial board member for two journals (Experimental Economics and Journal of the Economic Science Association) and I referee between 40 and 50 papers for peer-reviewed journals per year (among them all Top-5 journals in economics, but also Nature, PNAS or Science).

Awards

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|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2017 | Hans Kelsen Prize of the University of Cologne |
| 2016 | Pater Johannes Schasching SJ Preis (Prize for the dialogue of economy, ethics and religion; sponsored by Federation of Austrian Industries and Catholic Private University Linz) |
| 2015 | Exeter Prize for Research in Experimental Economics, Decision Theory and Behavioral Economics |

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Balafoutas, L., Kerschbamer, R., Kocher, M. & Sutter, M. (2014). Revealed distributional preferences: Individuals vs. teams. *Journal of Economic Behavior & Organization*, 108, 319–330

Beck, A., Kerschbamer, R., Qiu, J. & Sutter, M. (2014). Car mechanics in the lab – Investigating the behavior of real experts on experimental markets for credence goods. *Journal of Economic Behavior & Organization*, 108, 166–173

Kocher, M., Sutter, M. & Wakolbinger, F. (2014). Social Learning in Beauty-Contest Games. *Southern Economic Journal*, 80(3), 586–613

Lergetporer, P., Angerer, S., Glätzle-Rützler, D. & Sutter, M. (2014). Third-party punishment increases cooperation in children through (misaligned) expectations and conditional cooperation. *PNAS – Proceedings of the National Academy of Sciences*, 111(19), 6916–6921

Van Damme, E., Binmore, K. G., Roth, A. E., Samuelson, L., Winter, E., Bolton, G. E., ... Azar, O. H. (2014). How Werner Güth's ultimatum game shaped our understanding of social behavior. *Journal of Economic Behavior & Organization*, 108, 292–318

Articles (not peer-reviewed)

Balafoutas, L. & Sutter, M. (2015). Zur Wettbewerbsbereitschaft von Männern und Frauen – Experimentelle Analysen. *Tagungsband: Wissenschaftsenquete des Landes Tirol. 26. März 2012*, 147–153

Sutter, M. & Rivas, F. (2014). Leadership, reward, and punishment in sequential public goods experiments. *Reward and Punishment in Social Dilemmas*, 133–157. Oxford: Oxford University Press

Books

Sutter, M. (2017). Die Entdeckung der Geduld. Ausdauer schlägt Talent. (in Turkish: Sabrın Keşfi – Yetenek Karşısında Sabatın Zaferi). Kaknus

Sutter, M. (2016). Die Entdeckung der Geduld. Ausdauer schlägt Talent. (in Chinese). Beijing: Academic Press

Sutter, M. (2014). Die Entdeckung der Geduld. Ausdauer schlägt Talent. 168 p. Salzburg: Ecowin Verlag

Book chapter

Sutter, M. (2016). Die Effizienz von Führung – Verhaltensökonomische Einsichten zur Bedeutung von Unsicherheit. In O. Geramanis & K. Hermann (Eds.), *Führen in ungewissen Zeiten. Impulse, Konzepte und Praxisbeispiele*, 175–188. Springer Verlag

Newspaper Articles

Sutter, M. (25.1.2016). Geduld, nur Geduld. *Frankfurter Allgemeine Zeitung*

Sutter, M. (19.11.2014). Der junge Homo Oeconomicus. Geduldige Kinder sind als Erwachsene erfolgreicher. *Neue Zürcher Zeitung*

Preprint

Balafoutas, L., Davis, B. J. & Sutter, M. (2017). How uncertainty and ambiguity in tournaments affect gender differences in competitive behavior. Bonn: Max Planck Institute for Research on Collective Goods, 2017/18

Lectures and Seminar Presentations

2014

The effects of language on children's intertemporal choices

2014 ESI Workshop on Institutions, Games and Experiments, Max Planck Institute of Economics Jena
31 January–3 February 2014

Abneigung von Frauen gegenüber Wettbewerb / Effiziente Sanktionsmechanismen zur Aufrechterhaltung von Kooperation / Wirkung und Nebenwirkungen von Vergütungssystemen (Plenary speaker)

Behavioral Economics Academy, Gottlieb Duttweiler Institut Rüschlikon/Zurich
7–8 February 2014

The effects of language on children's intertemporal choices

Research Apperitivo, Bocconi University Milan
5 March 2014

Book presentation "Die Entdeckung der Geduld"

Thalia Buchhandlung Wien 3, Vienna
12 March 2014

Grenzen des homo oeconomicus. Experimentelle Befunde zur Zeitinkonsistenz

Graz Schumpeter Centre Lecture, Graz
13 March 2014

Book presentation "Die Entdeckung der Geduld"

Gymnasium Blumenstraße, Bregenz
14 March 2014

Book presentation "Die Entdeckung der Geduld"

University of Innsbruck
19 March 2014

Book presentation "Die Entdeckung der Geduld"

Kitzbüheler Stubengespräche, Kitzbühel Country Club
4 April 2014

Market design and moral behavior

EWEBE, King's College London
24–25 April 2014

Efficient coordination in young children

Research Seminar, University of Siena

7 May 2014

Book presentation “Die Entdeckung der Geduld”

European University Institute, Florence

14 May 2014

Von der Geduld. Das Ende des homo oeconomicus (Keynote speaker)

4C Footprints 2014, Munich

22 May 2014

Children’s cooperation and discrimination in a bilingual province

Research Seminar, EIEF Rome

5 June 2014

Large scale experiments (Keynote speaker)

Behavioral Operations Conference, Cologne

12–14 June 2014

Book presentation “Die Entdeckung der Geduld”

Verein Schloss Schönfeld, Kassel

1 August 2014

Warum Geduld auch für Unternehmen wichtig ist (Keynote speaker)

Wirtschaftsdialog der Tiroler Sparkasse, Telfs

18 September 2014

A survey on experiments with children and teenagers (Keynote speaker)

Annual Meeting of the German Society for Experimental Economics (GfeW – Gesellschaft für Experimentelle Wirtschaftsforschung), Universität Passau

23–24 September 2014

Second-degree moral hazard in a real-world credence goods market

Research Seminar, University of Bologna

7 October 2014

A survey on experiments with children and teenagers

Research Seminar, University Bicocca Milan

8 October 2014

Book presentation “Die Entdeckung der Geduld”

Bibliothek Lustenau

21 October 2014

Wissenschaft im Gespräch

Landesmuseum Vorarlberg, Bregenz

22 October 2014

Efficient coordination in young children

CESifo Conference on Behavioral Economics, Munich
24–25 October 2014

Gossip, trust and efficiency

Innsbruck-Munich Workshop, Innsbruck
27 October 2014

Book presentation “Die Entdeckung der Geduld”

Jungunternehmertag, Wirtschaftskammer Wien, Vienna
29 October 2014

Efficient coordination in young children

Research seminar, University of Lausanne
6 November 2014

Book presentation “Die Entdeckung der Geduld”

Chiemsee
12 November 2014

Book presentation “Die Entdeckung der Geduld”

Vienna
13 November 2014

Book presentation “Die Entdeckung der Geduld”

Behavioral seminar (Fehr Advice), Zurich
3 December 2014

2015**Forensic economics: How insurance coverage induces fraud in markets for credence goods**

Research seminar, University of Hamburg
11 March 2015

Forensic economics: How insurance coverage induces fraud in markets for credence goods

Research seminar, Royal Holloway College University of London
25 March 2015

Forensic economics: How insurance coverage induces fraud in markets for credence goods

Research seminar, Warwick Business School, University of Warwick
26 March 2015

The economics of credence goods: Evidence from the lab and the field

Research seminar, Vienna University of Economics and Business Administration
10 April 2015

Die Entdeckung der Geduld

ISKA Nürnberg
22 April 2015

Die Entdeckung der Geduld (Keynote speaker)

SMP Turnaround Forum, Cologne (5 March), Hamburg (12 March), Frankfurt (16 April), Stuttgart (23 April), Munich (7 May 2015)
March/April/May 2015

Die Entdeckung der Geduld (Keynote speaker)

Com2together, Daimler Financial Services, Stuttgart
12 May 2015

The economics of credence goods: Evidence from the lab and the field (Keynote speaker)

CESifo Conference on Employment and Social Protection, Munich
15–16 May 2015

The economics of credence goods: Evidence from the lab and the field

Get-Together Frontier Economics, Düsseldorf
19 May 2015

Die Entdeckung der Geduld (Keynote speaker)

1. Institutioneller Investorengipfel, FAROS Consulting, Vienna
12 June 2015

Forensic economics: How insurance coverage induces fraud in markets for credence goods

Workshop of the Research Unit Design and Behavior, University of Cologne
17 June 2015

Die Entdeckung der Geduld (Keynote speaker)

Service Space 2015, Vienna
24 June 2015

Forensic economics: How insurance coverage induces fraud in markets for credence goods

CAS-Workshop, University of Munich
13–14 July 2015

Reference standards and productivity in a field experiment

Research Seminar, University of Bonn, Bonn
17 July 2015

Die Entdeckung der Geduld (Keynote speaker)

Netzwerktreffen der Vorarlberger Landesregierung, Bregenz
31 July 2015

Die Entdeckung der Geduld (Keynote speaker)

Wissenslounge Wirtschaftskammer Oberösterreich, Gmunden
15 September 2015

To lie or not to lie. The neural basis of deception in strategic interaction

Medical University Innsbruck and University of Innsbruck Summerschool 2015 on Emotions in Motion – Interdisciplinary Approaches to Study Emotions, (invited speaker), Innsbruck
16 September 2015

Die Entdeckung der Geduld (Keynote speaker)

Dialog im Stammhaus, Bergbahnen Mayerhofen

17 September 2015

Economic preferences in childhood – Evidence from 3- to 6-year olds

Workshop on Economics of Education, Universität Mainz

23 September 2015 (invited speaker)

Economic preferences in childhood – Evidence from 3- to 6-year olds

Research Seminar, Norwegian School of Economics, Bergen

14 October 2015

Forensic economics: How insurance coverage induces fraud in markets for credence goods

Research seminar, Helsinki School of Economics, Helsinki

16 October 2015

Forensic economics: How insurance coverage induces fraud in markets for credence goods

CESifo Conference on Behavioral Economics, Munich

23 October 2015

Vertrauen, Identität und Kooperation – die Grundpfeiler einer starken Marke?

Markenforum, Zürcher Kantonalbank, Zurich

3 November 2015

Wissenschaftlich fundierte Tipps für Beratungsgespräche – Was wir von der Verhaltensökonomie lernen können

Alpenbank, Bozen

4 November 2015

The economics of credence goods: Evidence from the lab and the field

Forschungsseminar, Max Planck Institut for Research on Collective Goods, Bonn

9 November 2015

Forensic economics: How insurance coverage induces fraud in markets for credence goods

Research seminar, University of Trier

11 November 2015

Forensic economics: How insurance coverage induces fraud in markets for credence goods

CESS Research Seminar, University of Oxford, Nuffield College, Oxford

17 November 2015

Economic preferences in childhood – Evidence from 3- to 6-year olds

Research Seminar, University of Newcastle, Newcastle upon Tyne

19 November 2015

Ehrlich währt am längsten – bringt aber weniger Profit. Betrug in Feldexperimenten

Ringvorlesung Tauschen, Teilen, Tricksen – Andere Formen des Wirtschaftens, Universität Heidelberg

3 December 2015

Economic preferences in childhood – Evidence from 3- to 6-year olds

Research Seminar, Universität Heidelberg

3 December 2015

**Aktuelle Krisen, wirtschaftliche Effekte, wirtschaftspolitische Konsequenzen – wo steht Europa?
(Beitrag zur Podiumsdiskussion)**

Europäischer Mediengipfel, Lech am Arlberg

5 December 2015

Economic preferences in childhood – Evidence from 3- to 6-year olds (Invited speaker)

1st Motivation and self-control symposium, University of Cologne

9 December 2015

2016

Die Entdeckung der Geduld (Keynote speaker)

Rektorsempfang der Universität zu Köln, Cologne

18 January 2016

Parental education and peer effects promote children's cooperation in a prisoner's dilemma experiment

IZA Workshop on Education, Bonn

17 February 2016

Geduld als Erfolgsfaktor / Big data – eine Sicht der Verhaltensökonomie / Die Vermessung des Bürgers

Behavioral Economics Academy, Gottlieb Duttweiler Institut Rüschlikon/Zürich, (Plenary speaker), Zurich

28–29 February 2016

Die Entdeckung der Geduld (Keynote speaker)

Industrieclub Düsseldorf

1 March 2016

Parental education and peer effects promote children's cooperation in a prisoner's dilemma experiment

Research Seminar, University of Maastricht

8 March 2016

Die Entdeckung der Geduld

Lehrerfortbildung an der Universität zu Köln, Institut für Wirtschaftspolitik, Cologne

9–10 March 2016

Parental education and peer effects promote children's cooperation in a prisoner's dilemma experiment

Research Seminar, Erasmus University Rotterdam

16 March 2016

Behavioral insights into group decision-making (Keynote speaker)

PhD-workshop, Experimental Development Economics, University of East Anglia, Norwich

3 April 2016

Parental education and peer effects promote children's cooperation in a prisoner's dilemma experiment

Research Seminar, University of Chicago
7 April 2016

Fraudulent behavior in markets for repair services. Field experiments on the provision of credence goods

Research Seminar, Brown University, Providence
11 April 2016

Parental education and peer effects promote children's cooperation in a prisoner's dilemma experiment

Research Seminar, George Mason University, Arlington
15 April 2016

Die Entdeckung der Geduld

Ringvorlesung der Universität zu Köln, Cologne
26 April 2016

Lab- and field-experiments on the provision of credence goods (Keynote speaker)

Inaugural Conference of the Diligentia Foundation, Cologne
29 April 2016

Where to look for the morals in markets?

