

**Status Report**  
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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 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 the economist Martin Hellwig to replace her. At this point, therefore, the institute consists mainly of lawyers and 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 an independent Junior Research Group *Intuitive Experts* led by Andreas Glöckner.

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 and legal processes of defining problems and choosing solutions. In the years of the project group, major research efforts concerned

- the law and politics of waste avoidance, recycling, and disposal,
- the governance of the internet, and
- the transformation of the nation state into a multi-level system of governance.

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

- the analysis of incentive problems in public-good provision,
- the behaviorally informed design of institutions for the provision of collective goods,
- the organization and regulation of network industries: sector-specific regulation and antitrust
- the regulation of financial markets and financial institutions in order to safeguard financial stability.

The first two lines of research are intended to enlarge our understanding of foundations at a fairly general level. The last two lines of research are concerned with applications. Research objectives and strategies are laid out in this report.



## **B. The Overarching Framework**



## **B. The Overarching Framework**

Air, atmosphere, the ozone layer, climate, water, the world's oceans, land, quiet, normal radiation, landscape, fauna and flora, genetic diversity: the policy challenge of providing and distributing such natural resources was the impetus for the Max Planck Society's deliberations to establish a new research facility in the humanities section. However, even in the process of establishing the facility, it became clear that man-made goods also pose structurally related challenges. The protection of our cultural heritage, language, streets, energy networks, the liquidity of markets, the reliability of finance institutions, the stability of the finance system: 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 a research facility 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 schema, 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, 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 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 individual 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. 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 three disciplines are intensively engaged with one another. For example, the interplay between decentral market mechanisms and political decision-making mechanisms needs to be studied jointly by economists and political scientists. To judge the allocation effects of certain decisions of substantive law or procedural law, economists and legal scholars must work in collaboration.



## **C. Research Program**



## **C. Research Program**

### **C.I Public Goods and Welfare Economics: Incentive Mechanisms, Finance and Governance**

#### **C.I.1 Introduction**

A major part of our research effort is devoted to the development of an appropriate conceptual framework for the normative analysis of public-goods provision when the value that any one person attaches to the public good is known only to that very person. Whereas most of the literature considers the problem of public-good provision with private information in a small economy, we focus on large economies, in which any one individual is too insignificant to affect the level of public-good provision. We have several reasons for choosing this focus:

- Whereas the small-economy models studied in the literature are useful, e.g., for thinking about how the inhabitants of a village can co-ordinate on the installation of an irrigation system, we believe that it is not so useful for thinking about how a country with more than a million inhabitants should choose the level of resources that are devoted to national defense or to the legal system.
- Most models of taxation are models of large economies, as are most models of market equilibrium for private goods. If there is to be any hope of integrating public-goods provision theory with the rest of welfare economics, we need to have a convincing account of public-good provision in a large economy.
- The differences between private and public goods, more precisely, between goods that exhibit rivalry in consumption and goods that do not, emerge most clearly when the number of participants is large.
- As yet, we do not have a good conceptual and formal apparatus for thinking about public-good provision in a large economy. If individual valuations are independent and we treat the large economy as a limit of finite economies, a law of large numbers implies that the cross-section distribution of valuations and therefore the efficient level of public-good provision is common knowledge. To even talk about an information problem involved in the determination of efficient public-goods provision levels in large economies, one must have correlated values. Our understanding of incentive mechanisms with correlated values, however, is unsatisfactory.

Mention of the problem of how a country with millions of inhabitants should decide on spending levels for national defense or for the judicial system undoubtedly raises the question why we are studying this as a problem of normative economics rather than political science. We do so because we want to have a measuring rod by which to assess the strengths and weaknesses of decision procedures that are actually used.

Over the past thirty or so years, normative economics has learnt that a simple efficiency standard that abstracts from issues of information and incentives is not very useful. The theory of mechanism design has taught us to take account of information and incentive constraints and to ask what measure of efficiency can be achieved when these constraints are taken into account. This is the very type of question that we are asking about the provision and financing of public goods in large economies.

The importance of the question is readily seen if one goes back to the typical economist's critique that political decision making gives rise to inefficient outcomes because it fails to take account of preference intensities. A majority of people who care just slightly about an issue can impose its will on a minority who care intensely about it. If the disparity between the two groups is sufficiently large, the result is inefficient in the sense that everybody would be better off if the minority was able to "bribe" the majority to vote differently. In this critique of collective decision making by voting, no account is taken of possible information asymmetries. One result of our research shows that, once these information asymmetries are taken into account, it may not even be possible to rely on anything else than a voting mechanism.

The research covered by this report under the general heading of *Public Goods and Welfare Economics* falls into three broad areas:

- Development of a conceptual and formal framework that is suitable for dealing with 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 that can also be used to integrate the analysis of such issues with the more conventional analyses of demand and funding.

The following Sections C.I.2 – C.I.4 of this report will take up each of these areas in turn.

## **C.I.2 The Mechanism Design Approach to Public-Good Provision**

### **C.I.2.1 Public Goods versus Private Goods: What is the Difference?**

To fix semantics, we 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 level of public-good provision. 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 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.<sup>1</sup>

However, there may be a conflict between incentive compatibility, feasibility, i.e., the ability to raise sufficient funds for provision of the public good, and voluntariness of participation. In some instances, it is impossible to have a public good provided efficiently on the basis of voluntary contracting. Some coercion may be needed. The original idea of Lindahl (1919) that the notion of a public good may provide the basis for a contractarian theory of the state is then moot. Samuelson's (1954) conjecture that private, spontaneous arrangements are inappropriate for efficient public good provision is vindicated.

Samuelson (1954) stressed the difference between public and private goods. However, the mechanism design literature is not so clear on the matter. Indeed, if we consider an economy with  $n$  participants with independent private values,<sup>2</sup> we get the same kinds of

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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.

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 circumstances, unless the information that is available *ex ante* is sufficient to determine what the allocation should be.<sup>3</sup> 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.<sup>4</sup>

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.<sup>5</sup>

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

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

4 Wilson (1985).

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

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, first-best, second-best, or fifty-sixth-best, 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.I.2.2    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 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. The incentive schemes that these analyses involve are not very convincing. 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), as well as the other literature, rest on an implicit assumption, which they deem to be unpalatable, namely, that agents' preferences for a good can be inferred from their beliefs about the rest of the world. Crémer and McLean (1988) do not actually specify people's beliefs. They assume that people's preference parameters are the only source of information asymmetry and heterogeneity. Beliefs about the rest of the world are implicitly defined as conditional expectations given their own characteristics and given the overall structure of correlations of characteristics across agents. Generically, preference parameters can be inferred from these beliefs. Moreover, because differences in beliefs induce differences in attitudes towards bets, i.e., state-contingent payment schemes, these differences in attitudes towards bets can be used to extract all rents. According to Heifetz and Neeman (2006), the logic of the Crémer-McLean argument breaks down if people have sources of information other than their preference parameters. In this case, it is quite possible for a

given belief about the rest of the world to be compatible with two distinct values of preferences, say a value of zero and a value of ten for the good in question. Because the person with a value of ten for the good in question 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 his high valuation and at the same time surrender the benefit that he obtains if he is actually given the enjoyment of 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 prove a version of the Mailath-Postlewaite (1990) theorem on the impossibility of public-good provision in a large economy with voluntary participation, this one with correlated values and under an assumption that, uniformly across economies with varying numbers of participants, there always is a probability that a person holding a certain set of beliefs might assign zero value to the public good. Heifetz and Neeman (2006) argue that, in the set of relevant incomplete information models, the "Beliefs Determine Preferences" (BDP) property of Crémer and McLean is in fact negligible.

Gizatulina and Hellwig (2010, 2011a, 2011 b) throw some doubts on these results. Gizatulina and Hellwig (2010) show that the uniformity of violation of BDP which Neeman (2004) assumes, regardless of how many people there are in the economy, is incompatible with the notion that agents might be *informationally small*. The concept of informational smallness has been introduced by Palfrey and Srivastava (1986) and McLean and Postlewaite (2002) in order to articulate the idea that a person's ability to exploit information advantages might be limited if the information held by other agents (collectively) comes close to making this person's information redundant. In Gizatulina and Hellwig (2010), each person has private information about his preferences, but other people have noisy signals about these preferences. If there are many such people, and they can be induced to reveal these signals, an average of the signals can be used to induce truthful preference revelation at practically no cost. Thus, if the number of participants is large, an approximately efficient allocation rule can be implemented although participation is voluntary, the cost of public-good provision is proportional to the number of participants, and the BDP property is violated.

Gizatulina and Hellwig (2011a, 2011b) observe that neither Neeman (2004) nor Heifetz and Neeman (2006) make any use of the notion of beliefs as conditional expectations. They do require that there should be a common prior from which the beliefs of different agents in the economy are derived by conditioning on some intervening information, but this requirement plays no role in their analysis. In particular, no attention is paid to the fact that information about one's own preferences is part of the information on which beliefs are conditioned. In a universal type space setting, this is unproblematic because agents' beliefs are a part of their types so that conditioning of beliefs on types is trivial; the question where, in a substantive sense, the beliefs should come from is excluded from the analysis.

This question is however relevant in an abstract type space setting à la Harsanyi. For abstract type settings à la Harsanyi, Gizatulina and Hellwig (2011a) study the genericity of the BDP property under the assumption that each agent types are finite-dimensional

vectors and that belief mapping are continuous regular conditional probability distributions. Because types are finite-dimensional vectors and the space of beliefs is a space of probability distributions (infinite-dimensional), an extension of the classical Embedding Theorem for continuous functions shows that belief mappings that are *embeddings*, i.e., one-to-one continuous functions, form a residual subset of the set of all continuous functions from an agent's types to probability distributions over the other agents' types. With a topology that accounts for convergence of conditional distributions, it follows that priors exhibiting the BDP property are topologically generic in the sense of forming a residual set in the space of all priors. For priors having compact finite-dimensional supports and continuous densities, the result can be strengthened to show that the BDP property is residual in the topology of uniform convergence of density functions.

Gizatulina and Hellwig (2011b) extend the analysis to families of models as studied by Heifetz and Neeman (2006). Heifetz and Neeman introduced the notion of a family of models to represent the mechanism designer's uncertainty as to what the right model might be. They showed that, if a given collection of such models is what they call "closed under finite unions", then any convex combination of common priors for a set of models will be a common prior for the union of these models. Moreover, the convex combination exhibits the BDP property if and only if the priors for the base models all exhibit the BDP property. If just one prior for one of the base models fails to exhibit the BDP property, then, within the set of common priors for the union of the models, failure of the BDP property is geometrically and measure theoretically generic. However, Gizatulina and Hellwig (2011b) use the results of Gizatulina and Hellwig (2011a) to show that unions of models with common priors of which one or more fail to exhibit the BDP property are topologically meagre, i.e., the set of families within which the Heifetz-Neeman results are applicable is itself a negligible set.

Perhaps as importantly, Gizatulina and Hellwig (2011b) show that the notion of model uncertainty in Heifetz and Neeman (2006) can be formally analysed by mapping the "unions of models" into a single larger model in which all dimensions of the relevant uncertainty are captured by uncertainty about the participants' types. Once this is seen, the problem of how the mechanism designer should deal with model uncertainty itself becomes a problem of mechanism design. In dealing with this problem, the mechanism designer can make use of the fact that, among the participants, it is common knowledge which of the original (sub-)model environments they are in. A "shoot-the-liars" reporting game may then provide him with the means of extracting this information without cost, after which he can stipulate the implementation of whatever mechanism is optimal for the original (sub-)model. Even in a Heifetz-Neeman world, the dichotomy between models with the BDP property, or with full surplus extraction, and models without the BDP property, or without full surplus extraction would then be replaced by a smooth transition between the two: If the mechanism designer assigns a small positive probability to models that do not permit full surplus extraction, then, in expected-value terms he will extract all but a small amount of the overall surplus.

The work discussed in the preceding paragraphs should not be interpreted as saying that we regard Crémer-McLean type 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. The problem is to understand precisely why these approaches should be considered unsatisfactory. Gizatulina and Hellwig (2010, 2011a, 2011b) should be interpreted as saying that the reliance of Crémer-McLean type mechanisms on the BDP property is less problematic than has been suggested and that a criticism of such mechanisms must dig deeper.

### **C.I.2.3 Robustness and Large Economy Models**

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 the 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 hold regardless of what is being assumed about correlation structures. In particular, they leave room for an analysis of large econ-

omies without a law of large numbers, in which the question of how much of the public good should be provided is not moot.

The analysis of large economies “in the limit” when each participant is insignificant give rise to some technical questions. The reason is that most concepts of game theory and mechanism design have been developed for models with finitely many participants. Adaptation of concepts to models with a continuum of participants is straightforward but requires some analysis. Hellwig (2011b) provides this analysis for the existence and uniqueness of common priors in large-economy models with anonymity, in which aggregate outcomes (prices, public-good provision levels) depend only on the cross-section distribution of agents’ characteristics and agent-specific outcomes depend only on the agent’s own characteristics and the aggregate outcome. The condition that ensures the existence and uniqueness of a common prior is a straightforward adaptation of a simple condition for finite-player models that is developed in Hellwig (2011a).

The large-economy model considered in Hellwig (2011b) is an abstract version of the model used in Bierbrauer and Hellwig (2010/2011) to study mechanism design for public-good provision. In such models, existence of a common prior is a useful property to have because it helps avoid certain foundational issues of welfare analysis in the presence of incomplete information.

#### **C.I.2.4     *Voluntariness of Participation versus Coercion***

As mentioned above, the various theorems concerning the impossibility of implementing efficient allocations under conditions of incomplete information all involve a requirement that participation be voluntary. As such, these theorems provide an insight into why a contractarian approach to public good provision is unsatisfactory. At the same time, they raise the normative question whether it is appropriate to allow for voluntary participation or whether it wouldn’t be preferable to coerce people into participating, asking them to contribute even if they do not draw any benefits from the public good in question. Though formulated in the narrow context of allocation theory for the provision of public goods, this question touches the core of the relation between the community (the state) and the individual.

Bierbrauer (2009c, 2011a) develops a framework for posing this question in a nontrivial way. The idea is to endogenize the mechanism designer, introducing a prior stage at which the participants assign to someone the right to propose and to implement a mechanism for solving the given allocation problem. The question is in what circumstances people at this prior stage would wish to impose a condition requiring the mechanism designer to respect participation constraints or, equivalently, in what circumstances they would wish to retain a right of vetoing the mechanism that will be subsequently proposed and implemented.

Bierbrauer (2009c) shows that a right of veto, i.e., an imposition of participation constraints is undesirable if the mechanism designer is known to be a Pigouvian welfare maximizer. Put differently, a necessary condition for the desirability of participation constraints is that there is an agency conflict between the consumers of the public good and the institution in charge of organizing its supply. This questions the relevance of models that simultaneously assume that the mechanism designer is benevolent and at the same time has to obey participation constraints. Indeed, the agency conflict must be sufficiently intense to justify the imposition of participation constraints. Participation constraints are desirable if the mechanism designer is known to be a malevolent Leviathan, out to maximize resources that he can extract from the economy, or simply a profit-maximizing firm.

Bierbrauer (2011a) studies the scope for using regulation to reduce or eliminate abuses by a profit-maximizing firm when the regulator is uninformed about the underlying state of the economy, i.e., the distribution of participants' preferences and the production costs. In this setting, too, it may be desirable to have participation constraints, i.e., to give each participant the right to veto the proposed mechanism. This right implies that people who do not benefit from the public good cannot be made to pay for it, and payments must come from distortionary sources of finance, e.g., entry fees when exclusion is possible, but the inefficiency that is thereby induced is less important than the constraint that the veto imposes on the provider.

### **C.I.2.5      *Coalition Proofness***

Even if one is not concerned about problems of power abuse, one may be less than convinced by the proposition that, in the absence of participation constraints, it is always possible to implement first-best allocations. Following Bierbrauer (2009a), Bierbrauer and Hellwig (2010/2011) consider the implications of imposing an additional requirement of coalition proofness.

The additional requirement 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. 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. One can thus use a scheme with equal cost sharing to find out the aggregate valuation for a public good and to implement a first-best provision rule; this kind of implementation is actually robust in the sense of Bergemann and Morris (2005).

However, this kind of implementation is abusing the notion that, if a person's communication about his or her preferences does not make a difference to either the level of public-goods provision or the payment that the person has to make, 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 have 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 the information that he provides to make a difference. However, truthtelling 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 implement first-best outcomes.

Bierbrauer and Hellwig (2010/11) provide an abstract formulation of the requirement of coalition proofness and its implications for robust implementability in the public-good provision problem. Following Laffont and Martimort (1997, 2000), in addition to robust incentive compatibility, they require that the incentive mechanism for public-good provision be immune to the introduction of a "manipulation mechanism" whereby a coalition organizer collects information from coalition members and uses this information to distort the information that is provided to the overall mechanism. The introduction of a manipulation mechanism is itself modelled as a mechanism design problem with its own set of incentive and participation constraints. Coalition proofness fails if there exist a manipulation mechanism and a set of agents such that, if all agents in this set subscribe to the manipulation mechanism, and all other agents do not, then all agents in the set are strictly better off than they would be without the manipulation mechanism.

For the simplest version of the public-good provision problem, with a non-excludable public good coming as a single, indivisible unit that costs  $k$ , Bierbrauer and Hellwig (2010/2011) show that robust implementability and coalition proofness jointly imply that (i) people's payments must be the same in all states in which the public good is provided and the same in all states in which the public good is not provided, and that (ii) the decision to provide the public good must be a non-decreasing function of the number of participants for whom the benefits of the public good exceeds the difference between provision-state payments and non-provision-state payments. Information about the intensities of likes and dislikes cannot be used because reports about this information are subject to manipulation by the coalitions concerned. Whereas conditions (i) and (ii) are only shown to be necessary for robust implementability and coalition proofness, they are

in fact necessary and sufficient if the requirement of coalition proofness is weakened to the effect that immunity is only required against manipulations by coalitions that are themselves immune to manipulations by further subcoalitions.

Bierbrauer and Hellwig (2010/11) also show that robustly implementable and (weakly) coalition-proof social choice functions can in fact be implemented by *voting mechanisms*, i.e., by mechanisms where people are simply asked to vote for or against provision of the public good, and the outcome is made to depend on the number of "yes" votes. The standard economist's criticism, that voting abstracts from intensities of likes and dislikes and therefore leads to inefficient outcomes, is therefore moot, at least if one allows for the formation of coalitions that distort information about the intensities of likes and dislikes.

A major revision of this work, undertaken in 2011, shows that the given results for large-economy models can in fact be obtained as limits of the corresponding results for finite-economy models as the number of participants goes out of bounds. In finite-economy models as well as large-economy models, robustly implementable and coalition-proof mechanisms must be voting mechanisms. The new version of the paper also shows that the analysis is not limited to binary choices, i.e., choices involving the provision or non-provision of the public good. For an example with multiple provision levels, the paper shows that implementable and coalition-proof mechanisms must again be voting mechanisms. We conjecture, but have not yet been able to prove, that, depending on the provision cost function, there may be voting paradoxes. Specifically, we expect such paradoxes to arise if the provision cost function involves increasing returns to scale (decreasing marginal costs).

### **C.I.2.6    *Informative Voting***

An alternative approach to articulating what precisely is problematic about first-best implementation in large economies has been pursued by Bierbrauer and Sahm (2006, 2010).

Bierbrauer and Sahm (2006) start from the observation that, in the large economy, with public-good provision decisions and payments unaffected by any one agent's behaviour, people are indifferent as to what they communicate to "the system". Given this observation, they impose the additional requirement that the chosen actions should still be considered optimal if there was even the slightest chance of their affecting aggregate outcomes. This corresponds to the assumption of *informative voting* in political economy, whereby people vote their preferences even though, as individuals, they do not expect their votes to have an effect on aggregate outcomes. In a large economy, this assumption imposes additional constraints on mechanism design. These constraints typically

preclude the implementation of first-best allocations. The reasons are roughly the same as for the constraints imposed by coalition proofness.

For a better understanding of their approach, Bierbrauer and Sahm also study incentive mechanisms for public-good provision that condition only on information received from people belonging to a finite sample of the population. Such mechanisms have previously been studied by Green and Laffont (1979) under the assumption that people in the sample are subject to a different payment scheme from the rest of the population. Bierbrauer and Sahm (2010) show that this condition is actually necessary for first-best implementation in this approach. If people in the sample are subject to the same payment rule as the rest of the population, first-best allocations cannot in general be implemented. In this case, if the sample is large, the optimal mechanism conditioning on information from people in the sample actually yields approximately the same outcomes as the optimal mechanism in the large economy with the informative-voting condition as an additional constraint. Bierbrauer and Sahm (2010) discuss the implications of these findings for a welfare assessment of democratic voting.

### **C.I.3 Public-Goods Provision, Public-Sector Pricing and Taxation**

#### **C.I.3.1 Public-Goods Finance under Participation Constraints**

Textbook treatments of public economics are usually split into treatments of mechanism design and public-goods provision, public-sector pricing under a government budget constraint, and redistributive taxation. Relations between these three locks are rarely discussed. Our work over the past few years has attempted to overcome this separation and to provide an integrated framework for public economics within which relations of the different parts to each other can be discussed and potential conflicts and contradictions assessed. As a step in this direction, Hellwig (2004/2009, 2007a) has shown that the traditional three-way split between the theory of mechanism design and public-goods provision, the Ramsey-Boiteux theory of public-sector pricing under a government budget constraint, and the theory of redistributive taxation should be replaced by a two-way split between models with and models without participation constraints.

Specifically, Hellwig (2004/2009) shows that it may be desirable to use income taxes for public-goods finance. In a model with endogenous production and with productivity levels differing across people, income taxation provides a way of extracting some of the surplus from production though, as in Mirrlees (1971), the extraction is limited by incentive constraints because individual productivity levels are private information. Under the additional assumption that people are free to retrade private goods and unbundled public-goods admission tickets, the paper shows that it is always desirable to use nonlinear income taxes as well as public-goods admission tickets as a source of funds for financing public goods. This confirms the Atkinson-Stiglitz (1976) critique of the Ramsey-

Boiteux approach for not paying sufficient attention to the role of direct taxation as a source of government funds. However, contrary to the claims of Atkinson and Stiglitz, positive admission fees for excludable public goods as well as non-uniform indirect taxes are desirable, in addition to income taxation, if participation constraints are imposed. Optimal public sector prices and indirect taxes and optimal income tax schedules must satisfy a version of the Ramsey-Boiteux inverse-elasticities rule and a version of the Mirrlees formula for the optimal marginal income tax.

Bierbrauer (2009c, 2011a) criticizes Hellwig's dichotomy between models with and models without participation constraints on the grounds that, if participation constraints are to be taken seriously, they must be derived rather than imposed. For a model of the provision of a single excludable public good, he shows that this can actually be done if the provision is delegated to a profit-maximizing entrepreneur. If the entrepreneur's cost is his own private information, the imposition of participation constraints, i.e., giving each agent a veto right may be the only viable way of limiting the monopoly profits that the entrepreneur might otherwise extract.

### **C.I.3.2 *Public Goods Provision, Income Taxation, and Redistribution Without Participation Constraints***

If no participation constraints are imposed, public-good provision can in principle be financed by nondistortionary, lump sum taxation. The Atkinson-Stiglitz (1976) critique of the Ramsey-Boiteux approach to public-sector pricing and indirect taxation is therefore applicable. There remains the question of what can be said about distributive concerns and, in particular, the relation between public-good provision and utilitarian redistribution à la Mirrlees (1971). If differences in earning abilities were the only source of heterogeneity and, hence, the only source of distributive concerns, the Atkinson-Stiglitz theorem would imply that, even with distributive concerns, it is undesirable to charge public-sector prices in excess of marginal costs or to levy distortionary indirect taxes unless, due to complementarities in consumption, these measures help to reduce distortions in redistributive income taxation.<sup>6</sup> As discussed in Hellwig (2004/2009, 2005, 2010 a), however, one must also take account of differences in public-goods preferences as a source of heterogeneity and of distributive concerns. For a single excludable public good, Hellwig (2005) has shown that such distributive concerns can make it desirable to charge access prices above marginal costs in order to facilitate redistribution from people who gain a lot of utility from the enjoyment of the public good to people who do not draw such benefits from it. Hellwig (2010 a) shows that, in this setting, simple pricing mechanisms may actually be dominated by mechanisms with nondegenerate admission lotteries, with higher prices charged for admission lotteries with higher admission probabilities. Hellwig (2010 a) also provides a sufficient condition for randomization to be undesirable; re-

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6 Minor extensions of this theorem are given in Hellwig (2009, 2010 b).

markably, this condition is the same that ensures undesirability of randomization in the literature on price discrimination by a multi-product monopolist.

Whereas Hellwig (2005, 2010 a) deal with the case of a single excludable public good, without any concern for the production side of the economy, Hellwig (2004/2009) allows for multiple public goods and endogenous production, with heterogeneity in productivities (earning abilities) as well as public-goods preferences. In this model, each source of heterogeneity gives rise to distributive concerns of its own. If the different sources of heterogeneity are independent, each one of them calls for distortions in pricing or taxation as a basis for redistribution, in admission fees for excludable public goods as well as income taxes. If the different sources of heterogeneity are positively affiliated, the distributive concerns are even stronger. The resulting formulae for optimal public-sector prices and income taxes can be interpreted as a combination of a Ramsey-Boiteux weighted inverse-elasticities and the Mirrlees rule for the optimal marginal income tax. Because of the multiple sources of heterogeneity and distributive concerns, the Atkinson-Stiglitz theorem does not apply.

As an offshoot from this work, Hellwig (2007 b, c) had also taken a new look at the standard model of optimal utilitarian income taxation. Hellwig (2007 b) provided a new formulation of the Mirrlees-Seade characterization of the optimal income tax schedule – in a more general model, under weaker assumptions, and with a proof that clarifies the structure of the argument, relating the mathematics to the economics and showing what exactly is the role of each assumption that is imposed. Hellwig (2007 c) had shown that randomization in income taxation is undesirable if preferences exhibit a property of nondecreasing risk aversion/inequality aversion; examples in the literature, in which randomization is desirable, are thereby put into perspective.

Bierbrauer (2011b) uses the result in Hellwig (2007c) to refute the criticism that Piketty (1993) has raised against the Mirrleesian approach, namely, that taxes levied on one agent are independent of the other agents' productivity levels. Bierbrauer shows that Piketty's analysis rests an implicit assumption that different agents' productivity levels are negatively correlated. With independence, conditioning of one agent's taxes on another agent's productivity level would be similar to using a randomization device, which, by the argument in Hellwig (2007c), is undesirable. In an independent private values setting, the Mirrleesian approach is actually the best that can be done.

Slemrod and Traxler (2010) endogenize the tax base in a linear income tax problem. The idea is that observability is costly, and there is a tradeoff between observability costs and the attainment of distributive objectives. Incomplete observability affects the determinants of the optimal income tax schedule, in addition to the usual tradeoff between incentives and redistribution.

Bierbrauer and Boyer (2010a, 2010b) place the analysis of Mirrleesian income taxation in a setting of political competition. To avoid running into voting paradoxes, they assume that there are only two productivity levels and consider the implications of competition for votes when politicians differ in ability, i.e., the costs of running the government, and any

redistribution scheme must be incentive compatible. Assuming that the low-productivity group is larger, they find a tradeoff between distributive concerns and efficiency concerns for 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.

As a further offshoot from Hellwig (2007 b), Hellwig (2011c) develops new techniques for dealing with incentive problems that involve unidimensional hidden characteristics. The new technique makes it possible to study such incentive problems in a unified way, without making any assumption about the presence or absence of bunching or about the continuity of solution functions. The analysis encompasses mixed distributions that involve mass points as well as a continuous part. A new robust qualitative property of optimal solutions emerges, namely, interior mass points are a natural source of bunching as well as discontinuities. Otherwise, the standard properties of solutions to such incentive problems are shown to generalize.

Whereas Hellwig (2004/2009, 2005, 2010 a) studies models of large economies with cross-section distributions of taste and productivity parameters satisfying a law of large numbers (and therefore being common knowledge). In contrast, Bierbrauer (2009 a, 2009 b) and Bierbrauer and Sahm (2010) study the interdependence of public-good provision and income taxation when there is aggregate uncertainty about public-good preferences, i.e., there is a genuine problem of finding out what level of public-good provision is desirable. Bierbrauer (2009 a) 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,<sup>7</sup> is vindicated, at least if preferences are additively separable between consumption and leisure. In this case, the arguments given in Section C.I.2.3 imply that, in a large economy, it is always possible to induce truthtelling about public-good preferences by having payments be independent of reported preferences; moreover, implementation is independent of people's beliefs about each other, i.e., robust. Given the financing needs that arise from efficient public-goods provision, there remains the Mirrlees problem of determining an optimal income tax schedule with a view to these financing needs and redistribution.

The interdependence of public-good provision and income taxation is also central to Traxler (2009, 2010). These papers study a political-economy model of public-good provision financed by a linear income tax when people can engage in activities that permit them to avoid taxation. The median-voter theorem applies. However, the median voter is defined in terms of after-tax incomes, rather than pre-tax incomes or wage rates. Depending on what one assumes about people's avoidance costs, rankings in terms of after-tax and pre-tax incomes need not be the same. In this case, there can be redistribution from the middle to the top and the bottom of the income distribution. There can be under-provision as well as over-provision the public good, even though the median

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

income level is less than the mean. When there is over-provision, the inefficiency is the lower, the higher the average level of tax avoidance in the economy.

### **C.I.3.3 *Enforcement and Compliance***

In the past, we have abstracted from issues of enforcement. However, when millions of people are involved, enforcement of payments is a nontrivial matter. With the arrival of Christian Traxler at the institute, we have also begun to develop a competence in this direction. Even before coming to the institute, Christian Traxler had initiated a large-scale project investigating enforcement and compliance with respect to the payment of fees for radio and television in Austria. Results of this project are presented in Traxler and Winter (2009), Rincke and Traxler (2011), and Fellner, Sausgruber and Traxler (2009/forthcoming).

Traxler and Winter (2009) report on the results of a survey that was conducted concerning compliance with respect to the obligation to pay fees for radio and television in Austria. Econometric analysis of the evidence from the survey suggests that compliance behaviour is very much influenced by people's beliefs on the frequency of compliance by others. This finding cannot be explained by sanctions varying with the frequency of compliance; actual sanctions are independent of this frequency and depend mainly on the severity of the delinquency.

Traxler (2009) provides a theoretical analysis of the implications of this finding for equilibrium compliance behaviour and for tax and enforcement policies. If compliance behaviour depends on beliefs about the compliance of others, in equilibrium, this norm itself is determined endogenously. A major policy implication suggests that tax and enforcement policies should be targeted towards influencing people's beliefs about the compliance behaviours of others because these beliefs have an immediate effect on their own compliance.

Fellner, Sausgruber, and Traxler (2009/forthcoming) report on a field experiment involving mailings to suspected evaders of television fees in Austria. Some mailings just reminded people of their obligation to pay these fees, some were accompanied by a threat of legal sanctions, some by an appeal to moral norms, and some by information about the compliance behaviour of others. Relative to a control group, there was a strong effect of these mailings on all people receiving such mailings. Mailings threatening legal sanctions had a strong additional effect, mailings appealing to moral norms or containing information about the behaviour of others did not have such an additional effect. For the addressees of the mailings, the findings confirm the economic model of delinquent behaviour as a result of a consideration of costs and benefits, with little regard for moral or social norms. However, the addressees consist of a selected group of the population, namely people who were known to live at a given address and had not previously registered to pay their television fees. Attitudes and behaviours of people in this select group

are probably not typical for the population at large, of which more than 90 % are in compliance anyway. However, when thinking about enforcement policies, the attitudes and behaviours of the potential delinquents may be the thing to focus on, even if these attitudes and behaviours cannot be generalized to the population at large.

Rincke and Traxler (2011) study the effects of enforcement activities on compliance behaviours. Econometrically, the problem is to avoid spurious correlations and simultaneity bias, due to the fact that enforcement officers' choices of where to go and look for potential evaders are endogenous, perhaps driven by information on where suspected evasion rates are high or by the consideration that it is more comfortable to do this job in a densely settled area, e.g., a city, than in a distant mountain valley. To deal with the identification problem, Rincke and Traxler make use of a natural experiment that was provided by extraordinary snow fall in the winter of 2005/2006. The snow fall had a differential impact on enforcement officers' costs of getting to different parts of the country, e.g., more severe effects in remote mountain valleys or in places at higher altitudes. Using such weather-related variables as instruments, Rincke and Traxler find that compliance behaviour is positively affected by enforcement activities, not just directly, because offenders are caught, but also indirectly, because, presumably through word of mouth, information about such activities spreads in the local community and people who have failed to comply so far begin to have second thoughts. To be more precise: Rincke and Traxler find that, following enforcement activities in a given area, registration for television fees in that area goes up, i.e., some non-compliers begin to register even though they have not been directly affected by the enforcement as such.

## **C.I.4     Governance, Finance, and Efficiency in Public-Goods Production<sup>8</sup>**

### **C.I.4.1    The Research Problem**

Most of normative public economic theory, including the work on which we have reported in Sections C.I.2 and C.I.3 does not pay any attention to the supply side of the economy, in particular to the production of public goods. The focus is exclusively on the demand side and on the implications of nonrivalry for preference revelations and finance under conditions of incomplete information. The nature and properties of the public goods are taken as given; the production side is represented by an exogenously given cost function.

The significance of this lacuna is obvious if one considers the financing of production. According to Atkinson and Stiglitz (1976), the government budget constraint is just what the term says, a constraint, whose impact should be minimized. Therefore any need for funds to finance production should be covered from direct taxes, preferably lump sum

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<sup>8</sup> This part of the report is not much changed since 2009. The financial crisis has diverted our attention away from the issues raised here, but we continue to believe that the problems raised are important and promising.

taxes. According to Hellwig (2004/2009), the scope for direct taxation may be limited by participation constraints, and therefore one may need entry fees as well as direct taxes to finance production. Even so, a subsidization of public-goods provision from direct taxation is desirable, as is some cross-subsidization between the different public goods.<sup>9</sup> There is no notion that any one public good or any one subset of public goods ought to be self-supporting. Any notion that the production sector should be divided up into separate units, with a proviso that each unit finance itself, is rejected because this would entail replacing the single, integrated budget constraint for the entire production sector by a multiplicity of separate constraints for the different subunits. This would further restrict the set of admissible allocations and would presumably reduce welfare.

However, this line of argument neglects information and incentive problems on the production side of the economy. The notion that welfare is increased by having an integrated production sector with a single, consolidated budget constraint stems from the Pigouvian tradition of welfare economics, in which the planner has complete information about preferences and technologies. The modern theory of normative public economics has done away with the complete-information assumption, but it has done so in a piecemeal fashion, with mechanism design models of the demand for public goods and screening models for the supply,<sup>10</sup> without integrating the two.