Research Seminar, University of Münster
3 May 2016

Leading by example, The dos and don'ts of leadership

Interactive Compliance Seminar, International Anti-Corruption Academy, Laxenburg
11 May 2016

Wie lässt sich Verhalten beeinflussen? Wie kleine Anstöße große Veränderungen in Politik und Gesellschaft bewirken können

24. Österreichische Abfallwirtschaftstagung, Vienna
11 May 2016

Leading by example – Zur Effizienz von Führung

Lead & Lunch, Universität zu Köln, Cologne
12 May 2016

Where to look for the morals in markets?

Research Seminar, London School of Economics (LSE), London
18 May 2016

Where to look for the morals in markets?

Research Seminar, Paris School of Economics, Paris
20 May 2016

Where to look for the morals in markets?

EWEBE – European Workshop in Experimental and Behavioral Economics, Cologne

3 June 2016

Parental education and peer effects promote children's cooperation in a prisoner's dilemma experiment

Research Seminar, University of Toulouse, Toulouse

9 June 2016

Die Entdeckung der Geduld

Köln Alumni Spezial, Cologne

14 June 2016

Where to look for the morals in markets? (Keynote speaker)

MaxLab-Day at the University of Magdeburg

15 June 2016

Team decision-making and intertemporal choice

SOCCO Meeting, Universität zu Köln, Cologne

24 June 2016

Cooperation of young children and the influence of parental background and peer effects

Research Seminar, University of Frankfurt

13 July 2016

Cooperation of young children and the influence of parental background and peer effects (Keynote speaker)

10th Kiel Institute Summer School on Education, Preferences and Economic Outcomes, Kiel

28 July 2016

Economic decision-making of children (Keynote speaker)

10th Kiel Institute Summer School on Education, Preferences and Economic Outcomes, Kiel

29–30 July 2016

Die Entdeckung der Geduld (Keynote speaker)

Universität Siegen, Lehrerfortbildung am ZöBiS

22 September 2016

Die Entdeckung der Geduld (Keynote speaker)

Studium Generale, Hochschule Pforzheim

19 October 2016

Costly customers' mistakes in credence goods markets

Karlsruhe Institute of Technology, Research seminar, Karlsruhe

20 October 2016

Where to look for the morals in markets?

CESifo Conference on Behavioral Economics, Munich

22 October 2016

What determines children's economic preferences? Evidence from a large-scale experiment

University of East Anglia, Research seminar, Norwich

10 November 2016

What determines children's economic preferences? Evidence from a large-scale experiment

University of Aarhus, Research seminar, Aarhus

16 November 2016

What determines children's economic preferences? Evidence from a large-scale experiment

University of Copenhagen, Research seminar, Copenhagen

17 November 2016

Costly customers' mistakes in credence goods markets

University of Amsterdam, CREED, Research seminar, Amsterdam

23 November 2016

Die Entdeckung der Geduld

Katholische Studentenverbindung, Cologne

29 November 2016

Sibling composition, preferences and adolescents' behavior

Freie Universität Berlin, Forschungsseminar, Berlin

8 December 2016

What determines children's economic preferences? Evidence from a large-scale experiment

Max Planck Institut für Bildungsforschung, Forschungsseminar, Berlin

9 December 2016

2017

Einführung in Behavioral Economics

Gottlieb Duttweiler Institut, Behavioral Economics Academy, Rüschlikon

26 January 2017

Where to look for the morals in markets?

University of Amsterdam, Research seminar

10 February 2017

Entscheiden

Montforter Zwischentöne, Konzert mit Interview, Feldkirch

24 February 2017

Costly customers' mistakes in credence goods markets

University of California Riverside, Economics research seminar, Riverside

7 March 2017

The economics of credence goods: Evidence from the field (Keynote speaker)

Spring School at University of California at San Diego, La Jolla

9 March 2017

Too lucky to be true. Fairness views under the shadow of cheating

Loyola Marymount University, Research seminar, Los Angeles

13 March 2017

What determines children's economic preferences? Evidence from a large-scale experiment

University of California at Berkeley, Applied Microeconomics Seminar, Berkeley

14 March 2017

Self-selection into the finance industry (Keynote speaker)

G20-summit in Baden-Baden, Presentation in front of deputies of G20-central bank governors, Baden
Baden

16 March 2017

What determines children's economic preferences? Evidence from a large-scale experiment

Cambridge IBSEN workshop on large-scale experiments, University of Cambridge

21 March 2017

What determines children's economic preferences? Evidence from a large-scale experiment

University of Essex, Research seminar, Essex

23 March 2017

The economics of credence goods: Evidence from the field

University of Tübingen, Forschungsseminar

26 April 2017

Deception in strategic interaction

Compliance training, International Anti-Corruption Academy, Laxenburg

28 April 2017

The economics of credence goods: Evidence from the field

Workshop x-hub (GESIS), Cologne

11 May 2017

Costly customers' mistakes in credence goods markets

Experimental Advances in Organizational Behavior, Burgundy School of Business, Dijon

24 May 2017

Too lucky to be true. Fairness views under the shadow of cheating

EWEBE-Meeting, University of Bologna, Bertinoro

26 May 2017

Too lucky to be true. Fairness views under the shadow of cheating (Keynote speaker)

Society for Experimental Finance, Annual Meeting, Nice

14–15 June 2017

Self-selection into the finance industry (Keynote speaker)

Society for Experimental Finance, Annual Meeting, Nice

14–15 June 2017

Ehrlich währt am längsten. Ein verhaltensökonomischer Blick auf Delinquenz und unmoralisches Verhalten (Keynote speaker)

26. Forum der österreichischen Staatsanwältinnen und Staatsanwälte, Walchsee
19 June 2017

What determines children's economic preferences? Evidence from a large-scale experiment

University of Düsseldorf, Research seminar, Düsseldorf
20 June 2017

Costly customers' mistakes in credence goods markets

ZEW Mannheim, Research seminar, Mannheim
22 June 2017

You are fired! Productivity shocks from work-norm violations in a field experiment

68° conference, Svolvær, Lofoten
5 August 2017

The economics of credence goods: Evidence from the field

IMPRS Summerschool, Jena
9 August 2017

Hat der homo oeconomicus ausgedient? Erkenntnisse der experimentellen Wirtschaftsforschung und Verhaltensökonomie

Roman Herzog Institut, Munich
17 October 2017

Too lucky to be true. Fairness views under the shadow of cheating

CESifo Conference on Behavioural Economics, Munich
28 October 2017

Die Entdeckung der Geduld (Keynote speaker)

Bundesfinanzakademie Österreich, Bundesministerium für Finanzen, Trainertag, Vienna
15 November 2017

Einkommensverteilung, Betrug und Gerechtigkeit: Wohin driftet der gesellschaftliche Grundkonsens? (Keynote speaker)

11. Mediengipfel in Lech am Arlberg, Lech am Arlberg
1 December 2017

Gerechtes Wirtschaften und Vertrauen. Vom Sinn ökonomischer Beziehungen (Keynote speaker)

Caritasgespräche Vorarlberg, Feldkirch
11 December 2017

PhD-supervisor or Committee member in defence

2014	Silvia Angerer, Philipp Lergetpörer (both University of Innsbruck) Julian Conrads (University of Cologne – Committee member)
2015	Manuela Oberauer (University of Innsbruck) Tanja Hörtnagl and Matthias Stefan (both University of Innsbruck – committee member) Manuel Grieder (University of Lausanne – committee member)
2017	Helena Fornwagner (University of Innsbruck – Committee member) Suparee Bonmanunt (University of Cologne – Committee member)
ongoing	Claudia Zoller, Matthias Praxmarer, Anna Untertrifaller, Patrick Bernau (all University of Cologne)

Teaching

2015	PhD-Kurs in Experimental Economics NHH Bergen, Norway
since 2015	PHD-Kurs in Experimental Economics University of Cologne
since 2015	Einführung in die Mikroökonomie University of Cologne
2015–2016	(Un)Moralisches Verhalten in Unternehmen University of Innsbruck

Public Service

Member of the Scientific Advisory Group for the Austrian government's project "Motivierender Staat" (hosted by the Austrian Federal Ministry for Family and Youth and by the Austrian Federal Ministry of economics, science and technology), since 2015

Professional Activities

Memberships

Member of the International Academic Advisory Council of the School of Business, Economics and Law, University of Gothenburg, since 2013

Member of the International Advisory Board of the graduate program "Evidence-based economics" of the University of Munich, since 2013

Member of the Scientific Advisory Board of the Institute for Advanced Studies (IHS) Vienna, since 2017

Editorial Boards

Experimental Economics, since 7/2009

Journal of the Economic Science Association, since 7/2014

Editor

Management Science – Associate Editor, since 7/2011

European Economic Review – Associate Editor, since 10/2012

Economics Letters – Associate Editor, since 9/2014

Journal of the European Economic Association, since 10/2016

Guest Editor

Journal of Economic Psychology for a special issue on “The Economics and Psychology of Football”, 31(2), April 2010

Referee for

American Economic Journal: Applied Economics (1), American Economic Review (5), Austrian National Bank (Jubiläumsfonds) (1), AXA Research Fund (1), British Academy (1), British Journal of Developmental Psychology (1), Cognition (1), Danish Science Foundation (1), Developmental Science (2), Econometrica (3), Economic Inquiry (1), Economic Journal (9), Economica (2), Economics Letters (28), ESRC (1), European Economic Association (1) (Program committee member of annual meeting), European Research Council ERC Starting Grant (1), Experimental Economics (19), Games and Economic Behavior (8), German Science Foundation (2), International Journal of Sport Finance (1), Israeli Science Foundation (1), Journal of Conflict Resolution (1), Journal of Economic Behavior and Organization (5), Journal of Economic Psychology (5), Journal of Economics and Management Strategy (1), Journal of Environmental Economics and Management (1), Journal of Experimental Child Psychology (1), Journal of Industrial Economics (1), Journal of Political Economy (1), Journal of Population Economics (1), Journal of the Economic Science Association (2), Journal of the European Economic Association (11), Management Science (2), Nature (3), Nature Human Behavior (1), Oxford Bulletin of Economics and Statistics (2), PLoS ONE – Public Library of Science (1), PNAS – Proceedings of the National Academy of Sciences (5; Editor for 1 paper), Police Quarterly (2), Psychological Science (1), Quarterly Journal of Economics (9), Review of Economic Studies (9), Review of Economics and Statistics (2), Scientific Reports (1), Social Choice and Welfare (2), Turkish Science Foundation (1)



Franziska Tausch

Summary Report

My research focuses on behavioral economics, mostly combining experimental methods and microeconomic theory. Throughout my time at the Max Planck institute my research broadly focused on three interrelated topics: (1) institutional endogeneity, (2) risk, and (3) dishonest behavior.

Institutional endogeneity

I have been working on a set of three projects with various colleagues at the Max Planck institute, which investigate the effects of the generating process of a sanctioning institution, i.e., whether the institution was endogenously or exogenously generated, on compliance behavior and institutional design.

Building on existing literature, in the paper “Inherited Institutions: Cooperation in the Light of Democratic Legitimacy”, with Pascal Langenbach, we experimentally investigate whether the procedural history of a sanctioning institution affects cooperation in a social dilemma. Subjects inherit the institutional setting from a previous generation of subjects who either decided on the implementation of the institution democratically by majority vote or were exogenously assigned a setting. In order to isolate the impact of the voting procedure, no information about the cooperation history is provided. In line with existing empirical evidence, we observe that, in the starting generation, cooperation is higher (lower) with a democratically chosen (rejected) institution, as compared to the corresponding, randomly imposed setting. In the second generation, the procedural history only partly affects cooperation. While there is no positive democracy effect when the institution is implemented, the vote-based rejection of the institution negatively affects cooperation in the second generation. The effect size is similar to that in the first generation.

In a second related project, “No Status Quo Effect in Voting on Sanctions in Social Dilemmas”, we experimentally investigate whether in a social dilemma the institutional status quo influences voting over the institutional setting and subsequent commitment to the institution's inherent norms. Subjects are asked to decide about the implementation of a non-deterrent sanction rule in a public-goods setting via majority vote. Treatments differ with respect to whether or not the sanction rule is already in place when the voting decision is made. The results reveal that neither the subjects' voting decisions nor their beliefs about contributions reflect a pull of the status quo. Actual contributions are not affected by the initial institutional state.

While the previous two projects focused on compliance behavior, the third paper focuses on the effect of institutional endogeneity on institutional design. In particular, the paper “Institutional Endogeneity and Third-party Punishment in Social Dilemmas”, with Isabel Marcin and Pedro Robalo, studies experimentally how endogeneity affects the severity of punishment in social dilemmas. We allow individuals to vote on the introduction of third-party-administered sanctions, and compare situations in which the adoption of this institution is endogenously decided via majority voting to situations in which it is exogenously imposed by the experimenter. Our experimental design precludes the self-selection and signalling effects that arise when subjects can vote on the institutional setting. We find that punishment is significantly higher when the sanctioning institution is exogenous, which can be explained by a difference in the effectiveness of punishment. Subjects respond to punishment more strongly when the sanctioning institution is endogenously chosen. As a result, a given cooperation level can be reached through milder punishment when third-party sanctions are endogenous.