Taking account of information and incentive problems in production, one expects subsidization and cross-subsidization schemes to have negative effects on producers' efforts. If a producer knows that any deficit is going to be covered by funds from another source, he may be less concerned about cost efficiency or about tailoring his product to the needs of his customers.<sup>11</sup> The same holds for a producer who knows that any surplus he earns is going to be siphoned off for use in some other part of the system. This should lead to a more critical view of subsidization and cross-subsidization schemes in the financing of production.

However, the insights concerning the benefits of such schemes that have been developed in normative public economics so far do not automatically become obsolete. The mere fact that incentive effects in production matter does not by itself invalidate the arguments underlying the inverse-elasticities rule, e.g., arguments in favour of cross-subsidizing local public transport from profits in electricity distribution. What we need is a framework for comparing such benefits of cross-subsidization with the costs of negative incentive effects. As yet, we do not have a conceptual framework for assessing the trade-offs that are involved.

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9 Fang and Norman (2005) argue that, in addition, the cross-subsidization scheme should encompass all private goods.

10 For the latter, see Baron and Myerson (1982), Laffont and Tirole (1993).

11 This insight is at least as old as the Ramsey-Boiteux theory itself. Indeed, Boiteux (1956) considered a single public enterprise subject to a stand-alone budget constraint precisely because he was aware of the incentive implications of a requirement of cost recovery for this enterprise, without any prospect for cross-subsidization from other parts of the public sector.

The problem has been around for a long time. Remarkably, though, hardly any work has been done on it. Laffont and Tirole (1993, Ch. 15) provide an example in which it is better to have average cost pricing, i.e. to have the activity in question finance itself, rather than marginal-cost pricing with a public subsidy covering fixed costs. In the example, the firm has private information about the level of fixed costs, i.e. about the size of the subsidy it can claim under marginal-cost pricing. The supervisory authority has this information as well, but this authority is captured and tends to go along with the firm's demands unless it is under pressure from consumers. Average-cost pricing is a device to make consumers be interested in and to exert pressure with respect to the level of fixed costs that the supervisory authority certifies.

However, this model cannot be regarded as a basis for the development of a more general normative analysis. The analysis and its conclusion are highly dependent on the details of the specification of information and of political interdependence. A general conceptual framework for studying the tradeoffs between negative incentive effects and positive Ramsey-Boiteux effects of subsidization and cross-subsidization schemes has not yet been developed.

Bierbrauer (2011) also obtains the conclusion that the imposition of a self-financing requirement may be desirable if a regulated firm with private information about costs produces and sells access to an excludable public good. The key assumption is that the relation between the policy maker and the regulated firm is incomplete, i.e., not fully contingent on all possible configurations of technologies and public goods preferences. While access to public funds certainly is in the firm's interest and, moreover, is conducive to achieving undistorted first-best outcomes, as opposed to distorted second-best outcomes, the consumers may prefer the imposition of a self-financing requirement for the firm because this limits the fraction of the surplus that the firm can extract and therefore leads to a higher level of consumer surplus. This analysis, however, involves a single excludable public good and as such is not suitable for studying cross-subsidization.

#### **C.I.4.2     *Ingredients of the Analysis: An Overview***

It seems appropriate to start by looking at the problem in terms of standard incentive theory. Any one activity requires the effort of a manager as an input, this effort is unobservable, and must be called forth by appropriate incentives. Providing the activity with a separate budget, which is taken out of the general public budget, provides a basis for using profit as a basis for rewarding managerial effort. The incentive effects of subsidization and cross-subsidization schemes will then be similar to the incentive effects of a profit tax or subsidy, which are well known from the literature on moral hazard in insurance and in finance.<sup>12</sup> The problem would be to compare the efficiency losses associated with these incentive effects to the efficiency gains from the allocative effects considered in Ramsey-Boiteux theory.

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12    E.g. Holmström (1982), Jensen and Meckling (1976).

However, there are a few difficulties that must be dealt with. Most importantly, the notion that every activity should self-finance is unrealistic. For some activities, self-financing seems impossible, for others, it is undesirable. An example where self-financing is impossible is provided by the railway system in Germany; most experts believe that this system is unable to finance the costs of the railway track network. An example where self-financing is undesirable is provided by the judicial system. Even though the services that the judicial system provides are, in principle, excludable, overriding social and political concerns in a democratic society militate against the use of user fees as a basis for financing this system.

Even in the private sector, private parties' limited ability to pay and limited liability cause problems for incentive provision based on profits. The impossibility of making the manager or entrepreneur participate in large losses tends to weaken incentives for effort and to induce excessive risk taking.<sup>13</sup> The treatment of insolvency therefore figures among the central issues in the theory of financial contracting.<sup>14</sup> Going beyond the discussion of incentive effects *ex ante*, this theory also focuses on the implications of insolvency for governance, e.g. the specification of intervention and control rights of the different claimants to the firm's assets. A major issue concerns the credibility – and the incentive effects – of contractual arrangements *ex ante* when these arrangements are subject to renegotiation, or to breach, *ex post*.

Credibility is likely to be even more difficult to establish when the activities in question serve the public interest. For a company or a person producing a purely private good, especially when in competition with others, insolvency poses a serious threat. New money is unlikely to be forthcoming unless the financiers can expect to recover the opportunity costs of their funds. For a company or person producing a public service, the prospect of insolvency is less threatening, especially if there are no other companies or persons producing the same service. The public at large has some interest in having the provision of the service continued, and the politicians in charge do not want to be blamed for its being discontinued. This makes it likely that, even if, *ex ante*, a self-financing requirement was imposed, in the event of insolvency *ex post*, the public purse would be used to provide continued finance.

The research problem of studying tradeoffs between incentive effects and allocative (Ramsey-Boiteux) effects of subsidization and cross-subsidization in public production must therefore be widened so as to encompass the problem of how to establish the credibility of arrangements that are intended to limit the scope for subsidization and cross-subsidization of individual activities. The scope for subsidization and cross-subsidization in public production must not be regarded as a policy parameter, but must be treated as a consequence of institutions and contracts that govern subsidization procedures and that provide for greater or lesser credibility of budget constraints.

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13 Jensen and Meckling (1976), Stiglitz and Weiss (1981), Hellwig (2009).

14 Gale and Hellwig (1985), Aghion and Bolton (1992), Hart and Moore (1990, 1998).

In pursuing these questions, we want to draw on the large literature on soft versus hard budget constraints,<sup>15</sup> as well as the literature on cross-subsidization in private corporations.<sup>16</sup> Combining ideas from financial contracting and governance theory, these literatures investigate how the “hardness” of a budget constraint affects behaviours in different settings with different specifications of information asymmetries, moral hazard, and control rights assignments. Cross-subsidizations arising from soft budget constraints are sometimes treated as desirable and sometimes as the unavoidable consequences of a lack of arrangements that would make *ex ante* commitments credible. Some indications of the different possibilities are given in the analyses that Schmidt und Schnitzer (1993) and Schmidt (1996) provided of the effects of hardening budget constraints by privatization. For private corporations, Inderst and Müller (2003) and Inderst and Laux (2006) have indicated some incentive and governance implications of intra-firm cross-subsidization through internal capital markets. The task will be to adapt and extend the insights from this research so as to provide a basis for the more general welfare theoretic analysis of incentives, governance, and allocative (Ramsey-Boiteux) effects that we are interested in.

#### **C.I.4.3 Some Research Questions**

Along the lines suggested above, the first task would be to study the tradeoff between incentive effects and allocative effects of cross-subsidization mechanisms in a model of incentive contracting. The question is how the consideration of allocative effects changes optimal incentive schemes, in particular, how the effects of different degrees of hardness of budget constraints on output prices are to be taken into account.

In a second step, the analysis should take in the problem of making budget constraints credible.<sup>17</sup> This must be treated as a problem of institutional design. The problem is likely to be most difficult for those activities where hard budget constraints are in principle problematic because (i) the community is dependent on these activities and (ii) these activities cannot or should not be self-financing in the market. Of particular interest will be quasi-market arrangements under which subsidies are not paid to producers directly, but subsidies are paid to users who can then use them to pay for the goods or services in question. Examples would be voucher schemes for subsidizing education or, in the case of Germany, the subsidies which the Länder use to pay in order to maintain railway traffic on certain lines, relying on competition among railway transportation companies to keep the costs down.

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15 For a survey, see Kornai, Maskin, Roland (2003).

16 For a survey, see Hellwig, Laux, Müller (2002).

17 This problem concerns not just budget constraints for providers of public goods but also budget constraints for local and regional governments in a federal state or for national governments in a currency union. For a discussion in the context of the European Monetary Union, see Franz et al. (2010), Hellwig (2011c).

In this context, it will be necessary to extend the theory of hard versus soft budget constraints and of privatization. Apart from taking account of the impact that alternative arrangements have on output prices, it will be also important to consider the difficulties of contracting on matters of public interest. "Incomplete-contracts" theory gives many arguments for why the specification and subsequent enforcement of contractual obligations give rise to incentive problems of their own. These arguments apply to obligations concerning the public interest at least as much as to obligations concerning the delivery of goods or services to another private party. The theory would therefore suggest that control rights are needed as a substitute for effective contractual rules. But then, something like the privatization of a production activity involves a tradeoff between the hardening of budget constraints and the loss of control that are thereby induced. We should develop a framework for studying the determinants of this tradeoff.

An example of these issues was provided by the projected privatization of Deutsche Bahn AG. There seems to be a consensus that the network of railway tracks is not viable on its own, but needs a public subsidy of some 3 billion euro per year. Political discussion of privatization had focussed on whether the company should be privatized as a whole, including the network of railway tracks, or whether the privatization should be limited to the transportation companies, which, in principle, should be economically viable on their own, without direct public subsidies. Underlying this question is the conflict between different concerns about control rights assignments in a world in which contracts are incomplete. Deutsche Bahn AG prefers to retain the integrated structure of railway track and transportation in one company, in combination with a contract determining the Federal Government's yearly subsidies, as well as the track investments that are to be made. The alternative solution of having the railway track continue to be run by a public company, with contracts governing relations between the public railway track company and the privatized transportation company is rejected because the incompleteness of contracting is seen as an impediment to efficiency in relations between the public railway track company and the privatized transportation company. However, the very reasons for being sceptical about a reliance on contracts in relations between the railway track company and the transportation company are also reasons for being sceptical about a reliance on contracts between the Federal Government as a financier and the integrated railway company as a manager of the railway tracks.<sup>18</sup>

Underlying this conflict is the theoretically interesting question how one might balance conflicting concerns about control rights assignments when the vertical chain of relations involves more than two parties (here, the Federal Government, the railway track company, and the railway transportation company), and an overall vertical integration of all three parties is ruled out. What factors determine which control rights assignment is to be preferred? To what extent is it possible to use contractual arrangements in order to implement flexible control rights assignments that provide for a compromise between the two alternatives mentioned above? As a matter of pure contract theory, these questions are of interest and shall be pursued in their own right. In addition, it will be of interest to

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18 Hellwig (2006).

investigate how the treatment of conflicting control rights concerns affects the tradeoff between the incentive effects of hardening budget constraints and the disadvantages from control loss by privatization.

Apart from contractual arrangements, the analysis must also take account of the possibility of using sector-specific regulation in order to govern conduct so as to take account of the public interest even after privatization. In practice, sector-specific regulation is used to enforce the provision of network access to other companies so that they can compete in downstream markets. Sector-specific regulation is also used to implement *universal-service* regulations by which an industry is obliged to provide a certain minimum of services at uniform and low prices to everybody. However, the insights of contract theory concerning the limits of “complete contracting” for incentive provision apply to such regulation as well; the assignment of intervention rights to the regulator himself raises new questions about incentives and accountability.

The research projected in this subsection will partly be carried out under the auspices of a research project, “Corporate Control, Corporate Finance, and Efficiency”, which is funded by the Deutsche Forschungsgemeinschaft as part of the Sonderforschungsbereich/TR 15, *Governance and the Efficiency of Economic Systems*.

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## **C.II      The Behaviorally Informed Design of Institutions for the Provision of Collective Goods**

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## **C.II.1 General Outline**

### **I. Motivation**

Since the last report to the Advisory Council, our work has even more pronouncedly become experimental. Yet we have kept the original mission statement: "The Behaviorally Informed Design of Institutions for the Provision of Collective Goods", since our area of interest has not changed. We also see no reason to exclude other empirical methods, or theory, or doctrine, by the very definition of our task. Consequently, the following paragraphs motivate our work as well as they did two years ago.

All research on collective goods asks one of the following three questions: is there a collective-goods problem in the first place? If so, is an existing or a proposed institution able to solve the problem, or at least to improve the situation? Finally, do the normatively appropriate problem definition and the normatively preferable institutional response stand a chance of being implemented?

It is natural to address all these three questions by way of rational-choice analysis. Collective-goods problems are then defined as pure public goods, club goods, or common pool resources. In each case, the analysis focuses on incentives and information, and on the way in which institutions shape incentives and channel the information which is required to address the collective-goods problem. Normative analysis deals with the optimal design of incentives, positive analysis with the actual incentives that are generated in a given institutional context. The mechanism design approach summarized above does the former kind of analysis, public choice theory the latter. Here the rational-choice paradigm helps us understand why the political process often fails to harness sovereign powers in the interest of changing incentives such that collective-goods problems disappear.

While evidently fruitful, the rational-choice perspective is also limited. This is due to the very same factor that has made the rational-choice model so visibly successful. The model rests on the strict distinction between objectives and constraints. The object of study is utility-maximising individuals reacting to changes in opportunity structures. For methodological reasons, the individual is modeled as *Homo Oeconomicus*. For sure,

these are only assumptions, not claims about reality. They are imposed in order to capture the essence of social phenomena and institutions, and to make predictions for the effect of changing circumstances. However, the scope of this analysis is inherently limited.

An alternative research strategy, which starts with what is known about human behavior, is likely to develop a fairly different depiction of collective goods. Some phenomena that are made visible by behavioral analysis can hardly even be translated back into the world of rational choice. This project focuses on the alternative approach. The behavioral analysis of collective goods is not virgin territory. Suffice it to recall a few of the well-known findings: where (simple) rational-choice models would predict the “tragedy of the commons”, in practice it is often conspicuously absent. There are various reasons for this, but the fact that they have a more realistic picture of human motivation is part of the explanation. “Public-goods games” are one of the workhorses of experimental economics. Again, contribution rates found in the laboratory by far exceed the prediction of zero contributions made by rational-choice models. If all beneficiaries of a public good agree on a contribution level, in rational-choice terms this is just “cheap talk”. At the level of implementing the agreement, the original social dilemma is repeated. However, psychologists have traced a powerful cheater-detection mechanism, effectively exploiting subtle signals. It has bite, since punishing sentiments kick in when cheating seems patent. Emotions thus trump rationality and help solve the social dilemma. It is in this context that our work on the behavioral analysis of collective-goods problems is situated. We are adding new dimensions, exploring new fields of application, and translating the findings into institutional analysis and design.

Likewise, we are of course not the first to be interested in the behavioral analysis of institutions. Behavioral effects have never been fully absent from institutional analysis. An obvious illustration is “moral suasion”. But the most prominent force in the area is the growing behavioral law and economics movement. It mainly piggybacks on the Kahneman/Tversky critique of the rational-choice approach. It either interprets legal institutions as remedies to individually or socially detrimental “biases”. Or it criticises the legal community for overlooking that biases prevent the law from being effective. Both have obvious value. Suffice it again to recall two well-known findings. It is much easier to get an appropriate understanding of consumer-protection legislation if one understands the psychological underpinnings of strategies like the “foot-in-the-door technique of salesmen”. Environmental policy has long been tempted by torts as a tool for “ex-post regulation”, in light of the experiences from concrete cases. This is, however, dubious advice, given the strong “hindsight bias”. Once one has seen the evidence of a risk materialising, it is next to impossible to form a proper assessment of its ex-ante likelihood. Consequently, regulation by torts finds itself on a slippery slope towards ever stricter rules.

Some of our work is exactly in this tradition, where it seems helpful to assess the potential of institutions, and of the law in particular, in order to solve collective-goods problems. But in two ways we are going beyond this earlier work. We make a point of not exclusively looking at biases. Related to this, the Kahneman/Tversky literature and the experimental economics literature are not the only sources we are tapping. Rather, we try to

purchase directly from psychology. And we are particularly interested in the law as a governance tool. We are convinced that, in a behavioral perspective, one is able to gain a much richer understanding of the law's potential. In these ways, we also hope to bridge the gap between (new) behavioral law and economics and (old) law and psychology. While there has for decades been direct interaction between lawyers and psychologists on issues like lie detection or eyewitness testimony, this strand of research has not thus far been very interested in the law as a governance tool.

Interdisciplinarity is never easy. However, in major US law schools, law and economics has almost become a standard approach. Behavioral law and economics is seen as one of the major strands of this approach, and is itself making headway. The situation in Germany is significantly different. Here, antitrust law notwithstanding, economic analysis is still rare, if not actively combated. The behavioral analysis of law is only just tentatively starting. Against this backdrop, it is inevitable that the widespread scepticism about a closer interaction between law and the social sciences be taken seriously. We are trying to respond at two levels. At one level, we are attempting to determine the proper role of input from the social sciences in both legal doctrine and legal science. At the other level, we are comparing alternative paradigms, starting with rational-choice and behavioral analysis, but not confining ourselves to these.

In earlier reports, we had to admit that the third fundamental question regarding collective goods would lend itself to behavioral analysis no less than the first two, but was largely beyond the scope of our attention. Due to the advent of several scholars who are particularly interested in these issues, we have now begun to address selected aspects of political process as well.

## **II. Summary Report**

On this agenda, over the last two years, we have made progress in the following respects.

### **1. Problem Definition**

#### *a) Public Goods*

In line with the overall mission of the Institute, the primary focus of our work has been the deepening of our understanding of public goods. A public good can be modelled as a prisoner's dilemma. Provided all potential contributors hold standard preferences, the prediction is straightforward. For all players, defection prescribes the unique Nash equilibrium. The commons is tragic (Hardin 1968). This also holds if interaction is repeated, provided the end is defined (Selten 1978; Rosenthal 1981). The prediction holds however small the group, and however large the gains from cooperation. Happily, reality is not that lugubrious. Quite a few public goods are provided (Keser and van Winden 2000), and quite a few commons survive even without heavy-handed institutional intervention

(Ostrom 1990). Yet the willingness to contribute to a public good is precarious (Fischbacher, Gächter et al. 2001; Fischbacher and Gächter 2010). Even if it is not tragic, the commons presents a drama (National Research Council 2002). From a policy perspective, it is therefore critical to understand the conditions under which those facing the dilemma are more or less likely to overcome it themselves.

Starting with the seminal book by (Rapoport and Chammah 1965), many have investigated changes in the cardinality of payoffs (see, e.g., Ahn, Ostrom et al. 2001). A more recent literature explores personality factors like the individual specific degree of inequity aversion (Fehr and Schmidt 1999; Bolton and Ockenfels 2000). Yet, in line with a basic finding from differential psychology (Mischel and Peake 1982; Mischel and Shoda 1995), attempts at isolating stable personality factors have been frustrating (Blanco, Engelmann et al. 2011). Against this backdrop, it is remarkable that we have been able to explain choices in a simultaneous one-shot symmetric two-person prisoner's dilemma by a combination of gains from cooperation, optimism, altruism, risk and loss aversion. When tested in isolation, many of these factors are even insignificant. But they become significant once we control for the remaining factors. We conclude that, in the perspective of actors potentially sensitive to the social effects of their choices, a dilemma is a game of mixed motives (Engel Zhurakhovska).

If one tries to understand why the commons is not just tragic, two ingredients may not be omitted from the explanation: individuals are heterogeneous (Burlando and Guala 2005), and many condition their own willingness to cooperate on the expected or perceived willingness of others to do the same (Fischbacher, Gächter et al. 2001; Fischbacher and Gächter 2010). In a repeated game, selfish agents may then just mimic conditional cooperators, which is the object of an experiment in preparation by (Fischer Weisser Zultan).

If people are sometimes willing to ignore the dilemma and to cooperate nonetheless, it becomes critical to understand the conditions under which such deviations from standard game theory predictions are more or less likely. (Ding Li) experimentally test a situational variable: what if participants play two identical trust games with different anonymous partners, once simultaneously and once sequentially? It turns out that participants trust more in the sequential condition. A perceived situation changes behavior. A further experiment in the same paradigm shows that the beneficial effect of playing both games sequentially results from imaginary learning, despite the fact that actually participants did not get feedback before the start of the second game (Ding Nicklisch).

Since Daniel Kahneman started that literature (Kahneman, Knetsch et al. 1986), it is safely established that a substantial fraction of experimental participants is willing to give to an anonymous recipient. Findings from dictator games are usually read as evidence of altruism. Yet not only is there heterogeneity within all experimental groups that have been tested. There are also systematic differences across experimental conditions. Participants, for instance, give more if the recipient is a charity, and they give less if they had to earn the money. While these and many other moderating factors are established in isolation,

thus far it was neither possible to see them conjointly, nor to compare their relative strengths. The meta-analysis by (Engel) closes the gap, covering 129 papers and 41,433 observations. (Fischer Goerg Nicklisch) also contribute to our understanding of altruism. In an experiment, they show that participants give much more if they observe how much others are giving.

This line of research is closely related to the series of contributions on the affective determinants of charitable giving by (Dickert), to the work on attentional focus as the explanation for donation behavior (Ashby), and to an experiment exploring the effect of social value orientation on information search and processing in dictator games (Fiedler Dickert Glöckner). Further contributions from (or in close collaboration with) the independent research group study the effect of social value orientation on people's strategic financial decisions (Beckenkamp Dickert) and on information search and processing in public goods (Fiedler Glöckner Nicklisch). In several papers, Hilbig establishes honesty/humility as a separate motive (Hilbig, Zettler Hilbig). Finally, (Dickert) experimentally studies a helping dilemma: if a participant helps the first person in need, she can no longer help the second.

In the field, many public goods are embedded in a wider social context. If a municipality subsidizes the opera house, visitors from outside the town benefit as well. If the same municipality constructs a landfill, this keeps garbage off the streets but puts the groundwater in neighbouring villages at risk. It would be intuitive that the positive externality on bystanders increases the willingness to contribute, and that a negative externality on bystanders reduces it. Yet this is not what (Engel Rockenbach) find in their experiment. If they impose harm on outsiders, this helps insiders coordinate. If outsiders reap a windfall profit, insiders become more hesitant. Inequity aversion turns out critical, in particular if insiders risk falling behind outsiders. Yet inequity aversion alone cannot be the explanation either. Otherwise one would have to postulate an implausibly strong aversion against outperforming others. It turns out that the desire to secure gains from cooperation, in the sense of (Kreps, Milgrom et al. 1982), is simultaneously present. These results stand in some contrast to preliminary findings by (Fischer Goerg). In their experiment, participants have been willing to trade some payoff for themselves in exchange for not harming others. In an ongoing project, (Fischer) explores both theoretically and experimentally to which degree participants are willing to share the cost of coping with occasional negative exogenous shocks. (Goerg Walkowitz) study a prisoner's dilemma where cooperation imposes a positive or a negative externality on the opposite player. In Palestine and China, participants cooperate more if the externality is positive. In Finland and Israel, participants cooperate more if the externality is negative.

### *b) Principal-Agent Relationship*

If a principal can only imperfectly select or supervise an agent, the principal runs the risk of being exploited. By anticipation, the agent runs the risk of not being adequately com-

pensated for her service. In the extreme, the market may completely break down (Akerlof 1970). Again, in the field the dilemma is less pronounced, and many of us have been interested in exploring under which conditions the dilemma is at least mitigated.

Two of us have exploited the fact that the whole library of the institute had to be reorganised. While books were previously stored alphabetically by authors' names, they now are classified by subject matter. This meant finding, checking, and signing more than 10,000 books. Student helpers were hired under different schemes of goal-setting. Compared with performance under a linear piece rate, the number of books correctly handled went significantly and substantially up if there was an explicit goal, even if this goal was exogenously imposed by the principal, and even if missing the goal had no effect on the wage (Goerg Kube).

While this study points to a beneficial effect of goal-setting, it contrasts with another study that compares poorly specified obligations with a labor relationship where the expected performance is not specified at all. In this comparison, explicit goals crowd out intrinsic motivation (Fellner Nicklisch).

Equal pay for equal performance is a strong social norm. Yet if the principal can only observe the output of an entire team, and not the output of individual team members, asymmetric rewards would help reduce the information asymmetry. Despite the fact that the asymmetry violates a fairness norm, in the lab it increases total output if individual workers' effort is complementary (Goerg Kube Zultan).

While in the former context wage discrimination enhances welfare and is therefore desirable from the perspective of efficiency, in many other contexts it lacks justification. In a hybrid of the lab and a field experiment, Chinese students were asked to hire Chinese migrant workers for a routine job. Wages offered were higher if the worker's home province had a larger national product. Wages were lower the larger the distance between the employer's and the worker's province, and the more pronounced the ethical heterogeneity in the worker's province (Chmura Goerg).

Another experiment shows that intentionality only matters initially. In the baseline, by the design of the experiment two workers receive unequal wages for equal effort. In the treatment, if there is asymmetric payment, this is due to the principal's choice. Initially, in the treatment workers withhold effort, yet they gradually give in, such that by the end there is no longer a significant difference in effort between the baseline and the treatment (Fischer Steiger).

From a fairness perspective, one might think that it helps the principal and the agent to overcome their dilemma if they can communicate. In the following experiment, this intuition proved wrong. One principal could only observe the output of a team of two workers, not of each worker individually. If workers were given the opportunity individually to send a message about their own effort to the principal, total performance went down. The beneficial effect of giving the principal a signal on which she can condition the wage was more than outweighed by agents sending wrong signals (Kleine Kube).

Finally, the virtual world of Second Life provides a setting for testing the interaction between informal and formal elements of a labor relationship (Cohn Fehr Nicklisch).

Lawyers are particularly interested in principal-agent relationships because they provide a succinct model for many problems of corporate law, and for the control of management in particular. (Hamann) experimentally tests the differential effect of rules that either favor shareholders or stakeholders. A further project compares group decision-making with decision-making in a setting where the group acts under the supervision of a veto player. This design is meant to capture the difference between one and two tier boards (Hamann Manâa Zhurakhovska).

A further line of research shifts the focus from the interior of the corporation to its dealings with the outer world. (Engel) surveys the rich experimental literature. Some aspects are well studied, in particular the difference between decision-making by individuals vs. decision-making by ad hoc groups. There is also some evidence on the difference between decision-making for oneself, compared with decision-making for others. By contrast, the behavior of living social entities, and of actual corporations in particular, is much harder to study under controlled conditions. In this area, a number of experimental projects are under way. One experiment studies competition between teams if these teams are heterogeneous (Kurschilgen Morell Weisel). Another experiment investigates how the willingness to impose a negative externality on outsiders is affected if decision-making is delegated to an agent, and how the imposition of legal requirements interacts with this (Fischer Hamann). Another planned experiment will compare taking risk for oneself and taking risk on behalf of others (Goerg Kleine Zhurakhovska).

### c) *Anti-Trust and Regulation*

If one focuses on the interior relationship between cartel members, a cartel is a prisoner's dilemma. Each cartel member is best off if all others remain loyal while she undercuts the cartel price, or surpasses her quota, for that matter. Yet jointly, the cartel is best off if all members set the monopoly price or supply the monopoly quantity. Since prisoner's dilemmas have been extensively studied experimentally, industrial organisation and anti-trust law could not only learn from the rich experimental literature that directly studies oligopoly (see the meta-study by Engel 2007), but could complement and contrast this evidence with findings from experimental prisoner's dilemma games.

However, from a behavioral perspective, this implies that focusing merely on the internal relationship of cartel members is too narrow. In the reality of anti-trust, two things are added. Cartel members know that internal cooperation imposes harm on the opposite market side. And they are aware of the fact that, all over the world, the legal order threatens price-fixing with sanctions. Arguably, by framing the experiment as a market game, oligopoly experiments trigger these two additional effects. In order to isolate them, we have implemented an unframed prisoner's dilemma, and manipulated the harm on the third, passive player; the risk of not getting gains from cooperation; and the combi-

nation of both. It turns out that knowing they will have to harm outsiders not only is immaterial. Once we control for beliefs, we even see that knowing they have to be mean on bystanders helps active players overcome their dilemma. The risk of not getting gains from cooperation also only has a small effect. It only reduces cooperation if, in expected values, gains from cooperation are close to vanishing (Engel Zhurakhovska).

While the interpretation of a cartel as a prisoner's dilemma is straightforward, the interpretation as a linear public good requires somewhat more effort. Gains from cooperation are only to be had if no single cartel member defects. Gains from defection depend on the number of defectors. Cooperation has an opportunity cost and an out-of-pocket cost. The faithful cartel member forgoes the opportunity to exploit other cartel members, and she entails the risk of being exploited herself. (Engel) formalizes these ideas. In the future, we will have to test experimentally to which degree these differences change behavior. The less they do, the more industrial organisation and anti-trust might also capitalize on the rich literature on experimental public-good games.

Two papers are follow-ups to the meta-study on oligopoly games (Engel 2007). The first paper had been invited by the Directorate General of the European Commission on competition. In preparation of the current revision of the guidelines on research and development agreements, the Commission wanted to know which experimental evidence on such agreements exists. Specific evidence on precisely this point is scant. There is a bit more on the degree of collusion in markets where production cost is liable to exogenous shocks, be that due to successful innovation or to a change in the prices of raw materials. It turns out that clearing such agreements increases the risk of collusion if products are substitutes, if producers are experienced, and if they can communicate. By contrast, allowing R&D agreements promises a double dividend, if the opposite market side is active, if the market is large, and if the market is stable (Engel). A further contribution prepares the main findings of the meta-study for the German anti-trust community (Engel).

The abuse of dominant positions is a bone of contention between lawyers and economists. While most economists argue that the effect of most strategies crucially depends on conditions, and therefore propagate a rule of reason approach, most lawyers call for bright line rules. In his Ph.D. thesis, (Morell) bridges the interdisciplinary gap for one particularly debated issue, rollback rebates. In an equally sophisticated and accessible way, he makes complicated theoretical thinking accessible for the legal community at different levels of formalization. He proposes a solution in the spirit of *prima facie* rules and defines the factor combinations that rather call for intervention or for abstention. He also suspected rollback rebates to captivate customers even beyond the predictions made for money-maximizing agents. In a lab experiment, he and his co-authors showed that such rebates are indeed sticky (Glöckner Morell Towfigh).

Over the last decade, anti-trust legislation has spread out over the world. (Petersen) exploits this fact to study econometrically whether taming economic power through anti-trust helps countries to become more democratic. After proper controls for the endogene-

ity problem, there is no such effect, while anti-trust significantly enhances economic growth. This part of our work is also related to the series of contributions on oligopoly (Jansen) and on collusion (Gorelkina) from Martin Hellwig's group.

Practical law is sometimes less sophisticated than the recommendations from economic theory, but it has stood the test of time. We wondered why the German Copyright Statute gives copyright owners the legally enforceable right to a bonus if the work turns out a blockbuster. It is well known in the media industry that the success of individual works is hard to predict and that variance is large. But aggregate information is relatively reliable, so that negotiations could be based on expected values. In a lab experiment, we show that the German rule leads to lower *ex ante* prices, more deals, higher welfare, and less discontent (Engel Kurschilgen). We are preparing a web experiment to elicit prices for the protection of moral rights (Bechtold Engel).

A theory paper has been triggered by a legal conflict. In the spot market for electricity, demand and supply are driven by local shocks. If demand peaks and several power plants are off-line, the supplier must buy electricity. If the company cannot avoid producing electricity above current demand, it wants to sell. Independent companies have put a technology into place that makes it possible to meter the supply of power plants without even entering its premises. Suppliers sued, arguing that they hold a property right to this information. The model studies incentive effects of granting such a right (Bechtold Höffler). A further theory paper uses relatively simple simultaneous and sequential games to show under which framework conditions granting monopoly is indeed a precondition for innovation (Engel). Our work in intellectual property is related to the econometric contributions by (Prantl) and (Burhop) from Martin Hellwig's group.

Many legal orders are sceptical about gambling. Using a large dataset from a Chinese online gambling platform, (Ding) shows that bettors are indeed liable to the gambler's fallacy, the hot hand fallacy, and the pull of prominent numbers. In ongoing projects, she further investigates whether the gambler's fallacy is also present if probabilities are small (Ding Zhong) and whether bettors suffer from a long-shot bias (Chark Ding). In its current form, German law draws a line between games of luck and games of skill, and sports bets in particular. The latter are open to private enterprise, while the former are essentially a state monopoly. The monopoly is justified by the claim that games of luck are more dangerous. An experiment proves this claim to be wrong. The more bettors are indeed competent, the more they suffer from overoptimism and the illusion of control. The more they are competent, the more they are thus tempted to spend money on betting (Glöckner Towfigh).

In his dissertation project, (Hermstrüwer) departs from the observation that, on the Internet, users routinely trade privacy for service. He wonders to which degree this is a deliberate choice, and how the design of websites makes it difficult for users to assess the inherent risk. He plans to not only capitalize on the existing experimental evidence, but to also run his own experiments.

Finally, two modelling exercises can be brought under this rubric. In the law and economics debate, reputation is usually welcomed as a tool for overcoming information asymmetries, and as a potential substitute for statutory intervention. (Grechenig) shows that, in markets where reputation is key for success, providers are likely to make inefficiently high investments into precautions. Then welfare would increase if regulation limited these investments. A further model is driven by a related effect. In the legal discourse, the state's monopoly of power is usually justified with a desire to tame antisocial behavior. This model shows that the state monopoly also prevents potential victims from excessive investments into self-protection (Grechenig Kolmar).

## 2. Institutional Intervention

### a) Enforcement

Enforcement is not a definitional feature of law, but in legal reality most normative expectations are backed up by the threat of enforcement. If the law's addressees behave like the agents of economic textbooks, the threat of enforcement changes the opportunity structure. Such agents compare law-abiding behavior with the benefit from violating the rule, minus the expected value of the loss, resulting from the probability of enforcement, times the intensity of the sanction (Becker 1968). A rich criminological literature puts a question mark behind this prediction. Most authors find that certainty looms larger than severity (Cramton 1968; Tittle 1969; Pogarsky 2002; Tonry 2006). This invites a policy proposal. Most measures increasing severity, like building and staffing more prisons, are costly. Wouldn't society get more deterrence per dollar spent if it shifted resources away from severity and into higher certainty? Should one thus call for more police and prosecutors, rather than longer prison sentences? We have put this question to the experimental test. Participants had a chance to steal from a random counterpart. Keeping expected values constant, we either increased or decreased severity after eight periods. The change always had a significant effect, but the direction of the effect depended on the expected value. If the expected value of stealing was positive or the same as not stealing, increasing certainty lead to more, not to less crime. The opposite was true when the expected value of stealing was negative (Engel Nagin).