Risk

During my PhD studies at Maastricht University, I worked on several studies relating to risk-sharing. Risk-sharing arrangements diminish the individuals' vulnerability to probabilistic events that negatively affect their financial situation. This is because risk-sharing implies redistribution, as lucky individuals support the unlucky ones. In the study "Risk-taking and Risk-sharing: Does Responsibility Matter?", with Elena Cettolin, which I revised for publication in the *Journal of Risk and Uncertainty* during my time at the Max Planck institute, we hypothesize that responsibility for risky choices decreases the willingness of individuals to share risk by dampening redistribution motives, and we investigate this conjecture with a laboratory experiment. Responsibility is created by allowing participants to choose between two different risky lotteries before they decide how much risk they share with a randomly matched partner. Risk-sharing is then compared to a treatment where risk exposure is randomly assigned. We find that average risk-sharing does not depend on whether individuals can control their risk exposure. However, we observe that when individuals are responsible for their risk exposure, risk-sharing decisions are systematically conditioned on the risk exposure of the sharing partner, whereas this is not the case when risk exposure is random.

In the study "An Experimental Investigation of Risk-sharing and Adverse Selection", with Jan Potters and Arno Riedl, which I also revised for publication in the *Journal of Risk and Uncertainty* during my time at the Max Planck institute, we investigate whether adverse selection hampers the effectiveness of voluntary risk-sharing, and study how differences in risk profiles affect adverse selection in a laboratory experiment. Across treatments, we vary how risk profiles differ between individuals. We find strong evidence for adverse selection if the individuals' risk profiles can be ranked according to first-order stochastic dominance, and only little evidence for adverse selection if risk profiles can only be ranked according to mean-preserving spreads. We observe the same pattern also for anticipated adverse selection. These results suggest that the degree to which adverse selection erodes voluntary risk-sharing arrangements crucially depends on the form of risk heterogeneity.

While I have been extensively studying risky behavior in a situational context, I also extended my research into investigating the stability of risk attitudes over time. The paper "Stability of Risk Attitudes and Media Coverage of Economic News", with Maria Zumbuehl, investigates the impact of exogenous changes in the economic environment on the risk attitudes of individuals. We combine data on media coverage of economic news with information from the German Socioeconomic Panel Study on the self-stated willingness to take risks. The average daily frequency of economic news reports is measured for different time frames preceding the date of the risk attitude elicitation. We find that, while a short-term increase in good news is positively related to the willingness to take risks, the relation is negative if we consider a long-term increase. An increase in negative economic news coverage is negatively related to the willingness of individuals to take risks, irrespectively of the time frame. A positive (negative) correlation between bad (good) news coverage and the individuals' worries about the economic state suggests that changes in risk perception may partly mediate the relation between news coverage and risk attitudes.

Dishonest behavior

Relating to my studies on risk-sharing and institutional endogeneity, I have been investigating dishonest behavior in an insurance context. In the paper "Compulsory versus Voluntary Insurance: How Contract Formation Affects Fraudulent Behavior", with Lars Freund, we investigate whether the process that leads to the formation of an insurance contract affects ex-post moral hazard. In a laboratory experiment, we compare false loss-reporting behavior under compulsory insurance to a setting in which individuals can freely choose their insurance coverage. We find that cheating is significantly lower under compulsory insurance, and that this effect is driven by the individuals' self-selection into the insurance contract. Our results reveal that compulsory insurance is not only an effective measure to avoid adverse selection, but at

the same time also results in more honest behavior among the insured, as compared to the case of voluntary insurance.

Furthermore, I studied dishonest behavior in the form of false feedback. In the paper “A Must Lie Situation – Avoiding Giving Negative Feedback”, with Uri Gneezy, Christina Gravert, and Silvia Saccardo, which I revised for publication in *Games and Economic Behavior* during my time at the Max Planck institute, we examine under what conditions people provide accurate feedback to others. We use feedback regarding attractiveness, a trait people care about, and for which objective information is hard to obtain. Our results show that people avoid giving accurate face-to-face feedback to less attractive individuals, even if lying in this context comes at a monetary cost to both the person who gives the feedback and the receiver. A substantial increase of these costs does not increase the accuracy of feedback. However, when feedback is provided anonymously, the aversion to giving negative feedback is reduced.

Publications (since 2014)

Articles in Peer-reviewed Journals

Gneezy, U., Gravert, C., Saccardo, S. & Tausch, F. (2017). A Must Lie Situation: Avoiding Giving Negative Feedback. *Games and Economic Behavior*, 102, 445–454

Cettolin, E. & Tausch, F. (2015). Risk taking and risk sharing. Does responsibility matter? *Journal of Risk and Uncertainty*, 50(3), 229–248

Tausch, F., Potters, J. & Riedl, A. (2014). An experimental investigation of risk sharing and adverse selection. *Journal of Risk and Uncertainty*, 48(2), 167–186

Preprints

Langenbach, P. & Tausch, F. (2017). Inherited Institutions: Cooperation in the Light of Democratic Legitimacy. Bonn: Max Planck Institute for Research on Collective Goods, 2017/1

Marcin, I., Robalo, P. & Tausch, F. (2016). Institutional Endogeneity and Third-party Punishment in Social Dilemmas. Bonn: Max Planck Institute for Research on Collective Goods, 2016/6

Tausch, F. & Zumbuehl, M. (2016). Stability of risk attitudes and media coverage of economic news. Bonn: Max Planck Institute for Research on Collective Goods, 2016/2

Unpublished working papers

Freund, L. & Tausch, F. (2017). Compulsory versus Voluntary Insurance: How Contract Formation Affects Fraudulent Behavior

Langenbach, P. & Tausch, F. (2016). No status quo effect in voting on sanctions in social dilemmas



Emanuel V. Towfigh

The period covered by this report was an intense transitory stage that eventually led me to a tenured professorship at EBS University in Wiesbaden. After returning from the US in late 2013 (where I had held a position as a Global Research Fellow and Hauser Research Scholar at the New York University School of Law and subsequently served as a Visiting Professor of Law at the University of Virginia School of Law), I mainly focused on integrating the different strands of research on political parties, which I had pursued at the MPI and during my stay in the US, into my *habilitation* thesis. This was published in 2015 under the title “Das Parteien-Paradox. Ein Beitrag zur Bestimmung des Verhältnisses von Demokratie und Parteien” [The Party Paradox. A Contribution to Defining

the Relationship between Democracy and Political Parties]. The past years were also characterized by an immense teaching load, as I held visiting or acting professorships at the Universities of Göttingen (Winter 2014/15), Münster (Summer 2015), and at the Humboldt University in Berlin (Winter 2015/16), covering a breadth of different courses and seminars, from Law & Economics to Law & Religion to European Union Law and to doctrinal preparatory courses for final-year law students.

On a more general level, one could describe my research program as one that has an emphasis on, but is not limited to, public law. Principally, I pursue it by applying methods of behavioral law and economics, an approach quite alien to classical German legal scholarship. My research focuses on the question of how law can have an effective influence on individual behavior in order to solve specific societal problems, the main object of investigation being organizations — i.e., the question how humans overcome collective action problems by forming, and constituting, organizations, and at what cost that comes. The organizations I study range from cities and municipal law to political parties and religious communities, multi-level international legal frameworks, such as the European Union, and private corporations.

The (book) project that had my predominant attention in 2013–15 was the aforementioned *habilitation* thesis on political parties. The cornerstone of my argument is that political parties are a contingent rational response to the institutions and cultural context that were formed following our leitmotif of democracy as a competitive struggle of divergent individual and group interests. Parties help organize this competitive process, but we pay a price for them in that the acceptance of political decisions decreases under party involvement.

With a view to the core methods that the institute pursues, it may be noteworthy to mention that I have published – together with Niels Petersen, Markus Englerth, Sebastian Goerg, Stefan Magen, Alexander Morell (all current or former members/affiliates of MPI Bonn), and Klaus Ulrich Schmolke (formerly at the MPI Hamburg) – an English version of our “Economic Methods for Lawyers” textbook in 2015 (softcover version 2017), and also a revised second edition of the German-language textbook in 2017.

Awards / Honors

Award of the University Society Münster for the best *habilitation* (2015)

2011–2016: Elected Member of the Junge Akademie an der Berlin-Brandenburgischen Akademie der Wissenschaften und der Nationalen Akademie der Wissenschaften Leopoldina [Young Academy at the Berlin-Brandenburg Academy of Sciences and Humanities and the German National Academy of Sciences Leopoldina]. 2014-2016: member of the Board; 2015: speaker of the board

Publications (since 2014)

Articles in Peer-reviewed Journals

Towfigh, E. V. (2016). Rational Choice and Its Limits. *German Law Journal*, 17(5), 763–778

Towfigh, E. V., Goerg, S., Glöckner, A., Leifeld, P., Llorente-Saguer, A., Bade, S. & Kurschilgen, C. (2016). Do direct-democratic procedures lead to higher acceptance than political representation? Experimental survey evidence from Germany. *Public Choice*, 167(1), 47–65

Morell, A., Glöckner, A. & Towfigh, E. V. (2015). Sticky rebates: Loyalty rebates impede rational switching of consumers. *Journal of Competition Law and Economics*, 11(2), 431–461

Beckenkamp, M., Engel, C., Glöckner, A., Irlenbusch, B., Hennig-Schmidt, H., Kube, S., ... Towfigh, E. V. (2014). First Impressions are More Important than Early Intervention: Qualifying Broken Windows Theory in the Lab. *International Review of Law and Economics*, 37, 126–136

Towfigh, E. V. (2014). Empirical arguments in public law doctrine: Should empirical legal studies make a “doctrinal turn”? *International Journal of Constitutional Law*, 12(3), 670–691

Articles (not peer-reviewed)

Towfigh, E. V. & Glöckner, A. (2016). Messgenauigkeit und Fairness in Staatsprüfungen. Aktuelle Studien zeigen Gruppen-Unterschiede in juristischen Examina auf [Measurement Accuracy and Fairness in State Exams. Current Studies show Group Differences in Legal State Examinations]. *Anwaltsblatt*, (10), 706–709

Towfigh, E. V. & Schönfeldt, K. (2016). Fraktionslos – Rechtlos? Methodik im Öffentlichen Recht: Übungsklausur Staatsorganisationsrecht [Independents Without Rights? Methods in Public Law: Trial Exam in Constitutional Law]. *Juristische Ausbildung*, (11), 1321–1331

Towfigh, E. V. (2015). “Niemand kann zwei Herren dienen”: Überlegungen zu einer Kollisionsdogmatik für öffentliche Unternehmen in privater Rechtsform. *Deutsches Verwaltungsblatt*, 16, 1016–1023

Towfigh, E. V. (2015). „Nur erst, wenn dir die Form ganz klar ist, wird dir der Geist klar werden.“ – Zum grundgesetzlichen Gebot der Normenklarheit. *Juristische Arbeitsblätter*, 47(2), 81–86

Towfigh, E. V. & Glöckner, A. (2015). Entscheidungen zwischen „Intuition“ und „Rationalität“. *Deutsche Richterzeitung*, 7/8, 270–273

Towfigh, E. V., Traxler, C. & Glöckner, A. (2014). Zur Benotung in der Examensvorbereitung und im ersten Examen: eine empirische Analyse. *Zeitschrift für Didaktik der Rechtswissenschaft*, 1(1), 8–27

Books

Towfigh, E. V. & Petersen, N. (2nd ed., 2017). *Ökonomische Methoden im Recht. Eine Einführung für Juristen*, 291 p. Tübingen: Mohr Siebeck

Towfigh, E. V. (2015). *Das Parteien-Paradox. Ein Beitrag zur Bestimmung des Verhältnisses von Demokratie und Parteien* (Habilitation Universität Münster 2014), 286 p. Tübingen: Mohr Siebeck

Towfigh, E. V. Petersen, N., Englerth, M., Goerg, S., Magen, S., Morell, A. & Schmolke, K. U. (2015). *Economic Methods for Lawyers* (revised and extended English edition of “Ökonomische Methoden im Recht”), 224 p. Cheltenham: Edward Elgar International Academic Publisher

Book Chapters

Ulrich, J. & Towfigh, E. V. (2017). Kommentierung der Artt. 4, 44-50, 96 DSGVO [Commentary of Artt. 4, 44-50, 96 of the General Data Protection Regulation]. In Sydow (Ed.), *Europäische Datenschutzgrundverordnung*. Baden-Baden: Nomos

Towfigh, E. V. & Chatziathanasiou, K. (2017). Ökonomische Aspekte der Durchsetzung des Verbraucherschutts. In H. Schulte-Nölke & Bundesministerium der Justiz und für Verbraucherschutz (Eds.), *Neue Wege zur Durchsetzung des Verbraucherrechts*, 97–126. Berlin: Springer

Towfigh, E. V. & Traxler, C. (2016). Nudges Polarize! In Kemmerer, Möllers, Steinbeis & Wagner (Eds.), *Choice Architecture in Democracies*, 323–327. Baden-Baden: Nomos and Hart Publishing

Towfigh, E. V. (2015). Politische Parteien und Gewaltenteilung – Einsichten der Public-Choice-Theorie. In J. Krüper, H. Merten & T. Poguntke, (Eds.), *Parteienwissenschaften*, 283–302. Baden-Baden: Nomos

Towfigh, E. V. (2015). The economic paradigm. In E. V. Towfigh, N. Petersen, M. Englerth, S. Goerg & S. Magen (Eds.), *Economic methods for lawyers*, 18–31. Cheltenham: Elgar

Towfigh, E. V. (2015). Public and social choice theory. In E. V. Towfigh, N. Petersen, M. Englerth, S. Goerg & S. Magen (Eds.), *Economic methods for lawyers*, 121–145. Cheltenham: Elgar

Newspaper Article

Towfigh, E. V. (2015). Die Parteien entbehrlicher machen [Making Parties More Dispensable], FAZ, Nr. 204, p. 8

Working Papers

Towfigh, E. V., Waubert de Puiseau, B. & Glöckner, A. Why Do People Obey The Law? A Multi-Factorial Empirical Study

Lectures and Seminar Presentations

2014

Political Parties and the Separation of Powers. Insights of the Public-Choice Theory

Symposium "Parteienwissenschaften", Düsseldorf University
29 March 2014

Concerning the Grading during the Preparation of the Examination and in the Examination Itself

Competence Centre for Legal Learning and Teaching, University of Cologne
25 June 2014

2015

Chairman, Panel “Risk, Choice, and Autonomy”

Conference “Choice Architectures in Democracies: Questioning the Legitimacy of Nudging”, Humboldt University, Berlin

13 January 2015

2016

Economic Aspects of the Enforcement of Customer Protection Law

Consumer Rights Day 2016, New Paths in the Enforcement of Consumer Law, Federal Ministry of Justice and Consumer Protection, Berlin

15 April 2016

Religious Education in Germany: Constitutional Framework and Legal Implementation

Religious Education and its Impact on Identity, Integration, and Social Cohesion: An Interdisciplinary German-Egyptian Research Colloquium, Cairo

2 June 2016

Democracy without Parties

Conference “Future Perspectives”, Karl Franzens University Graz

14 October 2016

2017

Countering Discrimination in Universities

Public Debate of the Committee for Science and Arts of the State Parliament of Bavaria, Munich

8 February 2017

Experience and Handling of Uncertainty in Different Types of Companies (public, family-run, and stock market-listed)

7th Austrian Day of the Advisory Board, Business University Vienna

2 March 2017

Perspectives of Empirical Legal Studies in Law School Curricula

Didactics Workshop, Ruhr University Bochum

24 March 2017

The Reservation of Freedom for Individuals: What are the “Personal Affairs” of Humans as Social Beings?