In the field, the effect is likely not to rest on objectives, but on perception (Williams and Hawkins 1986; Pogarsky, Piquero et al. 2004). A second experiment starts from this well-established fact. In a linear public good, punishment is entrusted to an additional player whose payoff depends on the amount active players contribute to the joint project. We manipulate the degree of transparency. In the baseline, active players only learn their own payoff. In the first treatment, they are also informed about average received punishment. In the second treatment, they also learn individual contributions and individual specific reactions by the punishment authority. It turns out that the former manipulation has no significant effect, whereas contributions drop substantially with complete transparency (Engel Irlenbusch). This speaks against a piece of wisdom as old as Jeremy

Bentham (Bentham 1830). Apparently if I observe the not-so-dire fate of true offenders, I realise that bad behavior pays.

In the legal literature, the presumption of innocence is usually discussed in terms of justice. If it metes out criminal sanctions, the legal order maximally invades individual freedom. Wrongly convicting an innocent therefore looms larger than erroneously acquitting a guilty defendant. In a linear public-goods experiment, it turns out that such reticence also improves welfare. While punishment is a very effective technology for stabilising contributions if contributions are fully observable (Fehr and Gächter 2000), contributions are much lower if those who have authority to punish only receive a noisy signal (Grechenig Nicklisch Thöni).

In the field, first-time offenders for minor delicts are usually not directly sent to jail. Rather they receive probation. This practice saves resources and seems to follow from justice. But is it also effective? We again use a linear public good to test this question experimentally. In the baseline, all group members have power to punish all others. Sanctions become immediately effective. In the treatment, if a participant has not been punished in the previous three periods, punishment only becomes effective if she is punished again during the next three periods. This intervention leads to lower contributions, more punishment, less welfare, and more income inequality (Engel Hennig-Schmidt Irlenbusch Kube).

Not all legal orders follow the maxim: equal punishment for equal crime. One frequent deviation concerns corruption. Many legal orders punish the public official more severely for accepting a bribe than the briber for offering it. One prominent example is China. We test these two institutions experimentally. If the briber only expects a mild sanction, the legal order gives her a powerful technology to enforce the implicit agreement with the recipient. If he takes the bribe, but does not grant the favor, the briber cannot take him to court. Yet in the experiment, whether we run it in Germany or in China, frustrated bribers very often accept the small sanction to hurt the recipient seriously for cheating. This is correctly anticipated by recipients, who are somewhat less likely to accept. Yet from a welfare perspective, the balance is net. Society is much better off with symmetric punishment (Engel Goerg Yu).

This result, however, presupposes that our experiment adequately captures the situation in the field. In the experiment, prosecution detects bribing with probability 25%. In some contexts, this probability may be much lower. Government might also be interested in learning about the abstract risk of corruption to assign resources adequately. Then asymmetric punishment might be considered as a functional equivalent of a leniency program. In another area, leniency programs are believed to be a success: anti-trust. In her dissertation project, (Bläser) capitalizes on the theoretical and experimental literature to inform legal doctrine and legal policy making about the conditions for making leniency work in anti-trust.

In the traditional legal discourse, torts is seen as a technology for making victims whole. Ever since law and economics scholars have claimed that this backward-looking view is

too narrow, and that the primary focus of torts law should be forward-looking. In this perspective, the obligation to pay compensation is the same as a fine. It does not matter whether the money goes to the victim or to the state budget. Torts has a governance effect because it deters. Again using a linear public good, we put this claim to the experimental test. We define damage by the difference between a participant's actual payoff and the payoff she would have had, had all other participants contributed exactly as much as she did. For many reasons, in the field many victims never take tortfeasors to court. We capture this observation by the fact that, in every period, only one of four group members may claim compensation. We manipulate two things. The active player may either only claim her own damage, the damage of all group members (in the spirit of class action), or the entire period income (in the spirit of punitive damages). Moreover, in one set of treatments, compensation is the only option, whereas in the other set of treatments, the active player may also destroy money, without benefiting herself. This option is rarely used, but it has a small beneficial effect. The strong effect comes from the first manipulation. Contributions gradually decrease if the active player can only claim her own damage. Contributions stabilise at an intermediate level if the active player can claim everybody's damage. Contributions gradually increase to a high level if the power to take is not limited. While "punitive damages" are thus efficient, they are very unjust. Many players take a lot, if not everything, once they are active (Eisenberg Engel).

A public good with a punishment opportunity, as introduced by (Fehr and Gächter 2000), may be interpreted as a dilemma, with social sanctions as a potential remedy. As long as social sanctions do not overstep the limits of the law, and in particular the state monopoly of physical power, in the field one and the same behavior may trigger social and legal sanctions, e.g., a criminal charge. In that case, two sanctioning authorities are simultaneously active. In the lab, adding a central punishment authority crowds out some costly private enforcement. Nonetheless, the welfare balance is clearly positive, which implies that private and public enforcement are complements (Kube Traxler).

Most experiments are run with students. While this procedure is convenient, for some research questions student populations are too special. In two respects, we have started branching out. In his dissertation, (Englerth) explores the power of behavioral economics and general psychology for understanding the incidence of crime. The focus on behavior makes it possible to maintain the individualistic perspective of crime characteristic for the law and economics approach, while reacting to many critiques of this approach. This book triggered the idea actually to test criminals on standard behavioral tools. As a start, we have had housed youth offenders play the dictator game. If criminals were systematically more selfish than non-criminals, this should have played itself out in lower giving. In our experiment, this did not happen. Criminals were even slightly more generous than students, and the degree of giving was not significantly different from giving among other members of close-knit groups (Chmura Engel Englerth).

The second experiment with convicted criminals is in close collaboration with the local court of Cologne. The court has developed a scheme of intense probation for youth offenders who have frequently recidivated. Using random assignment, we evaluate the

performance of this program with respect to recidivism, and to a series of behavioral measures. To that end, we run a battery of standard experimental tests once participants enter the program, and once more when they leave the program half a year later (Engel Goerg Traxler).

Our research on enforcement has largely benefited from collaboration with (Traxler), from Martin Hellwig's group. We also benefit from collaboration with economic theory. (Lang) models under which conditions legal uncertainty may be an effective deterrent.

### *b) Normativity*

The author of "The Wealth of Nations" (Smith 1776) is rightly regarded as one of the founding fathers of modern economics. Adam Smith's second book gets much less attention from contemporary economists; wrongly, as we believe. Actually "The Theory of Moral Sentiments" (Smith 1790) presages many facets of current behavioral economics, much as "The Wealth of Nations" presages current neoclassical economics. The complementary Adam Smith is actually particularly appealing and relevant from a behavioral law and economics perspective. For he evokes the "jurisdiction of the man within", his "conscience" that decides upon "praise-worthiness" and about "blame-worthiness" (Smith 1790:III.ii.32). In modern parlance, he stresses normativity. We use a linear public good to test this proposition. Every period, after participants have decided how much to contribute to the joint project, we ask them two questions: "(1) Do you believe that there is a general norm in your group on an appropriate minimum contribution to the project? (2) If yes, how high can this minimum contribution be expected to be?" We make it clear that the other group members will not learn the answers. This subtle manipulation suffices almost to stabilize contributions (Engel Kurschilgen).

In a companion paper, we use this paradigm to study the emergence of customary law. To that end, we add a third treatment where participants read a paragraph in the instructions about the conditions under which a new rule of customary law comes into being. We inform them that customary law can also be formed in the lab. Contributions in this third treatment are not significantly different from the treatment where we only ask the two questions. While this seems to suggest that the behavioral effect of legal obligations boils down to normativity in general, three more treatments inform us otherwise. In these treatments, we additionally give participants a chance to punish each other. We make punishment very costly. To reduce another group member's income by one unit, a player must pay one unit of her own income. With this manipulation, mere normativity performs poorest. Apparently explicit sanctions crowd out intrinsic motivation. By contrast, if participants have also read the paragraph on customary law, contributions are highest. Knowing that the behavioral expectation originates in law turns normativity and sanctions into complements (Engel Kurschilgen). An earlier paper had used a large dataset from our own and foreign public-good experiments to show that customary law originates from the co-evolution of behavior and normative expectations (Engel). A related paper uses data

from a prisoner's dilemma experiment to reconstruct the implicit norm that triggers de-central punishment. It turns out that absolute, not relative contributions are critical (Nicklisch Wolf).

Most people have never read the statutes that are meant to govern their lives. The law nonetheless, and rightly, believes that it matters. The puzzle dissolves if children pick up normativity as part of their mental and social development, and if they infer normative expectations from the behavior they observe (Engel 2008). In this perspective, most normatively desirable behavior does not result from the deliberate, ad hoc comparison of the benefit from breaking the law and the risk of sanctions. Rather, norm abiding is routinized action. For the time being, such behavior makes governance by law easier. Vigilance and occasional sanctions are still necessary to maintain the impression that the legal norm generally guides behavior. But the legal order needs much less resources, and it must much more rarely overcome the resistance of its addressees. Yet there is a downside. In modern industrialized societies, most legal rules originate in purposeful design. The legal order is permanently under construction. This helps society adjust to changing circumstances, beliefs and value systems. Now, if most law governs behavior through routine, legal change becomes a problem. We will still have to verify that all of this indeed holds for normative expectations, and for expectations originating in law in particular. For the moment, all we have is an experiment showing under which conditions participants are willing to leave what previously seemed a good routine. It turns out that participants are torn between the pull of the routine and the suspicion that the situation might have changed. If they are able to observe that another person who purportedly is in the same situation behaves differently, adjustment is much faster (Betsch Engel Lindow).

A larger group of psychologists, lawyers, and economists has started a project meant to understand better why people obey the law. The project uses an online survey as a workhorse. It will also explore whether differences across legal orders and legal cultures translate into different mechanisms by which the law reaches its addressees (Goerg Glöckner Kube Llorente-Saguer Towfigh Waubert de Puiseau).

### c) *Intervention Light*

If the law's addressees in their majority maximize monetary payoff, heavy-handed intervention is not easy to avoid. This is different if the law has reason to believe that the behavioral programs of many are more complex. Our failure to replicate a result that had been established independently in two labs (Denant-Boëment, Masclet et al. 2007; Nikiforakis 2008) has pointed us to one such mechanism. Both colleagues had added a third stage to a public-good experiment with punishment. After group members had decided whom to punish, recipients were given the opportunity to strike back. In both labs, this strongly reduced contributions. Not so in Bonn. After several attempts, we were convinced that this was not a mistake, but a result. It led us to understand the power of

first impressions. In a first paper we used the evidence from the other labs and our new data to show that contributions in a public good, even if participants are rematched every period, critically depend on average contributions in the first period. We related this result to a concept that is key in the criminal policy debate. Much as “broken windows” predict crime in a neighborhood (Zimbardo and Ebbesen 1969; Kelling and Coles 1996), if impressions are poor initially, participants in a public-good experiment do not expect cooperation and behave selfishly. By contrast, if auspices for gains from cooperation are favorable, participants give it a try (Beckenkamp Engel Glöckner Irlenbusch Hennig-Schmidt Kube Kurschilgen Morell Nicklisch Normann Towfigh). In a second contribution, we pushed this one step further. We now gave participants biased information about the behavior of other participants, in the same experiment. We found that deteriorating the expectations is easier than improving them (Engel Kube Kurschilgen). An ongoing project uses an even more subtle manipulation, and just primes participants of a social dilemma experiment (Kube Schoop).

Another subtle, but powerful intervention is the topic of the habilitation thesis by (Bechtold). Instead of mandating behavior, the legal order frequently contents itself with giving an individual, or the contracting parties for that matter, power to decide freely. The law only prescribes a solution provided the parties have not decided otherwise. In principle, such defaults are a very appealing institutional intervention. They help screen out those unusual cases for which the general rule is not appropriate. They pay respect to the parties’ freedom. At the same time, the law stands a chance to change behavior in the aggregate as long as most addressees don’t bother. Using both models written in the spirit of mechanism design and behavioral findings, this book demonstrates the conditions under which defaults are less innocent. They may still be the legislator’s best choice. But the legislator at least should be aware of the power of defaults, and it should guard against unintended consequences.

A third light-handed solution is frequently used by charities. In the interest of maximizing donations, they first approach a “lead donor”, hoping that she will trigger a bandwagon effect. An experiment shows that this technique in principle also works for a public good. Yet the effect remains very small if the lead contributor is also the lead beneficiary. By contrast, high contributions by the leader have a strong effect if benefits are symmetric. The authors conclude that intentions are critical, and call the strategy “leading by sacrifice” (Glöckner Irlenbusch Kube Nicklisch Normann).

A final experiment pushes light-hand intervention to the frontier. Using a coordination game, it shows how totally arbitrary, exogenously provided information changes the equilibrium on which participants coordinate. Even “sunspots” guide behavior (Fehr Heinemann Llorente-Saguer).

### 3. The Legal Profession

Almost all legal problems are ill-defined. Judges, administrative officers, prosecutors and attorneys routinely have to decide on an imperfect factual basis. They know they at best partly understand the case. And they know that they can defer their decisions only so far. Legal decision-making is not a deductive exercise. While most lawyers would be willing to grant all of these, it is much less clear why lawyers nonetheless make meaningful choices and do an acceptable job at governing people's lives. In close collaboration with the independent research group, we try to cast light on the underlying mental mechanism. In a first step, using mock jurors and a case developed by (Simon 2004), we replicated findings showing that the key mechanism is intuition, and that it can be modeled as an exercise in parallel constraint satisfaction. Our own contribution started off from a potentially troublesome implication: if intuition empowers jurors to decide cases although they know they have not fully understood them, does this imply that the legal order cannot possibly expect jurors to refrain from decision-making? This is precisely what the legal order does if it imposes stringent standards of proof. If guilt must be established "beyond a reasonable doubt", the legal order wants jurors to acquit the defendant if there is suspicion, but no proof to the requisite standard. Happily, the standard of proof manipulation was not muted in our experiment. If the standard was "preponderance of the evidence", our jurors were significantly more likely to convict the defendant in our deliberately ambiguous case (Engel Glöckner).

As a next step, we wondered how legal intuition is influenced by the role a lawyer plays in court. Using the same case as before, we now assigned our participants to the roles of prosecutors and defense lawyers. After they had seen the (ambiguous) evidence, we asked them to sketch the pleadings. Only afterwards did we introduce the task we were mainly interested in. We had asked the bench of a real court to decide the case for us. We promised participants a substantial bonus if they correctly post-dictated this decision. We found a substantial role-induced bias (Engel Glöckner).

The independent research group has made quite a number of additional contributions to this line of research. Group deliberation, as in the bench of the court, has no overall polarizing effect on the assessment of the evidence. But those who learn from discussing the case with their peers and change their assessment in response exhibit less pronounced coherence shifts. Shifting the decision to a bench thus indeed makes it more objective (Fiedler Glöckner). Further contributions apply the parallel constraint satisfaction model to the law of evidence (Schweizer), and they survey the theoretical and empirical work on legal intuition (Ebert Glöckner). Parallel constraint satisfaction has been shown to be a very general mechanism. Yet this mechanism need not play itself out the same way for all classes of decisions and for all groups of decision-makers. Members of the independent research group have shown that the mechanism is also at work with real lay judges (Schöffen) (Glöckner Landsberg), and they have found differences in reaction to complexity and arousal between lay judges, advanced law students, and student controls (Dickert Glöckner Herbig).

Every lawyer has to undergo training. Part of this training is, of course, information about the law as it stands, and the tradition of its interpretation. In that respect, studying law is no different from studying a social science. Yet much effort goes into building a complementary type of expertise. Law students learn to decide cases, and to write opinions. This is more a skill – some would even say an art – than a scientific activity. It is the professional reaction to the fact that the typical legal problem is ill-defined. All lawyers have access to casual empiricism on this process. They had to endure it themselves, and they have to orchestrate it as law professors. Most would describe it as non-linear. Many lawyers never excel in this activity. Those who do usually have their personal stories of crisis, eventually overcome. Using a huge dataset from a large German law faculty, this process is analyzed with econometric tools (Glöckner Towfigh Traxler).

Law and economics scholars expect actors to maximize utility. Members of the legal profession make no exception to this rule. Utility-maximizing actors exploit the opportunity structure to their benefit. Consequently, prosecutors should exploit legal ambiguity. They should be particularly attracted by ambiguous charges given the standard of proof is strict in criminal cases. If it is unclear whether they can win in court when they charge the defendant for relatively clearly defined offenses, they should be tempted to use vaguely defined charges like “obstruction of justice” or “contempt of court”. We have put this hypothesis to the experimental test. In our baseline, participants are not informed about the legal research question. They only see stylized facts in the form of a game tree. In the first treatment, we still conceal the legal context. Yet we now add a third participant who suffers harm if the would-be defendant misbehaves. In the second treatment, we call a spade a spade, and have participants act as managers and prosecutors. Merely adding the third participant does not induce agents to change their sanctioning policy. As in the baseline, a substantial minority inflicts a random sanction, which is also the prescription of the game-theoretic equilibrium. By contrast, in the second treatment virtually no prosecutor ever uses the random sanction, which we now label as a charge for “overall conduct”. Happily, our experimental participants are sensitive to the call of duty (Engel Pluta).

We finally turn to legal academia. With tongue in cheek, law professors sometimes claim: it is like a hog cycle. Using an institutional feature from German legal academia, we put this surmise to the empirical test. In Germany, there is no tenure track. Future law professors pass an exam with their entire faculty of origin, based on their second book and a talk. After having passed their “habilitation”, they enter the market, but may not be hired by their faculty of origin. We have data on all habilitations in German law faculties since 1960. With pure time series we find significant negative autocorrelation, i.e., we support a hog cycle, but it has the implausibly long duration of 15 years. The length of the lag reduces to a highly plausible duration of eight years once we control for the size of the student cohort when the potential future job market candidates entered university. The shift in the duration of the lag results from the fact that there is a second, independent source of negative autocorrelation. Birth rates today are negatively correlated with birth rates 20 years ago. After controlling for this effect, we find that future law professors

and their supervisors are overly likely to prepare for an academic career if, at this moment in time, there are a few candidates on the market, and vice versa (Engel Hamann).

#### **4. Political Process**

In previous years, due to the composition of the team, we largely bracketed another promising area for the cooperation between lawyers and behavioral economists: the process of rule generation. We now have started filling this gap. A group of researchers is interested in understanding the behavioral underpinnings of legitimacy. In the legal discourse, legitimacy is usually defined formally. An exercise of sovereign powers is legitimate if its substance, through being grounded in a statutory provision, can be traced back to the people's will. Moreover, the public official becoming active must have been appointed or elected by officials who are themselves responsible to Parliament, and therefore ultimately to the people. Political scientists have long objected that such input legitimacy should be supplemented by output legitimacy, i.e., by the quality of the solution of a perceived social problem. A team has started investigating these competing, hopefully complementary sources of legitimacy (Dickert C. Kurschilgen Towfigh Petersen).

In his PhD thesis, political scientist (Leifeld) has developed a formal procedure, and a software, to study the development of political discourse. Using graph theory, his "discourse network analyzer" makes it possible to study how advocacy coalitions evolve, how new concepts enter the scene and gain support, and how eventually veto players are isolated and policy change is brought about. He applies his methodology to the Riester reforms, a far-reaching change in the German system of old-age pensions.

A series of experiments tests the effect of voting schemes. If voters are allowed to express the intensity of their preferences, they more aptly manage to trade off voting power across issues (Hortala-Vallve Llorente-Saguer). By contrast, outright vote trading leads to dictatorship and welfare losses if the committee is not very small (Casella Llorente-Saguer Palfrey). If contributors to a linear public good jointly vote with future bystanders on a required contribution level, this strongly increases contributions if bystanders know they will not be affected by active players' action. Such situations are not infrequent in the field. Often committees make rules at a point in time when it is unclear which committee members will face the regulated situation. Actually the constitutional precept that all legal rules should be general and abstract targets precisely this situation. By contrast, if it is clear that future bystanders will gain a windfall profit, compliance with the voting outcome is poor. Compliance is not perfect but reasonable if, in deference to a negative externality on bystanders, the required contribution level is low (Engel Rockenbach).

Among constitutional lawyers, political parties are held in high esteem. They are seen as inevitable and beneficial transmitter belts between the preferences of the electorate and government. Public perception is very different. Parties are seen as assemblies of reckless actors for whom nothing counts but winning the next election. The habilitation project by (Towfigh) deals with the empirics, the theory, and the doctrinal consequences of the issue.

A large group of scientists has formed that analyzes parties from these combined angles (Bade Chatziathanasiou Glöckner Goerg C.Kurschilgen Leifeld Llorente-Saguer Petersen Towfigh).

## **5. Translation into Doctrine**

To the best of our knowledge, ours is still the only lab devoted to experimental law and economics in Germany. Even internationally, the number of labs contributing to this nascent discipline is small. This fact, and in particular the multidisciplinary composition of the group, and of the institute at large, gives us a competitive advantage. But it also faces us with the additional task of translating our methods and our results back into legal, and in particular German doctrine. For the lawyers preparing for the academic market, this is paramount. To date, there is no chair for experimental law and economics at a German law faculty. We are pleased to observe that our more doctrinally-minded colleagues find our work intriguing. We therefore hope that experimental expertise will make lawyers originating from the institute attractive. But their experimental work can only come on top of solid doctrinal competence. While the impact on researchers' careers is the paramount reason for not neglecting doctrine, we also use this channel to get (not only German) lawyers interested, and to spot new research questions that lend themselves to the experimental test.

A group of researchers from the Institute has written a book that introduces law students to social science methodology, be that formal models from areas like microeconomics, game theory, contract theory, and social choice, or be that experimental and econometric empirical methods (Englerth Goerg Magen Nicklisch Petersen Towfigh). Further contributions classify the uses of experimental evidence in legal scholarship (Engel), promote the empirical turn to lawyers (Petersen), and investigate why public lawyers in Germany are cautious when it comes to using economic methods (Lüdemann).

A typical contribution in this spirit is the habilitation thesis by (Magen). Which sounds like a truism: law is about justice, is intellectually highly elusive. This explains why practising lawyers, and legal scholars for that matter, try to avoid talking about justice. While understandable, this reaction deprives legal discourse of a proper language for its very essence. Capitalizing on game theory, on experimental work on fairness, and on cognitive theory, this book provides the language. It uses the example of legislation aiming at curbing climate change to demonstrate in doctrinal terms how this language can be put to good use by practising lawyers.

The recurrent thread in the habilitation thesis by (Lüdemann) is a conviction most lawyers share: the more a legal rule and the more a doctrinal concept is general and abstract, the better. Contrasting the regulation of financial markets with the regulation of telecommunications markets, the author qualifies this piece of wisdom. In both fields of law, there is a wide gap between statutory provisions and administrative practice. In both fields, but for very different doctrinal reasons, courts have little say. The author argues

that neither field should be taken as the new field of reference for administrative law, and that doctrinal developments in one of these fields should not necessarily spur doctrinal developments in the other. Rather, public law should understand to which degree the specifics of either field, and the underlying policy problem to which these developments respond in particular, are special and should be treated as such.

A third habilitation thesis is still in its earlier stages. This book will use social science methodology to cast light on a core concept of German constitutional doctrine that is surprisingly little studied. The German Constitutional Court has developed the principle of proportionality which, in the meantime, has spread out over many foreign constitutional orders. The principle is essentially relative. Any interference with a fundamental freedom needs justification. Given the aim government pursues, the intervention must be conducive, not overly onerous, and not out of proportion. But which aims are legitimate, and how much weight may the constitutional lawyer attach to them? The book will analyze this question both empirically, including using quantitative methodology, and theoretically (Petersen). A related contribution uses formal language to define what the three tests of "conducive", "not overly onerous", and "not out of proportion" actually mean (Engel).

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## **C.II.2 Independent Research Group: Intuitive Experts**

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### **Introduction**

The research group *Intuitive Experts* offers a third perspective on collective goods and the efficient design of legal institutions, namely the perspective of psychological decision research. The group aims to improve the understanding of the complex interplay between intuitive and deliberate processes in decision making and to describe these processes using computational models with a special focus on connectionist network models. Based on this improved understanding of the processes underlying decision making, the group investigates economic and legal decision making and behavior in social dilemma situations. The research is largely interdisciplinary as there are many joint projects with economists and lawyers in the institute and at universities worldwide.

The last two years of research in the group have been very inspiring and successful. We have refined our models, improved our methods and collected empirical evidence to test a wide range of hypotheses pertaining to these improvements and changes. Some of the most important developments are described below. Overall, the work of the group in the last two years resulted in the publication of 34 articles in international peer-reviewed journals (including papers that are currently in press) and several further publications in

law journals, handbooks, and edited volumes. Young researchers were promoted resulting in two successful dissertations and one habilitation. Furthermore, external funding for a three-year project on Learning in Connectionist Networks from the German Science Foundation could be raised (Funding amount: 243.025 €). And finally, the President of the Max Planck Society honored the successful work of the group by granting a one-year extension until the fall of 2013. In the following, the background and the research framework of the group are briefly described, important findings from the last two years are summarized, and finally, directions for future research are outlined.

## **Background and Research Framework**

Not all decisions are made deliberately and/or according to rational standards. People produce a multitude of systematic deviations from rational standards, often referred to as biases. Biases can result from the use of suboptimal deliberate short-cut strategies or they can be due to the fact that decisions are based on (or influenced by) intuitive-automatic processes. Numerous systematic biases have been demonstrated. One prominent effect is, for example, that irrelevant numbers, so-called "anchors", influence buying prices and sentences for crimes. Furthermore, people appear to be overconfident, neglect base-rates, show coherence effects, and much more. Biases have been found in students, but also prevail for expert decision makers such as judges and managers.

In some cases, deliberate processes can help correct for these biases. Even though intuitive-automatic processes sometimes lead to irrational behavior, it would be wrong to conclude that intuitive-automatic processes are useless. On the contrary, it has been shown that, although causing biases in some situations, intuitive processes are generally helpful for making complex decisions. They allow us to take into account huge amounts of information (e.g., experiences from memory, provided information, context cues) that would otherwise have to be ignored or could potentially overcharge deliberate processes (Glöckner, 2008; Glöckner & Betsch, 2008b). One of the goals of the group was to develop and improve computational models for intuitive processes and their complex interplay with deliberation. We have thus far progressed along three lines of research: 1) model development and testing, 2) methodological developments, 3) application to legal issues and public-goods provision. Some research from these three areas is described in following.

## **Model Development and Testing**

Intuition usually refers to the feeling of knowing how to decide without knowing why. It is often used as an umbrella term for different kinds of automatic processes of perception and memory activation (Glöckner & Witteman, 2010). Automatic processes of Gestalt formation and construction of coherent interpretations and stories are one important group of processes, referred to as *constructivist intuition*. Another group of process that

we are interested in is *accumulative intuition*, which describes a quick automatic sampling of evidence and its aggregation. Automatic-intuitive processes and their interplay with deliberate processes are formally described by the parallel constraint satisfaction (PCS) model (Betsch & Glöckner, 2010; Glöckner & Betsch, 2008a). According to the model, decision making is an inherently constructivist process. Individuals do not perceive information objectively, but instead they automatically construct interpretations or stories based on the information provided to them. Initial tendencies for a certain interpretation are accentuated, whereas contradicting information is devalued. The decision maker becomes aware of the resulting (coherent) mental representations of the decision task, but not of the underlying automatic processes. In case the coherence of the resulting mental representation is below a threshold, deliberate construction processes are activated. These deliberate construction processes are used to generate new information, to restructure the mental representation, and to consider alternatives.

We have tested PCS model predictions in many domains. In line with previous research, we have shown coherence effects, that is, information is distorted throughout the decision process to support the favored option (Glöckner, Betsch, & Schindler, 2010). In a study investigating risky choices (e.g., decisions between risky prospects or lotteries) using eye-tracking, we were able to show that PCS outperforms deliberate short-cut strategies and a process implementation of the prominent Prospect Theory in predicting observed patterns of fixations, information search and attention (Glöckner & Herbold, 2011). We found that in the course of decision making, attention shifts toward the favored option and particularly toward the most attractive outcome of the favored option. This finding is well explained by PCS, according to which the advantages of the favored (over the non-favored) option are highlighted.

In probabilistic inferences involving recognition information (e.g., which city is bigger: San Diego or San Antonio?), we showed that PCS predicts choices, decision time and confidence more accurately than all competing models (Glöckner & Bröder, 2011). The findings indicate that persons not only rely on recognition information, as suggested by other models. Instead, decision makers take into account recognition information and further information and even differentiate between their importance by weighing them accordingly. Interestingly, decision makers are able to do so in the blink of an eye – which rules out any deliberate information integration strategy. Employing the same paradigm and combining it with an objective arousal measure (i.e., peripheral arterial tonus), we further showed that arousal increases with increasing conflict between recognition information and additional cues (Hochman, Ayal, & Glöckner, 2010), as predicted by PCS. Moreover, we applied PCS to expert decision making. We thereby successfully predicted passing decisions of expert handball players using PCS based on their looking behavior prior to the decision (Glöckner, Heinen, Johnson, & Raab, in press). In a study on legal decision making, we identified differences between advanced law students, lay judges (Schöffen) and student controls concerning mental representations and arousal when deciding legal cases (Dickert, Herbig, Glöckner, Gansen, & Portack, in press). Advanced law students used more abstract concepts to represent the case, whereas lay

judges and controls relied primarily on similarities to previous cases. Since these memorized exemplars are often connected with stronger affective responses, lay judges and controls also reported higher arousal than advanced law students. In the same project, which was supported by the German Association of Lay Judges and the Bavarian Ministry of Justice, a first systematic study of the decision behavior of officially appointed lay judges was conducted. We showed that classic judgment biases occurred in lay judges' decisions, and therefore recommended educating lay judges concerning decision processes to help them avoid these pitfalls (Glöckner & Landsberg, 2011).

We also identified some limitations of PCS. In decisions that require the effortful retrieval of information from memory, the decision making of less than half of the participants was best described by PCS. Instead, more participants applied deliberate short-cut strategies (Glöckner & Hodges, 2011). Finally, we have been extending our perspective beyond testing PCS towards testing other groups of intuitive processes. In one recent paper, we investigated Unconscious Thought Theory, a controversially debated theory that suggests that in complex tasks persons should avoid any deliberation and solely rely on "unconscious thought". Unconscious thought thereby refers to automatic-intuitive processes operating when attention is directed elsewhere. We were able to qualify the theory by showing that the postulated capacity principle (i.e., that unconscious thought generally has more capacity for information integration than conscious thought) does not hold empirically if relevant information is presented in an easy-to-grasp format on the screen (Ashby, Glöckner, & Dickert, 2011). In an investigation of another group of intuitive processes, namely accumulative intuition, we confirmed the prediction that persons are able to weight small probabilities in risky choices appropriately if the presentation format allows for quick information sampling (Hilbig & Glöckner, in press).

## **Methodological Developments**

A considerable part of the work of the group in 2010 and 2011 was dedicated to evaluating, discussing, and improving research methods. Andreas Glöckner and Benjamin Hilbig edited a special issue on *Methodology in Judgement and Decision Making research*, which collects recent controversies and perspectives. One of the core challenges is reliably to identify strategies that persons use in decision making when some of these strategies rely on automatic-intuitive processes. Two papers were published that present important extensions for previously suggested strategy classification methods. The first paper shows that including a global misfit test reduces the likelihood for misclassification if the true strategy is not part of the investigated set of strategies (Moshagen & Hilbig, in press). The second paper develops a standard method for selecting optimal tasks that identify individuals' intuitive or deliberate decision strategies (Jekel, Fiedler, & Glöckner, in press). Additionally, in a third more general paper, models in Judgment and Decision making are critically reviewed from a theory of science perspective, specifically in light of Popper's critical rationalism (Glöckner & Betsch, in press). The analysis shows that many formulations of current "theories" do not satisfy important criteria for theory construction.

Some are tautological and many lack empirical content, which is why they do not allow for testable predictions. We argue that some of the problems result from a general dilemma (i.e., a conflict between actions maximizing private utility (e.g., publication success, reputation) vs. public utility (scientific progress)) that is prevalent in scientific endeavor.

## **Application to Legal Issues and Public Goods Provision**

*Regulation of sports betting.* In an interdisciplinary project, we provided empirical findings to support the attempt to regulate sports bets (Towfigh & Glöckner, 2011), which we also discussed in a paper for the legal audience referring to current German sports-bets policies (Glöckner & Towfigh, 2010). In an incentivized online study, we investigated people's ability to predict real soccer sports bets (1. Bundesliga), depending on their self-assessment of skill and expertise. We found clear evidence that speaks for regulating sports bets. There was no influence of self-assessed skill on accuracy, which suggests that success in sports bets mainly depends on luck. Furthermore, we found overconfidence and illusion of control particularly for people who thought of themselves as being highly skilled. These findings lead us to believe that sports bets have the potential to produce addictive gambling.

*Factors Influencing Cooperation in Social Dilemmas.* Research shows that there are personality traits that systematically influence people's behavior in social dilemma tasks. For example, people's social value orientation (i.e., pro-social vs. pro-individual) and risk aversion have been identified as important factors. We argue, however, that in many situations the influence of personality will interact with specific environmental factors. In a study on repeated prisoners dilemma games (Glöckner & Hilbig, under review), we found such an interaction. More risk-averse persons cooperate more in cooperation-friendly environments (i.e., high cooperation index) than less risk-averse persons. The opposite effect is observed in cooperation-unfriendly environments, in which higher risk aversion leads to more defection.

## **Research Agenda**

The group expires in the fall of 2013. In the remaining time, we aim to finish the current projects and to publish articles on their results in peer-reviewed journals. Thereby, we will focus (although not exclusively) on the following projects:

- In a large-scale interdisciplinary project, we aim to investigate the relative importance of the factors why people obey the law. Factors postulated by economic theories such as the utility of committing a crime will be complemented by and compared to psychological factors such as legitimacy or norms and sociological factors. In this project, which is coordinated by Berenike Waubert de Puiseau, we investigate these factors in

population representative samples. Ultimately, we aim to detect intercultural differences concerning the relevance of these different factors.