Symposium “Images of Man in Law”, Friedrich Alexander University, Erlangen-Nürnberg, Erlangen

6 April 2017

Inaugural Address at EBS Law School

EBS Law School, Wiesbaden

12 July 2017

Empirical Methods in Law

Munich Talks about the Science of Public Law, Ludwig Maximilian University, Munich

18 July 2017

Teaching

fall 2013/14– spring 2015	Religion and Morals in the Law of the Post-national State: Revisited from a Behavioral Perspective. Social Science College of the National Academic Foundation (together with Stefan Magen)
fall 2014/15	Administrative Law for final-year students (<i>Examinatorium</i>) Göttingen University
	Public Administration Göttingen University
	State & Church Law Göttingen University
	Seminar, “Topical Decisions in State & Church Law” (together with Peter Unruh) Göttingen University
spring 2015	Constitutional Law (Lecture, <i>Staatsorganisationsrecht</i> [State Organisation Law]) Münster University
	Municipal Law for final-year students (Unirep Kommunalrecht) Münster University
	Seminar, “The Legal Construction of Democratic Legitimation from a Comparative Constitutional as Public International Law Perspective” (joint with Niels Petersen) Münster University
fall 2015/16	European Law Humboldt University Berlin
	Lecture, Law and Religion Humboldt University Berlin
	Lecture, Economic Analysis of Law Humboldt University Berlin
summer term 2016	Practice in Public Law for advanced students EBS University Law School
	Lecture, Community Law EBS University Law School
	Preparation Course, State Examination: Community Law EBS University Law School
	Law Term Intensive Course, European Union Law EBS University Law School
	Studienstiftung des deutschen Volkes and Max Weber Program, Summer Academy, August 2016, AG “Recht und Verhalten” (with Indra Spiecker (Döhm)) EBS University Law School

spring term 2017	<p>Lecture, Civil Rights and Constitutional Process Law II EBS University Law School</p> <p>Doctoral Colloquium EBS University Law School</p>
fall term 2017	<p>Lecture, General Administrative Law and Constitutional Process Law EBS University Law School and Business School</p> <p>Lecture, Methods of Social Science within the law – especially within the area of Law and Economics EBS University Law School and Business School</p> <p>Doctoral Colloquium EBS University Law School and Business School</p> <p>Exam Preparation Course, State Examination EBS University Law School and Business School</p> <p>Lecture, A Rational Choice and Political Economy Perspective on the Law im Modul, Introduction to Law and Economics EBS University Law School and Business School</p>

Professional Activities

Senior Editor, German Law Journal

Selection Committee, German National Academic Foundation

Advisory Council, Kirche und Recht journal



Anna Untertrifaller

I am a fourth-year PhD student at the Max Planck Institute for Research on Collective Goods and I am part of the Experimental Economics Group of Prof. Matthias Sutter, which I joined on 1 June 2017. I hold a Master's degree in Economics from the University of Verona, Italy, and started my doctoral studies at the Cologne Graduate School of Economics and Social Sciences in October 2014. My research concerns two broad areas of interest: (i) the development of preferences and behavior during childhood and adolescence, and (ii) moral behavior. I am investigating these concepts by running experiments both in the field (kindergarten, school) and in the lab. In the last years, I have been working on five research projects, which I describe in the following.

Development of Preferences and Behavior during Childhood and Adolescence

In my first project together with my advisor, Matthias Sutter, we investigated the roots of cooperative behavior. Social interaction relies crucially on mutual cooperation in order to achieve synergies and increase the welfare of human society. In a study conducted in kindergarten, we examine the ontogeny of the human willingness to cooperate. We let four-year-old and five-year-old children and their parents play an experimental prisoner's dilemma game and focus on how children's cooperation is related to the parental socio-economic background, the parents' own cooperation behavior, and their subjective perception of their child. We find that parents with higher education levels have children who are more likely to cooperate. The likelihood of parents and children cooperating is positively, albeit insignificantly, aligned. Being perceived to be superior to peers is related to higher cooperation rates. Taken together, our findings indicate a strong relation between socioeconomic status as well as parental perception and children's cooperation levels. Our research thus contributes to a better understanding of the ontogeny and heterogeneity in the willingness of humans to cooperate.

A second project regarding children's behavior concerns the development of grit. Grit – the ability to work persistently and tenaciously on a task – is highly predictive for achievement and success in life. In an experimental setting, Matthias Sutter, Claudia Zoller (a former PhD student at the University of Cologne and now a PhD student at the MPI), and I analyze the development of grit and its potential correlations during early childhood, by letting 440 children aged between three and six work on a real-effort task for as long as they wanted to. Giving the children the possibility to decide when to work on the task – either today or tomorrow – shows that those who execute the task on the following day provide significantly less effort. In addition, we find that the ability of children to work persistently on a task relates to their willingness to challenge themselves in an unrelated exercise. Our results shed light on the development of grit and can be used as a first step towards designing interventions fostering the ability to work persistently and tenaciously on tasks.

My third project in this area is about financial literacy. The project is financed by the Diligentia foundation and joint work with Matthias Sutter, Michael Weyland (Pädagogische Hochschule Ludwigsburg), and Manuel Froitzheim (a PhD student at the University of Siegen). Given the ever-increasing complexity of financial products and markets, being financially literate becomes more and more important. Specifically, financial literacy has been found to help avoid costly mistakes in financial decision-making. However, the channel through which it operates has largely remained unclear. We focus on how school interventions fostering financial literacy affect the economic decision-making of 9th- and 10th-graders in the short and long term. We are currently in the process of collecting data. We hypothesize that being financially literate reduces risk aversion and increases patience in economic decision-making, because we expect financial literacy to help in better assessing risk and evaluating intertemporal trade-offs.

Moral Behavior

My second line of research concerns moral behavior. Together with Thomas Lauer (University of Cologne), I ran a laboratory experiment regarding individual lying aversion of group members in a group setting. The importance of group work has been emphasized in the literature. However, a necessary condition for the success of a group is that its members are honest to each other. While researchers have extensively studied lying aversion in individual settings, there exists little research about how individual lying aversion changes in a group context. We find that one third of all subjects condition their dishonesty on the dishonesty of their group members. Having one dishonest group member is enough for these "conditional liars" to switch from honesty to dishonesty, regardless of the consequences a lie has on the other group members. The number of dishonest group members, however, determines the extent of a lie. Specifically, subjects tell bigger lies the more group members are dishonest. Concerning the heterogeneity of liar types, we find that conditional liars, in general, tell smaller lies than subjects who are always dishonest do. These results increase our understanding regarding conditional lying, which is of practical importance, especially in areas where one is interested in fostering the honest sharing of information.

The last project concerning moral behavior is joint work with Caroline Stein, a PhD student at the Cologne Graduate School, and it concerns decision-making in moral dilemmas and how this affects performance. From the literature, we know that individuals value holding decision rights because they are a means to implement a preferred choice and provide individuals ex ante with control. We focus on the ex post valuation of decision rights and consider the behavioral consequences of having made either a moral or an immoral decision. We find that those workers who execute a moral decision they have made themselves perform better in a real-effort task than those who act under a moral decision they are not responsible for. This result holds when we control for possible selection effects. We also find that, when workers have to execute an employer's moral decision, the performance of workers does not depend on their own moral choices. Our results provide valuable insights for the field of compliance management, automated systems, as well as law and economics, where the question regarding the trade-off between ensuring moral behavior and allowing for moral discretion emerges.

Future Plans

In the next years, I plan to continue and expand the projects I have been working on during the last years. I will especially concentrate on the topic of financial literacy and analyze the long-term effects of a school intervention fostering this ability. I plan to initiate further projects regarding the development of preferences during childhood and adolescence, and to work on the determinants and consequences of moral behavior.



Eugenio Verrina

Summary report

I joined the Max Planck Institute for Research on Collective Goods in October 2016 as a Research Fellow of the IMPRS “Uncertainty” and a PhD candidate in economics at the Cologne Graduate School. My current supervisors are Prof. Dr. Engel at the MPI and Prof. Dr. Rockenbach at the University of Cologne. Since my start here, I have invested my time both in advanced educational activities and in shaping what will be my main research focus in the next years.

Regarding the first, I had the opportunity to take a variety of high-level courses to strengthen and deepen my knowledge in fields such as econometrics, game theory, and experimental economics, as well as venturing into neighboring disciplines (psychology, philosophy, and law) through workshops and seminars. This combination of key skills every economist should possess and insights into other social sciences allows research to become really innovative and valuable and is, in my opinion, one of the major strengths of our institute.

Concerning my research activities, I continued working on a study carried out for my Master’s thesis and developed new projects that are hopefully going to become part of my dissertation in the next years. In the former project, together with coauthors from the University of Trento, we provide a test of the effect of aggressive fiscal policies on tax compliance in the lab. Our experimental setup allows tax agents to break a deontological rule concerning the implementation of audits in a group of taxpayers. In one incentive condition, tax agents have a direct monetary benefit from higher compliance; in another, they have none. Taxpayers, on the other hand, go through a phase of stringent controls under their tax agents and one where audit probabilities are fixed and implemented by a random device, as is usually done in experiments on tax evasion. We find that tax agents bend the rules to their advantage. Many either perform very frequent audits or place them in a strategic way, thus enforcing a norm of high compliance. Those following the rules have no success. Surprisingly, this is true for both incentive conditions. Taxpayers exposed to such audit strategies display nearly full compliance and continue to do so also when tax agents are inactive. We conclude that cunning fiscal policies can effectively be used by tax authorities, if it is transparent that they lead to higher overall compliance. This establishes a virtuous norm that can have positive spillovers even in domains where the state has less coercive power. Our work offers an innovative experimental framework to test relationships of power between tax authorities and taxpayers and can be adapted to a variety of research questions. A great advantage of lab experiments is that they can establish clear causality relationships and open the way to controlled manipulations in the field. Evidence presented in our study is surely not conclusive, but may hopefully encourage this venture.

I have also been working on other research regarding moral decision-making. In this context, I am particularly interested in what drives economic decisions that have a moral dimension. There are many practical instances, ranging from charitable giving to ethically conscious consumption decisions, in which understanding the underlying motivations of such choices can be extremely relevant. Often this type of decisions are guided by moral values and people feel the need to justify their choices within a coherent picture that they draw for themselves and others. In this sense, a very important tool used to tell a compelling moral story about oneself are narratives. Narratives are descriptions of the reality that we tell ourselves and others to rationalize certain actions. As argued just now, they play a crucial role in the moral domain, because they offer a way to organize actions coherently. Through narratives, we typically try to draw a picture where one’s selfish action can be more easily justified. Take the example of giving some money to a homeless person on the street. Typical justifications for not giving anything will be that this person may use the money to buy alcohol or for other inappropriate aims; further, one could argue that there should be

governmental institutions to help homeless people, or that, if everybody gives them money, this would incentivize them not to search for a real job and escape their condition. These are all plausible stories, but we are often not concerned with their truthfulness. Rather, we want to have a good reason for not feeling guilty when acting selfishly. I am interested in how the presence of narratives influences economic decision-making. In particular, I want to show that narratives play a crucial role in shaping and altering incentives.

Experiments can prove extremely helpful in establishing such causal relationships. Through a controlled variation of the setting, it is possible to alter the availability of narratives and hence influence the ease with which participants can exploit them to their advantage and depart from moral prescripts. Proving and measuring the economic relevance of narratives is one of the things that will keep me busy during the coming years of my doctoral studies.