- We will finish our projects that investigate decision making processes in public-goods games and dilemma tasks. In these projects, which are coordinated by Susann Fiedler, we use eye-tracking to detect processes underlying decision making in strategic situations.
- In previous studies, we showed that eye-tracking is extremely helpful to gain further understanding of processes in risky choices. We will continue and finish our follow-up projects coordinated by Nathan Ashby and Susann Fiedler to obtain a more fine-grained understanding of attention on preference construction in risky choices.
- Marc Jekel will be responsible for conducting the externally funded research project on Learning in Connectionist Networks, which will produce important knowledge for further model developments of PCS.
- We will finish our projects investigating the mechanisms underlying charitable giving. In the projects, which are coordinated by Stephan Dickert, we investigate persons' decisions whether or not to donate money for children in need, using eye-tracking technology.
- One of the general aims will also be to raise external funding to allow for the successful joint work of the group to be continued after the fall of 2013.

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## **C.II.3 International Max Planck Research School: Adapting Behavior to a Fundamentally Uncertain World**

**Partners:** Max Planck Institute for Economics, Jena (Güth)  
Max Planck Institute for Human Development, Berlin (Gigerenzer)  
Faculty of Economics, University of Jena (Cantner)  
Faculty of Psychology, University of Jena (Mummendey)  
Rationality Center, Jerusalem (Kareev)  
Workshop in Political Theory and Policy Analysis, Bloomington (Ostrom)  
Psychology Department, Bloomington (Todd)

### **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 optimisation 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 is data from a representative sample. If so, the present value of the option may be calculated. If there is 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 search will lead to success, the benefit is multiplied by the (if necessary only subjective) probability of success. By the same token, the solution space for the meta-decision about search may be extended. First, the decision-maker constructs the space of potential outcomes of search. Each outcome is the product of two factors: the probability finding the solution, and its value. Summing up over all weighed outcomes gives the expected value of engaging in search.

The same way, one may introduce 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 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 expected benefit to 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.

## **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 had been 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. Yet nonetheless they have to take decisions. Others have to divide their limited cognitive resources among multiple tasks, or to decide in limited time. Yet 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 maximiser.

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. 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 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 analysing 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 principle-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 optimises, strategic interaction takes on a different flavour. 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 to comparatively 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 yet 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 immobilised 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, fit this picture well.

# IMPRS Summer School 2010, Schedule

1st week	Sunday July 25	GK	Monday July 26	GK	Tuesday July 27	GK	Wednesday July 28	GK	Thursday July 29	GK	Friday July 30	GK	Saturday July 31	Sunday Aug 01
		8:00	Welcome Address Univ. Cantor, Prof. Oberkirch, K. Koenigsmann	8:15	Ido Erev	8:15	Ido Erev	8:15	Ido Erev	8:15	Ido Erev	8:15	Ido Erev	8:15
	8:15	GK+IMPRS	8:15	Ido Erev	8:30	Ido Erev	8:30	Ido Erev	8:30	Ido Erev	8:30	Ido Erev	8:30	Ido Erev
	8:30		8:30		8:45	Learning and Economics of Small Decisions	8:45	Learning and Economics of Small Decisions	8:45	Learning and Economics of Small Decisions	8:45	Learning and Economics of Small Decisions	8:45	Learning and Economics of Small Decisions
	8:45		8:45		9:00	MKG+HS, Bachstraße 18	9:15	MKG+HS, Bachstraße 18	9:15	MKG+HS, Bachstraße 18	9:15	MKG+HS, Bachstraße 18	9:15	MKG+HS, Bachstraße 18
	9:00		9:00		9:15		9:30		9:30		9:30		9:30	
	9:15		9:15		9:30	MKG+HS, Bachstraße 18	9:45	Coffee	9:45	Coffee	9:45	Coffee	9:45	Coffee
	9:30		9:30		9:45		10:00		10:00		10:00		10:00	
	9:45		9:45		10:00	Christoph Bezemek	10:15		10:15		10:15		10:15	
	10:00		10:00		10:15	Entrepreneurship	10:30		10:15		10:15		10:15	
	10:15		10:15		10:30	Uncertainty as factor in human rights	10:45		10:30		10:30		10:30	
	10:30		10:30		10:45	MKG+HS, Bachstraße 18	11:00		10:45		10:45		10:45	
	10:45		10:45		11:00	Social Preferences and Incentives I	11:15		11:00		11:00		11:00	
	11:00		11:00		11:15	MKG+HS, Bachstraße 18	11:30		11:15		11:15		11:15	
	11:15		11:15		11:30	Coffee	11:45		11:30		11:30		11:30	
	11:30		11:30		11:45	Poster Session	12:00		11:45		11:45		11:45	
	11:45		11:45		12:00	Exercise: Christian Bezemek	12:15		12:00		12:00		12:00	
	12:00		12:00		12:15	MKG+HS, Bachstraße 18	12:30		12:15		12:15		12:15	
	12:15		12:15		12:30	Lunch	13:00		12:30		12:30		12:30	
	12:45		12:45		12:45		13:00		13:00		13:00		13:00	
	12:45		12:45		13:00	Lunch	13:15		13:15		13:15		13:15	
	13:00		13:00		13:15		13:30		13:15		13:30		13:30	
	13:15		13:15		13:30	Lunch	13:45		13:30		13:30		13:30	
	13:30		13:30		13:45		14:00		13:30		13:30		13:30	
	13:45		13:45		14:00	Luigi Mittone	14:15		14:00		14:00		14:00	
	14:00		14:00		14:15	Poster Session	14:30		14:15		14:15		14:15	
	14:15		14:15		14:30	Intertemporal Decision Making	14:45		14:30		14:30		14:30	
	14:30		14:30		14:45	MPI V03	15:00		14:45		14:45		14:45	
	14:45		14:45		15:00	MPI V14	15:15		15:00		15:00		15:00	
	15:00		15:00		15:15	MPI V03	15:30		15:15		15:15		15:15	
	15:15		15:15		15:30	Coffee	15:45		15:30		15:30		15:30	
	15:30		15:30		15:45		16:00		15:30		15:30		15:30	
	15:45		15:45		16:00	Simon Parker	16:15		15:45		15:45		15:45	
	16:00		16:00		16:15	Theme Presentation	16:30		16:00		16:00		16:00	
	16:15		16:15		16:45	Entrepreneurship	16:45		16:15		16:15		16:15	
	16:30		16:30		16:45	MPI V14	17:00		16:30		16:30		16:30	
	16:45		16:45		17:00	MPI V03	17:15		16:45		16:45		16:45	
	17:00		17:00		17:15	Break	17:30		17:00		17:00		17:00	
	17:15		17:15		17:30	Theme Discussion	17:45		17:15		17:15		17:15	
	17:30		17:30		17:45	van den Bergh and Group Formation	18:00		17:45		17:45		17:45	
	17:45		17:45		18:00	Environmental and Resource Economic	18:15		17:45		17:45		17:45	
	18:00		18:00		18:15	MPI V14	18:30		18:00		18:00		18:00	
	18:15		18:15		18:30	MPI V03	18:45		18:15		18:15		18:15	
	18:30		18:30		18:45	Opening BBQ	19:00		18:45		18:45		18:45	
	18:45		18:45		19:00	Dinner	19:15		18:45		18:45		18:45	
	19:00		19:00		19:15		19:30		19:00		19:00		19:00	
	19:15		19:15		19:30	Dinner	19:45		19:15		19:15		19:15	
	19:30		19:30		20:00	Poster Session	20:15		19:45		19:45		19:45	
	19:45		19:45		20:00	Group Assignment	20:15		20:00		20:00		20:00	
	20:00		20:00		20:15	Cafeteria / MPI Garden	20:30		20:30		20:30		20:30	
	20:15		20:15		20:30				20:15		20:15		20:15	
	20:30		20:30						20:30		20:30		20:30	

2nd week		Monday Aug 02		Tuesday Aug 03		Wednesday Aug 04		Thursday Aug 05		Friday Aug 06		Sat Aug 07		Sun Aug 08	
		GK	IMPRS												
8:15		Anja Achitzer	8:15												
8:30		Introduction to the Psychology of Action	8:30	Introduction to the Psychology of Action	8:30	Introduction to the Psychology of Action	8:30	Introduction to the Psychology of Action	8:30	Introduction to the Psychology of Action	8:30	Introduction to the Psychology of Action	8:30	Introduction to the Psychology of Action	8:30
8:45		Alina Rusakova	8:45	Elisabeth Bublitz	8:45	Luis Medrano	8:45	Michael Stutzer	8:45	Wolfhard Kaus	8:45	Student Presentation	8:45	Student Presentation	8:45
9:00		Student Presentation	9:00												
9:15		MPI V03	9:15	MPI V14	9:15	MPI V03	9:15								
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9:45		Coffee	9:45												
10:00			10:00		10:00		10:00		10:00		10:00		10:00		10:00
10:15		Alon Harel	10:15	Ron Boschma	10:15	Mark Casson	10:15	Alon Harel	10:15	Joachim Winter	10:15	Uncertainty and the Law	10:15	Uncertainty and the Law	10:15
10:30		Uncertainty and the Law	10:30	Proximity and Innovation	10:30	Entrepreneurship	10:30	Uncertainty and the Law	10:30	Panel Data	10:30	Panel Data	10:30	Panel Data	10:30
10:45		MPI V03	10:45	MPI V14	10:45	MPI V03	10:45								
11:00			11:00		11:00		11:00		11:00		11:00		11:00		11:00
11:15		Coffee	11:15												
11:30			11:30		11:30		11:30		11:30		11:30		11:30		11:30
11:45		Ron Boschma	11:45	Mark Casson	11:45	Joachim Winter	11:45	Exercise: Alon Harel	11:45	Exercise: Max Albert	11:45	Exercise: Max Albert	11:45	Exercise: Alon Harel	11:45
12:00		Proximity and Innovation	12:00	Exercise: Alon Harel	12:00	Panel Data	12:00	Exercise: Alon Harel	12:00	Panel Data	12:00	Panel Data	12:00	Exercise: Alon Harel	12:00
12:15		MPI V14	12:15	Economics and Philosophy of Science	12:15										
12:30			12:30	MPI V14	12:30										
12:45			12:45		12:45		12:45		12:45		12:45		12:45		12:45
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13:30		Lunch	13:30												
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14:00			14:00		14:00		14:00		14:00		14:00		14:00		14:00
14:15		Joint seminar	14:15	Max Albert	14:15										
14:30		Lars Kohn	14:30	Poster Session	14:30	Poster Session	14:30	Uwe Canner	14:30	Economics and Philosophy of Science	14:30	Economics and Philosophy of Science	14:30	Economics and Philosophy of Science	14:30
14:45			14:45	Economics and Philosophy of Science	14:45										
15:00		MPI V14	15:00	MPI V03	15:00										
15:15			15:15	Judging under Uncertainty	15:15	Joint seminar	15:15								
15:30		MPI V14	15:30	Coffee	15:30										
15:45			15:45		15:45		15:45		15:45		15:45		15:45		15:45
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16:45			16:45		16:45		16:45		16:45		16:45		16:45		16:45
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17:30		Break	17:30												
17:45			17:45		17:45		17:45		17:45		17:45		17:45		17:45
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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			20:00		20:00		20:00		20:00		20:00		20:00		20:00
20:15			20:15		20:15		20:15		20:15		20:15		20:15		20:15
20:30			20:30		20:30		20:30		20:30		20:30		20:30		20:30

3rd week	Monday Aug 9	Tuesday Aug 10	Wednesday Aug 11	Thursday Aug 12	Friday Aug 13	Saturday Aug 14	Sunday Aug 15
8:15	<b>Christoph Engel</b>	<b>8:15</b> <b>Christoph Engel</b>	<b>8:15</b> <b>Christoph Engel</b>	<b>8:15</b> <b>Christoph Engel</b>	<b>8:15</b> <b>Christoph Engel</b>	<b>8:15</b> <b>Christoph Engel</b>	<b>8:15</b> <b>Christoph Engel</b>
8:30	Experimental Law and Economics	8:30 Experimental Law and Economics	8:30 Experimental Law and Economics	8:30 Experimental Law and Economics	8:30 Experimental Law and Economics	8:30 Experimental Law and Economics	8:30 Experimental Law and Economics
8:45		8:45 Experimental Law and Economics					
9:00	MPI V14	9:00 MPI V14	9:00 MPI V14	9:00 MPI V14	9:00 MPI V14	9:00 MPI V14	9:00 MPI V14
9:15		9:15	9:15	9:15	9:15	9:15	9:15
9:30	Coffee	Coffee	Coffee	Coffee	Coffee	Coffee	Coffee
9:45		9:45	9:45	9:45	9:45	9:45	9:45
10:00	<b>Carlos Alós-Ferrer</b>	<b>10:00</b> <b>Carlos Alós-Ferrer</b>	<b>10:00</b> <b>Carlos Alós-Ferrer</b>	<b>10:00</b> <b>Carlos Alós-Ferrer</b>	<b>10:00</b> <b>Carlos Alós-Ferrer</b>	<b>10:00</b> <b>Carlos Alós-Ferrer</b>	<b>10:00</b> <b>Carlos Alós-Ferrer</b>
10:15		10:15	10:15	10:15	10:15	10:15	10:15
10:30	Stochastic Learning in Games	10:30 Stochastic Learning in Games	10:30 Stochastic Learning in Games	10:30 Stochastic Learning in Games	10:30 Stochastic Learning in Games	10:30 Stochastic Learning in Games	10:30 Stochastic Learning in Games
10:45		10:45	10:45	10:45	10:45	10:45	10:45
11:00	MPI V14	11:00 MPI V14	11:00 MPI V14	11:00 MPI V14	11:00 MPI V14	11:00 MPI V14	11:00 MPI V14
11:15		11:15	11:15	11:15	11:15	11:15	11:15
11:30	Coffee	Coffee	Coffee	Coffee	Coffee	Coffee	Coffee
11:45		11:45	11:45	11:45	11:45	11:45	11:45
12:00	Exercise: Carlos Alós-Ferrer	12:00 Exercise: Carlos Alós-Ferrer	12:00 Exercise: Carlos Alós-Ferrer	12:00 Exercise: Peter Moffatt			
12:15		12:15	12:15	12:15	12:15	12:15	12:15
12:30	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch
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	<b>Peter Moffatt</b>	<b>14:00</b> <b>Peter Moffatt</b>	<b>14:00</b> <b>Peter Moffatt</b>	<b>14:00</b> <b>Peter Moffatt</b>	<b>14:00</b> <b>Peter Moffatt</b>	<b>14:00</b> <b>Peter Moffatt</b>	<b>14:00</b> <b>Peter Moffatt</b>
14:15		14:15	14:15	14:15	14:15	14:15	14:15
14:30	Experimetrics	14:30 Experimetrics	14:30 Experimetrics	14:30 Experimetrics	14:30 Experimetrics	14:30 Experimetrics	14:30 Experimetrics
14:45		14:45	14:45	14:45	14:45	14:45	14:45
15:00	MPI V14	15:00 MPI V14	15:00 MPI V14	15:00 MPI V14	15:00 MPI V14	15:00 MPI V14	15:00 MPI V14
15:15		15:15	15:15	15:15	15:15	15:15	15:15
15:30	Coffee	Coffee	Coffee	Coffee	Coffee	Coffee	Coffee
16:00		16:00	16:00	16:00	16:00	16:00	16:00
16:15	Group Assignment	16:15 Group Assignment	16:15 Group Assignment	16:15 Group Assignment	16:15 Group Assignment	16:15 Group Assignment	16:15 Group Assignment
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	invited talk	17:00 Klaus Rothermund					
17:15		17:15	17:15	17:15	17:15	17:15	17:15
17:30	Identity	17:30 Group Assignment					
17:45		17:45	17:45	17:45	17:45	17:45	17:45
18:00	MPI V14	18:00 Group Assignment					
18:15		18:15	18:15	18:15	18:15	18:15	18:15
18:30	Break	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	Dinner	19:00 Dinner	19:00 Dinner	19:00 Dinner	19:00 Dinner	19:00 Dinner	19:00 Dinner
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	Group Assignment	20:00 Group Assignment	20:00 Group Assignment	20:00 Group Assignment	20:00 Group Assignment	20:00 Group Assignment	20:00 Group Assignment
20:15		20:15	20:15	20:15	20:15	20:15	20:15
20:30		20:30	20:30	20:30	20:30	20:30	20:30

4th week	Monday August 16	Tuesday Aug 17	Wednesday Aug 18	Thursday Aug 19	Friday Aug 20	
8:15	<b>René Levinsky</b>	8:15	<b>René Levinsky</b>	8:15	<b>René Levinsky</b>	8:15
8:30	Logic and Games	8:30	Logic and Games	8:30	Logic and Games	8:30
8:45		8:45		8:45		8:45
9:00		9:00	New Psychological Models of Choice under Uncertainty	9:00		9:00
9:15	MPI V14	9:15	MPI V14	9:15	MPI V14	9:15
9:30		9:30		9:30		9:30
9:45	Coffee	9:45	Coffee	9:45	Coffee	9:45
10:00	invited talk	10:00	<b>Konstantinos Katsikopoulos</b>	10:00	<b>Konstantinos Katsikopoulos</b>	10:00
10:15	<b>Ayelet Fishbach</b>	10:15	Introduction to the Theory of Fast and Frugal Heuristics and their	10:15	Introduction to the Theory of Fast and Frugal Heuristics and their	10:15
10:30	Self Regulation	10:30		10:30		10:30
10:45		10:45		10:45		10:45
11:00	MPI V14	11:00	MPI V14	11:00	MPI V14	11:00
11:15	Coffee	11:30	Break	11:30	Coffee	11:30
11:45	Exercise: René Levinsky	11:45	Exercise: Konstantinos Katsikopoulos	11:45	Exercise: Jerome Busemeyer	11:45
12:00		12:00		12:00		12:00
12:15		12:15		12:15		12:15
12:30	Lunch	12:30		12:30		12:30
12:45		12:45		12:45		12:45
13:00		13:00	Lunch	13:00	Lunch	13:00
13:15	<b>René Levinsky</b>	13:15		13:15		13:15
13:30		13:30		13:30		13:30
13:45	Logic and Games	13:45		13:45		13:45
14:00		14:00	<b>Jerome Busemeyer</b>	14:00	<b>Jerome Busemeyer</b>	14:00
14:15	MPI V14	14:15	New Psychological Models of Choice under Uncertainty	14:15	New Psychological Models of Choice under Uncertainty	14:15
14:30		14:30		14:30		14:30
14:45		14:45		14:45		14:45
15:00	Coffee	15:00	MPI V14	15:00	MPI V14	15:00
15:15	<b>Konstantinos Katsikopoulos</b>	15:15	Introduction to the Theory of Fast and Frugal Heuristics and their	15:15	Introduction to the Theory of Fast and Frugal Heuristics and their	15:15
15:30		15:30		15:30		15:30
15:45		15:45		15:45		15:45
16:00		16:00		16:00		16:00
16:15	MPI V14	16:15	Exercise: René Levinsky	16:15	Exercise: Jerome Busemeyer	16:15
16:30		16:30		16:30		16:30
16:45	Break	16:45	Break	16:45	Break	16:45
17:00	invited talk	17:00	invited talk	17:00	invited talk	17:00
17:15	<b>Carmen Tanner</b>	17:15	Group Assignment	17:15	Group Assignment	17:15
17:30	Values, Moral Judgment and Decision Making	17:30	t.b.a.	17:30	t.b.a.	17:30
17:45	MPI V14	17:45		17:45		17:45
18:00		18:00		18:00		18:00
18:15		18:15		18:15		18:15
18:30	Break	18:30	Break	18:30	Break	18:30
18:45		18:45		18:45		18:45
19:00	Dinner	19:00	Dinner	19:00	Dinner	19:00
19:15		19:15		19:15		19:15
19:30		19:30		19:30		19:30
19:45		19:45		19:45		19:45
20:00	Group Assignment	20:00	Group Assignment	20:00	Group Assignment	20:00
20:15	20:15	20:15		20:15		20:15
20:30		20:30		20:30		20:30

# IMPRS Summer School 2011, Schedule

1st week	Sunday, July 24	GK	Monday, July 25	IMPRS	Tuesday, July 26	GK	Wednesday, July 27	IMPRS	GK	Thursday, July 28	IMPRS	GK	Friday, July 29	IMPRS	GK	Saturday, July 30	Sunday, July 31	
	GK+IMPRS		8:00	Welcome Address Univ. Cantor, and Clever Kirsten Z.		8:15	David Hendry	8:15	David Hendry	8:15	Bettina Peters	8:15	Oliver Falck	8:15	Niels Petersen			
8:15				Empirical Model Discovery and Theory Evaluation			Empirical Model Discovery and Theory Evaluation		Empirical Model Discovery and Theory Evaluation		Effects of Globalizing R&D		Methods in Entrepreneurship MKG+HS, Bachstrasse 18		Introduction to Legal Decision Making			
				MKG+HS, Bachstrasse 18			MKG+HS, Bachstrasse 18		MKG+HS, Bachstrasse 18		MKG+HS, Bachstrasse 18		SR, Bachstrasse 18		SR, Bachstrasse 18			
			9:45	Coffee		9:45	Coffee		Joint Seminar		Ivan Savin	9:45	Oliver Falck		Jonathan Klick			
			10:00	Eddy Szirmai	10:00	Eddy Szirmai	10:00	Jonathan Klick	10:00	Georg Kreutzberg		Exercise: Nils Petersen SR Bachstrasse	10:00	Methods in Entrepreneurship MKG+HS, Bachstrasse 18		Causal Inference in Empirical Legal Studies		
				Causal Inference in Empirical Legal Studies				Causal Inference in Empirical Legal Studies								Exam Nils Petersen NP V 14		
				MKG+HS, Bachstrasse 18				MKG+HS, Bachstrasse 18		Fraud and Honesty in Science		Exercise: Nils Petersen SR Bachstrasse					Exam Jonathan Klick NP V 14	
			11:30	Coffee		11:30	Coffee		11:30	David Hendry		Coffee		Break:				
				Exercise: David Hendry SR Bachstrasse				Exercise: David Hendry SR Bachstrasse										
				MKG+HS, Bachstrasse 18				MKG+HS, Bachstrasse 18										
			12:30			12:30												
			12:45			12:45												
			13:00	Lunch		13:00	Lunch											
			14:00	David Hendry	14:00	David Hendry	14:00	Georg Erdmann	14:00	Niels Petersen	14:00	Bettina Peters	14:00	Sadaf Bashir		Niels Petersen		
				Empirical Model Discovery and Theory Evaluation				Instabilities in the energy system		Instabilities in the energy system		Measurement of Innovation		The Facilitating Role of ICT Adoption		Introduction to Legal Decision Making		
				MPI V14				MPI V03		MPI V03		MPI V03		MPI V13		MPI V14		
			15:30	Coffee		15:30	Coffee		15:30	Coffee		Coffee		Frederico Fratini		Coffee		
			16:00	Eddy Szirmai	16:00	Coffee	16:00	Bettina Peters	16:00	Jonathan Klick	16:00	Elisabeth Bulitz						
				Institutions, equity, and long-run growth				Measurement of Innovation		Causal Inference in Empirical Legal Studies		Matching Sols of Individuals and Firms						
				MPI V14				MPI V03		MPI V03		MPI V03		MPI V13		MPI V14		
			16:30			16:30												
			17:00	Sidney Winter			17:15	Joint Seminar										
				Organizing and Innovating in the Face of Historical Uncertainty				Martin Hellwig										
				Senatsseal, University of Jena				Break										
			17:30	Break			17:30	Systemic Risk in the financial Sector										
				Pepin Oders External Student				MPI V14										
				MPI V14				Break										
			18:30			18:00												
			18:45	Opening BBQ		18:45	Dinner											
				Courtyard of the mainbuilding, University of Jena														
			19:45	Group Assignment		19:45												
			20:30			20:30												

2nd week	Monday Aug 01	Tuesday Aug 02	Wednesday Aug 03	Thursday Aug 04	Friday Aug 05	Sat Aug 06	Sun Aug 07
	GK	IMPRS	GK	IMPRS	GK	IMPRS	IMPRS
8:15	Wolfgang Viechtbauer Meta-Analysis MPI V14	Wolfgang Viechtbauer Meta-Analysis MPI V14	Wolfgang Viechtbauer Meta-Analysis MPI V14	Wolfgang Viechtbauer Meta-Analysis MPI V14	Wolfgang Viechtbauer Meta-Analysis MPI V14	Wolfgang Viechtbauer Meta-Analysis MPI V14	Wolfgang Viechtbauer Meta-Analysis MPI V14
9:00	Vag-Lan Borges Industrial Evolution MPI V03	Simone Vannucini JFWW MPI V03	Igor Asanov JFWW MPI V03	Sebastian Wilfing JFWW MPI V03	Bastian Rake International Research MPI V03	Bastian Rake International Research MPI V03	Bastian Rake International Research MPI V03
9:45	Coffee	Coffee	Coffee	Coffee	Coffee	Coffee	Coffee
10:00	Benoit Endogenous Growth Environmental MPI V03	Oliver Kirchkamp Scientific Presentation Techniques MPI V03	Bernd Irenbusch Behavioral Ethics MPI V14	Oliver Kirchkamp Scientific Presentation Techniques MPI V14	Shahab Hassan JFWW MPI V03	Shahab Hassan JFWW MPI V03	Shahab Hassan JFWW MPI V03
10:15							
11:15	Coffee	Coffee	Coffee	Coffee	Coffee	Coffee	Coffee
11:30	Jerry Silverberg Exercise: Kirchkamp V14	Jerry Silverberg Exercise: Viechtbauer MPI V03	Bernd Irenbusch Behavioral Ethics MPI V03	Bernd Irenbusch Behavioral Ethics MPI V03	Christoph Hellriegel Exercise: Kirchkamp MPI V03	Ivan Savin Heuristic model MPI V03	Ivan Savin Heuristic model MPI V03
11:45							
12:30							
13:00	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch
14:15	Joint seminar Eyal Winter Rational Emotions MPI V14	Jerry Silverberg The Fine Statistical Structure of the MPI V03	Wolfgang Miltner The Human Brain: Its Structures, Functions MPI V14	Wolfgang Miltner The Human Brain: Its Structures, Functions MPI V14	Wolfgang Miltner The Human Brain: Its Structures, Functions MPI V14	Maryann Feldman Regional Science MPI V03	Maryann Feldman The Human Brain: Its Structures, Functions MPI V14
14:45	Coffee	Coffee	Coffee	Coffee	Coffee	Coffee	Coffee
15:30							
15:45	Coffee	Coffee	Coffee	Coffee	Coffee	Coffee	Coffee
16:15	Joint seminar Jerry Silverberg Outside the Black Box: Complexity Models MPI V14	16:15 Incentive Reversal MPI V14	16:00 Bernd Irenbusch Behavioral Ethics MPI V03	16:00 Bernd Irenbusch Behavioral Ethics MPI V03	16:00 Maryann Feldmann Dealmakers in Place: Social Capital, Entrepreneurship and Regional Vitality MPI V14	16:00 Maryann Feldman Structured Social MPI V03	16:00 Keynote Lecture Sergiu Hart Game Dynamics and Equilibria
17:45	Break	Break	Break	Break	Break	Break	Break
18:45	Guohong Fan Absorbing knowledge spillovers, cooperative MPI V14	17:45 Group Assignment MPI V14	17:45 Bernd Irenbusch Behavioral Ethics MPI V03	17:45 Group Assignment MPI V03	17:45 Maryann Feldman Group Assignment MPI V03	17:45 Maryann Feldman Group Assignment MPI V03	17:45 Reception Alumni students BBQ and Get together
19:45	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner
20:30		Group Assignment 20:30	Group Assignment 20:30	Group Assignment 20:30	Group Assignment 20:30	Group Assignment 20:30	Group Assignment 20:30

3rd week	Monday Aug 8	Tuesday Aug 9	Wednesday Aug 10	Thursday Aug 11	Friday Aug 12	Saturday Aug 13	Sunday Aug 14
	<b>8:15</b> <b>Uwe Canther</b> Economics of Innovation Decision Making MPI V14	<b>8:15</b> <b>Uwe Canther</b> Economics of Innovation Decision Making MPI V14	<b>8:15</b> <b>Uwe Canther</b> Economics of Innovation Decision Making MPI V14	<b>8:15</b> <b>Uwe Canther</b> Economics of Innovation Decision Making MPI V14	<b>8:15</b> <b>Uwe Canther</b> Economics of Innovation Decision Making MPI V14		<b>8:15</b>
	<b>9:45</b> <b>Coffee</b>	<b>9:45</b> <b>Coffee</b>	<b>9:45</b> <b>Coffee</b>	<b>9:45</b> <b>Coffee</b>	<b>9:45</b> <b>Coffee</b>	<b>9:30</b> <b>Exam: Analysis of Experimental Data</b>	<b>9:30</b>
	<b>10:00</b> <b>Christoph Engel</b> Analysis of Experimental Data MPI V14	<b>10:00</b> <b>Christoph Engel</b> Analysis of Experimental Data MPI V14	<b>10:00</b> <b>Christoph Engel</b> Analysis of Experimental Data MPI V14	<b>10:00</b> <b>Christoph Engel</b> Analysis of Experimental Data MPI V14	<b>10:00</b> <b>Christoph Engel</b> Analysis of Experimental Data MPI V14	<b>10:15</b> <b>Exam: Economics of Innovation Decision Making</b>	<b>10:15</b>
	<b>11:30</b> <b>Coffee</b>	<b>11:30</b> <b>Coffee</b>	<b>11:30</b> <b>Coffee</b>	<b>11:30</b> <b>Coffee</b>	<b>11:30</b> <b>Coffee</b>	<b>11:15</b>	<b>11:15</b>
	<b>11:45</b> <b>Exercise: Engel</b>	<b>11:45</b> <b>Exercise: Canther</b>	<b>11:45</b> <b>Exercise: Engel</b>	<b>11:45</b> <b>Exercise: Canther</b>	<b>11:45</b> <b>Exercise: Kirchkamp</b>	<b>11:45</b>	<b>11:45</b>
	<b>12:30</b>	<b>12:30</b>	<b>12:30</b>	<b>12:30</b>	<b>12:30</b>	<b>12:30</b>	<b>12:30</b>
		<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>
	<b>14:00</b> <b>Oliver Kirchkamp</b> Practical Experimental Economics MPI V14	<b>14:00</b> <b>Oliver Kirchkamp</b> Practical Experimental Economics MPI V14	<b>14:00</b> <b>Oliver Kirchkamp</b> Practical Experimental Economics MPI V14	<b>14:00</b> <b>Oliver Kirchkamp</b> Practical Experimental Economics MPI V14	<b>14:00</b> <b>Oliver Kirchkamp</b> Practical Experimental Economics MPI V14	<b>14:00</b> <b>Oliver Kirchkamp</b> Practical Experimental Economics MPI V14	<b>14:00</b>
	<b>15:30</b> <b>Coffee</b>	<b>15:30</b> <b>Coffee</b>	<b>15:30</b> <b>Coffee</b>	<b>15:30</b> <b>Coffee</b>	<b>15:30</b> <b>Coffee</b>	<b>15:30</b>	<b>15:30</b>
	<b>16:00</b> <b>Group Assignment</b>	<b>16:00</b> <b>Exercise: Kirchkamp</b>	<b>16:00</b> <b>Invited talk Ilana Ritov</b> Other-oriented decisions: The role of identifiability in morally MPI V14	<b>16:00</b> <b>Invited talk Ilana Ritov</b> Other-oriented decisions: The role of identifiability in morally MPI V14	<b>16:00</b> <b>Group Assignment</b>	<b>16:00</b> <b>Group Assignment</b>	<b>16:00</b>
	<b>17:00</b> <b>Invited talk Sergiu Hart</b> Comparing and Measuring Risks MPI V14	<b>17:00</b> <b>Group Assignment</b>	<b>17:15</b> <b>Group Assignment</b>	<b>17:15</b> <b>Group Assignment</b>	<b>17:30</b> <b>Group Assignment</b>	<b>17:30</b> <b>Group Assignment</b>	<b>17:30</b>
	<b>18:30</b> <b>Break</b>	<b>18:30</b>	<b>18:45</b> <b>Dinner</b>	<b>18:45</b> <b>Group Assignment Experiments</b>	<b>18:45</b> <b>Dinner BBQ</b>	<b>18:45</b> <b>Dinner</b>	<b>18:45</b>
	<b>18:45</b>						
	<b>19:45</b> <b>Group Assignment</b>	<b>19:45</b> <b>Group Assignment</b>	<b>19:45</b> <b>Group Assignment</b>	<b>19:45</b> <b>Group Assignment</b>	<b>19:45</b> <b>Group Assignment</b>	<b>19:45</b> <b>Group Assignment</b>	<b>19:45</b>
	<b>20:30</b>	<b>20:30</b>	<b>20:30</b>	<b>20:30</b>	<b>20:30</b>	<b>20:30</b>	<b>20:30</b>

4th week	Monday August 15	Tuesday Aug 16	Wednesday Aug 17	Thursday Aug 18	Friday Aug 19
8:15	<b>Peter Todd &amp; K. Katsikopoulos</b> Heuristic process and behavioral as-if models for choice: Methods for MPI V14	8:15 <b>Peter Todd &amp; K. Katsikopoulos</b> Heuristic process and behavioral as-if models for choice: Methods for MPI V14	8:15 <b>Peter Todd &amp; K. Katsikopoulos</b> Heuristic process and behavioral as-if models for choice: Methods for MPI V14	8:15 <b>Peter Todd &amp; K. Katsikopoulos</b> Heuristic process and behavioral as-if models for choice: Methods for MPI V14	8:15 <b>Peter Todd &amp; K. Katsikopoulos</b> Heuristic process and behavioral as-if models for choice: Methods for MPI V14
9:45	Coffee	9:45 Coffee	9:45 Coffee	9:45 Coffee	9:45 Coffee
10:00	<b>Werner Güth</b> Advanced Microeconomics MPI V14	10:00 <b>Werner Güth</b> Advanced Microeconomics MPI V14	10:00 <b>Werner Güth</b> Advanced Microeconomics MPI V14	10:00 <b>Werner Güth</b> Advanced Microeconomics MPI V14	10:00 <b>Werner Güth</b> Advanced Microeconomics MPI V14
11:30	Coffee	11:30 Coffee	11:30 Coffee	11:30 Coffee	11:30 Coffee
11:45	Exercise: Todd&Katsikopoulos	11:45 Exercise: Güth	11:45 Exercise: Todd&Katsikopoulos	11:45 Exercise: Güth	11:45 Henrik Olsson
12:30	Lunch	Lunch	Lunch	Lunch	Lunch
14:00	<b>Henrik Olsson</b> Statistical Thinking MPI V14	14:00 <b>Henrik Olsson</b> Statistical Thinking MPI V14	14:00 <b>Henrik Olsson</b> Statistical Thinking MPI V14	14:00 <b>Henrik Olsson</b> Statistical Thinking MPI V14	14:00 <b>Henrik Olsson</b> Statistical Thinking MPI V14
15:30	Coffee	15:30 Coffee	15:30 Coffee	15:30 Coffee	15:30 Exam
16:00	Group Assignment	16:00 Exercise: Olsson	16:00 Exercise: Olsson	16:00	16:00 Break
17:00	<i>invited talk</i> <b>Luigi Mittone</b> The emergence of social norms in the lab MPI V14	17:00 <i>invited talk</i> <b>Siegfried Sporer</b> Evaluating Eyewitness Testimony: Detecting Error and Deception MPI V14	17:00 <i>invited talk</i> <b>Gerd Gigerenzer</b> Common errors in methodology (and how to avoid them) MPI V14	17:00 <i>Group Assignment Presentation</i> MPI V14	17:00 <i>Free time</i>
18:30	Break	18:30 Break	18:30 Break	18:45 Dinner	18:45 Dinner
18:45	Dinner	Dinner	Dinner	Dinner	Dinner
19:45	Group Assignment	19:45 Group Assignment	19:45 Group Assignment	19:45	19:45 <i>Graduation Ceremony</i>
20:30		20:30	20:30	20:30	20:30 <i>Dinner and Farewell Party</i>

## **C.III      Applied Topics: Network Industries and Financial Stability**

The Institute also continues its tradition of investigating applied topics concerning collective goods. This research is complementary to the more fundamental research summarized in Sections C.I and C.II: On the one hand, the principles that emerge from the more fundamental research provide guidance for the analysis of applied issues; this guidance is needed to avoid the danger of provincialism in studying special applications. On the other hand, the applied issues themselves serve as a proving ground for abstract ideas, also as a source of new ideas. The latter is particularly likely when different applications turn out to involve common themes.

As applied topics we have in the past chosen:

- The organization and regulation of network industries, and
- Financial stability and the regulation of financial markets and financial institutions.

Our choice of these topics was to some extent motivated by considerations of comparative advantage, based on past research expertise, as well as the scope for interdisciplinary research by jurists and economists. Apart from making progress on these topics in their own right, we are also keen to explore the parallels and links between them.

The choice of these topics was and is not meant to be exclusionary. Indeed, in some of the work on which we report under the heading of network industries, we have crossed boundaries and studied questions that properly “belong” to other topics, in particular, competition law and competition policy and the law and economics of innovations and intellectual property rights.

## **C.III.1 Network Industries: Sector-Specific Regulation and Competition Policy**

### **C.III.1.1 *Introduction***

“Network industries” such as telecommunications, electricity, gas, rail transportation and postal sectors have the common feature that the provision of services to customers presupposes the use of a fixed network infrastructure, the costs of which are by and large sunk. Traditionally, these industries have been organized as vertically integrated monopolies under state ownership and/or subject to sector-specific regulation. However, the past two or three decades have seen a paradigm shift concerning the organization and regulation of such industries.

The paradigm shift was due to the recognition that not all parts of the vertically integrated monopolies are “natural” and that, for example, long-distance telecommunication services or electricity generation exhibit no technological features which would preclude workable competition. Developments in telecommunications have also given rise to the notion that some natural monopolies may be transient as technical progress makes room for the establishment of competing networks.

The change in views of network industries has induced a change in views concerning the role of regulation. Whereas in the past, regulation was mainly seen as a constraint on the exploitation of monopoly power, under the new paradigm, it has come to be seen as a promoter of competition – competition in downstream markets, as well as competition among networks themselves, where such competition is feasible and economically sensible. A key tool for this purpose is access regulation, the government imposed requirement that the network owner open his network for use by other firms. Such access regulation provides other firms with a basis for offering their services in downstream markets, even against the wishes of the incumbent. It also provides other firms with a basis for building competing infrastructures piecemeal, using their own pieces of infrastructure where they have already built them and relying on the incumbent’s infrastructure where they do not yet have their own.

The organization and regulation of network industries under the new paradigm raise important economic and legal questions. Important economic questions are:

- What is an appropriate system for determining access prices?
- What is an appropriate governance system for the relation between the network infrastructure and the various activities in downstream markets?

The first question is closely connected to the issues discussed in C.I concerning the tension between efficiency in access and the need to cover the costs of the network infrastructures. (In principle, we can think of a network infrastructure as an excludable public good, the use of which serves as an input into the provision of final outputs, which themselves are private goods.) Access prices above the marginal costs of use would entail

some inefficiencies of exclusion; access prices equal to marginal costs would preclude the recovery of fixed and common costs. In this case, there would be insufficient incentives to invest in the network infrastructures at all. By contrast, if access prices contained a very generous allowance for fixed and common costs, especially one that is based on a cost-plus calculation, investment incentives could well be excessive.

The second question concerns the organization of the industry as well as the organization of statutory oversight over upstream and downstream activities. For the organization of the industry, the key question is what degree of vertical integration is desirable. In the electricity and gas industries, we have for some time had a requirement of legal unbundling of networks from production and sales. Given the lack of competition in these industries, the European Commission has proposed to go further and to require ownership unbundling of the transmission grids. This proposal raises the question how the presumed pro-competitive effects of unbundling compare to the efficiency gains (lower transactions costs, reduced holdup problems) that are usually associated with vertical integration. Because of vehement opposition from Member State Governments, as well as the industry itself, the Commission's proposal was not enacted, but, remarkably, at least some firms in the industry decided to sell their transmission grids anyway. The reasons for these decisions are as yet unclear.

For the organization of statutory oversight, the key question is how the relation between sector-specific regulation and antitrust law should be organized. Which activities should be subject to sector-specific regulation and which activities should be subject to antitrust law? How should one deal with the tradeoff that arises between competition downstream and competition upstream because the attempt to promote competition in downstream markets by imposing access requirements upstream reduces incentives for competing companies to build their own upstream facilities? Should submission to sector-specific regulation pre-empt the application of antitrust law? If not, should antitrust law be applied by the sector regulator, or should the two systems of law be applied by separate authorities? The latter would make for some competition between authorities, but there might be a loss of coherence in the policy that is applied to the industry.

On the legal side, the new paradigm for the organization and regulation of network industries raises the following questions:

- What are appropriate provisions for administrative and legal procedures?
- What is an appropriate system of governance for the firms in question?
- What is an appropriate system of governance for the regulatory authorities?
- What is the relation between European law and national law in the regulation of network industries?

Most substantive issues in regulation involve an important dose of judgment, rather than the straightforward application of a predetermined rule. Thus, it is well known that the allocation of fixed and common costs to the various services that are being provided and

charged for is to some extent arbitrary. From the perspective of welfare economics, as well as management science, the different costs of allocation systems have their advantages and disadvantages, but there is no way of saying *a priori* that one system is best. Given the importance of judgment, one can ask whether the choice should be taken by the political institutions, parliament and the government, whose powers are derived from democratic elections, or whether it should be taken by the regulatory institution, which presumably has greater expertise in assessing the industry in question. If it is taken by the regulatory institution, what recourse to the courts is available to the parties concerned? If the incumbent network owner contests an access pricing decision of the regulatory institution, to what extent does the court procedure focus on the specific price that is being contested? To what extent does it consider the place of this one price in the overall system of prices, which together should permit the recovery of common costs? Which side bears the burden of proof for the appropriateness or inappropriateness of the individual access price or the pricing system? What kind of evidence is accepted as proof in court? Given the need to rely on judgment, rather than predetermined principles, in regulatory decisions, the effective scope of regulation can depend on such procedural issues. Given that hard evidence in either direction may not even exist, in a court proceeding, the side that has the burden of proof is likely to be in a hopeless position from the very beginning.

At this point, the economist is likely to recommend that the regulator be given a significant amount of discretion to exert his judgment where this is necessary and that he bear the burden of proof in legal proceedings only when he can reasonably be expected to do so, e.g., when the question is whether a given rule for allocating common costs has been correctly applied. For the lawyer, this recommendation raises fundamental questions of constitutional legitimacy. From the perspective of constitutional law, it seems problematic that important substantive choices should be taken by an administrative authority, rather than the democratically elected legislature and government. It also seems problematic that legal protection of network owners against abuses by the regulatory institutions should be undermined by the institutions' having a great deal of discretion, without much of a burden of proof for the appropriateness of their decisions.

Some of these issues are well known from discussions about competition law and competition policy. For close to a decade now, the European Commission has been promoting "a more economic approach". For the implementation of abuse-of-dominance control under Article 82 EC, this reform has been more difficult and more controversial than for other areas of competition law and policy, and is by no means complete. The reason is precisely that a more economic approach to the assessment of a given practice requires the authority to have more discretion in assessing the practice; such discretion is subject to the objection that it exposes the parties to the risk of wilful intervention without sufficient protection by the legal system.

The discussion about abuse-of-dominance control in the European Union is not only paradigmatic for the more general issue of how to deal with the tradeoff between the need to provide the authority with a measure of discretion and the need to provide the

private parties with legal protection. This discussion is also directly relevant to the organization of statutory oversight over network industries in Europe. The reason is that sector-specific regulation is implemented under national law, which can void the application of national antitrust law but is itself overruled by EU law, in particular, the antitrust rules of the Treaty. Thus, a few years ago, the Commission ruled – and the European Court of Justice confirmed the ruling – that a certain price that had been charged by Deutsche Telekom – and that had been approved by the national regulator – was in fact predatory and therefore in conflict with the Treaty. At this point, the technical legal question of how to assess the relation between European law and national law in the regulation of network industries is joined with the substantive economic and political question of what is the proper relation between sector-specific regulation and competition law and policy.

### **C.III.1.2 Completed Research<sup>1</sup>**

#### *Topics in Sector-Specific Regulation*

The relation between sector-specific regulation and competition policy for network industries is discussed in Hellwig (2009 a). The paper provides first an abstract discussion of the comparative advantages and disadvantages of the two policy regimes, with competition policy as a system of prohibitions, with policy interventions taking place *ex post*, in a piecemeal, somewhat *ad hoc* fashion and sector-specific regulation as a regime which focuses on an industry as a whole, in systematic fashion *ex ante*, but with material choices taken by the regulator, rather than market participants. The basic reasoning is applied in discussions of how to determine which parts of an industry should be subject to sector-specific regulation and which ones should not, as well as questions of how to deal with issues of policy consistency when the same industry is subject to both, sector-specific regulation and competition policy, and to both, European law and national law. Hellwig (2009b) places the discussion of sector-specific regulation into a more general context of public interest, private interests, and the difference between efficiency notions as seen by the participants and efficiency notions as seen by society.

Höffler and Kranz (2010, 2011) analyse the economic implications of legal as opposed to ownership unbundling of networks and other operations. Whereas, so far, the discussion on vertical integration versus unbundling has mainly focused on technical synergies and exclusionary abuses, Höffler and Kranz focus on the incentives that are driving the incumbent's activities in downstream markets. In their analysis, legal unbundling dominates ownership unbundling because, under legal unbundling, the incumbent retains a financial interest in the network. Because of this interest, the incumbent's subsidiary in downstream markets takes account of the fact that, from the perspective of the mother

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1 Because of several departures from the institute, there has been less new research in this area than in previous years. Much of what follows is therefore an update on publication of past material rather than a report on new work. With the arrival of Dominik Grafenhofer from Toulouse, we hope to rebuild some capacity in this area. See Grafenhofer (2012).

company, the marginal costs of network use to make additional sales are given by true marginal costs rather than the access price per unit: whereas the downstream subsidiary is paying the access price per unit, the margin of the access price over true marginal cost accrues to the network owner and therefore, under legal as opposed to ownership unbundling, to the mother company as well. In this analysis, legal unbundling appears as a device to overcome the well-known problem of double-marginalization in vertically separated industries.

Höffler (2009) studies the role of call termination fees as a basis for collusion in primary markets in mobile telecommunications. The path-breaking papers of Laffont, Rey and Tirole (*Rand Journal of Economics* 1998) on this subject had asserted that termination fees provide a basis for collusion in primary markets if and only if mobile phone companies are unable to use two-part tariffs (fixed fee plus service-dependent component) in the primary markets. By contrast, Höffler finds that termination fees can always be used to support collusion. Whereas Laffont et al. did not actually model collusion, Höffler does so, studying the implementability of collusive outcomes as non-cooperative equilibria in a repeated game. The key observation is that termination fees can be used to make a short-run deviation from the collusive outcome less attractive. The acquisition of additional customers through such a deviation is less profitable if this acquisition reduces termination fee revenues that one gets from the other firms.

Prantl (2010) and Prantl and Spitz-Oener (2009) provide empirical studies of entry regulation on entry activities and survival of entrants. The entry regulation they consider is the requirement of a "master" qualification for artisans who want to set up shop as independent entrepreneurs. They use the natural experiment provided by German unification in order to provide sufficient identification. Within a given system, say the system of the old Federal Republic before 1990, identification would be difficult because decisions to acquire the relevant human capital would already be determined by the existing set of regulations. For entry behavior after 1990, this endogeneity of human capital is at least to some extent reduced because human capital acquisition pre-1990 was hardly affected by West German regulation. The studies find strong restrictive effects of the regulation on entry, without any significant compensating advantages in terms of market outcomes, suggesting that the regulation serves mainly rent-seeking purposes.

### Topics in Competition Policy

Cartels are an important object of antitrust analysis. Their study is not directly related to network industries (but see Höffler 2009). However, it provides an important application of the theory of collective goods. For the cartel members, the lack of competition which results from the cartel agreement has the features of a collective good. Compliance with the agreement is the analogue of a contribution made to the provision of this collective good. It is therefore of some interest to ask what implications can be drawn for the study of cartels from recent developments in our understanding of collective goods, in particular, from the experimental evidence showing that free-rider problems in collective-goods provision may be less prevalent than neoclassical economic theory would seem to sug-

gest. This question had been treated by Engel (2007) with a comprehensive and systematic meta-study of oligopoly experiments, asking what factors are most responsible for the sustainability of collusion in such experiments, characteristics of products (e.g., homogeneity versus heterogeneity), markets (e.g., market size), properties of demand and supply functions, specifics of the strategic interaction (e.g., simultaneous versus sequential moves) and the information environment. Engel (2011a, 2011d) provides systematic assessments of the implications of theory and experimental evidence for the practice of competition law and competition policy. Engel (2011b) discusses implications of experimental evidence for the design of research guidelines for R&D agreements.

In a case study of cartelization, Burhop and Lübbbers (2009) analyse the implications of cartelization for productive efficiency in the Rhenish-Westfalian Coal Syndicate in the late 19<sup>th</sup> and early 20<sup>th</sup> century. Contrary to Hicks's well known dictum that the nicest monopoly rent is a quiet life, they find no effects of cartelization on production costs. They do however find strong effects of managerial incentives on efficiency.

#### *Economics of innovation and intellectual property rights*

The law and economics of intellectual property rights are considered in Engel (2011c). Following previous work (Engel 2008), the paper argues that there are limits to the need for protection of intellectual property rights as an incentive to innovation.

Engel and Kurschilgen (2011) present experimental evidence on the implications of a new legal rule in Germany, which requires books publishers to provide authors with an improvement of contractual terms *ex post* if the book in question turns out to be a best-seller. The law stipulates that, if *ex post* negotiations do not lead to agreement, there should be an adjudication by a third party. The experiment investigates to what extent third-party adjudication of fairness *ex post* takes account of *ex ante* investment risks. The idea is that the publisher does not know beforehand which book will be a bestseller and therefore he needs bestsellers in order to cover the costs of losers. The experiment finds that willingness to take account of *ex ante* investments in assessing fairness *ex post* is in fact weak. The experiment also finds that this leads to a substantial reduction in *ex ante* investments.

The extent of the right to a trade secret is a focus of Bechtold and Höffler (2011). This paper was motivated by a case in the electricity industry where one company sued against outsiders installing devices underneath its transmission lines in order to find out which power plants were working and which were not, with a view to using this information by taking actions in the wholesale market. From this case, Bechtold and Höffler distil the problem of how to deal with the tradeoff between the supplier's investment and production incentives on the one hand and the efficiency implications of information asymmetry between the supplier and the demanders on the other hand. A simple result asserts that, unless the supplier is actually willing to spend resources in order to safeguard his trade secret, the efficiency implications of information asymmetry dominate concerns about the supplier's investment and production incentives. From this result, the paper infers that the right to a trade secret should not be accepted without question, but

should at the very least be subjected to the test how much the supplier himself would be willing to invest to safeguard his secret.

From a historical perspective, the economics of innovation have been at the focus of a research project on “The Market for Patents and Innovations in Imperial Germany 1877 – 1913” of Carsten Burhop under the auspices of a grant from Deutsche Forschungsgemeinschaft. Relevant publications are Burhop (2009) as well as Burhop and Lübbbers (2010, 2009/2011). Burhop (2009) discusses the respective roles of research by in-house scientists and by outside researchers, in particular at universities, for the pharmaceutical company of E. Merck in the two decades after 1890. The major finding shows that, whereas outside researchers were used to generate new products, in-house researchers were used to improve productive efficiency for given products. Burhop and Lübbbers (2010) study incentive contracting at seven leading chemical, pharmaceutical and electrical engineering companies in Germany in the late 19<sup>th</sup> and early 20<sup>th</sup> century. They find that incentive devices were used, but no significant impact of incentives on innovations can be identified. For the same period, Burhop and Lübbbers (2009/2011) study the contracts by which these same companies obtained licenses to use the innovations of outsiders. Three quarters of these contracts involved individuals, one quarter other firms as licensors. Besides fixed payment components, contracts did involve significant variable payment components, most importantly profit sharing agreements.

In a series of papers, Jansen (2009a, 2009 b, 2010a, 2010b, 2011) analyses under what conditions firms actually have an incentive to maintain secrecy and under what conditions they are willing to disclose information; disclosure is of course a precondition for patenting. The key issue is that disclosure affects competing firms’ beliefs about a firm’s technology and thereby their behaviours. Disclosure may enable competing firms to acquire the same technology cheaply, but it may also signal the innovating firm’s advantages and discourage them from even trying to compete (Jansen 2010a). Depending on parameter constellations, voluntary disclosure can therefore be part of an equilibrium even if there is no patent protection (Jansen 2009b). However, with sufficient asymmetry across firms, it is also possible that concealment is preferred because it has a greater discouragement effect on competitors (Jansen 2009a). The choice between patenting (disclosure) and secrecy also depends on competitive pressures. Interestingly, incentives to patent go up when competitive pressure takes the form of greater substitutability of products and down when competitive pressure takes the form of a greater number of competitors (Jansen 2011).

### **C.III.1.3 Research Questions**

To make progress in thinking about the general issues discussed above, we intend to work on the following specific questions:

- To what extent is there a conflict between the requirements for regulation set forward in European law and in German Constitutional Law? Tension arises not only from

concerns about the democratic legitimacy of regulatory decisions and about the scope of legal protection for the addressees, but also from concerns about the role of foreign institutions, in this case the regulatory authorities of other member states, in national regulatory decisions.

- Are there modes of procedure that satisfy the economist's concern for efficiency as well as the lawyer's concern for due process in regulation? In 2002, the Monopolies Commission proposed a two-stage procedure whereby, at one stage, the authority determines, e.g., a system for allocating fixed and common costs, and at the second stage, the authority determines the individual price, the idea being that, at stage 1, the addressee can question the appropriateness of the chosen system, and, at stage 2, he can question the way the system is being applied, without, however, questioning the appropriateness of the individual price on substantive grounds.
- In some network industries access regulation is complicated by the fact that access can be provided at several stages of the value creation chain. This raises a question of the consistency of different access prices. If one believes that it is unrealistic to suppose that regulation can get the system of access prices right, one must ask which types of error are more important: errors that hurt entrants further upstream, who partly build their own infrastructures; or errors that hurt entrants further downstream, who don't build much of an infrastructure at all.
- What is an appropriate procedure for calculating capital costs? The 2003 report of the Monopolies Commission shows that currently applied rules involve inappropriate measures for risk premia and an inappropriate treatment of corporate and personal income taxes. The implications of this critique need to be developed formally. To the extent that an appropriate treatment of risk premia imposes unrealistic information requirements on the regulator, suitable proxies must be proposed.
- If grids need to be vastly expanded in order to take account of the replacement of nuclear and fossile generation by generation from renewable sources, what needs to be done to ensure that the regime for access regulation will not destroy the necessary investment incentives.

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## **C.III.2 Financial Stability and the Regulation of Financial Institutions and Financial Markets**

### **C.III.2.1 General Overview**

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. In most countries, financial-sector regulation is more stringent than the regulation of other sectors. A first line of argument justifies this regulation by referring to problems of asymmetric information and moral hazard in financial relations, but that raises the question why the regulator should be able to handle these problems better than the parties themselves. A second, more solid line of argument then refers to the systemic, collective-goods aspects that arise because the handling of asymmetric-information and moral-hazard problems by the contracting parties has repercussions for the rest of the system.

Such collective-goods aspects can be due to *domino effects* or to *confidence effects*, acting alone or in combination.<sup>2</sup> *Domino effects* arise when outcomes in one set of financial relations or financial transactions have implications for the participants' relations with third parties. In a simple case, the insolvency of a firm or a set of firms brings the firms' banks into difficulties, and this has repercussions for the banks' depositors and other financiers. A recent example was provided by the 1997 crisis in Thailand, when the devaluation of the Baht induced defaults by many Thai firms that had borrowed in dollars. These defaults in turn compromised the solvency of the Thai banks that had lent to these firms and caused problems for the international banks that had lent to the Thai banks.

*Domino effects* can also arise through markets. A financial institution that gets into difficulties may be forced to sell its assets. By putting the assets on the market, it may depress asset prices. The decrease in asset prices in turn may put pressure on other financial institutions that have also invested in them. A *domino effect* arises even though there may be no contractual relation at all between the first institution and the others. Thus, as this report is written, financial actors worldwide are apprehensive about the possibility that difficulties of financial institutions engaged in mortgages and in mortgage-backed securities may force fire sales of such securities, with serious consequences for asset prices and for all other institutions that hold such assets. Similarly, in 1998, the Federal Reserve Bank's organization of an operation to rescue Long Term Capital Management (LTCM), at least for the time being, was motivated by fear that an immediate closure and liquidation of LTCM's assets would have a drastic effect on the prices of long-term bonds to the detriment of all financial institutions that were holding these bonds. A historical example of such *domino effects* resulting from the interdependence of insolvencies, asset liquidations and asset prices is provided by the 1763 financial crisis

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2 For a systematic discussion, see Staub (1998), Hellwig (1998 b) and, more recently, Hellwig (2008/2009, 2010a, 2010b), Wissenschaftlicher Beirat (2010), Admati and Hellwig (2011).

studied in Schnabel and Shin (2004). The contribution of these effects to the recent and ongoing crisis is a major theme in Hellwig (2008/2009, 2010a, 2010b).

A final domino effect concerns the macroeconomy. A financial institution that gets into difficulties is usually unable to continue its financing operations on the same level as before. Its clients may find it expensive or difficult to get funds elsewhere because nobody else knows them as well as their previous partner. If many financial institutions get into difficulties at the same time, there may then be a "credit crunch", leading to an overall decline in external investment finance and in aggregate investment activity, with further repercussions on aggregate demand and employment in the economy. These kinds of "multiplier effects" of financial crises on macroeconomic investment played a major role in the Great Depression, as well as the banking crises and macroeconomic recessions of the early nineties in the Scandinavian countries. Remarkably, such effects have been much weaker for stock market downturns (1987, 2001) than for real-estate and banking crises.

Confidence effects are important because the willingness to participate in financial relations depends on confidence, which in turn depends on what one sees happening in the financial system. If one bank goes under, another bank's depositors may become apprehensive and start to withdraw their funds, putting pressure on that bank's liquidity. With deposit insurance, nowadays, depositors may be less fidgety. However, events of the past summer show that the effect is still very relevant for other short-term financiers, in this case, the lenders in commercial-paper markets who had provided leverage to hedge funds investing in asset-backed securities. After a few hedge funds had begun to write down the values of their asset-backed securities, short-term lenders to these funds became apprehensive, and financing through the commercial-paper market dried up. If the different banks' or hedge funds' asset positions are correlated, such a reaction is fully rational, taking account of the information provided by the first institution's difficulties.

By exactly the same kind of argument, somebody's wanting to sell an asset may contain information about the asset. If people are thereby induced to be apprehensive, market liquidity is greatly reduced. In the LTCM crisis, the price effects of immediate closure and liquidation were deemed to be incalculable because market participants were apprehensive about the prospect of a crisis, and the closure itself might have provided a bad signal, making people unwilling to buy the assets that LTCM would have had to liquidate, except at greatly depressed prices. In the current crisis situation, similar fears are attached to the possibility of fire sales by some institution(s) having significant effects on asset prices.

In the LTCM crisis, concerns about the impact of an insolvency was a major reason for at least temporary forbearance. The Federal Reserve Bank induced a consortium of major creditors to bail LTCM out, making room for an orderly liquidation over time, rather than a Chapter 11 insolvency. At the time, there was no desire to do experimental research on the systemic effects of such an insolvency in a situation of market nervousness as well as legal uncertainty about the treatment of complex contractual structures with many large

counterparties in multiple jurisdictions. Ten years later, the experiment was carried out anyway with Lehman Brothers and the domino effects were such that governments all over the world found themselves forced to put taxpayer money at risk for bank guarantees and recapitalizations. The collective goods of domino effects and confidence effects were thus reined in, but this was done at a cost to the public.

The experience of the crisis demonstrates the importance of having collective-goods concerns bear on the decision making of bankers and supervisors. In contrast to the network industries, the collective-goods concerns here are not associated with any one good that is bought or sold, but concern the functioning of the overall system of institutions, contracts, and markets. The actions that individuals take and the contracts that groups of individuals write have repercussions for the functioning of the system, but people do not consider these repercussions. Actions are taken from the perspective of the individual person or institution in question, contracts are written from the perspective of the participants – how they affect the system is of little interest to them.

This is where statutory regulation and supervision of financial institutions and financial markets come in. In principle, this regulation is intended to induce participants to adjust their behaviours so that collective-good aspects are duly taken into account. Thus, traditional asset allocation rules and capital adequacy requirements are meant to protect the solvency of financial institutions and to eliminate the possibility of domino effects even before they have a chance to get started. Publicity rules for listed securities, as well as rules against insider trading regulations of market microstructure, are meant to protect the orderly functioning and the liquidity of markets by eliminating the worst instances of asymmetric information leading to market breakdown. In the context of banking, rules for the resolution of banks in difficulties must also be considered.

However, the incidence of statutory regulation is not always clear. Poorly designed rules may well be counterproductive. Thus, statutory deposit insurance seems to have played a role in exacerbating the crisis of the savings and loans industry in the United States in the nineteen-eighties. The enhancement of depositor confidence by deposit insurance may avert destabilizing bank runs. However, it also worsens the incentives of depositors to monitor the institutions in which they deposit their money and, by implication, the incentives of these institutions' managers to avoid exposing their institutions to excessive risk. In the eighties, this latter effect prevailed when institutions close to insolvency were "gambling for resurrection", using advertisements of high interest rates on "federally insured deposits" to expand their deposit base and thereby the funds they had available for such gambling.

Capital adequacy requirements, which, over the past two decades, have become a mainstay of banking regulation, have also been questioned. Initially, in the early nineties, discussion focussed on incentive distortions due to inappropriately chosen "risk weights" in capital requirements. In the late nineties, discussion has turned to the procyclical macroeconomic implications of more finely tuned capital requirements, as well as the actual implications of such requirements on the actual risk exposure of the financial

system. The financial crisis has confirmed these concerns and initiated a quest for suitable “macroprudential” rules. As yet, however, there is little understanding of the difference between macroprudential rules that focus on macroeconomic flow variables such as new lending, aggregate investment and aggregate demand and macroprudential rules that focus on the problems of system adjustment to a misalignment of stock variables when writedowns on assets reduce bank capital and the ensuing deleveraging induces further price declines.

For the lawyer, financial regulation raises even more questions than the regulation of network industries. The concerns about democratic legitimacy and the rule of law that were discussed above for the regulation of network industries must also be raised here. Democratic legitimacy is in doubt because the “Basel process” for developing rules for capital regulation has not really been controlled by any institutions whose legitimacy was based on democratic elections. While the individual members of the Basel Committee on Banking have been appointed by their respective national governments, the Basel Committee as such has worked as a committee of experts with little outside interference and has presented its accords for individual countries to adopt on a take-it-or-leave-it basis. Parliamentary involvement in legislation was practically non-existent. This was as true for “Basel III”, which is now being discussed in Brussels, as for “Basel II”, which led to the Banking and Capital Requirements Directives in 2006.

At the level of the implementation of rules, i.e. of banking supervision, concerns about the rule of law arise with respect to the handling of the model-based approach to determining required capital and with respect to the valuation of a bank’s assets and the assessment that the bank is in difficulties. Within the model-based approach, the assessment of the model used by a bank involves an important element of arbitrariness. Backtesting of such models could be helpful if the underlying data exhibited sufficient stationarity. In practice, however, they do not; this is a problem for the banks themselves and even more so for the bank supervisors. Important elements of arbitrariness are also involved in the valuation of loans that the bank has made and in the supervisory assessment that a bank is in such trouble that it ought to be closed. If loans are not traded in open markets, there is no extraneous measure of borrower solvency and, hence, no “objective” valuation standard.

All of these assessments require judgment and can hardly be codified so as to lend themselves to sensible court proceedings. Even if a court review of such administrative decisions was feasible, it would hardly be effective. By the time the courts rescind an unjustified regulatory intervention, the damage may be beyond repair. The major damage is likely to involve reputation and depositor confidence. These are difficult and sometimes even impossible to restore once they have been impaired. Given the role of discretionary judgement and given the substantive importance of supervisory intervention for a bank, the question how such decisions can fit into the framework of German constitutional and administrative law is even more puzzling than for the regulation of network industries.

### **C.III.2.2 Completed Research**

#### *The Recent and Ongoing Financial Crisis*

Hellwig (2008/2009) provides a thorough analysis of the first stage of the financial crisis, from the subprime-mortgage and real estate crisis of 2006/2007 to the fall of 2008. The analysis focuses on the following points:

- Flaws in Mortgage securitization played a role in the boom and bust of US mortgage and real estate markets. While it is economically useful to transfer uninsurable risks of real estate investment to third parties, the mode of securitization that was used was harmful because it destroyed all incentives<sup>3</sup> for creditworthiness assessments at the origination stage and instead created incentives for overexpansion as a way to generate fees for originating and securitizing banks as well as rating agencies and law firms. Moreover, these flaws were not reined in mechanisms of self-regulation (rating agencies) or market discipline. Investment banks looking for mezzanine securities for the creation of MBS CDO's were interested in volume rather than quality.
- Excessive leverage and excessive maturity transformation made the overall system very fragile. The initial shock of substantial downgrades and writedowns on MBS, MBS CDO's, etc. in August 2007 was compounded by a breakdown of a system of holding these securities through shadow banking institutions that were themselves refinanced through asset-backed commercial paper. This breakdown forced the sponsoring banks to take these securities into their own books and to back them with capital. If this did not cause an immediate insolvency, yet it caused a gap in bank capital and induced deleveraging, i.e. a sale of assets.
- The shocks of August 2007 set in motion a system dynamic that went unchecked until the Lehman insolvency induced a panic that caused governments of major countries to step in, making the taxpayer foot the final bill. The downward spiral arose from the interaction of price declines in malfunctioning markets, the rules of fair value accounting requiring banks with assets whose prices declined to immediately acknowledge the losses in their books, thus eroding their equity positions, a lack of "free" equity, i.e. equity above regulatory requirements, forcing banks to take corrective actions, usually in the form of "deleveraging", i.e., sales of assets, which in turn put pressure on market prices, with negative repercussions on other banks. Under the model-based approach to determining capital requirements for market risks, banks had run down their equity to around 1–3 percent of their balance sheets.<sup>4</sup> This meant that deleveraging involved multipliers of 30–100, i.e., for every dollar, euro, or Swiss franc of losses, they had to sell 30–100 dollars, euros, or Swiss francs worth of assets in order to get in line with capital requirements again.<sup>5</sup> It also meant that very soon,

3 The importance of such incentives is discussed in Diamond (1984), Hellwig (1994, 1998a).

4 The usual press release that the bank has 10 percent „core capital“ relates equity to "risk weighted" assets only and is meaningless if the risk weights are inappropriate, e.g., because the bank's risk model failed to take account of some risks or some correlations.

5 On the procyclical effects of regulation-induced deleveraging, see Blum and Hellwig (1995, 1996).

there was a question of solvency. Suspicions of insolvency hampered banks' positions in interbank markets. The generalization of such suspicions in September 2008 made these markets break down altogether.

The analysis of Hellwig (2008/2009) is updated and expanded in Hellwig (2010a, 2010b). The additional information that had become available in the meantime had by and large confirmed the analysis in Hellwig (2008/2009), with one exception: Whereas Hellwig (2008/2009) had ascribed the eagerness of institutions such as the German Landesbanken and UBS Investment Bank to invest in mortgage-backed securities and collateralized debt obligations to the steepness of the yields curve in 2003–2005, going from 1.5 % for federal funds to 7.5 % for fixed-rate subprime mortgages, Acharya et al. (2009) found that institutions holding these securities earned no more than 10 to 30 basis points over refinancing costs. The rest of the more than 500 basis points between mortgage rates and money market rates seem to have served as remuneration for the different intermediaries and service providers, mortgage banks, investment banks, rating agencies, law firms, a finding which may explain why the credit expansion in high-risk lending had been so much focused in mortgage finance, without any analogue in corporate lending.

The analysis of the crisis in Hellwig (2008/2009, 2010a, 2010b) is in conflict with the analysis provided by Gorton (2010). Gorton sees no inefficiencies in mortgage securitization and no problems of solvency. In his account, mortgage securitization and re-securitization was an efficient mechanism for providing institutional investors with liquid assets for which they had an insatiable demand. The financial crisis was merely a liquidity breakdown, caused by an over-reaction of investors to the bad news about subprime mortgages and real estate, news which was blown out of all proportion to the actual losses in debt service that occurred.

Gorton's account of the crisis has gained a certain prominence, partly because it is convenient for central banks explaining why they must provide the system with liquidity by buying up assets, even when they may be deemed "toxic", partly because he appeals to the profession's fascination with the notion of a "run", more generally a liquidity breakdown, as a result of self-fulfilling prophecies. A closer look at securitization mechanisms and at the events of August 2007 however reveals that his account does not fit the facts. For example, the crisis of August 2007 was not so much of a liquidity crisis as a crisis of capital scarcity – due to the fact that sponsoring banks had to take the holdings of their shadow banking affiliates onto their own books. Moreover, where Gorton focuses on the role of repo borrowing and lending, which did break down for Bear Stearns in March 2008 and for Lehman Brothers in September 2008, the breakdown of refinancing in August 2007 involved asset-backed commercial paper; most repo collateral actually involved government securities rather than mortgage-backed securities and derivatives. A critique of his analysis is in preparation.