Working papers

Mittone L., Ploner M., Eugenio V., When the state doesn't play dice: An experimental analysis of cunning fiscal policies and tax compliance

Lectures and Seminar Presentations

Morality and Narratives in economic decision making

IMPRS Uncertainty Thesis Workshop, Gremmelin
March 2017

When the state doesn't play dice: an experimental analysis of cunning fiscal policies and tax compliance

5th Conference The Shadow Economy, Tax Evasion, and Informal Labor, University of Warsaw, Poland
July 2017

Stories we tell: the effect of narratives on moral decision making

11th IMPRS Uncertainty Summer School, Friedrich Schiller University, Jena
July–August 2017



Philipp Weinschenk

I am currently a professor for economics, especially microeconomics, at the TU Kaiserslautern. Before I got this position in 2015, I was an interim professor at the University of Mannheim and a Senior Research Fellow at the Max Planck Institute. From January to May 2011, I visited Harvard University. My main research interests are microeconomic theory, contract theory, labor economics, industrial organization and behavioral economics.

Research

I am currently mainly working on the following papers:

Limited Memory, Deadlines, and Incentives: Theory and Experimental Evidence (with Steffen Altmann and Christian Traxler). This paper analyzes the behavioral consequences of deadlines and incentives in intertemporal choices when people are subject to limitations in memory and attention. We provide a simple theoretical framework for studying the influence of memory limitations on behavior and test the model's key comparative statics with a randomized field experiment. In our model, an agent has to decide when to fulfill a task that requires costly effort provision. Postponing can be beneficial due to fluctuations in effort costs, but bears the risk of the task dropping off the top of the agent's mind. We analyze how deadlines and economic incentives influence the timing as well as the overall likelihood of task fulfillment. In the second part of the paper, we test the main predictions of the model in a field experiment with patients of a German dental practice. In the experiment, we exogenously vary how people are reminded about the need to arrange a new check-up appointment. We randomize both the deadline for arranging a check-up and the patients' incentives to make the appointment in time. In line with our theoretical framework, our empirical results indicate that stronger incentives as well as relatively tight, clearly specified deadlines encourage patients to make their check-ups earlier and at a higher frequency overall. Complementary evidence from a within-sample survey and an online survey experiment supports the notion that shorter deadlines may help people overcome delays due to memory limitations.

Strong Implementation of Social Choice Functions in Dominant Strategies (with Sven O. Krumke, Clemens Thielen, and Stephan Westphal). We consider the classical mechanism design problem of strongly implementing social choice functions in dominant strategies in settings where monetary payments are allowed and the utility functions are quasi-linear. We consider both the general question of strong implementation by indirect mechanisms and the special case of strong implementation by incentive-compatible direct revelation mechanisms. For the general case of strong implementation by indirect mechanisms, we prove that one can restrict attention to *incentive-compatible augmented revelation mechanisms*, in which the type space of each agent is a subset of the set of her possible bids and truthful reporting is a dominant strategy equilibrium. When the type spaces of the agents are finite, we give a complete characterization of the set of social choice functions that can be strongly implemented in dominant strategies. For the case where one restricts oneself to incentive-compatible direct revelation mechanisms, we show that an adaption of the well-known negative cycle criterion for weak implementability also characterizes the social choice functions that are implementable in the strong sense. Furthermore, we provide an efficient combinatorial algorithm for computing the corresponding mechanisms when the type spaces are finite.

Commitments, Reminders, and Academic Performance (with Oliver Himmler and Robert Jäckle). A large share of students in higher education graduates with a delay or fails to obtain a degree at all. In our field experiment, students can sign a non-binding agreement and commit to staying on track for graduation. We provide first evidence that soft commitment devices can enhance educational progress and – more generally – improve the completion of complex tasks such as passing exams. A pure reminder treatment

does not change behavior, suggesting that the effects are not driven by increased salience. As predicted by a simple decision model, we show that procrastinators benefit most from the commitment device.

Publications (since 2014)

Articles in Peer-reviewed Journals

Herweg, F., Müller, D. & Weinschenk, P. (2017). Salience, competition, and decoy goods. *Economics Letters*, 153, 28–31

Weinschenk, P. (2017). Working conditions and regulation. *Labour Economics*, 44, 177–191

Weinschenk, P. (2016). Procrastination in Teams and Contract Design. *Games and Economic Behavior*, 98, 264–283

Müller, D. & Weinschenk, P. (2015). Rater Bias and Incentive Provision. *Journal of Economics & Management Strategy*, 24(4), 833–862

Book Chapter

Herweg, F., Müller, D. & Weinschenk, P. (forthcoming). Salience in Markets. In: Eisenhuth, R., Schroeder, E., Horton Tremblay, C., Tremblay, V. J. (Eds.), *Handbook of Behavioral Industrial Organization*. Cheltenham: Elgar

Goerg, S., Kube, S., Radbruch, J. & Weinschenk, P. (2016). Do teams procrastinate? Strategic procrastination in a dynamic environment. In S. Goerg & J. Hamann (Eds.), *Experiments in Organizational Economics, Research In Experimental Economics*, 19, 229–250. Emerald

Lectures and Seminar Presentations

Incentives and Performance – A New Perspective

SFB TR15 Seminar
2014

Incentives and Performance – A New Perspective

Potsdam Institute for Climate Impact Research
2014

Incentives and Performance – A New Perspective

SAET Cambridge
2015

Moral Hazard and Social Preferences

University of Trier
2016

Dynamic Incentive Reversals

University of Trier
2016

Team Production and Time Preferences

University of Trier

May 2017

Teaching

2014	Behavioral Contract Theory University of Mannheim
2014	Micro A University of Mannheim
2014	Micro B University of Mannheim
2014	Contract Theory: Incentives and Motivatio University of Mannheim
2015 & 2016	Game Theory TU Kaiserslautern
2015 & 2016	Industrial Organization TU Kaiserslautern
2015 & 2016	Microeconomics TU Kaiserslautern
2016 & 2017	Contract Theory TU Kaiserslautern



Carl Christian von Weizsäcker

In these four years, my research and my lecturing were heavily concentrated on the macro-problems that are bothering the world, Europe and the Euro area in particular. Based on my theory of the “negative natural rate of interest”, my policy recommendations are substantially different from those of the academic mainstream in Germany. The theory of the “negative natural rate of interest” builds on theorems in capital theory. Together with a steadily rising worldwide life expectancy, they lead to the conclusion that a real rate of interest at or above zero requires the existence of substantial public debt. In the 21st century, therefore, public debt plays the role of a “thermostat” for the prosperity of the world economy.

This view of public debt is in opposition to the frequently held view which considers public debt mainly as an evil. But it is obviously related to the views held by Keynes and others. In several lectures and papers, I have shown the relation of my theory to Keynesian theory, which sees public debt as a counterweight against the fluctuating “animal spirits”. It is in principle compatible with a view that on average over the trade cycle public debt could be zero. My theory of the negative natural rate of interest implies the need for a high level of permanent public debt.

If one accepts the “thermostat theory” of public debt, many policy implications can be drawn. I have devoted a large part of my time to specify some of these implications.

An important general implication is to correct the erroneous view that any public debt is a burden on future generations. If a wise public debt policy succeeds in combining prosperity with a low rate of interest on public debt, then future generations benefit from today’s public debt.

Another implication is that public debt, wisely managed, provides a weapon against the rising tide of protectionism.

From this it also follows that the present German fiscal policy has to be seen quite critically: The high surplus of exports over imports as a consequence of the *Schuldenbremse* (a debt cap or, literally, “debt brake”) is prone to generate additional ammunition for the protectionists all over the world. In particular, this German policy – if used as a guideline for other members of the Eurozone – makes prosperity impossible for Europe.

One can go one step further and apply this new economic thinking about public debt also to the problems facing the Third World. Public debt in the rich countries can be used to stimulate economic growth in the Third World by stimulating exports from there to the rich countries – thereby creating many jobs in the Third World without generating net losses in employment in the rich countries.

In the context of this macro-economic work, I have started an e-mail debating round of German-speaking macro-economists, the so-called “*Makro-Runde*”. It started in November 2013 – occasioned by the news that Larry Summers, the highly respected American economist and former US Secretary of the Treasury (under President Clinton), is now also of the opinion that the natural rate of interest has become negative. The “*Makro-Runde*” has seen many lively debates about topics that are relevant for macro-economic policy. I have devoted a share of my research time to “manage” this debate, apart from also participating in it.

In recent months, I have started to develop a theory of optimal public debt. This work builds on the insights gained from the work described above.

My theory of adaptive preferences has moved somewhat into the background, due to my preoccupation with macro-economic topics. A large manuscript written in 2013 on the topic of adaptive preferences is awaiting revision for publication. But I did devote some time to an application of the theory to normative issues. My Hayek Lecture at the Walter Eucken Institute of the University of Freiburg in 2015 develops a theory of the “Normative Co-Evolution of the Market System and of Democracy”. One of the central ingredients of this co-evolution is the way preferences change endogenously – in a way which I label as “adaptive preferences”.

My list of roughly 80 invited lectures over the past four years indicates that there has been substantial interest in my work among the economics profession in Central Europe.

Publications (since 2014)

Articles in Peer-reviewed Journals

von Weizsäcker, C. C. (2016). Europas Mitte – Mit einer Leistungsbilanzbremse könnte Deutschland für neuen Zusammenhalt unter den Partnern sorgen, *Perspektiven der Wirtschaftspolitik*, 17(4), 383–392

von Weizsäcker, C. C. (2016). Das Ende der Kapitalknappheit und sein Verhältnis zur Keynes’schen Theorie. *List Forum für Wirtschafts- und Finanzpolitik*, 41(2), 233–262

von Weizsäcker, C. C. (2015). Kapitalismus in der Krise? Der negative natürliche Zins und seine Folgen für die Politik. *Perspektiven der Wirtschaftspolitik*, 16(2), 189–212

von Weizsäcker, C. C. (2014). Public Debt and Price Stability. *German Economic Review*, 15(1), 42–61

von Weizsäcker, C. C. (2014). Konsumentensouveränität und beeinflussbare Präferenzen. Ist Laissez faire bei Werbung das Richtige? *List Forum für Wirtschafts- und Finanzpolitik, Sonderheft*, 258–273

von Weizsäcker, C. C. (2014). Adaptive Preferences and Institutional Stability. *Journal of Institutional and Theoretical Economics (JITE)*, 170, 27–36

von Weizsäcker, C. C. (2014). Die normative Ko-Evolution von Marktwirtschaft und Demokratie. *ORDO, Jahrbuch für die Ordnung von Wirtschaft und Gesellschaft*, 65, 13–43

Book Chapters

von Weizsäcker, C. C. (2016). Eugen von Böhm-Bawerk (1851–1914). In Faccarello, G. & Kurz, H. D. (Eds.), *Handbook on the History of Economic Analysis*, I, 341–346. Cheltenham: Elgar

von Weizsäcker, C. C. (2016). Paul Anthony Samuelson (1915–2009). In Faccarello, G. & Kurz, H. D. (Eds.), *Handbook on the History of Economic Analysis*, I, 658–668. Cheltenham: Elgar

von Weizsäcker, C. C. (2016). Keynes und das Ende der Kapitalknappheit. In H. Hagemann & J. Kromphardt (Eds.), *Keynes, Schumpeter und die Zukunft der entwickelten kapitalistischen Volkswirtschaften*, 21–31. Weimar: metropolis

von Weizsäcker, C. C. (2015). Adaptive Präferenzen und die Legitimierung dezentraler Entscheidungsstrukturen. In T. Apolte, M. Leschke, A. F. Michler, C. Müller, R. Schomaker & D. Wentzel (Eds.), *Behavioral Economics und Wirtschaftspolitik, Schriften zu Ordnungsfragen der Wirtschaft*, 100, 67–98. Stuttgart: Lucius & Lucius

von Weizsäcker, C. C. (2015). Langfristiges Wirtschaftswachstum: Was gesagt werden kann – und was nicht gesagt werden kann. In H. J. Ramser & M. Stadler (Eds.), *Entwicklung und Perspektiven der Wirt-*

schaftswissenschaften. Wirtschaftswissenschaftliches Seminar Ottobeuren, 41, 93–100. Tübingen: Mohr Siebeck

von Weizsäcker, C. C. (2015). Demografischer Wandel und die Staatsfinanzen. In F.-X. Kaufmann & W. Krämer (Eds.), *Die demografische Zeitbombe*, 173–194. Paderborn: Ferdinand Schöningh

von Weizsäcker, C. C. (2015). Offene Zukunft – Offene Gesellschaft – Wert-Individualismus. In S. De Gennaro, S. Kazmierski & R. Lüfter (Eds.), *Ökonomie und Zukunft*, 107–115. Bozen: University Press

Report

Holtfrerich, C.-L., Feld, L. P., Heun, W., Illing, G., Kirchgässner, G., Kocka, J., ... von Weizsäcker, C. C. (2015). Staatsschulden: Ursachen, Wirkungen und Grenzen. Union der deutschen Akademien der Wissenschaften e. V., Deutsche Akademie der Naturforscher Leopoldina e.V. & acatech – Deutsche Akademie der Technikwissenschaften e.V. (Eds.), 90 p. Berlin

Review

von Weizsäcker, C. C. (2016). Review of: Akerlof, George A. and Shiller, Robert J., *Phishing for phools: The economics of manipulation and deception*, 2015. *Journal of Economics*, 118(1), 91–96

Newspaper Articles and Interviews

Einführung einer sogenannten Leistungsbilanzbremse, Interview, (February 2017) *Spiegel online*

von Weizsäcker, C. C. Wechselkurs und Völkerwanderung. (15 January 2016). *Frankfurter Allgemeine Zeitung*, 18

Sind die Sparer selbst schuld? (Debate with Stefan Homburg) (17 June 2016). *Wirtschaftswoche*, 25, 24–26

Wir leben in einem gänzlich neuen Zeitalter, Interview, (February 2014). *Perspektiven der Wirtschaftspolitik*, 15(1)

Der Schuldensumpf, Interview, (30 April 2014). (with Manfred Neumann, Gertrud Traud et al.), *Phoenix TV programme*

Das Ende der Knappheit? (10 October 2014). *Frankfurter Allgemeine Zeitung*, 18

Die schwarze Null ist falsch, Interview, (14 October 2014). *Wirtschaftswoche*, 43, 42–44

Effizienter Klimaschutz – erfolgreiche Energiewende, Interview (with Ulrich Wagner, Albert Moser, Wolfgang Löwer) (2015). *Energiewirtschaftliche Tagesfragen*, 1–2/2015, 40–44

Lectures and Seminar Presentations

2014

Goethe als Ökonom

Cologne

21 January 2014

Freiheit und normative Ökonomie

University of Frankfurt

27 January 2014

On Public Debt

Debate with Lars Feld

Berlin-Brandenburg Academy of Sciences

30 January 2014

Ökonomie in Wettbewerbsrecht und Regulierung

Expert panel on the opening of the Berlin branch of Oxera, Berlin

4 February 2014

Adaptive Präferenzen und die Legitimierung dezentraler Entscheidungsstrukturen

Radein Conference

18 February 2014

Konsumentensouveränität und beeinflussbare Präferenzen. Ist Laissez-faire bei Werbung das Richtige?