With the sovereign debt problems in Europe, the financial crisis has entered a new stage. Hellwig (2011a) explains the interplay between sovereign debt problems and bank

problems in the European Monetary Union, paying particular attention to the distinction between sovereign debt problems that have arisen on their own, as in Greece and Portugal, and sovereign debt problems that have arisen as a result of bank problems, as in Ireland and Spain, and to the distinction between bank problems that have arisen from poor real estate lending (Ireland, Spain) and bank problems that have arisen from cross-border lending to foreign banks and sovereigns (France, Germany). Starting from a comparison with the analysis of European Monetary Union in Hellwig (2007), the paper considers the flaws in the governance of the system that make it so difficult to handle the crisis. One policy conclusion that emerges very clearly is the need to emancipate bank supervision from the sway of political authorities that think of banks more as sources of funds than as sources of risks. Useful tools for this purpose might be statutory independence of supervisory authorities and mutual benchmarking through the co-ordination with other supervisors in the European Union. Another policy recommendation is to have all arrangements for fiscal discipline look at exposures of banks as well as sovereigns.

An analysis of the crisis from a historical background is provided by Burhop (2011). This paper stresses parallels to the 1873 crisis, with its interplay of market implosion and banking problems after an extraordinary market expansion. By contrast, there are fewer similarities to 1931.

### *Regulatory Reform*

Hellwig (2008/2009) had concluded with an analysis and critique of the regulatory framework which set the stage for the systemic implosion in 2007 and 2008.<sup>6</sup> In Hellwig (2010a, 2010b) this work was extended and translated into proposals for regulatory reform.<sup>7</sup>

Major points of criticism of the prevailing system of bank capital regulation are: (a) The objectives of capital regulation are unclear; to the extent that different objectives are involved, conflicts and tradeoffs have not been articulated. (b) The effects of capital regulation, in particular, the precise channels by which it is supposed to reach the given objectives, have never been laid out theoretically, let alone confirmed empirically. (c) No account has ever been given of the dynamics of regulatory intervention in a multi-period setting where the bank has inherited assets and liabilities with different maturities and different degrees of marketability from the past. (d) No account has ever been given of the systemic implications of regulation-induced deleveraging. (e) The model-based approach is based on the illusion that all risks can be measured when in fact correlations of counterparty credit risks and underlying risks in hedge contracts are changing all the time and, hence, unmeasurable, and there is hardly any information available to assess

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6 See also Hellwig (1995, 1996).

7 See also Wissenschaftlicher Beirat beim Bundesministerium für Wirtschaft und Technologie (2010).

an institution's exposure to risk from the overall system's responses to other institution's problems, e.g., the breakdown of refinancing of special investment vehicles in August 2007. (f) Because of systemic interdependence, the regulatory community's view that the safety and soundness of banks can be assessed by looking at each institution individually is invalid. Exposure to systemic risk is typically hidden in correlations, which are effectively unmeasurable.

As consequence of these criticisms, Hellwig (2010a, 2010b) proposes that bank capital regulation should abandon dependence on risk weights, i.e. rely on a leverage ratio rather than a ratio of bank capital relative to risk-weighted assets. Moreover, the leverage ratio should be set at a high level, 3 to 5, corresponding to a ratio of equity to total assets of twenty to thirty percent. The rationale is brutally simple: Without risk weighting, there is less room for manipulation and less of an incentive to engage in risk exchanges of dubious value that exaggerate interconnectivity and the risk of domino effects. Moreover, at high levels of the required capital ratio, multipliers for deleveraging are small, three to five, and solvency concerns are not likely to arise so quickly.

The view that banking regulation and supervision need to go beyond looking at individual institutions and to think about systemic interdependence is also a major point in Admati and Hellwig (2011). Previously this had already been the subject of one of the main recommendations of a report for the Federal Ministry of Finance on the practice of financial supervision in Germany (Hüther et al. 2009).

Much of the policy discussion on regulatory reform has focussed on costs of higher capital requirements and fears of a credit crunch. This discussion is taken up in Admati et al. (2010), a paper which shows that many of the arguments made are either fallacious or irrelevant to the debate – fallacious because they involve *ceteris paribus* assumptions that defy economic logic, irrelevant because they focus on private costs without concern for externalities and the need to focus on social costs. Discrepancies between private and social costs arise naturally from tax considerations, systemic repercussions of bank failures, or taxpayer costs of bailout subsidies.

Admati et al. (2010) also addresses the view, which is prominent in the academic community,<sup>8</sup> that leverage is desirable as a way of restraining moral hazard on the side of management. The paper surveys the literature on "debt as a source of discipline" and finds that it does not provide a robust basis for policy conclusions about banks. In particular,

- it neglects the role of debt as a source of moral (excessive risk taking). Moreover, arguments about the waste of free cash flow by entrenched managers do not apply to financial firms with a wide spectrum of activities.

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8 See, e.g., French et al. (2010).

- Arguments suggesting that callable debt induces discipline because managers fear a run by debt holders have been derived in theoretical models involving no outside equity at all. In a real world with organized markets for outside equity, the analysis would have to address the relation between discipline from the threat of nonrenewal of debt and market discipline by shareholders. Differences in the information sensitivity of returns to the two types of securities suggest that debt holders are likely to free-ride on the information collected by shareholders, which is reflected in stock prices. This would imply an absence of debt holder discipline in the upswing and a run of debt holders in the crisis, precisely the pattern that we have seen in 2004–2007 and 2007–2008, without much discipline when the risks were taken.
- The literature also neglects the possibility that observed contracting may be privately efficient only if one takes commitment possibilities as given. If commitment possibilities are weak, the observed leverage may reflect the desire of bank managers and new creditors to conclude new debt contracts with risks coming at the expense of incumbent creditors – and the inability of precluding such behaviour by prior commitments – 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.

Admati et al. (2010) has received an unusual amount of attention (over 2400 downloads on SSRN), most notably in the regulatory community, which has been happy to be provided with arguments for the debate with the industry. Interestingly, seminar presentations and discussions rarely go beyond the discussion of fallacies and irrelevant arguments. The more sophisticated academic discussion about debt as a source of discipline seems beyond the actual regulatory debate.

The fallacies part of Admati et al. (2010) had started from the original propositions of Modigliani and Miller, whereby, 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. Thus, the simple argument that equity is an expensive source of funds because the required return on equity is fifteen percent, much higher than the required return on debt, is fallacious because the difference between the required return on equity and the required return on debt involves a risk premium, which itself must change if the risk of the equity instrument changes, as it does when there is more equity finance and less debt finance. In the absence of frictions, the direct effect of a change in the financing mix on the firm's cost of capital is exactly neutralized by the indirect effects coming from changes in required rates of return on the different instruments.

Whereas Admati et al. (2010) had treated the argument in the static context of the original Modigliani-Miller analysis, we are now looking at the matter in an intertemporal context in which refinancing decisions must be made as events evolve. In this context, the Modigliani-Miller argument itself can be combined with a standard debt overhang argu-

ment à la Myers (1977) to show that, in the absence of collective-action clauses for debt, shareholders will always resist a recapitalization even though this might raise the value of the firm (debt and equity combined). A recapitalization that is used to buy back debt would benefit debt holders but in the absence of collective bargaining with debt holders shareholders would be unable to appropriate these gains. Private concerns about dilution of equity may therefore generate resistance to recapitalization even when such recapitalization would be efficient for the firm (let alone society as a whole).

### *Bank Resolution*

Whereas regulatory policy attempts to rein in systemic risks by prevention, it is also important to consider the possibility of reducing systemic fallout from resolution. Improvements in resolution regimes were called for almost immediately after the crisis breakout and government support measures in the fall of 2008, but so far, little has happened. The problem of bank resolution was the subject of a conference organized jointly by the Max Planck Institute and the Austrian National Bank in September 2010. The papers presented there, however, gave little hope of progress in the most difficult problems arising from interconnectedness, particular cross-border interconnectedness of financial institutions.

Reform of resolution regimes is called for in Hellwig (2010b)<sup>9</sup>. Insufficiency of German legal reform is noted in Hellwig (2010c), a statement for the hearing of the Bundestag's Finance Committee on the subject. Hellwig (2011b) provides a more systematic analysis, using a comparison of the UK Banking Act of 2009 and the German Bank Restructuring Act of 2010 to discuss the procedural and substantive issues that must be dealt with if we are to have a viable resolution regime for banks, one that is not so cumbersome that, when a crisis occurs, the government prefers to put in taxpayer money rather than rely on the available resolution regime.

The German Bank Restructuring Act of 2010 is of course built on the presumption that taxpayer money will not again be needed to bail out banks. However, with a fund that is targeted at a level of 70 billion euro, it is hard to see how an orderly resolution of an institution like Hypo Real Estate, with liabilities in excess of 300 billion euro, or Commerzbank, with liabilities in excess of 700 billion euro could be provided by this fund. It is therefore not surprising that the German government is considering the recreation of the 2008 support mechanisms – less than a year after the passing of a law that was ostensibly designed to make such mechanisms superfluous. This evolution also raises questions for a legal approach that has sacrificed practicality of resolution procedures to dogmatic concerns about ownership rights and the powers of supervisory and resolution authorities.

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<sup>9</sup> See also Wissenschaftlicher Beirat (2010).

## Previous Work

To complete the record, several papers that had already been discussed in previous reports have at last been published. Hakenes and Schnabel (2010b, 2011b) study the tradeoff between risk sharing motives and moral hazard in credit risk transfers. If loan quality is not observable to outsiders, the existence of credit risk transfer markets will induce excessive lending and a deterioration in the quality of loans. However, the net welfare effect of having such markets is still positive, provided the counterparties appreciate that there is moral hazard and adjust their return expectations accordingly so that prices will reflect the actual average loan quality in the market.

Hakenes and Schnabel (2010a) study the role of government bailout promises on competition among banks, showing that, if such promises apply to some banks but not to others, the latter face more intense competition and may be induced to incur greater risks, with a possibility that system stability as a whole is less than it would be without the government bailout promises. Hakenes and Schnabel (2011a) show that a regulatory regime like Basel II can have the same kind of detrimental effect because the option to choose between a standard approach and a model-based approach for risk calibration provides a competitive advantage to large banks that can avail themselves of scale economies in the model-based approach.

The importance of competition and moral hazard effects from public bailout guarantees is confirmed in the empirical analysis of Groppe, Hakenes, and Schnabel (2011). Schnabel (2009) discusses the effects that the Reichsbank's implicit liquidity assistance promises to the so-called "Great Banks" in Germany had on these banks' liquidity management practices in the twenties and on the role of these policies and practices in the banking crisis of 1931.

### **C.III.2.3 Research Questions**

Like the organization and regulation of network industries, the financial sector provides research questions for both lawyers and economists:

- How does the governance of financial supervision and of bank resolution fit into the German legal system? Key questions concern the tradeoff between the practical need for discretion and the legal concern about democratic legitimacy. To what extent is this tradeoff affected by the observation that democratic legitimacy itself is compromised if impracticalities in existing legislation force the government to introduce shotgun legislation to provide remedies in emergencies?
- How are we to assess the relation between supervisory authorities and the government? Given that bank bailouts require money from the bank restructuring fund or from the taxpayer, activities of supervisory authorities have fairly direct implications for the use of government power to raise funds through a levy on the industry or

through taxes, which suggests that the authority should not be independent. In practice, governments have wielded their authority without much concern for risks, focusing instead on furthering national champions or on enabling banks to provide funding for governments and government-privileged purposes. Should practical political economy affect legal doctrine?

- How are we to assess the new legal arrangements in the European Union? Legislation proposed by the European Commission to implement Basel III (CRD IV/CRR) will for the first time impose capital requirements through a Regulation, i.e., immediately applicable European law rather than a Directive, which is only a mandate for national legislation. The change will add to the power of the recently created European Banking Authority (EBA) and of the European Commission. Given that neither institution has anything to do with bailout costs, the problem of independence versus responsibility of the finance minister arises here as well as in the national context. In addition, the evolution of relations between the European Banking Authority and the national supervisors is as yet unclear.
- Financial regulation is motivated by a desire to protect the financial system. However, the addressees of financial regulation are the individual institutions. How do these things go together? Banking regulation and supervision is intended to eliminate systemic risks. For the economist, this raises the question by what mechanisms the regulation of individuals safeguards the functioning of the system. For the lawyer, this raises the question as to what precisely is being protected and how the desire for protection supports the rules that are imposed on individual institutions.
- Ongoing discussion about the role of macroprudential concerns highlights the issues. In the new institutional framework of the European Union, macroprudential concerns are in principle a charge of the European Systemic Risk Board (ESRB). The ESRB itself does not have responsibility for microprudential supervision. However, microprudential supervision has macroprudential implications, as can be seen by the sequence of events following the September stress test by EBA and the October Summit's call for a recapitalization by June 2012. The deleveraging that was induced here, purely as a matter of microprudential concerns, affects markets and prices and risks feeding right back into bank balance sheets, thereby destroying the very purpose of the exercise, following the pattern of 2007/2008. Similarly, countercyclical capital buffers as stipulated by Basel III, are microprudential measures that presumably serve a macroprudential purpose.
- The notion of macroprudential concern itself needs clarification. Much of the literature fails to distinguish between concerns related to macroeconomic flows of new lending, investment and aggregate activity and concerns related to outstanding stocks, asset values, asset prices, and funding structures. The distinction needs to be made and supplemented with a distinction of regulatory and supervisory measures that are appropriate for dealing with them.

- What tradeoffs have to be considered in financial regulation? Relevant tradeoffs concern risk sharing and moral hazard through securitization, effectiveness of “market discipline” and vulnerability of institutions to market vagaries, efficiency gains and contagion risks from having more extensive markets.
- What are appropriate governance mechanisms for financial institutions? What scope is there for counteracting the yield bias of prevailing incentive systems, in particular those that are based on “market discipline”? Are there reasons to believe that under laissez faire, financing structures of banks induce excessive fragility?
- Taking the notion of debt as a disciplining device seriously, what can be said about the respective roles of debt and of the incentives that come from stock markets and “shareholder value”?
- Is the kind of formula-driven system of capital regulation and supervision that we have the best way to counteract excessive risk-taking incentives? Are there mechanisms by which one can give effective “voice” to the concerns of creditors and tax payers in banking governance, e.g., by having compulsory deposit insurance and having the insurance institution represented on the board of the bank?
- If we do depart from formula-driven supervision, allowing e.g. for forbearance in times of stress, what governance measures should accompany such forbearance to avoid excessive risk taking as a means of “gambling for resurrection”? Whereas there are good reasons for forbearance, the experience with savings and loans institutions in the United States in the eighties indicates that forbearance must be accompanied by some form of interference with bank management.

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## **D. Researchers at the Max Planck Institute**



## **D. Researchers at the Max Planck Institute**

### **D.I List of Researchers in Alphabetical Order**

Andrea Ahlgrimm	Jos Jansen
Rafael Aigner	Marc Jekel
Nathan Ashby	Marco Kleine
Sophie Bade	Sebastian Kube (Affiliate)
Stefan Bechtold (Affiliate)	Wolfgang Kuhle
Martin Beckenkamp	Carlos Kurschilgen
Felix Bierbrauer (Affiliate)	Michael Kurschilgen
Nadine Bläser	Matthias Lang
Stefanie Brilon	Pascal Langenbach
Carsten Burhop (Affiliate)	Philip Leifeld
Stephan Dickert	Aniol Llorente-Saguer
Jiayao Ding	Jörn Lüdemann
Christoph Engel	Stefan Magen (Affiliate)
Markus Englerth	Monia Manâa
Armin Falk	Alexander Morell
Susann Fiedler	Andreas Nicklisch (Affiliate)
Sven Fischer	Niels Petersen
Alia Gizatulina	Susanne Prantl (Affiliate)
Andreas Glöckner	Isabel Schnabel (Affiliate)
Sebastian Goerg	Mark Schweizer
Olga Gorelkina	Gregor Schwerhoff
Kristoffel Grechenig	Michael Stork
Hendrik Hakenes (Affiliate)	Emanuel Vahid Towfigh
Hanjo Hamann	Christian Traxler (Affiliate)
Martin Hellwig	Berenike Waubert die Puiseau
Yoan Hermstrüwer	Philipp Weinschenk
Benjamin Hilbig (Affiliate)	Carl Christian von Weizsäcker
Oliver Himmeler	Gaoneng Yu
Felix Höffler (Affiliate)	Lilia Zhurakhovska
Nina Horstmann (Affiliate)	

## D.II Individual Research Portraits



### Andrea Ahlgrimm

#### **Summary Report**

From August 2007 until December 2010, I was a member of the Research Group *Intuitive Experts*. Since January 2011, I continued to work on my dissertation as a guest researcher. After having finished collecting data in 2009, my focus in 2010 and 2011 has been on data analysis and writing up my findings.

The aim of my research is to investigate human decision making with respect to intuitive-automatic processes. I am specifically interested in people's ability to tackle increasingly complex decision tasks by relying on quick automatic information processing. In line with Herbert Simon's (1955) notion of bounded rationality, the idea of reducing cognitive effort in complex decision making by the use of simple decision rules and by ignoring information has received much support over the last years. However, in contrast to the classic heuristics approach (e.g., Gigerenzer & Selten, 2002), Glöckner and Betsch (2008) recently proposed a parallel constraint satisfaction (PCS) model of decision making and provide empirical evidence for quick compensatory information integration in probabilistic inference tasks. Unlike the frugality principle, the PCS model builds on the gestalt psychology concept of holistic information processing and posits that through parallel processing the intuitive-automatic system is capable of handling high amounts of information in a short time. My research objective has been to provide further empirical evidence for this core assumption of the PCS model and to extend the decision paradigm used by Glöckner and Betsch (2008) to more complex environments. In detail, I manipulated task complexity with respect to the amount of information the decision maker is provided with, the content of the given information, the presentation format and the overall information constellation. A key aspect of my research is the use of eye-tracking technology to obtain a deeper understanding of the cognitive processes that underlie complex decision making. In sum, my experiments indicate that in decisions between two options characterized by up to 12 binary cues, information integration is still in line with the predictions of the PCS model. Even when encoding effort is high due to a complex information display, no shifts to simplifying decision strategies are observable, while decision times simply show an additive effect of a more complex information presentation. Furthermore, people are even able to take into account interactions between different pieces of complex content-rich information in a short space of time. Another critical finding concerns the effect of the information constellation: positive information (e.g., a DNA trace of a suspect at the crime scene) is sampled more frequently and processed longer than negative information (e.g., a suspect has no alibi).

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Horstmann N., Ahlgrimm A., Glöckner A., How Distinct are Intuition and Deliberation? An Eye-Tracking Analysis of Instruction-Induced Decision Modes, *Judgment and Decision Making*, vol. 4, no. 5, pp. 335-354, 2009.

### **Preprints**

Horstmann N., Ahlgrimm A., Glöckner A., *How Distinct are Intuition and Deliberation? An Eye-Tracking Analysis of Instruction-Induced Decision Modes*, issue 2009/10, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## **Lectures and Seminar Presentations (since 2009)**

### **Schnelle kompensatorische Informationsintegration und Cue-Interaktionseffekte bei komplexen Entscheidungen**

[Quick Compensatory Information Integration and Cue Interaction Effects in Complex Tasks]

51. Tagung experimentell arbeitender Psychologen, Jena, Germany  
March 2009

### **Confirmation Bias in Automatic Information Processing in Complex Legal Tasks**

Second Workshop Decision Research for Junior Scientists, University of Mannheim, Germany  
July 2009

### **Quick Compensatory Information Integration and Cue Interaction Effects in Complex Legal Tasks**

ECP, Oslo, Norway  
July 2009

### **An Eye-Tracking Analysis of Automatic Information Processing in Complex Legal Tasks**

22nd Subjective Probability, Utility and Decision Making Conference, Rovereto, Italy  
August 2009

### **Effects of Information Display in Complex Decision Making**

with Andreas Glöckner & Arndt Bröder

Poster presented at the EADM & MPI Workshop Intuition: Methods and Recent Findings, MPI for Research on Collective Goods, Bonn (Germany)  
May 2010



## **Rafael Aigner**

### **Summary Report**

I joined the institute in October 2010 as a PhD student of the Bonn Graduate School of Economics. Martin Hellwig is my main supervisor. The submission of my thesis is scheduled for spring 2012. My research fields are Public Economics and Political Economy. Within this field, I seek to answer concrete questions from a theoretical perspective. In terms of methods, I use applied microeconomics. I have written two papers and I am currently working on a third one.

#### **Optimal Environmental Taxation and Redistribution Concerns**

To justify redistribution, one needs a stronger welfare concept than Pareto efficiency. Pigouvian taxation, in contrast, is used to correct for a market failure and is justified by means of Pareto arguments. Given these premises, I started this project with the hypothesis that income redistribution and Pigouvian taxation are independent policy problems. It turned out, though, that this is not the case.

I employ a Mirrleesian income taxation framework paired with a consumption externality. A social planner maximizes a weighted utilitarian welfare function. The degree of redistribution is measured by the welfare weight attached to the lower-income households. I show that the optimal level of Pigouvian taxation decreases in the degree of redistribution. The interdependence stems from the cost of public funds (defined as the welfare loss associated with income tax collection). The higher these costs are, the more valuable are revenues from Pigouvian taxation. Thus, a smaller amount suffices to cover the social harm attached to the externality.

Hence, the two goals of redistribution and environmental protection cannot be achieved independently. An optimal policy must address both issues jointly. In particular, the optimal level of environmental taxation cannot be determined before making a value judgement on the desired level of income redistribution.

#### **Investing Your Vote – On the Emergence of Small Parties** (joint with Matthias Lang)

In many elections, parties obtain a significant number of voters despite failing to enter parliament. This is particularly puzzling if the chances to enter have been known to be small or virtually zero. We analyze such situations in the context of proportional representation with an institutional election threshold, which denies entry to parties with less than, say, five percent of votes. We argue that some voters have a strategic incentive to vote for a new small party even if it will surely miss the threshold. The votes are not wasted because they signal a strong backing in the general population and might enable the party to enter at the next election. The voters, so to speak, invest their votes.

## **Research Agenda**

I am currently working out the topic for my third paper. My most promising research idea starts with the premise that attention is limited and that this limitation applies both at the individual level and in terms of the political debate.

Consider a consumer who is not informed about all characteristics of some offered commodities. She needs to devote time and attention to find out about it. Advertisements try to catch consumers' attention and present favourable features of the product. Limited cognitive capacity might inhibit complete information acquisition, so that consumers get to know only the good sides of the product. The question is whether the market allocation of attention is efficient. Advertising for products like tobacco or alcohol, but also cars, is often regulated. Limited attention could provide a theoretical justification for such regulations.

The public debate is often dominated by a single most salient topic. Other issues suffer from this dominance even if they are important. German media coverage, for instance, centered around the 2011 Egyptian revolution until mid-February, before shifting focus to the doctorate plagiarism of Mr Guttenberg, the then Minister of Defense. Since mid-March, the news was overwhelmingly dominated by the events of Fukushima. The question is: which of the issues would have been dominating, had they occurred simultaneously? More to the point: would Mr Guttenberg still be in office, had his plagiarism become public four weeks later? Supposing that the agenda of the public debate has an influence on (policy) outcomes, it is worth broadening the understanding about how the agenda arises, as well as how and by whom it is influenced.

## **Publications (since 2009)**

### **Preprints**

Aigner R., *Environmental Taxation and Redistribution Concerns*, issue 2011/17, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **On the Impact of Redistribution on Optimal Environmental Taxation**

LSE work in progress seminar: public economics  
London, UK  
November 2009

## **2010**

### **Investing Your Vote – On the Emergence of Small Parties**

EDP Jamboree (organized by Universitat Pompeu Fabra)

Barcelona, Spain

March 2010

### **On the Impact of Redistribution on Optimal Environmental Taxation**

BGSE Micro Workshop

Bonn, Germany

April 2010

## **2011**

### **Investing Your Vote – On the Emergence of Small Parties**

Econ Workshop (MPI Bonn)

Bonn, Germany

April 2011

### **On the Impact of Redistribution on Optimal Environmental Taxation**

MMM Workshop (organized by MPI Bonn)

Bonn, Germany

May 2011



## **Nathan Ashby**

### **Summary Report**

In May 2010, I joined the *Intuitive Experts* Group at the Max Planck Institute for Research on Collective Goods as a PhD student, under the supervision of Dr. Andreas Glöckner and Prof. Dr. Tilman Betsch. I did so after completing my Masters in Science with a focus in cognitive neuroscience at the University of Oregon under the supervision of Prof. Dr. Edward K. Vogel and Prof. Dr. Edward Awh in 2010. At the

University of Oregon, my education was formed around three core areas: social and cognitive psychology, cognitive neuroscience, and behavioral economics. Together, these diverse, although complementary, areas of research have helped shape my interests and provide me with different perspectives on how to look at behavioral effects in real-life decision making. As a research fellow, I am working towards my doctorate at the University of Erfurt. My dissertation is planned to be finished towards the end of 2011 and defended in early 2012.

Since joining the Intuitive Experts group, my research has mainly been focused on the role of attention during information search and how differences in attentional focus affect valuations and choices and are themselves altered by one's perspective (e.g., being a buyer or seller of a good). Together with Dr. Glöckner and Dr. Dickert, we have completed multiple studies looking at attentional focus in the endowment effect by employing behavioral and eye-tracking methodologies. We show that the valuation of gambles is predicted by attentional focus and additionally that differences in attentional focus exist between buyers and sellers. Sellers focus more on the positive aspects of a gamble, whereas buyers focus more on the negative. Furthermore, this difference in attentional focus to information also reliably explains a significant portion of the endowment effect which provides insight into the role of information processing in the endowment effect and valuations in general.

Another line of research into the endowment effect and the valuation of goods that I am developing draws heavily on my background in cognitive neuroscience. Working with Sebastian Markett from the University of Bonn, as well as Dr. Dickert and Dr. Glöckner, we are currently developing and piloting a study looking at endowment effects and how items to be valued are stored in working memory through the use of electroencephalogram (EEG) and event related potentials (ERP's). In earlier work, while I was still attending the University of Oregon, I found that the contra lateral delay activity (CDA), a component that has been shown to reflect the contents of visual working memory, was significantly predictive of the size of the endowment effect. I also found differences between how buyers and sellers held items in visual working memory, as reflected by the CDA, with sellers employing more resources than buyers. Our aim with this study is to go

deeper into the processes that drive differences in valuation, thus giving us a clearer picture of how these valuations take place.

Carrying on with this exploration into the role of attentional focus in day-to-day judgments, we have begun to look at how attentional focus can be used to explain donation behavior and affective ratings of potential donor targets. This is an important line of research because charitable behavior is one of the ways individuals can make a difference in society besides paying taxes. We have found, counter-intuitively, that increased focus on the selected donation target relative to the focus on other possible but non-chosen donor targets decreases later donations. Based on this finding, we have generated a hypothesis that, in order to select a donation target out of a group of similar targets, an individual must come up with reasons to select one target over the others. The generation of reasons, in turn, is related to attentional deployment. This series of studies will further explore the role of attention and information processing in financial decisions in a domain that impacts both individuals and society as a whole.

A separate line of research has been the exploration of the unconscious thought effect, an effect in which being distracted from deliberately thinking about information relevant to choices leads to better decision making, made popular by Dijksterhuis and colleagues. In three studies, we replicated the commonly reported effect with the unconscious thought condition outperforming a condition in which participants deliberated without being able to access the relevant information. However, to test two of the core principals of unconscious thought theory (UTT), we added a novel condition in which participants again deliberated, but did so with access to the relevant information. We found in all three studies, counter to the predictions derived from the principals put forth by UTT, that there was no difference between the unconscious and deliberation with information conditions, suggesting that there is no general advantage of one form of information processing over the other.

## **Research Agenda**

For the remainder of my time in the *Intuitive Experts* group, I plan to continue and expand my current lines of investigation of the role of attention in valuation, choice, and the endowment effect. In one branch of experiments that is currently under way, we look at the effect of fluency on information uptake and weighting in the valuations and the endowment effect. In earlier conducted studies, we found that attributes which were displayed less frequently, and were thus harder to capture and attend to, were weighted heavier in valuations. This was a surprising effect and we are currently working to replicate and further understand this interesting finding. In another line of related research, we will be looking into personality characteristics and mood and how these alter the search for information in choice and valuation. By exploring traits and mood states which affect the underlying processes used for value and preference construction, we hope to garner a greater understanding of these processes.

I plan to explore unconscious thought processing further by looking at how well it performs against deliberative modes of thought when making judgments about other individuals' propensity to cooperate in standard economics games such as the dictator game. We also hope to look at unconscious thought in the detection of lies in which we plan to compare experts (members of law enforcement) and lay people in a cross-cultural study taking place in Germany, Israel, and the United States.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Ashby N. J. S., Glöckner A., Dickert S., Conscious and unconscious thought in risky choice: Testing the capacity principle and the appropriate weighting principle of Unconscious Thought Theory, *Frontiers in Psychology*, 2011.

### **Manuscripts in Preparation**

Ashby N. J. S., Dickert, S., and Glöckner, A. (working paper). Focusing On What You Own: Biased Information Uptake Due to Ownership.

Ashby N. J. S., Glöckner, A., and Dickert, S. (in preparation). Information Fluency and Attention in Valuation and Choice.

Ashby N. J. S., Dickert, S., Glöckner, A., and Slovic, P. (in preparation). On the Role of Attention in Donations: A De-selection Hypothesis.

Ashby N. J. S., Markett, S., Dickert, S., & Glöckner, A. (in preparation). Evidence for Differential Working Memory Storage Based on Perspective.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Working and Short-term Memory: Estimating Visual Working Memory Capacity with Whole and Single Probe Test Arrays**

(poster presentation with K. Fukuda and E. K. Vogel)

Vision Sciences Society Annual Meeting, Naples, FL, U.S.A.

August 2009

**The Link Between Early Visual Processing and the Endowment Effect: Evidence from Event Related-Potentials (ERP)**

(poster presentation with Stephan Dickert, A. MacCollough and E. K. Vogel)

Society for Judgment and Decision Making Conference, Boston, MA, U.S.A.

November 2009

**2010**

**Unconscious Thought in Complex Risky Choices**

(poster presentation with Andreas Glöckner & Stephan Dickert)

Society for Judgment and Decision Making Annual Meeting

(organized by the Society for Judgment and Decision Making), St. Louis, MO, U.S.A.

November 2010

**2011**

**Unravelling the Endowment Effect: The effects of Attention and Deliberation**

(paper presentation with Stephan Dickert and Andreas Glöckner)

International Conference on Behavioral Decision Making

(organized by Interdisciplinary Center Herzliya), Herzliya, Israel

June 2011

**Focusing on What You Own: Biased Information Uptake Due to Ownership**

(paper presentation with Stephan Dickert and Andreas Glöckner)

Subjective Probability, Utility, and Decision Making Conference (SPUDM23)

(organized by The European Association for Decision Making)

London, UK

August 2011

**Deliberation, Attention, and the Endowment Effect**

(paper presentation with Stephan Dickert and Andreas Glöckner)

Society for Judgment and Decision Making Conference, Seattle, WA, U.S.A.

November 2011



## **Sophie Bade**

### **Summary Report**

**1. Ambiguity Aversion:** I have published two papers on applications of ambiguity aversion. In the first one, Ambiguous Act Equilibria (Games and Economic Behavior), I amend the classical definition of normal form games to allow for subjectively uncertain randomization devices in addition to the typically assumed objective randomization devices. A die or a roulette wheel would be typical examples of objective randomization devices. An urn with unknown composition, an agent's mood or a weather event in some faraway location would be typical examples of subjectively uncertain randomization devices. I assume that the agents' preferences satisfy the core axioms that are typically used in models of uncertainty-averse preferences: monotonicity, expected utility representation over objective lotteries and ambiguity aversion. I show that the equilibria of two-player games that permit such subjectively uncertain randomization devices together with uncertainty-averse behavior of agents are observationally no different from standard mixed-strategy equilibria.

The concept of stochastic independence plays an important role in the theory of games in general and in my paper in particular. In the context of ambiguity aversion, this concept poses a peculiar problem: the stochastic independence of two events is typically defined as the property of a probability distribution. If agents are expected utility maximizers, their preferences are associated with unique probability distributions which can be used to define the notion of stochastic independence. Conversely, the representations of ambiguity-averse agents are commonly not associated with a single probability measure. So the question of a definition of stochastic independence for the context of ambiguity-averse preferences naturally arose in the given context. I realized that stochastic independence plays a major role in many contexts of applied contexts: any theory of updating implies a theory of stochastic independence via the requirement that an event  $E$  is independent of some other event  $F$ , if and only if preferences over bets conditioned of  $F$  do not depend on learning  $E$ . The concept of stochastic independence is also crucial for experimental economics, where stochastically independent randomization devices play an important role.

I chose to focus on this last application to frame my thoughts on stochastic independence. In the paper "Independent Randomization Devices and the Elicitation of Ambiguity-Averse Preferences" I show that the behavioral notion of stochastic independence needed for random incentive schemes to work, is consistent with Gilboa and Schmeidler's max-min expected utility model and Klibanoff, Marinacci, and Mukherji's smooth model of ambiguity aversion. These two models arguably play the most prominent role in treatments of ambiguity-averse behavior in applied contexts. This very positive news on the possibility of using randomization devices to elicit ambiguity-averse behavior is counter-

balanced by the observation that – within the two models of preference representation considered in the paper – the notion of stochastic independence needed for random incentive mechanisms to work is asymmetric.

I also published a paper “Electoral Competition with Uncertainty-Averse Parties” in Games and Economic Behavior. In that paper, I address the puzzling feature of the nonexistence of equilibria in models of electoral competition involving multiple issues. I relax the standard assumption that parties act as expected utility maximizers and show that equilibria often exist when parties with limited knowledge about the electorate are modeled as uncertainty-averse. What is more, these equilibria can be characterized as a straightforward generalization of the classical median voter result. Currently, I am finishing a follow-up paper in which I address another puzzling feature of standard Downsian electoral competition among two office-motivated parties: in equilibrium, both parties will announce the same platform. I amend the standard model in the same way as described above, but I do use a different model of preference representation. I define an exemplary electorate with diverging equilibrium platforms. I show that uncertainty aversion as well as the multidimensionality of the issue space is necessary to obtain such divergence.