Economic Policy Committee of the 'Verein für Socialpolitik', Rotterdam

13 March 2014

Das Ende der Kapitalknappheit: Über die Notwendigkeit von Staatsschulden

IMK Forum, Public Finance in the Europe of the Future, Berlin

27 March 2014

Böhm-Bawerks Kapitaltheorie: Ihre Modernisierung und ihre Aktualität für die heutige Zeit

Committee on the History of Economics (Ausschuss für die Geschichte der Wirtschaftswissenschaften, AGW)

– Annual Conference 2014, Vienna

16 May 2014

Some Welfare Economics of Herding

MPI Bonn

19 May 2014

Der negative natürliche Zins

Economics Research Seminar, University of Leipzig

21 May 2014

Endogen beeinflusste Präferenzen und die Legitimierung dezentraler Entscheidungsstrukturen

Verein für Socialpolitik, Theory Committee, Schloss Reisensburg

23 May 2014

Fiskalpolitik in Europa

16th Symposium on Economic Policy, Herbert Giersch Foundation, Frankfurt

27 May 2014

Über die Notwendigkeit von Staatsschulden

Lecture and Discussion at FDP Headquarters, Berlin

16 June 2014

Demographischer Wandel und die Staatsfinanzen

North Rhine-Westphalian Academy of Sciences, Humanities and the Arts, Düsseldorf
17 June 2014

Der Euro und Europa

District Conference, Rotary International, Neukirchen-Vluyn
21 June 2014

Was Sie alle lesen sollten

Speech after Receiving the Gustav Stolper Prize
Annual Conference, Verein für Socialpolitik, Hamburg
8 September 2014

Böhm-Bawerks Kapitaltheorie aus moderner Sicht

Lecture at Boehm-Bawerk Symposium – 100 years after his death, University of Vienna
17 October 2014

Niedrigzinspolitik und die Folgen

Konrad Adenauer Foundation, Odewald-Kreis, Berlin
22 October 2014

Normative Co-Evolution of Democracy and the Market System

CES-Ifo Conference on Behavioral Economics, Munich
25 October 2014

Explaining the Low Interest Rates by means of Capital Theory

University of Münster
3 November 2014

Eine kapitaltheoretische Begründung von Staatsschulden

ROME (Research on Money in the Economy) Workshop, Frankfurt
7 November 2014

Mein Thomas Mann

Lecture Series, Deutsche Thomas-Mann-Gesellschaft, Universitätsclub Bonn
17 November 2014

Introduction and Summing Up

DFG-BMWi Workshop, Analysis of Measures of Economic Policy using Macroeconomic Models, Berlin
28 November 2014

Die normative Ko-Evolution von Marktwirtschaft und Demokratie

University of Heidelberg
2 December 2014

Capital Theory and the Savings Glut: Modernizing Böhm-Bawerk

Witten Conference on Austrian Economics, Witten/Herdecke University
12 December 2014

2015

Deutsche Staatsverschuldung als Weg zu mehr Wachstum in Europa

28th Leipzig Global Economics Seminar, University of Leipzig

19 January 2015

Öffentliche Güter – Wie sollen sie bewirtschaftet werden?

5th Conference on Social Division, Hochschule für Angewandte Wissenschaften (HAW), Hamburg

13 February 2015

Das Ende der Kapitalknappheit und ihr Verhältnis zur Keyneschen Theorie

11th Annual Conference, Keynes Society, Graz

24 February 2015

Der Euro und die Schuldenbremse

2015 Annual Conference of the Economic Committee of the Verein für Socialpolitik, Goethe University, Frankfurt

5 March 2015

The Negative Natural Interest Rate and its Policy Implications

University of Fribourg

26 March 2015

Immer mehr Geld für Europa? Können wir uns ein solides Wirtschaften sparen?

Conference, "Church and Economy", Mannheim

20 April 2015

How to Avoid Secular Stagnation

43rd Economics Conference, Austrian National Bank, Vienna

16 June 2015

Das Effizienzziel im System der Regulierungspolitik

Symposium of the Scientific Association for the Entire Regulation Law (Wissenschaftliche Vereinigung für das gesamte Regulierungsrecht), Bonn

18 June 2015

Das Ende der Kapitalknappheit und ihr Verhältnis zur Keyneschen Theorie

Annual Conference, Verein für Socialpolitik, Münster

9 September 2015

Niedrige Zinsen für immer?

Herbert Giersch Foundation and Deutscher Sparkassen- und Giroverband (DSGV), Berlin

15 September 2015

Responsivität in der Produktion und im Konsum

Forum International Science (FIW), Workshop on Responsivity in Science, Politics and the Economy, University of Bonn

18 September 2015

Die normative Ko-Evolution von Marktwirtschaft und Demokratie

12th Buchenbach Workshop 2015, Buchenbach

1 October 2015

Innere Widersprüche unseres Wirtschaftssystems und Wege zu deren Überwindung

Symposium, Knowledge Creates Value, 20 Years of the Christian Doppler Research Association, Vienna

13 October 2015

Die Ko-Evolution von Marktwirtschaft und Demokratie

University of Freiburg, Walter Eucken Institute, Freiburg

Friedrich August von Hayek Lecture 2015

9 November 2015

Ein neues Verständnis Sozialer Marktwirtschaft im Zeitalter der Globalisierung

Haus Rissen near Hamburg

15. November 2015

Die gesamtwirtschaftlichen Perspektiven und deren Verhältnis zur Mikroökonomie

8th ECLE Symposium, "Indefinite Commercial Criminal Law and Macroeconomic Perspectives", Institute for Law and Finance, Goethe University, Frankfurt am Main

20 November 2015

Komplexität und Einfachheit in der globalisierten Wirtschaftswelt

German-American Institute, Heidelberg

24 November 2015

Kapitalismus in der Krise?

Working Group, Plural Economy; Hamburg University

3 December 2015

2016**Globale Soziale Marktwirtschaft**

Tenth Wilhelm Röpke Lecture, Wilhelm Röpke Institute, University of Erfurt

11 February 2016

Global-Soziale Marktwirtschaft und die Flüchtlingskrise

Berlin Social Science Center (Wissenschaftszentrum Berlin, WZB)

11 March 2016

Kapitalismus in der Krise? Der negative natürliche Zins und seine Folgen für die Politik

Federal Ministry for Economic Affairs and Energy, Berlin

14 April 2016

Der negative natürliche Zins: die heutige Herausforderung des kapitalistischen Systems

University of Tübingen, Department of Economics

20 April 2016

Wohin streben die Zinsen? – Konsequenzen für Infrastrukturinvestitionen

Annual Conference on Transport Economics and Policy, Berlin

2 June 2016

Ökonomische Anpassungsstrategien bei geringem Wachstum

Association of Austrian Industrialists, Vienna

15 June 2016

Public Debt and Monetary Expansion as a Way out of Secular Stagnation

Conference on "Zero Interest Rates and Economic Order", University of Leipzig

21 June 2016

Liberal und/oder Konservativ im Hinblick auf die Globalisierung

NOUS Conference, University of Freiburg

8 July 2016

Global-Soziale Marktwirtschaft und die Flüchtlingsfrage

Annual Conference, Verein für Socialpolitik, Augsburg

6 September 2016

Die Zukunft von Zuwanderung und Integration

Forum on the Ethics of Order (Ordnungsethik) and Policy Consultation, University of Halle

2 November 2016

Eulogy

On the occasion of the 2016 Ernst Hellmut Vits Prize being awarded to Prof. Dr. Martin Hellwig

Universitätsgesellschaft Münster

17 November 2016

Wird es mehr, wenn wir teilen? Möglichkeiten und Grenzen von Gemeinschaftsgütern

Economic Policy Talks, University of Siegen

25 November 2016

Overcoming Stagnation

G-20 Conference of Experts, Federal Ministry of Finance, Berlin

30 November 2016

Global-Soziale Marktwirtschaft und die Flüchtlingskrise

Seminar, Problem Areas and Order of the Global Economy, Buchenbach

5 December 2016

Wird unser Bargeld abgeschafft?

Round Table, University of Bayreuth

8 December 2016

Global-Soziale Marktwirtschaft

Lecture Series, Plural Economics, University of Siegen

13 December 2016

2017

Der negative natürliche Zins

Max Planck Institute for the Study of Societies, Cologne

31 January 2017

Leviathan – Zum Gewaltmonopol des Staates – Die ökonomische Perspektive

50th Radein Seminar, Radein

13 February 2016

Leviathan – Zum Gewaltmonopol des Staates – Die ökonomische Perspektive

Nordrhein-Westfälische Akademie der Wissenschaften und Künste, Düsseldorf

22 February 2016

The Normative Co-Evolution of the Market Economy and Democracy

Annual Conference on the Political Economy of Democracy and Dictatorship

University of Münster

23 February 2017

Entgrenzung und Begrenzung der Staatsfunktionen im 21. Jahrhundert – Die Problematik der Staatsschulden

4th Faust Symposium, Staufen bei Freiburg

5 May 2017

Trump, Brexit, Protektionismus – Aktuelle Herausforderungen für die europäische Wirtschaft

European Week of the University of Applied Sciences, Karlsruhe

10 May 2017

Global-Soziale Marktwirtschaft. Konsequenzen aus der Flüchtlingskrise

Casino-Gesellschaft von 1786, Berlin

17 May 2017

Ein Plädoyer für eine Leistungsbilanzbremse

Friedrich Ebert Foundation, Berlin

16 June 2017

Public Service

Member, Academic Advisory Board, German Federal Ministry of Economics and Technology

Professional Activities

Current Memberships

Fellow of the Econometric Society

Founding Member and Fellow of the European Economic Association

Foreign Honorary Member of the American Academy of Arts and Sciences

Member of the Nordrhein-Westfalian Academy of Sciences

Member of Acatech, German National Academy of Engineering Sciences

Member of the Academic Advisory Group of the German Minister of Economic Affairs

Member of the Joint Working Group of the Berlin-Brandenburgische Akademie der Wissenschaften, Leopoldina and Acatech on the Issue of Public Debt



Fabian Winter

I am interested in different facets of normative change. I study the conditions under which social norms change, and under which they remain stable. I mainly use experimental methods: in the lab, in the field, and in the Internet. Moreover, I study sociological aspects in the production of science. In this branch of my research, I use Big Data methods to study, e.g., the effects of reciprocity norms on the distribution of citations, or the effect of author-name-ordering norms (e.g., alphabetical ordering) on endogenously chosen group sizes.

Norms of (Hate) Speech

In a project with Amalia Alvarez, we try to understand the consequences of different policy interventions on norms regulating hate speech in public communication. We started by building up an infrastructure to run experiments in the internet. In this environment, we created an artificial online community and invited “ordinary people” to leave comments on controversial topics, such as migration or gender rights. Raters rated the comments and a selection of these comments, such that we were able to distinguish between positive and negative comments. Participants were then presented with the comments after we manipulated the composition of positive and negative comments. This allows us to understand the consequences of top-down censoring policies and the effect of peer-to-peer counter commenting by members of the community. The resulting paper is under review at the *European Sociological Review*.

A sad coincidence during the data collection led to another interesting project with Amalia Alvarez. After we had collected two thirds of the data, the first Islamist terrorist attacks hit Germany. This forced us to collect all the data again to ensure a fair comparison between our experimental conditions. For us, it meant that we got our hands on pre-attack and post-attack hate speech data towards Muslims and other groups. Perhaps not surprisingly, the negative tone towards Muslims increased after the attack, but this shift in language also spilled over to unrelated groups, such as transsexuals or women. A working paper is in preparation.

Volunteering Norms under Population Uncertainty

Together with Axel Franzen, I published a chapter on the diffusion of responsibility in norm enforcement. We implemented an n-responder ultimatum game in which a proposer sends an offer about how to split an amount of money to n responders. Offers that are too low are understood as norm violations and are often rejected by the responders, which leads to zero-payoffs for the proposer and all the responders who rejected the offer. As the number of responders increases, however, we observe that rejection rates decrease; participants shift the responsibility to reject to other responders.