**2. Matching Mechanisms:** I submitted two papers on matching mechanisms to Social Choice and Welfare: “Matching Allocation Problems with Endogenous Information Acquisition” and “Pareto-Optimal Assignments by Hierarchical Exchange”. I also revised a paper entitled “Pareto-Optimal Matching Allocation Mechanisms for Boundedly Rational Agents”. All three papers are motivated by the same initial observation: most of the literature on matching presumes that agents have well-formed preferences over all goods that are to be assigned. In many applied contexts, this is a rather counterfactual assumption. Consider the case of school choice. Parents typically do not have full a priori rankings over all possible schools for their children. Instead, the rankings will depend on the information parents acquire about the schools, and the choices in mechanisms might also depend on intra-family bargaining. In either case, choices of parents cannot be represented as the maximization of a complete and transitive ranking. I propose two different answers to this problem:

In “Matching Allocation Problems with Endogenous Information Acquisition”, I explicitly model a process of endogenous information acquisition. There I show that – contrary to the standard wisdom on trade – the welfare-optimal mechanism need not be a trading mechanism. Instead, it is generally welfare-optimal for the designer to keep some control over the objects to be assigned. In “Pareto-Optimal Matching Allocation Mechanisms for Boundedly Rational Agents”, I do not adopt any particular explanation for the deviation of rationalizability, but I do study the large set of trading mechanisms for any deviation from rationalizable behavior. I show that the set of allocations achievable through trade is strictly nested between a narrowly and a loosely defined set of Pareto optima. I show that this result holds even for the smallest imaginable deviations from rationalizable behavior. Finally, “Pareto-Optimal Assignments by Hierarchical Exchange” is a technical note needed for some of the arguments in the longer papers.

## Research Agenda

The work on stochastic independence generated two important questions: First, I hold the hypothesis that symmetric stochastic independence is incompatible with ambiguity aversion in a more general framework than the two models of preference representation considered in my paper on random incentive mechanisms. I hope to show that the sure thing principle can be replaced by an appropriate notion of stochastic independence in Savage's derivation of expected utility. Secondly, there is the empirical question whether agents actually do see draws from different Ellsberg urns as stochastically independent. Together with Sven Fischer, I plan to generate some experimental evidence on this question. We will need some non-standard experimental techniques in this experiment, since we cannot presume that random incentive mechanisms work in an experiment in which we hope to solve the question whether they work.

Two new questions arose in the context of matching mechanisms with endogenous information acquisition. In "Matching Allocation Problems with Endogenous Information Acquisition", I narrowly modeled information acquisition and thereby obtained sharp results on welfare optimality. In a new project on the same subject, I allow for a much larger set of information structures and concern myself with Pareto optimality. I have some preliminary evidence that serial dictatorship is the unique mechanism that is Pareto-optimal for all structures of information acquisition. For my next project, I restricted attention to the case of just two agents and found out that endogenous information acquisition might serve as a rationale to explain costly delays in bargaining. To verify this intuition, I set up an example of a two-person bargaining problem with privately known types. If agents automatically learn their types any equilibrium agreement occurs instantly. Conversely, if it is costly for agents to learn their valuations of the object, there are equilibria with delay.

## Publications (since 2009)

### Articles in Peer-reviewed Journals

Bade S., Electoral Competition with Uncertainty Averse Parties, *Games and Economic Behavior*, vol. 72, no. 1, pp. 12-29, 05/2011.

Bade S., Ambiguous Act Equilibria, *Games and Economic Behavior*, vol. 71, no. 2, pp. 246-260, 03/2011.

Bade S., Haerlinger G., Renou L., Bilateral Commitment, *Journal of Economic Theory*, vol. 144, no. 4, pp. 1817-1831, 2009.

### Preprints

Bade S., *Pareto-Optimal Assignments by Hierarchical Exchange*, issue 2011/11, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Bade S., *Pareto-Optimal Matching Allocation Mechanisms for Boundedly Rational Agents*, issue 2010/47, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Bade S., *Matching Allocation Problems with Endogenous Information Acquisition*, issue 2010/46, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Bade S., *Electoral Competition with Uncertainty Averse Parties*, issue 2010/22, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Bade S., *Ambiguous Act Equilibria*, issue 2010/09, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Stochastic Independence with Maximin Expected Utilities**

University of Mannheim, Germany

January 2009

#### **Stochastic Independence with Maximin Expected Utilities**

Paris School of Economics, France

January 2009

#### **Stochastic Independence with Maximin Expected Utilities**

HEC, Paris, France

January 2009

#### **Political Advocacy with Collective Decision Making**

(joint with Andrew Rice) MPI Collective Goods, Bonn, Germany

February 2009

#### **Stochastic Independence with Maximin Expected Utilities**

Toulouse School of Economics, France

March 2009

#### **Political Advocacy with Collective Decision Making, joint with Andrew Rice**

Conference of the Society of Economic Design, Maastricht,

June 2009

**Housing Problems with Endogenous Information Acquisition**

Centro de Modelación Matemática, Santiago, Chile,  
October 2009

**Pareto-Optimal Matching Allocation Mechanisms for Boundedly Rational Agents**

LACEA, Buenos Aires  
October 2009

**Housing Problems with Endogenous Information Acquisition**

Economic Theory Seminar Berkeley,  
December 2009

**Political Advocacy with Collective Decision Making**

Positive Political Theory Seminar Berkeley,  
December 2009

**2010****Discussant of "Crime and Conspicuous Consumption" by Daniel Meija,**

The Empirics of Law Enforcement and Compliance, Bonn,  
October 2010

**Housing Problems with Endogenous Information Acquisition**

Paris Game Theory Seminar  
February 2010

**Stochastic Independence with Maximin Expected Utilities**

DIW, Berlin  
July 2010

**Housing Problems with Endogenous Information Acquisition**

Universidad Autónoma, Barcelona  
October 2010

**2011****Housing Problems with Endogenous Information Acquisition**

Bilkent University, Ankara  
May 2011

**Housing Problems with Endogenous Information Acquisition**

Matching in Practice, Brussels

May 2011

**Pareto-Optimal Matching Allocation Mechanisms for Boundedly Rational Agents**

SAET, Faro, Portugal

June 2011



## **Stefan Bechtold (Affiliate)**

### **Summary Report**

In 2008, I moved from the Max Planck Institute to ETH Zurich as a (tenured) associate professor for intellectual property. Since then, I have remained a Research Affiliate at the Max Planck Institute. Over the last two years, I have worked on various projects connected to the institute. First, my book on "Die Grenzen zwingenden Vertragsrechts – ein rechtsökonomischer Beitrag zu einer Rechtsetzungslehre des Privatrechts"

[*The Limits of Mandatory Contract Law – a Law and Economics Contribution to a Theory of Civil Lawmaking*] was published by Mohr Siebeck in 2010. The book analyzes the relationship between mandatory and default provisions in contract, corporate, and securities law. Starting from an analysis which incorporates insights from law and economics, behavioral law and economics, and fairness research, it analyzes what limitations exist to the attempts by the legislator to enact mandatory contract provisions. I wrote the book, which has been accepted as Habilitation by the University of Tübingen Law School in 2009, primarily during my time as a Senior Researcher at the Institute.

Second, together with Felix Höffler (a former Senior Research Fellow and current Research Affiliate at the Institute), I published a paper entitled "An Economic Analysis of Trade Secret Protection in Buyer-Seller Relationships" in the Journal of Law, Economics, and Organization in 2011. Traditionally, the economic analysis of trade secret protection has focused on the interests of companies to conceal information from competitors. By contrast, we investigate the social efficiency effects in cases in which the interest is not in concealing information from competitors, but from trading partners. We develop a contract-theory-based model of trade secret protection and relate the model to current legal practice, both in Germany and the United States.

Third, I am currently revising an experimental law and economics paper entitled "The Endowment Effect in Groups with and without Strategic Incentives", co-authored with Andreas Glöckner (head of the research group at the Institute), Janet Kleber (a Ph.D. student at the Institute), and Stephan Tontrup (a Ph.D. student at the Max Planck Institute of Economics in Jena). We test experimentally whether anticommons situations do not only emerge due to high transaction costs or strategic behavior, but also due to the endowment effect. We can show that, in strategic group situations, the endowment effect disappears. This is not only of interest to group decision-making research, but also has legal implications.

Fourth, I am currently starting an experimental project with Christoph Engel entitled "The Price of Moral Rights". Many copyright law systems around the world include various moral rights (e.g., the right to be named as an author of a work or the right to prevent alterations of a work). The project, which is likely to combine a controlled field experi-

ment with a laboratory experiment, wants to explore what alternative justifications outside traditional rational-choice-based models exist for such rights.

Other current projects, which are not directly related to the institute, include a copyright paper on the global licensing market for TV show formats, an experimental project (together with Philippe Aghion and Holger Herz from Harvard as well as Lea Cassar from the University of Zurich Department of Economics) on the relationship between innovation, intellectual property, and competition, and a project (together with Katherine Strandburg, NYU Law School) on medical innovation. Other experimental and empirical projects (with Thomas Maillart, ETH Zurich, Catherine Tucker, MIT Sloan, as well as Christopher Buccafusco, Chicago-Kent, and Christopher Sprigman, Virginia) are in very early stages.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Bechtold S., Höffler F., An Economic Analysis of Trade-Secret Protection in Buyer-Seller Relationships, *Journal of Law, Economics & Organization*, vol. 27, pp. 137-158, 2011.

### **Books**

*Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, Bechtold S., Jickeli J., Rohe M., (Eds.), Baden-Baden, Nomos, pp. 1341, 2011.

Bechtold S., *Die Grenzen zwingenden Vertragsrechts – ein rechtsökonomischer Beitrag zu einer Rechtsetzungslehre des Privatrechts*, Tübingen, Mohr Siebeck, pp. 425, 2010.

### **Book Chapters**

Bechtold S., Perspektiven eines Markenrechts jenseits von Informationsasymmetrien, *Recht, Ordnung und Wettbewerb: Festschrift zum 70. Geburtstag von Wernhard Möschel*, Bechtold S., Jickeli J., Rohe M., (Eds.), Baden-Baden, Nomos, pp. 993-1003, 2011.

Bechtold S., Der “more economic approach” im Immaterialgüterrecht, *50 Jahre Wettbewerbsgesetz in Deutschland und in Europa*, Möschel W., (Ed.), Baden-Baden, Nomos, pp. 93-102, 2010.

### **Articles (not peer-reviewed)**

Bechtold S., Google Adwords and European Trademark Law, *Communications of the ACM*, vol. 54, no. 1, pp. 30-32, 2011.

Bechtold S., Google Book Search: A Rich Field for Scholarship, *International Review of Intellectual Property and Competition Law*, vol. 41, pp. 251-252, 2010.

Bechtold S., Optionsmodelle und private Rechtsetzung im Urheberrecht am Beispiel von Google Book Search, *Gewerblicher Rechtsschutz und Urheberrecht*, pp. 282-289, 2010.

## **Preprints**

Glöckner A., Kleber J., Tontrup S., Bechtold S., *The Endowment Effect in Groups with and without Strategic Incentives*, issue 2009/35, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Current Developments in European Copyright Law**

Ingres Workshop on European Intellectual Property Law, Zurich, Switzerland  
21 January 2009

#### **Determinants of IP Compliance**

Enforcement Framework and Civil Enforcement Symposium, European Intellectual Property Institutes Network, Gerzensee, Switzerland  
23 January 2009

#### **Behavioral Law and Economics of Intellectual Property Law**

University of St. Gallen Law School, St. Gallen, Switzerland  
25 February 2009

#### **Controlling Secondary Markets: Economic Aspects**

Colloquium Competition and Innovation, Law School University of Tübingen, Germany  
14 March 2009

#### **Regulating IT Security at the Intersection of Law, Economics, and Psychology**

ETH Zurich, Switzerland  
6 May 2009

#### **TV Show Formats: A Global Licensing Market Outside IP?**

Workshop on Impacts of Open and User Innovation on Intellectual Property Law  
MIT, Cambridge, MA, U.S.A.  
18 May 2009

#### **The “more economic approach” in Intellectual Property Law**

Seminar on 50 years of Antitrust Legislation in Germany and Europe, Law School  
University of Tübingen, Germany  
19 June 2009

**Law and Economics Research of IP: A Lawyer's Perspective**

Inno-tec Institute, University of Munich School of Management, Germany

29 June 2009

**Regulating IT Security at the Intersection of Law, Economics, and Psychology**

University of Karlsruhe, Germany

14 July 2009

**Optional Law and Private Lawmaking in Copyright Law**

Annual Meeting of the German Association for the Protection of Intellectual Property (GRUR), Nuremberg, Germany

25 September 2009

**Controlling Secondary Markets by Trademark Law**

Trademark Law Conference of the Max Planck Institute for Intellectual Property, Competition and Tax Law, Berlin, Germany

9 October 2009

**Modern Competition Theories in European Intellectual Property Law**

Hungarian Association of Competition Law / Hungarian Competition Authority, Budapest, Hungary

2 November 2009

**European Copyright Law between Private Lawmaking and Public Regulation: Google Book Search, Orphan Works and Optional Law**

University of Bonn School of Law, Bonn, Germany

30 November 2009

**2010**

**Google Book Search: Optional Law, Private Lawmaking and Promoting Innovation through Copyright Law**

University of Bayreuth School of Law, Bayreuth, Germany

13 January 2010

**The Fashion of TV Show Formats**

Law & Technology Colloquium, University of Haifa School of Law, Haifa, Israel

10 June 2010

**The Fashion of TV Show Formats**

Intellectual Property Scholars Conference, University of California at Berkeley School of Law, Berkeley, CA, U.S.A.

12 August 2010

**Google Book Search: Optional Law and Private Lawmaking in Copyright Law**

Swiss Federal Institute of Intellectual Property, Berne, Switzerland

29 September 2010

**2011**

**Behavioral Law & Economics of Intellectual Property**

Université de Strasbourg, France

8 February 2011

**The Fashion of TV Show Formats**

University College London, London, UK

4 March 2011

**The Fashion of TV Show Formats**

Workshop on the Law & Economics of Media & Telecommunications

Tilburg Law & Economics Center, Tilburg University, the Netherlands

20 June 2011

**Do Patents and Trade Secrets Foster or Harm Innovation? Experimental Evidence**

Intellectual Property Scholars Conference

DePaul University College of Law, Chicago, IL, U.S.A.

12 August 2011



## **Martin Beckenkamp**

### **Summary Report**

My main interest lies in social dilemmas, with a special focus on (1) biodiversity and (2) business conflicts from the view of a social dilemma. Until October 2010, research on biodiversity was funded by the Krekeler foundation. Since then, I am furloughed at the MPI, I hold a part-time position (50%) at the BITS Iserlohn as a professor in business psychology, and I have another part-time position (50%) at the university of Cologne as a professor of economic and organizational psychology.

The structure of a social dilemma can be found in many political, institutional and environmental problems, i.e., there are situations where the self-interest of individuals is at odds with collective interests. Because of this, there is a broad interest in social dilemmas from many different disciplines. My work mainly integrates approaches from cognitive science, social psychology, behavioral economics, and institutional design. It provides a contrast to many current approaches in environmental psychology, business psychology, and economic psychology. It could well be defined as "ecological economic psychology".

The analysis or claim that there is a social dilemma is often more qualitative than based on standards of an objective diagnosis. Some of my work during the time at the MPI was about the development of diagnostic tools that allow one to make a quantitative analysis of conflicts between persons on an ordinal type of scale by making use of experimental game theory for the data elevation and data feedback (instead of making experiments, which is the common use of experimental game theory). Following such an approach, I analytically separate structural aspects from temporal aspects of the dilemma, because mixing these aspects often leads to wrong conclusions. In my work, I concentrate mainly on the structural aspects of the dilemma and the resulting grades of complexity.

Dilemmas with sufficient complexity are extremely vulnerable to individual defectors, i.e., social dilemmas are fragile win-win constellations. In many cases, institutions are necessary for the solution of the dilemma. Therefore, one focus of my research lies in the fact that trust is not only a psychological issue, but rather the result of the interaction of intra- and interpersonal psychological mechanisms with institutional conditions.

Consequently, my research focuses on institutional design with respect to (1) the structural diagnosis of social dilemmas (environment and business); (2) education that addresses an insight into the structural problem; (3) the interaction of institutions with internalized and external norms; and (4) the acceptance or non-acceptance of institutions that help to solve the social dilemmas. In an experiment, I was able to demonstrate that such blindness reduces cooperation rates in an iterated prisoners' dilemma, and that knowledge about different strategies (tit for tat and measure for measure), and the application of such strategies by others can be helpful, but the effects are instable.

One important question resulting from my approach – one that ties in with my teaching courses in economic and business psychology, due its practical background – is the application of experimental game theory in the field.

## **Research Agenda**

This autumn, I will hold a workshop with entrepreneurs in collaboration with a management institute in Cologne (KIM). I will introduce my ideas about the elevation (diagnosis) of conflict structures to practitioners, i.e., businessmen and women, as well as entrepreneurs. The goal is to accomplish a data elevation that leads to experimental games. In a next step, these games are presented to those people who were the basis for our elevation of the conflict structures. This gives us the chance to gain feedback about the validity of the analysis. In view of this feedback, such as we had it in two pilot studies, the confrontation with experimental games that mirrors the situation of these people leads to an insight on the fragile win-win situations and self-reflection about strategies that can stabilize such win-win constellations. Therefore, although in a business context, this approach is very close to Elinor Ostrom's ideas about self-governance. I make use of experimental games, not only in order to raise experimental data, but also to "translate" social dilemmas from the field into social dilemma games, which are given back to the addressees, and where the addressees can then decide whether the abstract game is a relevant and valid interpretation of their situation.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Beckenkamp M., Vertrauen, Sanktionen und Anreize aus spieltheoretisch-psychologischer Perspektive, *Zeitschrift für internationale Strafrechtsdogmatik*, vol. 6, no. 3, pp. 137-142, 2011.

Ohl C., Johst K., Meyerhoff J., Beckenkamp M., Grüsgen V., Drechsler M., Long-term socio-ecological research (LTSER) for biodiversity protection – A complex systems approach for the study of dynamic human–nature interactions, *Ecological Complexity*, vol. 7, no. 2, 170-178, 2010.

Quirin M., Beckenkamp M., Kuhl J., Giving or Taking: The Role of Dispositional Power Motivation and Positive Affect in Profit Maximization?, *Mind & Society*, vol. 8, no. 1, Berlin/Heidelberg, Springer, pp. 109-126, 2009.

## **Book Chapters**

Beckenkamp M., The social dilemma of climate change: Socio-economic implications, *Social, Economic and Political Aspects of Climate Change*, Leal W., (Ed.), Berlin, Springer, pp. 143-152, 2010.

Beckenkamp M., Diagnose und Stabilisierung instabiler Win-Win Situationen, *Wirtschaftspsychologie und Innovation*, Mey M., Laumen S., Packebusch L., (Eds.), Lengerich, Pabst Science, pp. 47-56, 2010.

## **Articles (not peer-reviewed)**

Beckenkamp M., Nachhaltige Erhaltung der Biodiversität im sozialen Dilemma, *FORUM Nachhaltig Wirtschaften*, pp. 106-107, 2010.

Beckenkamp M., Unternehmenskultur und Unternehmenserfolg – Psychologie im Konflikt zwischen Wettbewerb und Vertrauen, *BDP Jahresbericht 2010: Psychologische Expertise für erfolgreiches Unternehmertum in Deutschland*, pp. 88-92, 2010.

## **Preprints**

Beckenkamp M., Engel C., Glöckner A., Irlenbusch B., Hennig-Schmidt H., Kube S., Kurschilgen M., Morell A., Nicklisch A., Normann H., Towfigh E., *Beware of Broken Windows! First Impressions in Public-good Experiments*, issue 2009/21, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Beckenkamp M., *Environmental dilemmas revisited: structural consequences from the angle of institutional ergonomics*, issue 2009/01, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## **Work in Progress**

The social dilemma of climate change: Socio-economic implications. Submitted to peer review for The Climate 2009 conference.

Preparation of a symposium on Environmental Dilemmas within the 8th Biennial Conference of the Environmental Psychology Division of the German Association of Psychology.

Participation with submitted proposal at a German conference "Impulskonferenz: Nachhaltigkeit trotz(t) Krise".

Submitted papers (in review) on "Environmental dilemmas revisited", "Playing strategically against nature?", "Self-organization in collaborative networks with intentional actors?".

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Environmental Dilemmas: Information Matters!**

Information Management and Market Engineering, University of Karlsruhe, Germany  
4 June 2009

#### **How do People Behave in Blind Environmental Dilemmas?**

##### **– An Experimental study**

13th International Conference On Social Dilemmas, Kyoto, Japan  
August, 2009

#### **Symposium and Talk on Environmental Dilemmas**

8th Biennal Conference on environmental psychology, Zurich, Switzerland  
November, 2009

#### **Vertrauen, Sanktionen und Anreize in Unternehmen aus spieltheoretisch-psychologischer Perspektive**

[Trust, Sanctions, and Incentives in Firms, from a Game-theoretic and Psychological perspective]  
Conference "Das Unternehmen und seine Akteure in juristischer, humanwissenschaftlicher und wirtschaftswissenschaftlicher Perspektive", University of Jena, Germany  
October, 2009

#### **Die Rolle von Kontrollen und Sanktionen zur Erhaltung des Gemeinwohls**

[The role of Control and Sanctions in Maintaining the Common Wealth]  
Interdisciplinary Forum on Business Ethics, Jena, Germany  
24 October 2009

### **2010**

#### **Experimentelle Spiele bei der Diagnose und Intervention von unternehmensinternen Konflikten**

[Experimental Games for the Diagnosis and Intervention in Internal Conflicts of Firms]  
GWP (German Society for economic psychology), Krefeld, Germany  
5 February 2010

#### **Wenn mehr Wissen nicht zu mehr Handeln führt**

[When Knowing More Does Not Lead to More Action]  
Biologische Vielfalt 2010: Fast weg? Neue Wege aus alter Krise, Frankfurt, Germany  
11 March 2010

**Warum sollte und wie kann Biodiversität geschützt werden?**

[Why Should (and How Can) Biodiversity be Protected?]

Forum Nachhaltig Wirtschaften, Cologne, Germany

28 August 2010

**Effects of Strategic Knowledge and Strategy Application in Social Dilemmas**

IAREP Conference (International Association for the Research in Economic Psychology,

Cologne, Germany

September 2010



## **Felix Bierbrauer (Affiliate)**

### **Summary Report**

My research in the years 2010 and 2011 has been devoted to the following topics:

**Redistributive Income Taxation with Mobile workers, with John Weymark (Vanderbilt) and Craig Brett (Mount Allison University).** The paper studies equilibrium income tax policies in a model with mobile workers and no a priori restriction on the shape of admissible income tax

schedules. This has led to a paper with the title "Strategic Nonlinear Income Tax Competition with Perfect Labor Mobility". Here is a summary of the paper: Tax competition is examined between two governments who choose nonlinear income tax schedules to maximize the average utility of its residents when skills are unobservable and labor is perfectly mobile. We show that there are no Nash equilibria in which there is a skill type that pays positive taxes to one country and whose utility is larger than the average utility in the other country, or in which the lowest-skilled are subsidized. We also show that it is possible for the most highly skilled to receive a net transfer funded by taxes on lower-skilled individuals in equilibrium. These findings confirm the race-to-the-bottom thesis in this setting.

**Mechanism Design and Social Preferences, with Nick Netzer (Zurich).** This paper revisits classical results of mechanism design theory under the assumption that individuals have intentions-based social preferences. Results are reported in a paper entitled "Mechanism Design and Intentions". Here is an abstract: We introduce intentions-based social preferences into a Bayesian mechanism design framework. If social preferences are observable, any tension between material efficiency, incentive compatibility, and voluntary participation can be resolved. Hence, the classical impossibility results that the conventional mechanism design literature has established are turned into possibility results. We also investigate different possibilities how to incorporate kindness sensations into assessments of welfare. For the case of unobservable social preferences, we suggest a notion of psychological robustness. Psychologically robust mechanisms can be implemented without any need to acquire information about the intensity of social preferences. We show that the mechanisms which have been the focus of the conventional mechanism design literature need to be modified only slightly to achieve psychological robustness.

**Political Economy of Redistributive Income Taxation, with Pierre Boyer (Mannheim).** In this work, we look at Downsian competition in a simple Mirrleesian model of income taxation. The paper "Political competition and Mirrleesian income taxation: A first pass" has the following abstract: We study political competition in a simple Mirrleesian model of income taxation. The analysis is made tractable by exploiting the mechanism design formulation of the Mirrleesian problem. We consider basic variants of the Down-

sian model such as vote-share-maximizing politicians, a winner-take-all system, and competition among politicians who differ in a quality dimension. We focus on the welfare implications of political competition. In particular, we clarify the conditions under which equilibrium tax policies are Pareto-efficient and the conditions under which political failures in the sense of Besley and Coate (1998) arise.

**Theory of Public-goods, with Martin Hellwig (MPI Bonn).** Our earlier work on "Public Goods Provision in a large economy" has been extended and led to a paper with the title "Mechanism Design and Voting for Public Goods Provision" which is summarized as follows: We propose a new approach to the normative analysis of public-good provision. In addition to individual incentive compatibility, we impose conditions of robust implementability and coalition proofness. Under these additional conditions, participants' contributions can only depend on the level of public-good provision. For a public good that comes as a single indivisible unit, provision can only depend on the population share of people in favour of provision. Robust implementability and coalition proofness thus provide a foundation for the use of voting mechanisms. The analysis is also extended to a specification with more than two levels of public-goods provision.

**Interdependence of Optimal Income Taxation and Public-goods Provision.** This has led to a paper with the title "Optimal Income Taxation and Public-Goods Provision with Preference and Productivity Shocks". The abstract is as follows: We study how an optimal income tax and an optimal public-goods provision rule respond to preference and productivity shocks. A conventional Mirrleesian treatment is shown to provoke manipulations of the policy mechanism by individuals with similar interests. We

therefore extend the Mirrleesian model so as to include a requirement of coalition-proofness. The main results are the following: first, the possibility of preference shocks yields a new set of collective incentive constraints. Productivity shocks have no such implication. Second, the optimal policy gives rise to a positive correlation between the public-goods provision level, the extent of redistribution and marginal tax rates.

**Optimal Income Taxation and Optimal Mechanism Design.** The question is whether redistribution should be organized by means of income taxation or whether there exist superior mechanisms. The answer is given in a paper with the title "On the optimality of optimal income taxation." This is the abstract: The Mirrleesian model of income taxation restricts attention to simple allocation mechanism with no strategic interdependence, i.e., the optimal labor supply of any one individual does not depend on the labor supply of others. It has been argued by Piketty (1993) that this restriction is substantial because more sophisticated mechanisms can reach first-best allocations that are out of reach with simple mechanisms. In this paper, we assess the validity of Piketty's critique in an independent private values model. As a main result, we show that the optimal sophisticated mechanism is a simple mechanism, or equivalently, a Mirrleesian income tax system.

**Public Sector Pricing.** Should the provision of excludable public goods be self-financing as in the theory of public-sector pricing in the tradition of Ramsey (1927) and Boiteux (1953), or should the general tax system be used to pay for the provision cost, as argued

by Atkinson and Stiglitz (1976). An answer is provided in the paper “Incomplete Contracts and Excludable Public Goods”. Here is the abstract: We study whether a firm that produces and sells access to an excludable public good should face a self-financing requirement, or, alternatively, receive subsidies that help to cover the cost of public-goods provision. The main result is that the desirability of a self-financing requirement is shaped by an equity-efficiency trade-off: While first-best efficiency is out of reach with such a requirement, its imposition limits the firm's ability of rent extraction. Hence, consumer surplus may be higher if the firm has no access to public funds.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Bierbrauer F., Incomplete contracts and excludable public goods, *Journal of Public Economics*, vol. 95, no. 7-8, pp. 553-569, 2011.

Bierbrauer F., Sahm M., Optimal Democratic Mechanisms for Taxation and Public Good Provision, *Journal of Public Economics*, vol. 94, no. 7-8, pp. 453-466, 2010.

Bierbrauer F., A Note on Optimal Income Taxation, Public Goods Provision and Robust Mechanism Design, *Journal of Public Economics*, vol. 93, no. 5-6, pp. 667-670, 2009.

Bierbrauer F., Optimal Income Taxation and Public Good Provision with Endogenous Interest Groups, *Journal of Public Economic Theory*, vol. 11, no. 2, pp. 311-342, 2009.

### **Preprints**

Bierbrauer F., Boyer P. C., *Political competition and Mirrleesian income taxation: A first pass*, issue 2010/45, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Bierbrauer F., *Optimal Income Taxation and Public-Goods Provision with Preference and Productivity Shocks*, issue 2010/18, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Bierbrauer F., Boyer P. C., *The Pareto-Frontier in a simple Mirrleesian model of income taxation*, issue 2010/16, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Bierbrauer F., *On the optimality of optimal income taxation*, issue 2010/14, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Bierbrauer F., Hellwig M., *Public-Good Provision in a Large Economy*, issue 2010/02, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Bierbrauer F., *An incomplete contracts perspective on the provision and pricing of excludable public goods*, issue 2010/01, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Bierbrauer F., *On the legitimacy of coercion for the financing of public goods*, issue 2009/15, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **On the Legitimacy of Coercion for the Financing of Public Goods**

ETH Zürich, Switzerland

February 2009

#### **On the Legitimacy of Coercion for the Financing of Public Goods**

CESifo area conference on applied microeconomics, Germany

March 2009

#### **On the Legitimacy of Coercion for the Financing of Public Goods**

Vanderbilt University, Nashville, U.S.A.

April 2009

#### **A Unified Approach to Optimal Income Taxation and the Revelation of Public Goods Preferences**

Decentralization Conference, Washington University, St.Louis, U.S.A.

April 2009

#### **Optimal Income Taxation and Public Good Provision in a Large Economy with Aggregate Uncertainty**

Wissenschaftszentrum, Berlin, Germany

May 2009

#### **On the Legitimacy of Coercion for the Financing of Public Goods**

Workshop on "Incentives, Efficiency, and Redistribution in Public Economics",

HIM Trimester Program on Mechanism Design, Bonn, Germany

May 2009

#### **Optimal Income Taxation and Public Good Provision in a Large Economy with Aggregate Uncertainty**

Heidelberg University, Germany

June 2009

**Winners and Losers of Early Elections: On the Welfare Implications of Political Blockades and Early Elections**

Silvaplana Workshop on Political Economy, Switzerland

July 2009

**Public Good Provision in a Large Economy**

Jahrestagung des Vereins für Socialpolitik, Magdeburg, Germany

September 2009

**2010**

**Optimal Income Taxation and Public-Goods Provision with Preference and Productivity Shocks**

Faculty Seminar, University Tor Vergata, Rome, Italy

February 2010

**Optimal Income Taxation and Public-Goods Provision with Preference and Productivity Shocks**

Toulouse School of Economics, France

March 2010

**Public Economics Seminar, Optimal Income Taxation and Public-Goods Provision with Preference and Productivity Shocks**

University of Michigan, Ann Arbor, U.S.A.

April 2010

**Optimal Income Taxation and Public-Goods Provision with Preference and Productivity Shocks**

Macro Seminar, Federal Reserve Bank of Chicago, U.S.A.

April 2010

**Political Competition and Mirrleesian Income Taxation: A First Pass**

Silvaplana Political Economy Workshop, Switzerland

July 2010

**Public-Good Provision in a Large Economy**

World Congress of the Econometric Society, Shanghai, China

August 2010

**Winners and Losers of Early Elections**

SFB Political Economy of Reforms, Mannheim, Germany

October 2010

**Incomplete Contracts and Excludable Public Goods**

Meeting of SFB TR 15 in Bonn, Germany

November 2010

**An exploration into the theory of psychological mechanism design**

Micro Seminar, University of Zürich, Switzerland

December 2010

**2011**

**Optimal Income Taxation and Public Goods-Provision with Preference and Productivity Shocks**

Public Economics Day, University of Louvain-la Neuve, Belgium

February 2011

**Optimal Income Taxation and Public-Goods Provision with Preference and Productivity Shocks**

Faculty Seminar, University of St. Gallen, Switzerland

April 2011

**Optimal Income Taxation and Public-Goods Provision with Preference and Productivity Shocks**

Faculty Seminar, University of Uppsala, Sweden

June 2011



## **Nadine Bläser**

### **Summary Report**

Over the last two years, I continued working on my thesis and simultaneously started to work as a lawyer. My research focuses on Antitrust Law and Behavioral Law and Economics. In particular, my thesis investigates Leniency Programs by implementing insights from both traditional and behavioral economics.

Leniency Programs were introduced in most industrial countries, starting with the United States of America in 1978, as a promising tool in fighting hardcore cartels. They offer cartel members an exemption from paying the fine or a reduction of the fine in exchange for disclosing the existence of the cartel and for cooperating constantly with the Antitrust Authorities during the administrative procedure.

By introducing these programs, the Antitrust Authorities pursued mainly the following objectives:

- Undermining trust between the undertakings aligned in a cartel and thereby achieving complete deterrence of cartels in the long run.
- Accelerating and facilitating the discovery of cartels and thereby reducing the damage done to economic welfare.
- Increasing the number of detected cartels without having to increase the detection probability.
- Saving public resources.

Economic Analysis on Leniency Programs yields mixed results. Leniency Programs might lead to a destabilization of cartels by increasing the incentives of the cartel members to undercut a collusive agreement and by inducing a "Race-to-the-Courthouse". This means that Leniency Programs might provide cartel members with an incentive to rush forward with information, given that the probability of being detected is high enough anyway. However, these results are not undisputed. Leniency Programs might as well lead to a stabilization of cartels: they might be used as a form of punishment in order to maintain a cartel that might not have been enforceable otherwise. Furthermore, they might lead to a destabilization of initially unstable cartels, but to a stabilization of the most harmful cartels for economic welfare, which is a kind of worst-case scenario.

In my thesis, I focus primarily on the incentives of undertakings to form a cartel in the first place, taking into account that cartels are in many cases "children of distress". This means that risk preferences, the perception of risks, and the perceived ability to control these risks might play an important role in assessing the benefits of Leniency Programs. The final objective of my thesis is to formalize these ideas in a simple model. In a last

step, I will compare the theoretical findings with the results of empirical studies on cartel formation, cartel dissolution, reporting behavior and external and internal circumstances influencing these factors in order to draw tentative conclusions on the effectiveness of Leniency Programs in fighting cartels.

I intend to hand in my thesis in the summer of 2012.



## **Stefanie Brilon**

### **Summary Report**

I joined the Max Planck Institute in December 2007 to finish my thesis on organization theory and personnel economics, which I defended in December 2009. Since November 2010, I have been working as a post-doctoral researcher at the University of Lausanne.

My thesis consists of three papers. In the first paper, which is joint work with Dr. Frank Rosar, University of Bonn, we consider situations where two parties, a principal and an agent, have diverging preferences over the choice of a project they want to realize together. The extent to which they are willing to accept the other's preferred project, i.e., their respective *willingness to compromise*, is their private information. Both players have to agree on the project choice in order to complete the project successfully. In our setup, authority consists of two components: the *authority to initiate* or choose a project, and the *authority to approve* or implement a project, with the principal deciding on the allocation of both tasks.