Building on those results, Adrian Hillenbrand and I have started a larger project to understand how cooperative behavior is shaped by uncertainty about the number of people we are interacting with. This population uncertainty is very common in everyday interactions, but it has so far been largely neglected in the experimental literature. We have submitted a revised version of a grant application to the DFG (German Research Foundation) and have started collecting data during the process of writing the application. Our experimental data confirm our theoretical models, which predict that cooperation increases under population uncertainty. Interestingly, however, our belief measures show that the underlying logic of the model cannot be correct. A preprint of the results is available and under review with *Games and Economic Behavior*.

Norm Enforcement under Ethnic Diversity

Nan Zhang and I are currently finalizing a paper on the effects of ethnic diversity on norm enforcement. We conducted a field experiment in ethnically diverse neighborhoods to see how members from different ethnicities react to norm violations by members of their own and other ethnic groups. More specifically, we hired German and Turkish/Arabic actors to throw empty coffee cups next to a trashcan, and observed how German and Turkish/Arabic passers-by react to this norm violation. The results show that Germans are more likely to intervene, and that migrants are more likely to be sanctioned. We are currently collecting post-experimental surveys to understand our results better, and we are preparing a manuscript for the Proceedings of the National Academy of Sciences.

Normative Conflict

Heiko Rauhut and I have continued our productive collaboration in different projects. We wrote an overview article on conflicting norms, and how they can influence the effectiveness of punishment in cooperation norms. We suggest a typology of normative conflicts and rank them according to their potential for conflicts. The article appeared as a book chapter. In an extension of this article, we invited Dieko Bakker to join us in an experimental project that tests the prediction from a corresponding formal model. This project is ongoing and due to be completed in autumn this year.

In a set of projects, Heiko Rauhut and I are extending the literature on measuring social value orientation, and thus different social norms. We have successfully implemented a new measure (the *NS4-Scale*) in a big panel study in Swiss schools, an M-Turk study (together with Marc Hoeglenger and Jürgen Fleiß), and a lab experiment (together with Amalia Alvarez, Lars Freund, and Katharina Luckner). Together with the IAB Nuremberg, this new measure will be implemented in the 2018 PASS-Study, a large panel study on the effects of labor market participation and unemployment benefits.

Sociological Aspects in the Production of Science

Heiko Rauhut and I have also continued working on the sociological aspects of scientific publishing. In one paper, we take a Big-Data approach to understand how the norm of reciprocity shapes citation patterns in different disciplines, and how this norm evolves over time. We study billions of citations in the Web of Science and take a matching approach to estimate the effect of being cited by someone on the likelihood of citing this person back in the near future. The resulting paper is currently being revised and resubmitted upon invitation by the Proceedings of the National Academy of Sciences.

Using the same dataset, we published a paper on citation patterns in the German sociological journal landscape. We show how well different journals are embedded in the German and international discourse, and how different journals rank in comparison to each other. The corresponding paper has appeared in the *Kölner Zeitschrift für Soziologie und Sozialpsychologie*.

Real-effort Tasks and their Behavioral Effects on Social Norms

Finally, I am working on a large project on Real-effort tasks. RETs are a frequently used tool in the experimental social sciences to study performance differences or to induce entitlements. A comprehensive experimental comparison is so far missing. The first aim of this project is to provide the experimental community with a library of different RETs and an empirical overview about performance in the tasks and the participants' subjective assessments of the tasks (e.g., is it fair, tedious, gender-neutral etc.). The second aim of the project is to show how specific tasks could flip the results of the experiments they are embedded in, and how they are therefore a highly relevant design choice.

Publications (since 2014)

Articles in Peer-reviewed Journals

Rauhut, H. & Winter, F. (2017). Vernetzung und Positionierung der Kölner Zeitschrift für Soziologie und Sozialpsychologie (KZfSS) in der länder-, disziplinen- und sprachübergreifenden Diskussion, *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 69(1), 61–74

Winter, F. (2014). Fairness Norms Can Explain the Emergence of Specific Cooperation Norms in the Battle of the Prisoner's Dilemma, *Journal of Mathematical Sociology*, 38(4), 302–320

Book Chapters

Winter, F. & Franzen, A. (2017). Diffusion of Responsibility in Norm Enforcement: Evidence from an N-Person Ultimatum Bargaining Experiment. In W. Prezpjorka & B. Jann (Eds.), *Social dilemmas, institutions and the evolution of cooperation*, Oldenbourg: De Gruyter, 303–326

Rauhut, H. & Winter, F. (2017). Types of Normative Conflicts and the Effectiveness of Punishment. In W. Prezpjorka & B. Jann (Eds.), *Social dilemmas, institutions and the evolution of cooperation*, Oldenbourg: De Gruyter, 239–258

Preprint

Hillenbrand, A. & Winter, F. (2017). Volunteering under Population Uncertainty. Bonn: Max Planck Institute for Research on Collective Goods Preprint, 2017/12

R&R and Submitted

Rauhut, H. & Winter, F. (revise & resubmit). The Increasing Dominance of Networking in the Production of Knowledge, *Proceedings of the National Academy of Sciences, PNAS*

Miller, L., Rauhut, H. & Winter, F. (revise & resubmit). The Emergence of Norms from Conflicts over Just Distributions, *Journal of Behavioral and Experimental Economics*

Alvarez, A. & Winter, F. (revise & resubmit). Normative Change and Culture of Hate: A Randomized Experiment in Online Communities, *European Sociological Review*

Hillenbrand, A. & Winter, F. (revise & resubmit). Volunteering under Population Uncertainty, *Games and Economic Behavior*

Winter, F. (submitted to the DFG). Volunteering under Population Uncertainty: A Project Proposal

Working Papers

Rauhut, H. & Winter, F., Der Markt der Aufmerksamkeit in der Soziologie: Trends und Illusionen im Publizieren, Zitieren und Netzwerken

Ongoing Projects

Winter, F., Which Real-effort Task Should I Choose? An Experimental Comparison of Tasks and their Behavioral Effects

Winter, F. & Zhang, N., Group Cohesion and Ethnic Diversity: What are the Driving Forces behind Norm Enforcement? A Field Experiment

Winter, F., Rauhut, H., Fleiss, J., Höglinger, M. & Trappmann, M. The NS-4 Scale as a Measure of Social Value Orientation

Lectures and Seminar Presentations

2015

Diffusion of Responsibility in Norm Enforcement: Evidence from an N-Person Ultimatum Bargaining Experiment

Rational Choice Sociology, Venice International University
November 2015

Normative Conflict and the Effectiveness of Punishment: A Game-theoretical Approach

Rational Choice Sociology, Venice International University
November 2015

2016

Volunteering under Population Uncertainty

Sozialwissenschaftlicher Ausschuss, Verein für Socialpolitik, Göttingen
February 2016

Volunteering under Population Uncertainty

Social Interaction and Society, ETH Zurich
May 2016

Volunteering under Population Uncertainty

Advances in Game Theory, ETH Zurich
June 2016

Normative Conflict and the Effectiveness of Punishment

International Network of Analytical Sociologists, Utrecht
June 2016

Normative Change and Culture of Hate: A Randomized Experiment in Online Communities

Cultural Transmission and Social Norms Workshop, Norwich
December 2016

2017

Which Real-effort Task Should I Choose? An Experimental Comparison of Tasks and their Behavioral Effects

IMEBESS-Meeting, Barcelona
May 2017

Which Real-effort Task Should I Choose? An Experimental Comparison of Tasks and their Behavioral Effects

Sozialwissenschaftlicher Ausschuss, Verein für Socialpolitik, Göttingen
May 2017

Which Real-effort Task Should I Choose? An Experimental Comparison of Tasks and their Behavioral Effects

International ESA Meeting, San Diego
June 2017

Which Real-effort Task Should I Choose? An Experimental Comparison of Tasks and their Behavioral Effects

Behavioral Economics Seminar and Colloquium, WZB Berlin
June 2017

Volunteering under Population Uncertainty

International ESA Meeting, Jerusalem
July 2017

Supervision Master and Bachelor Thesis

Katharina Luckner (M. Sc. Thesis, Witten/Herdecke University)
Gülcin Polat (B.Sc. Thesis, Bayreuth)

Professional Activities

Memberships

Member Sozialwissenschaftlicher Ausschuss, Verein für Socialpolitik (since 2017)



Nan Zhang

My research aims to understand how some societies manage to achieve and sustain the civic “good life” – i.e., people pay their taxes, few individuals offer or demand bribes, citizens trust their compatriots to be honest and law-abiding – while other societies are mired in corruption and political malfunction. To explain this variation, my work leverages both experimental and observational data to study how government institutions and policies shape social norms, beliefs, and intrinsic motivations to “do the right thing”.

In one recent paper with Melissa Lee, we investigate the relationship between the monitoring power of centralized authorities and the willingness of citizens to cooperate and contribute to public goods. Theoretically, cooperation should occur more frequently when the state is able to control free-riding. Our empirical approach relies upon “forensic” demographic techniques to uncover shortfalls in the state’s collection of census data, which we take as a proxy for poor centralized monitoring. We then demonstrate that areas with better census collection are also able to collect higher taxes and provide more public goods. Overall, the paper highlights the central role of the state in resolving problems of collective action.

A related paper, also with Melissa Lee, investigates how the legitimacy of central authorities affects tax compliance. We focus on a historical period under the French Third Republic (1873–1906), which contained variation over time in the degree to which right-wing conservatives accepted the regime in power. Since conservatism was concentrated in distinct French regions, we are able to leverage both subnational and inter-temporal variation in the degree of constitutional legitimacy to conduct a difference-in-differences estimation using historical French tax data. While this work is still ongoing, early results suggest that political opposition to Republicanism opened a “tax gap” between conservative regions and the rest of France.

In other work, I shift my focus from cooperation (e.g., contribution to public spending via taxes) to the enforcement of cooperative norms. One paper investigates how the propensity to punish acts of corruption differs between Northern and Southern Italians, two populations experiencing different levels of corruption in everyday life. While some cultural observers have argued that Southern Italians are mired in a “culture of corruption”, this perspective ignores the fact that formal institutions are also much worse in the South. To disentangle institutions from culture, I conduct a lab-in-the-field experiment in Northern and Southern Italian universities, where I also experimentally manipulate the quality of enforcement institutions. I find that, when given high-quality institutions, all participants are more willing to report corruption. Moreover, Southerners and Northerners behave identically when placed within the same institutional environments. These results suggest that high-corruption societies are not “culturally” predisposed to tolerate malfeasance.

A second project with Fabian Winter investigates the relationship between ethnic diversity and the costly enforcement of social norms. While most existing research considers how co-ethnicity shapes costly punishment decisions in small-group interactions, our research breaks new ground by investigating the influence of ethnic diversity on costly punishment between strangers. In addition, we are particularly interested in the relationship between ethnic diversity and social cohesion in the context of the recent immigration debate raging across Western societies. Along these lines, we conducted a natural field experiment in Germany to study (a) whether Germans and visible ethnic minorities sanction norm violations at different rates, and (b) whether individuals condition their punishment decisions on the ethnic identity of the norm violator. Preliminary results show that both effects are at work, producing the counter-intuitive result that the global norm enforcement rate is actually higher in more diverse communities. We are currently con-

ducting additional survey experiments in the field to understand the motivations underlying these punishment patterns better.

Prior to joining the MPI in September 2016, I worked on several projects relating to my PhD dissertation on corruption and social norms. One paper in particular presents experimental evidence from Italy on the relationship between corruption and two types of beliefs: normative expectations (i.e., what I should do) and empirical expectations (i.e., what others actually do). I find that the behavior of individuals closely tracks their empirical expectations, while normative expectations provide little explanatory power.

In addition to my work on corruption, I also conducted research as part of a project funded by the European Research Council, which sought to use behavioral experiments to understand tax compliance across five countries: Italy, Sweden, Romania, the UK, and the USA. Several papers from this project, comparing experimental tax compliance across countries, have already been published in international interdisciplinary journals.

Publications (since 2014)

Articles in Peer-reviewed Journals

Lee M. & Zhang, N. (2017). Legibility and the Informational Foundations of State Capacity, *Journal of Politics*, 79(1), 118–132

Zhang, N., Andrighetto, G., Ottone, S., Ponzano, F. & Steinmo, S. (2016). ‘Willing to Pay?’ Tax Compliance in Britain and Italy: an Experimental Analysis, *PLOS One*, 11(2), e0150277

Andrighetto G., Zhang, N., Ottone S., Ponzano F., D’Attoma J. & Steinmo S. (2016). Are Some Countries More Honest than Others? Evidence from a Tax Compliance Experiment in Sweden and Italy, *Frontiers in Psychology*, 7(472), 1–8

Zhang, N. (2015). Changing a ‘culture’ of corruption: Evidence from an economic experiment in Italy, *Rationality and Society*, 27(4), 387–413

R&R

Zhang, N. (revise & resubmit). Institutions, Culture and Blowing the Whistle on Corruption: An Experiment with Northern and Southern Italians, *Journal of Experimental Political Science*

Working Papers

Winter F. & Zhang N., Ethnic Diversity and Norms Enforcement: A Field Experiment in Germany

Andrighetto G., Szekely A., Zhang N., Bruner D., Ottone S. & Steinmo S., Context and Individual Preferences Shape Cooperative Decision-Making

Zhang N. & Lee M., On the Development of State Capacity: Church-State Relations in France

Lectures and Seminar Presentations

Ethnic Diversity and Norms Enforcement: A Field Experiment in Germany

Fourth International Meeting on Experimental and Behavioral Social Sciences, Barcelona
April 2017

Ethnic Diversity and Norms Enforcement: A Field Experiment in Germany

Bocconi University INTERACT Workshop: How does Ethnic Diversity affect Cooperation?, Milan
May 2017

Legibility and the Informational Foundations of State Capacity

International Closing Conference of the Collaborative Research Center (SFB) 700. Governance in Areas of
Limited Statehood – New Modes of Governance?, Berlin
June 2017

On the Development of State Capacity: Church-State Relations in France

American Political Science Association Annual Meeting, San Francisco
September 2017

Ethnic Diversity and Norms Enforcement: A Field Experiment in Germany

American Political Science Association Annual Meeting, San Francisco
September 2017



Lilia Zhurakhovska

Summary Report

My work focuses on the impact of institutions, (non-)monetary incentives, and communication on decision-making in various contexts using experiments. In particular, I investigate how people behave in the presence of third parties. In the following, I will briefly present an extract of my previous MPI-related projects.

In modern societies, more and more people interact with strangers in one-shot situations. In these situations, it might be difficult to trust others. Yet, trust is an essential component of most economic interactions. In “Strategic Trustworthiness via Non-strategic Third-party Reward – An Experiment”, an impartial third party in a one-shot situation can reward a stranger for being trustworthy towards another unrelated person. The reward is costly and cannot be strategically motivated. Subjects strategically increase their trustworthiness towards others if they can anticipate being rewarded by an impartial third party. Impartial third parties reward trustworthiness, irrespectively of whether or not it can be anticipated.

In a joint paper with Christoph Engel (“Words Substitute Fists – The Power of Justifying Punishment by Explicit Reasons”, revise and resubmit in *The American Law and Economics Review*), we show that giving an impartial authority the possibility to pair her monetary punishment with verbal punishment (justifications) can increase efficiency. We use a standard public-goods game with an additional fifth player (the authority), who can exert costly punishment and does not benefit monetarily from subordinates’ contributions. With reasons, the acceptance of the authorities’ decisions and obedience to norms by the subordinates increases. The monetary punishment, on average, is significantly smaller with communicated reasons, while contributions are, on average, the same in all treatments. Thus, reasons either serve as verbal punishment and therefore as a substitute for monetary punishment, or else increase the understanding of norms.

In a follow-up paper (“You Are in Charge: Experimentally Testing the Motivating Power of Holding a Judicial Office”, published in *The Journal of Legal Studies* in 2017), we analyze channels that influence decisions made by authorities. We find that judges’ decisions are not motivated by maximizing profit. We rule out that either there are long-term monetary consequences, or that conscientious individuals self-select into the profession. Authorities do a reliable job of overcoming a social dilemma. Calling the authorities public officials or judges strengthens the effect. This suggests that the effect follows from the office motive: the desire to fulfill the expectations that come with an assigned task. When given an opportunity to announce an explicit policy, judges become less sensitive to the objective degree of reproach and more sensitive to their personal social value orientation. If judges are elected or experienced, they react more intensely to norm violations. Experienced judges are more affected by their social value orientation.

In “How Voice Shapes Reactions to Impartial Decision-makers: An Experiment on Participation Procedures” (published in *The Journal of Economic Behavior & Organization* in 2017), Marco Kleine, Pascal Langenbach, and I study how participation in decision processes shapes people’s behavior towards impartial authorities. In our experiment, an impartial authority decides about the allocation of money between two subordinates. Treatments differ in the opportunity for one subordinate to state her opinion about the allocation before the decision is made (“voice”). We elicit the subordinate’s kindness towards the authority in a subsequent dictator game. Irrespectively of previous allocation decisions by the authority, average transfers are substantially higher in the voice treatments as compared to the baseline. Our results stress the positive effects of participation in decision procedures when people interact with impartial authorities.

In a companion paper ("Fairness and Persuasion. How Stakeholder Communication Affects Impartial Decision-making", published in *Economics Letters* in 2016), we investigate how decisions made by authorities are influenced by requests from subordinates. We find that authorities only react to modest requests and ignore greedy requests. This results in, on average, lower allocation to subordinates if they have "voice".

An extensive literature documents that providing the right incentives can reduce deception. In "Promoting Truthful Communication Through Ex-Post Disclosure" (with Adam Greenberg and Paul Smeets), we hypothesize that truthful communication can be promoted by the threat of ex-post disclosure (shame) and by letting down receivers' expectations (guilt), even in the absence of financial consequences or reputation concerns. We use 2X2 design. In a sender-receiver game, the receiver can (not) detect a dishonest message and senders can (not) disappoint the receivers' monetary expectations. Both manipulations separately have weak effects. However, the combination of both effects increases honesty by a large margin.

Another focus of my work is the analysis of subjects' decisions in situations which can be modeled as prisoners' dilemmas. Many real-life situations involve insiders who are directly affected by a dilemma, and outsiders who may be harmed if the insiders overcome the dilemma. The quintessential illustration for this is oligopolies. In our experiment ("Conditional Cooperation with Negative Externalities – An Experiment", published in *The Journal of Economic Behavior & Organization* in 2014; with Christoph Engel), harm to outsiders significantly reduces the conditional cooperation of insiders. We can exclude that this result is driven by inequity aversion, reciprocity, or efficiency-seeking. Only guilt aversion can rationalize our findings, with guilt being most pronounced if the active insiders not only inflict harm on the outsider, but increase their own payoff at the expense of the outsider.

In a related paper ("When is the Risk of Cooperation Worth Taking? Motivating Forces in an Experimental Prisoner's Dilemma", published in *Applied Economics Letters* in 2016), we add several games to the two-player one-shot prisoner's dilemma, manipulating the players' defection payoffs. The setting can explain the degree of cooperation by a combination of four motives: efficiency, conditional cooperation, fear, and greed. All motives are significant, but some only become significant if one controls for all remaining ones. This seems to be the reason why earlier attempts at explaining choices in the prisoner's dilemma with personality have not been successful.

Publications (since 2014)

Articles in Peer-reviewed Journals

Engel, C. & Zhurakhovska, L. (2017). You Are In Charge – Experimentally Testing the Motivating Power of Holding a Judicial Office. *Journal of Legal Studies*, 46(1), 1–50

Kleine, M., Langenbach, P. & Zhurakhovska, L. (2017). How Voice Shapes Reactions to Impartial Decision-Makers: An Experiment on Participation Procedures. *Journal of Economic Behavior & Organization*, 143, 241–253

Engel, C. & Zhurakhovska, L. (2016). When is the Risk of Cooperation Worth Taking? The Prisoner's Dilemma as a Game of Multiple Motives. *Applied Economics Letters*, 23(16), 1157–1161

Kleine, M., Langenbach, P. & Zhurakhovska, L. (2016). Fairness and Persuasion. How Stakeholder Communication Affects Impartial Decision Making. *Economics Letters*, 141, 173–176

Engel, C. & Zhurakhovska, L. (2014). Conditional Cooperation With Negative Externalities – An Experiment. *Journal of Economic Behavior and Organization*, 108, 252–260

Preprints

Zhurakhovska, L. (2014). Strategic Trustworthiness via Non-Strategic Third-Party Reward – An Experiment. Bonn: Max Planck Institute for Research on Collective Goods, 2014/6

Working Papers

Greenberg, A. E., Smeets, P. & Zhurakhovska, L., Promoting Truthful Communication Through Ex-Post Disclosure

Lectures and Seminar Presentations

2014

Lying, Guilt, and Shame

Taxation, Social Norms, and Compliance, Nuremberg

Lying, Guilt, and Shame

MBEES – Maastricht Behavioral and Experimental Economics Symposium, Maastricht

Lying, Guilt, and Shame

Annual Convention, Verein für Socialpolitik, Hamburg

Lying, Guilt, and Shame

Workshop Incentives and Behavior Change, Amsterdam

2015

Lying, Guilt, and Shame

University of Göttingen

2017

Guilt and Shame Aversion Together Increase Honesty

ESA World Meeting (Economic Science Association), San Diego

Teaching

summer term 2014

Exercise in "Microeconomics" for Bachelor students,
University of Erlangen-Nuremberg

Supervision of Bachelor theses in economics,
University of Erlangen-Nuremberg

winter term 2014/15	Exercise in "Microeconomics" for Bachelor students, University of Erlangen-Nuremberg
	Supervision of Bachelor theses in economics, University of Erlangen-Nuremberg
summer term 2015	Exercise in "Topics in Microeconomics" for Bachelor students, University of Erlangen-Nuremberg
	Exercise in "Microeconomics" for Bachelor students, University of Erlangen-Nuremberg
	Supervision of Bachelor theses in economics, University of Erlangen-Nuremberg
summer term 2016	Seminar "Topics in Public Economics" for Master and PhD students University of Duisburg-Essen and Ruhr Graduate School in Economics (RGS Econ)
winter term 2016/17	Seminar "Behavioral Economics – Experimental Design" for Masters and PhD students University of Duisburg-Essen and Ruhr Graduate School in Economics (RGS Econ)
summer term 2017	Lecture "Econometrics" for Masters students University of Duisburg-Essen
winter term 2017/18	Lecture "Econometrics" for Masters students University of Duisburg-Essen
	Seminar "Behavioral Economics – Experimental Design" for Masters and PhD students University of Duisburg-Essen and Ruhr Graduate School in Economics (RGS Econ)

Professional Activities

Reviewer for

Econometrica; German Economic Review; Journal of Economic Behavior & Organization; Journal of Behavioral and Experimental Economics (formerly the Journal of Socio-Economics); Journal of Economic Psychology



Claudia Zoller

I am a third-year PhD student and joined the Max Planck Institute for Research on Collective Goods on 1 October 2017. I hold a Diploma in International Business Management and Economics, which I acquired at the University of Innsbruck. In January 2015, I joined Professor Sutter's chair as a doctoral student and research assistant at the University of Cologne.

My research focuses on two main areas: (i) the development of social preferences and behavioral patterns in children and adolescents, and (ii) fairness and inequality preferences. I have conducted lab-in-the-field experiments, e.g., in kindergarten, and lab experiments. A more detailed

project description follows below.

Development of Social Preferences and Behavioral Patterns throughout Childhood

My first project, "Coordination Games Played by Children and Teenagers: On the Influence of Age, Group Size and Incentives", is a joint project with Daniela Glätzle-Rützler (University of Innsbruck) and Matthias Sutter. We investigate coordination behavior with varying treatments in a sample of 819 children and adolescents, aged nine to 18. The ability to coordinate has important welfare implications and has so far not been investigated in a child setting. Using a within-subjects design, children played two coordination games with varying group sizes, one with one partner and one with five partners, respectively. Treatments varied the payoff for either the risk-dominant or the payoff-dominant strategy in a between-subjects design. We find that age does not have unambiguous effects, but rather shows interaction effects with group size and monetary incentives. In small groups, older children and adolescents are more likely to coordinate on the efficient equilibrium when the payoffs in this equilibrium are highest, but they are also less likely to choose the efficient strategy when it is riskier. This indicates that older subjects react more to changes in monetary incentives than younger subjects. Beliefs also play an important role, as subjects will be more likely to coordinate on the efficient equilibrium when they expect others to do so as well. All of our results are robust to controlling for individual risk and time preferences and for gender.

My second project, also concerning the developing behavioral patterns in children, investigates grit and time scheduling in early childhood. Previous research in experimental economics and psychology has shown that traits such as patience and grit can be a major indicator for later success in life. Together with Matthias Sutter and Anna Untertrifaller (a fellow PhD colleague at the MPI), we look at how the ability to be persistent and work tenaciously on a task – termed "grit" – develops, and how it relates to other traits and preferences. In a lab-in-the-field setting, we played economic games with 440 children, aged three to six, in kindergartens in Innsbruck, Austria. We elicited their time preferences, their willingness to challenge themselves by presenting them with an easy and a difficult choice, and measured grit by letting them work on a real-effort task where the children could decide when to stop working. As a treatment variation, some children were able to choose when they would like to work on the real-effort task, either today or tomorrow. We find that children who postpone the task to the next day also exhibit significantly lower levels of grit by providing less effort. Children who postpone the task are additionally less likely to challenge themselves in an unrelated task. We therefore conclude that the correlation between the willingness to challenge oneself and the ability to work consistently on a task can have important implications on designing interventions on fostering grit in early childhood.

The third project is a large-scale survey of the existing literature on behavioral patterns in children and adolescents. Together with Daniela Glätzle-Rützler and Matthias Sutter, I analyze the literature in experimental economics and psychology to summarize and review important results and highlight consistent findings and behavioral patterns in children across age groups. The survey – the first of its kind about

economic experiments with children and teenagers – focuses on the development of social preferences, including reciprocity, fairness preferences, inequity aversion, behavioral patterns in gender and competition, and the development of personality traits such as time preferences, and risk aversion.

Fairness and Inequity Preferences

In the working paper “Too Lucky to be True: Fairness Views under the Shadow of Cheating”, which is joint with Stefania Bortolotti (a post-doctoral researcher at the MPI), Ivan Soraperra (CREED – University of Amsterdam), and Matthias Sutter, we investigate how fairness views and the extent of redistribution are influenced by unethical behavior as the source of inequality. We implement a design where unequal incomes of two paired stakeholders may be the result of cheating. Then we let spectators decide about redistribution between stakeholders. We find a substantial shift in the distribution of spectators’ fairness views when cheating may have been the source of income inequalities. In these cases, the share of spectators redistributing money from rich to poor stakeholders triples and becomes as large as the fraction of libertarians – i.e., participants who never redistribute.

Future Plans

I plan to conduct further research with children and adolescents in order to examine social preferences and behavioral patterns of children with varying socioeconomic backgrounds. Further, I plan to extend research on fairness ideals and unethical behavior.

Working papers

Bortolotti, S., Soraperra, I., Sutter, M., Zoller, C. (2017). Too lucky to be true: Fairness views under the shadow of cheating. CESifo Working Paper no. 6563