We show that delegating the authority over the project choice can have a *motivating effect* on the agent, as he is able to choose a project for which he is also willing to provide effort. However, delegation of authority may also have a *discouraging effect* on the agent, in particular if he is unsure about whether the principal is going to accept his project choice. Overall, we find that a principal who is more flexible with respect to the project choice will cede *less* authority to the agent.

The second paper, which is joint work with Emmanuelle Auriol from Toulouse School of Economics, asks how different sources of intrinsic motivation of workers may affect both for-profit and non-profit organizations. We present a model with two sectors, one profit-oriented and one mission-oriented, and three types of workers: regular workers only care about monetary incentives, good workers care about money and the mission of the organization, and bad workers care about money and whether they can do things they like, but which are harmful to the organization. One example of such bad behavior would be the recent sex scandals in the Catholic Church.

We first describe a benchmark model with only good and regular workers and show that, relative to profit-oriented organizations, mission-oriented organizations can attract motivated workers using lower extrinsic incentives. We then analyze how both sectors will have to adapt their incentive schemes and monitoring efforts if there are "bad" motivated workers. In particular the mission-oriented sector may have to change drastically: even a small number of bad workers may make it necessary to introduce large extrinsic incentives, such that both sectors come to resemble each other.

Finally, the third paper considers under which circumstances performance in one job can be a good signal about performance in another job. Why would an employer want an employee to work first in job 1 before letting him do job 2? One possible explanation may be learning by the employer. I consider a setting where workers differ in their technical and managerial skills and different jobs require a different combination of these skills. A worker's skill profile is not directly observable, but only his overall performance in a job. The model then analyzes under which circumstances different allocation patterns may arise and shows that firms may choose to promote workers even if these workers are more efficiently allocated in their present job.

This result is similar to the Peter Principle, which states that workers are promoted up to their level of incompetence. Here, workers get reallocated because firms may prefer to promote a worker on whom they have at least some information rather than to hire an unknown worker, even if the reallocated worker is likely to have a relatively low competence level in his new job.

## **Research Agenda**

During my time at the MPI, I started working on some questions that arose during my thesis such as the question when a principal will hire an agent who is known to have very different preferences. Furthermore, I am interested in how market structures and production constraints may shape the governance structure of a firm, such as its degree of centralization or the form of incentives within the hierarchy.

Moreover, Christian Traxler and I are working on a joint project on maritime piracy. We collected an extensive worldwide data set on cases of maritime piracy since 1993, which we combined with social and economic data, as well as information on military action. We are planning to use these data to explore the causes and consequences of maritime piracy, as well as the effectiveness of military intervention in particular around the Horn of Africa.

Since November 2010, I have been working as a post-doctoral researcher at the University of Lausanne in Switzerland, where I am part of a research project on political and fiscal federalism. My experience at the MPI was very helpful for this job, since it provided me with a useful background on current discussions in public economics. The research project I am involved in at Lausanne aims at collecting historical Swiss data on taxes, political institutions and other relevant parameters on the federal, cantonal, and municipal level which will allow us to test various theories linked to political and fiscal federalism.

## **Publications (since 2009)**

### **Preprint**

Brilon S., *Job Assignment with Multivariate Skills*, issue 2010/25, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

## **Lectures and Seminar Presentations (since 2009)**

### 2010

#### **The Good, the Bad, and the Ordinary: Anti-Social Behavior in Profit and Non-Profit Organizations**

Verein für Socialpolitik, Entwicklungsausschuss

Hannover, Germany

May 2010

#### **Job Assignment with Multivariate Skills**

Congress of the European Economic Association

Glasgow, UK

August 2010

### 2011

#### **Authority and Motivation**

Université de Lausanne, Switzerland

April 2011



## **Carsten Burhop (Affiliate)**

### **Summary report**

#### **1. Transfer of Innovations and Patents in Imperial Germany**

Two papers were devoted to the transfer of patents via patent markets and licensing agreements. The first paper is a descriptive analysis of all patent transfers conducted between 1883 and 1913. It turns out that the relative size of the

German patent market grew over time, but it was substantially smaller than the relative size of the historical patent market in the United States. Like in the U.S., the early patent market was dominated by individual inventors transferring their patents to firms, whereas the patent market of the early 20<sup>th</sup> century was dominated by business-to-business transfers. This work has been published in the *Journal of Economic History* in 2010.

In a comparative study of working contracts of researchers at three firms from the chemical and electrical engineering industries we show that incentive schemes for researchers were used. In general, incentives were based upon the profit or sales of a specific product. An econometric analysis suggests a positive impact of bonus payments on future research output with a lag of about two years. Moreover, the standard working contract of employed researchers specified the transfer of all innovations from the inventor to the firm employing him. This paper was published in *Explorations in Economic History* in 2010.

Moreover, the historical licensing market is analyzed using licensing contracts from seven firms. We use the contracts to test contract-theoretical predictions regarding the optimal design of licensing contracts. We show that licensing contracts more likely include per-unit royalties or turnover-sharing agreements whenever licensor and licensee are potentially competing firms from the same industry. Thus, licensing contracts are used to address strategic concerns of the licensor regarding the output choice of the licensee. Furthermore, in case of non-competing licensor-licensee pairs, profit-sharing or milestone agreements are used. The milestones refer to activities of the producer, not to activities of the inventor. This indicates that uncertainty regarding expected profits is taken into account in the design of licensing contracts, whereas inventor moral hazard seems to be less important. This article is currently revised for resubmission to *Business History*.

#### **2. Historical Macroeconomics**

We investigate the comparative real income of workers and the unit labor costs in Britain and Germany between 1871 and 1938. We show that real incomes of employees were substantially lower in Germany throughout – in the aggregate economy, in agriculture, and in industry. However, German service-sector employees were better remunerated than their British counterparts. Furthermore, we show that aggregate unit labor costs as

well as unit labor costs in agriculture and services were substantially higher in Germany. In contrast, industrial unit labor costs were substantially lower in Germany. Thus, we put the hypothesis forward that Germany's rise to industrial power at the turn of the 20<sup>th</sup> century was based on comparatively low wages. This article was published in the Journal of Economic History in 2010.

### **3. Stock-market Development in Germany, 1871-1938**

In a paper published in the German Economic Review in 2011, I investigated underpricing of initial public offerings at the Berlin Stock Exchange between 1870 and 1896. Initial returns were extraordinary low, even during hot markets. Moreover, we find little support for standard underpricing theories based on asymmetric information, signalling mechanisms or litigation risk. Yet, cash-flow-relevant information from the corporate charter was reflected in initial returns. The findings suggest that historical markets for initial public offerings were relatively efficient.

### **4. The German Financial Crisis of 1931**

I have organised a workshop about "Causes and consequences of the 1931 German financial crisis in national and international perspective". Selected papers presented at the workshop will be published in a special issue of the *Jahrbuch für Wirtschaftsgeschichte*. I have written an introductory paper to this volume.

Research is conducted in cooperation with:

Prof Stephen Broadberry, PhD, London School of Economics  
Dr Thorsten Lübbers, Berlin (formerly MPI Bonn)

Research is co-funded by:

Deutsche Forschungsgemeinschaft  
Fritz-Thyssen-Foundation

## **Summary of Current and Future Research: 2012-2013**

### **1. Initial Public Offerings and Stock Market Development in Germany, 1871-1938**

Research will focus on stock-market development in Germany between 1870 and World War II. First, we will describe the development of the German stock market and the market for initial public offerings between 1869 and 1938. Second, we are going to investigate the structure of the market for IPOs in two different financial systems. To this end, we will compare IPOs in Britain and Germany between 1900 and World War I. First results indicate that both markets were more efficient than modern IPO markets, even in the absence of a 'good' legal environment. Third, we are going to investigate the relevance and function of regional stock exchanges in Germany between 1871 and 1938.

Fourth, we are looking into the management of IPOs in Germany between 1871 and 1938. In particular, we evaluate the services offered by universal banks before and after the IPO to the issuer.

In a related paper, we investigate the size of transaction costs and their impact on asset prices at the Berlin Stock Exchange during the two decades preceding World War I. It turns out that transaction costs were low and of similar size than transaction costs on modern stock markets. Moreover, high transaction costs depress asset prices and transaction costs increase during financial crises.

## **2. Transfer of Innovations and Patents in Imperial Germany**

Border effects are a standard finding in the international trade literature. We investigate if border effects exist on historical patent markets. We use information about all German patents transferred between 1883 and 1913 and standard regression techniques to estimate border effects on technology markets inside Germany and between Germany and foreign countries.

## **3. Screening and Monitoring of Bank Loans in Germany, 1900-1931**

We are going to evaluate the credit scores allocated by Germany's central bank to a large number of firms to assess the average creditworthiness of German firms between 1910 and 1913 and between 1924 and 1932. Moreover, we will assess the predictive power of the central bank credit scores by comparing the credit score with bankruptcy or financial distress of the firms. Finally, we will conduct case studies comparing the creditworthiness assessment of specific firms by the central banks and by commercial banks.

Research is conducted in cooperation with:

David Chambers, PhD, University of Cambridge, Judge School of Management  
Professor Brian Cheffins, PhD, University of Cambridge, Faculty of Law  
Prof Dr Sergey Gelman, Moscow State University, Department of Finance  
Sybille Lehmann, PhD, University of Cologne  
Prof Dr Nikolaus Wolf, Humboldt University Berlin, Department of Economics

Research is co-funded by:

Deutsche Forschungsgemeinschaft  
Fritz-Thyssen-Foundation

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Burhop C., The underpricing of initial public offerings at the Berlin Stock Exchange, 1870-1896, *German Economic Review*, vol. 12. No. 1, pp. 11-32, 2011.

Broadberry S., Burhop C., Real Wages and Labor Productivity in Britain and Germany, 1871-1938: A Unified Approach to the International Comparison of Living Standards, *Journal of Economic History*, vol. 70, no. 2, pp. 400-427, 2010.

Burhop C., Lübbert T., Incentives and Innovation? R&D Management in Germany's Chemical and Electrical Engineering Industries around 1900, *Explorations in Economic History*, vol. 47, no. 1, pp. 100-111, 2010.

Burhop C., Lübbert T., Cartels, managerial incentives, and productive efficiency in German coal mining, 1881-1913, *Journal of Economic History*, vol. 69, no. 2, pp. 500-527, 2009.

Burhop C., Pharmaceutical research in Wilhelmine Germany: The case of E. Merck, *Business History Review*, vol. 83, no. 3, pp. 475-503, 2009.

Burhop C., Bayer C., If only I could sack you! Management turnover and performance in large German banks between 1874 and 1913, *Applied Economics Letters*, vol. 16, no. 2, pp. 141-145, 2009.

Burhop C., No need for governance? The impact of corporate governance on valuation, performance, and survival of German banks during the 1870s, *Business History*, vol. 51, no. 4, pp. 559-591, 2009.

### **Book Chapters**

Burhop C., Der Transfer von Patenten im Deutschen Kaiserreich und die Rolle von Patentanwälten als Intermediäre, *Die Finanzierung von Innovationen*, Kollmer-von-Oheimb-Loup G., Streb J., (Eds.), Ostfildern, Jan Thorbecke Verlag, pp. 35-53, 2010.

Burhop C., Banking Crises in Germany: 1873-1974, *Die internationale Finanzkrise: Was an ihr ist neu, was alt? Worauf muss in Zukunft geachtet werden?* 31. Symposium des Instituts für bankhistorische Forschung e. V. am 10. Juni 2009 im Hause der Deutschen Bundesbank, vol. 47, Stuttgart, Steiner, pp. 73-88, 2009.

### **Newspaper Articles**

Burhop C., Schnabel I., Warum die Banken fielen: die Ereignisse von 1931 zeigen: Krisenanalysen leiden oft darunter, dass Daten fehlen, *Frankfurter Allgemeine Sonntagszeitung*, 1.11.2009.

## **Preprints**

Burhop C., Gelman S., *Liquidity measures, liquidity drivers and expected returns on an early call auction market*, issue 2011/19, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Burhop C., Lübbert T., *The design of licensing contracts: Chemicals, Pharmaceuticals, and Electrical Engineering in Imperial Germany*, issue 2011/18, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Burhop C., Chambers D., Cheffins B., *Is Regulation Essential to Stock Market Development? Going Public in London and Berlin, 1900-1913*, issue 2011/15, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Traxler C., Burhop C., *Poverty and crime in 19th century Germany: A reassessment*, issue 2010/35, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Burhop C., Gelman S., *Transaction costs, liquidity and expected returns at the Berlin Stock Exchange, 1892-1913 [updated version: MPI Preprint 2011/19]*, issue 2010/20, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Burhop C., *The Transfer of Patents in Imperial Germany*, issue 2009/26, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Burhop C., Lübbert T., *The Historical Market for Technology Licenses: Chemicals, Pharmaceuticals, and Electrical Engineering in Imperial Germany [updated version MPI Preprint 2011/18]*, issue 2009/25, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Broadberry S. N., Burhop C., *Real Wages and Labour Productivity in Britain and Germany, 1871-1938: A Unified Approach to the International Comparison of Living Standards*, issue 2009/18, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## **Lectures and Seminar presentations (since 2009)**

### **2009**

#### **The Market for Patents in Imperial Germany**

University of Cologne, Germany  
12 January 2009

#### **Putting Versailles into Perspective**

University of Bonn, Germany  
13 January 2009

**Real Wages and Labour Productivity in Britain and Germany, 1871-1938**

University of Münster, Germany

14 January 2009

**The Market for Patents in Imperial Germany**

WHU Otto Beisheim School of Management, Koblenz, Germany

9 February 2009

**Real Wages and Labour Productivity in Britain and Germany, 1871-1938**

Harvard University, Cambridge, U.S.A.

16 March 2009

**Incentives and Innovation?**

Harvard Business School, Cambridge, U.S.A.

19 March 2009

**The Historical Market for Technology Licenses**

Yale University, New Haven, U.S.A.

30 March 2009

**The underpricing of initial public offerings at the Berlin Stock Exchange**

Stern School of Business, New York, U.S.A.

1 May 2009

**Banking crises in Germany, 1873-1974**

Institut für bankhistorische Forschung / Deutsche Bundesbank, Frankfurt a. M., Germany

10 June 2009

**The Historical Market for Technology Licenses**

University of Bochum, Germany

17 June 2009

**The Underpricing of Initial Public Offerings at the Berlin Stock Exchange**

Queen's University Belfast, Ireland

25 June 2009

**Real Wages and Labour Productivity in Britain and Germany, 1871-1938**

**A Unified Approach to the International Comparison of Living Standards**

Graduate Institute Geneva, Switzerland

4 September 2009

**The Underpricing of Initial Public Offerings at the Berlin Stock Exchange, 1870-1896**

University of Magdeburg, Germany  
11 September 2009

**Financial Market Regulation and Financial Crises in Germany**

University of Frankfurt, Germany  
23 October 2009

**Screening and Monitoring of Bank Loans in Interwar Germany**

University of Cologne, Germany  
10 November 2009

**The Underpricing of Initial Public Offerings at the Berlin Stock Exchange, 1870-1896**

University of Louvain, Belgium  
25 November 2009

**Incentives and Innovation? R&D Management in Germany's Chemical and Electrical engineering industries around 1900**

University of Göttingen, Germany  
3 December 2009

**2010**

**The Germany Banking Crises of 1873 and 1931**

Frankfurt School of Finance and Management, Germany  
13 January 2010

**The Transfer of Patents in Imperial Germany**

University of Reading, Great Britain  
19 March 2010

**Liquidity Measures, Liquidity Drivers and Expected Returns on an Early Call Auction market**

University of Munich, Germany  
28 June 2010

**The Germany Banking Crises of 1873 and 1931**

Max Planck Institute for the Study of Societies, Cologne, Germany  
15 July 2010

**The history of corporate governance**

Paris School of Economics, France

10 September 2010

**Stock Market Development in Germany, 1869-1925**

University of Cambridge, Great Britain

13 December 2010

**2011**

**Is Regulation Essential to Stock Market Development?**

University of Bochum, Germany

3 March 2011

**Liquidity Measures, Liquidity Drivers and Expected Returns on an Early Call Auction market**

University of Cambridge, Great Britain

3 April 2011

**Is Regulation Essential to Stock Market Development?**

University of Vienna, Austria

18 May 2011

**Stock Market Development in Germany, 1869-1925**

University of Bochum, Germany

24 May 2011

**The 1873 and 1931 Banking Crises in Germany**

Breughel Institute, Brussels, Belgium

9 June 2011

**Liquidity Measures, Liquidity Drivers and Expected Returns on an Early Call Auction market**

Trinity College Dublin, Ireland

2 September 2011

**Is Regulation Essential to Stock Market Development?**

University of Frankfurt, Germany

6 September 2011

**Incentives and Innovation? R&D Management in Germany's Chemical and Electrical Engineering Industries Around 1900**

University of Geneva, Switzerland

7 September 2011

**The 1931 German Banking Crisis**

Hanns-Martin-Schleyer Foundation, Berlin, Germany

12 September 2011

**Stock Market Development in Germany, 1869-1938**

University of Münster, Germany

30 November 2011



## **Stephan Dickert**

### **Summary Report**

My research interests are focused on how information is processed in judgment and decision making. A central aspect of my research revolves around the role of affective vs. deliberative information processing in the construction of preferences and values. As part of the *Intuitive Experts* research group, I investigate affective and emotional determinants of judgments and choice behavior in a variety

of domains, including legal, economic, and pro-social decision making. In collaboration with Andreas Glöckner and other members of the team, I explore how complexity of information and emotional reactions influence legal judgments of experts and laypeople (Dickert, Herbig, Glöckner, Gansen, & Portack, *in press*; Dickert & Glöckner, *working paper*). Our results suggest that experts and laypeople use different mental representations underlying legal judgments and that deliberative processing of information can reduce judgment biases in legal contexts. The major theme of these projects is to uncover the extent to which emotions bias information processing and subsequent legal decisions.

Another related line of research explores the role of intuitive/affective information processing as a determinant for decision quality in experience-based risky decision making. Using a classic card gambling paradigm, I contrast the effects of deliberation and intuitive processing on experience-based explicit and implicit knowledge (Dickert & Peters, *submitted*). In this experience-based learning task, intuitive information processing leads to better decision performance than deliberative processing. Making knowledge explicit during the learning process impairs decision quality and overall learning of the task. Furthermore, this project incorporates individual differences in affective reactivity and process measures to explain variations in decision quality. Of interest is that positive affective reactivity leads to better learning and performance only when information is processed intuitively, whereas a deliberative approach weakens the connection between affect and performance.

A significant part of my scientific work also builds on my dissertation (Dickert, 2008) and focuses on affective determinants of charitable giving. In a series of experiments, I investigated which emotional reactions are conducive to pro-social behavior (Dickert, Sagara, & Slovic, 2010; 2011) and the conditions under which these emotions are typically encountered (Dickert & Slovic, 2009, *in press*). A central component in my research on pro-social behavior is affective regulation and information distortion in line with bi-directional reasoning models (Dickert, Västfjäll, & Slovic, *submitted*). The importance of emotion regulation becomes evident when highlighting the moral dilemma that any act of giving to some persons in need is accompanied by not providing help for others. Regulation strategies are based on processes by which donors distort their

cognitive and affective perceptions to reduce cognitive dissonance in these emotionally difficult decisions. Furthermore, in my work I find evidence that donors' underlying mental representations depend on the ability to comprehend and transform numerical information and influence affective reactions and charitable giving (Dickert, Kleber, Peters, & Slovic, in press).

An extension to this work on donations is also a project on how people construct prices in consumer decisions (Ashby, Dickert, & Glöckner, submitted) and the extent to which strategic financial decisions are dependent on people's social value orientation and forecasted affective experience (Dickert, Fiedler, Beckenkamp, & Schlosser, working paper). A pro-social value orientation typically leads to a higher willingness to cooperate. However, anticipated emotions (i.e., happiness and regret) also reflect the payoff structure differently depending on someone's value orientation. This suggests that these emotions are a part of the psychological costs of inequity-and motivation for inequity aversion- that are taken into account differently by pro-social vs. pro-selfish individuals.

## **Research Agenda**

My research agenda for the future is aimed at furthering our understanding of information processing in judgment and decision making relevant to the general goals of the research group *Intuitive Experts*. Thus, future projects will investigate the roles of automatic intuitive/affective and deliberative components in the selection, weighting, and integration of information. When presented with several different and possibly divergent pieces of information (for example, as is common in legal cases), decision makers can use a variety of strategies to construct mental representations of the decision task. These representations are often seen as a key in understanding the process by which judgments and decisions are made. By making use of different complimentary methodologies, including reaction times, eyetracking, and self-report questionnaires, my research explores how mental representations of task characteristics influence choice behaviour. Of specific interest are the determinants for emotional responses in choice situations, which may act as moderators for how information is assimilated and integrated, and their role in the quality and accuracy of decisions. These basic mechanisms are evaluated in contexts that include judgments and economic/financial as well as pro-social decision making.

Specifically, in a project with Andreas Glöckner and Nathan Ashby, I will investigate the extent to which attention influences subsequent information processing in choice behaviour. We use eyetracking as a means to measure information search and acquisition patterns and relate these to preferences and choices. Additionally, in cooperation with Enrico Rubaltelli, I use eyetracking to examine whether information acquisition is related to the well-known economic anomaly of preference reversals and contingent weighting. Furthermore, I plan to investigate attention processes in projects related to the construction of value in charitable giving. It is likely that attention is a vital

precursor to affective information processing, and in other work I will elucidate the relationship between perception, consistency-maximizing strategies and emotion regulation. Additionally, as part of my research plan for charitable giving, I will explore the role of individual differences in mental representations and imagery in contexts related to pro-social behaviour.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Dickert, S., Kleber, J., Peters, E. & Slovic, P., Numeric ability as a precursor to pro-social behaviour: The impact of presentation format on the cognitive mechanisms underlying donation decisions, *Judgment and Decision Making*, In Press.

Dickert S., Herbig B., Glöckner A., Gansen C., Portack R., The More the Better? Effects of Training and Information Amount in Legal Judgments, *Applied Cognitive Psychology*, In Press.

Dickert S., Slovic P., Unstable Values in Lifesaving Decisions. *Frontiers in Cognition*, In Press.

Ashby, N., Glöckner, A., & Dickert, S., Conscious and Unconscious Thought In Risky Choice: The Role of Capacity and Differentiated Knowledge, *Frontiers in Cognitive Science*, 2, 2011.

Dickert S., Sagara N., Slovic P., Affective motivations to help others: A two-stage model of donation decisions, *Journal of Behavioral Decision Making*, vol. 24, no. 4, 361-376, 2011.

Yau J., Joy M., Dickert S., A mobile context-aware framework for managing learning schedules – data analysis from a diary study, "Innovations in designing mobile learning applications" of the *Journal of Educational Technology & Society*, vol. 13, pp. 22-32, 2010.

Dickert S., Slovic P., Attentional mechanisms in the generation of sympathy, *Judgment and Decision Making*, vol. 4, no. 4, pp. 297-306, 2009.

### **Book Chapters**

Dickert S., Measuring affect and emotions in decision making: The affective side of intuitive information processing, *Tracing intuition: Recent methods in measuring intuitive and deliberative processes in decision making*, Glöckner A., Witteman C. L. M., (Eds.), London, Psychology Press, pp. 179-198, 2010.

Dickert S., Sagara N., Slovic P., Affective motivations to help others: A two-stage model of donation decisions, *Experimental approaches to the study of charitable giving*, Oppenheimer D. M., Olivola C. Y., (Eds.), New York, Psychology Press, pp. 161-178, 2010.

Dickert S., Slovic P., Attentional mechanisms in the generation of sympathy, *The Feeling of Risk: New Perspectives on Risk Perception*, Slovic P., (Ed.), London, Earthscan, pp. 37-50, 2010.

## **Preprints**

Dickert S., Herbig B., Glöckner A., Gansen C., Portack R., *The More the Better? Effects of Training and Information Amount in Legal Judgments*, issue 2010/34, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

## **Web Article**

Ashby N. J. S., Glöckner A., Dickert S., *Conscious and unconscious thought in risky choice: Testing the capacity principle and the appropriate weighting principle of Unconscious Thought Theory*: *Frontiers in Psychology*, 2011.

## **Articles under Review, in Progress, and in Preparation**

Dickert, S., & Peters, E. (under review). Matching Task and Processing Characteristics: Some evidence for the roles of deliberation and affect in repeated decisions.

Dickert, S., Västfjäll, D., & Slovic, P. (under review). Emotionally difficult pro-social choices: The Role of Dissonance Reduction in Donation Decisions.

Dickert, S. & Glöckner, A. (working paper). Information processing in legal decision making: A constructivist approach.

Ashby, N., Dickert, S., & Glöckner, A. (under review). Focussing on what you own: Biased information uptake due to ownership.

Glöckner, A. & Dickert, S. (working paper). Base Rate Respect by Intuition: Approximating rational choices in base-rate tasks with multiple cues.

Dickert, S., Fiedler, S., Beckenkamp, M. & Schlosser, T. (in preparation). Social Values and the Prisoner's Dilemma: Affective Responses as Determinants of Cooperative Choices.

Dickert, S., & Slovic, P. (in preparation). Attentional precursors of prosocial behaviour.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Wahrnehmung und affective Prozesse: Ein Beitrag zur Empathieforschung und pro-sozialem Verhalten**

[Perception and Affective Processes: A Contribution to Empathy Research and Pro-social Behavior]

51. Tagung experimentell arbeitender Psychologen  
March 2009

**Die Integration von Informationen im Entscheidungsprozess**

[Information Integration in Decision Processes]

Discussant, 51. Tagung experimentell arbeitender Psychologen

March 2009

**Social Values and Affect as Determinants of Cooperation in Prisoner Dilemma games**

Summer School in Psychological Economics and Economic Psychology, Trento, Italy

June 2009

**Anticipated Regret and Sympathy as Affective Antecedents to Helping Others: When Feelings Facilitate Pro-social Behavior**

Paper presented at the European Congress on Psychology, Oslo, Norway

July 2009

**Mood Management and Sympathy as Predictors of Donations**

Paper presented at the conference for Subjective Probability, Utility and Decision Making

Rovereto, Italy

August 2009

**Der Einfluss affektiver Informationen auf Urteile und Wahrscheinlichkeits-einschätzungen in komplexen rechtlichen Fällen**

[The Influence of Affective Information on Verdicts and Probability Estimates in Complex Legal Cases]

Fachgruppentagung Rechtspsychologie der Deutschen Gesellschaft für Psychologie

August 2009

**2010**

**Social Values and the Prisoner's Dilemma: Affective Responses as Determinants of Cooperative Choices**

52. TEAP, Saarbrücken, Germany

April 2010

**Coherence Shifts, Affect, and Donations: Cognitive Processes Relevant to Justifying Pro-social Behaviour in Social Dilemma Situations**

International Association of Research in Economic Psychology, Cologne, Germany

September 2010

## 2011

### **Choosing not to Choose: The Underlying Mechanisms of Donation Decisions when Targets are (too) Similar**

International Conference of Behavioral Decision Making, Herzliya, Israel  
May 2011

### **Social Values and Affective Determinants for Cooperation: The Psychological Costs of Inequity**

14<sup>th</sup> International Conference on Social Dilemmas, Amsterdam, Netherlands  
July 2011

### **Pro-Social Behaviour in Moral Dilemmas: The Role of Dissonance Reduction in Donation Decisions**

23<sup>rd</sup> Subjective Probability and Utility in Decision Making Conference, Kingston, UK  
August 2011

### **Entscheidungsfindung und Informationsverarbeitung bei strafrechtlichen Fällen: Ein Beitrag zum Einfluss von juristischer Expertise**

Rechtspsychologie Fachgruppentagung der DGPS, Münster, Germany  
September 2011



## **Jieyao Ding**

### **Summary Report**

My main research focus over the past three years can be divided into two categories: experimental study on framing effect and empirical study on lottery markets. I will first report on the projects that are nearly finished and will be submitted before the end of 2011. What follows after that will be a general introduction about the projects that are still in the early stages.

#### **Framing Effect**

As I mentioned above, one of my research areas is framing effect, which tests the influence of different frames on individual behavior. In this field, I have two projects which are drafts being revised. In "Choice Bracketing and Social Preference", I experimentally investigate the effect of broad versus narrow choice bracketing on social preference. The experimental setting is that the participants played two identical games under two frames. One frame, called *narrow bracketing*, means the participants played two identical games sequentially on two screens. The other frame, termed *broad bracketing*, means the participants need to play the two games on the same screen. In the narrow bracketing treatment, the investors in mini-trust games are more likely to trust others. On the other hand, the trustees are more likely to betray the trust of investors under the same condition. But there is no treatment difference in beliefs on the choice of others. Therefore, the treatment effect seems not to be driven by differences in beliefs in the choice of others. The other project on the topic of framing effect is "Illusion of play: Learning without feedback". In this project, together with my co-author Andreas Nicklisch, a former member of our MPI, we experimentally study the effect of frames on learning. We try to find out whether there is systematic alternation of decisions without feedback and whether the mere belief about feedback (illusion of play, IOP) reinforce or change behavior. The experiment has three treatments. The first two treatments are similar to the first project, mentioned above: narrow and broad bracketing without feedback. The third treatment is participants playing two identical games sequentially with feedback in between. The results show that people indeed have learning behavior even without feedback. For the people who learnt in between, the impulse is stronger in narrow bracketing than in broad bracketing.

#### **Lottery Market**

In the project "What Numbers to Choose for My Lottery Ticket?", I empirically study the behavioral anomalies in the Chinese online lottery market, which is a newly-developed market that gives out plenty of new-style data. The data provide field evidence on three anomalies. The first anomaly, which has previously not been documented when there is a financial incentive to overcome it, is the guidance effect. Since the target game in this

project is a pari-mutuel game, which means people will share the jackpot with other winners, the best strategy should be to choose the least popular numbers among all others – information that people could immediately obtain on the webpage. However, to my surprise, instead of doing so, people preferred to choose the most popular numbers among all others. The second anomaly tested in this project is the gambler's fallacy. Compared to prior research, the influence of winning numbers in prior rounds lasts much shorter, which is about only three days. Furthermore, the dataset makes it possible to show how the two fallacies unfold over time within a round, which was not possible before the arising of online betting. I find that later entrants are more subject to the fallacies than earlier ones. Finally, the paper adds to the evidence showing the additional culturally contingent pull of popular numbers in China. In China, bettors prefer to choose the lucky number 8, even it won the game in prior rounds, but they seldom choose the unlucky number 14, even it did not win the game in the previous few rounds at all.

## **Research Agenda**

### **Perspective-taking**

In the project with Stephan Dickert (MPI Bonn) and Andreas Nicklisch, we experimentally test whether perspective-taking stimulates pro-social action if one directly puts oneself in the other's shoes in an economic situation and tries to figure out the specific types which are prone to perspective-taking. This is the first project I am working on with a psychologist, and the perspective from a different discipline has inspired me a lot.

### **Lottery Market**

Besides the project I mentioned above, I have another two projects on investigating the online gambling market in China. One is "Gambler's Fallacy for Small Probabilities", a cooperation with Prof Zhong Songfa at the NUS (National University of Singapore). In this project, we empirically test the robustness of theories on gambler's fallacy with a lottery game which has fixed payoff towards different degree of accuracy. The other project, together with Robin Chark, studies how the long-shot bias develops within a round of a game in soccer betting. In prior research, people could only get the final bets on each candidate in a horse-racing game and tried to evaluate the severity of long-shot bias. By collecting data from an online game, we were able to get time-serial data of bets on each candidate within a single round of the game and investigate the time pattern of long-shot bias that had not been recorded before. The projects are still at the data-collecting stage since it takes relatively longer to get a sufficient sample size.

### **Consumer Behavior**

In the project collaboration with Prof Chou Tingrui, we want to investigate consumers' behavior pattern in an online one-shot sale. In the past, sellers focused more on how to enhance consumers' loyalty, so as to keep more consumers and make a profit. Now,

however, there is a new sale model called group purchase (see, e.g., [www.groupon.com](http://www.groupon.com)), which developed very fast over the past few years and rapidly became the most popular marketing style among internet users. What we intend to know is what factors influence consumers' behavior in such a market, e.g., different types of product, how the purchasing develops over time, and whether there exists a national difference. The project is in the phase of collecting world-wide data.

## **Publications (since 2009)**

### **Preprint**

Ding J., *What Numbers to Choose for My Lottery Ticket? Behavior Anomalies in the Chinese Online Lottery Market*, issue 2011/23, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

## **Lectures and Seminar Presentations (since 2009)**

### **2010**

#### **Choice Bracketing and Social Preference: Experimental Evidence from Trust Game and Simultaneous Prisoners' Dilemma Game**

FUR XIV International Conference, Foundations and Applications of Utility, Risk and Decision Theory (FUR)  
Newcastle University, England  
June 2010

#### **Choice Bracketing and Social Preference: Experimental Evidence from Trust Game and Simultaneous Prisoners' Dilemma Game**

World Meeting of the Economics Science Association  
Copenhagen, Denmark  
July 2010

#### **Choice Bracketing and Social Preference: Experimental Evidence from Trust Game and Simultaneous Prisoners' Dilemma Game**

WISE 2010 International Workshop on Experimental Economics and Finance  
Xiamen University, China  
December 2010

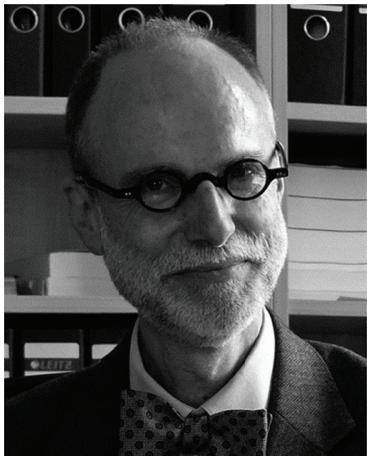
**2011**

**What Numbers to Choose for My Lottery Ticket? Empirical Evidence from the Field**

The Fourth Thesis Workshop of the IMPRS Uncertainty  
Max Planck Institute for Human Development, Berlin, Germany  
February 2011

**What Numbers to Choose for My Lottery Ticket? Empirical Evidence from the Field**

Economic Science Association European Conference 2011  
University of Luxembourg, Luxembourg  
September 2011



## **Christoph Engel**

### **Summary Report**

The director of a Max Planck Institute leads an inspiring life. This holds in the active and in the passive sense. I had the good fortune to attract a wonderful group of lawyers and economists. We are united by the desire to cast behavioral light on social problems and their solution by way of institutional intervention. Most, but not all, of us are experimentalists. I am inspired by their ideas and expertise, and I am inspiring them. Almost all of us have joint projects with other members of the group, or with other researchers from the institute at large. Personally I have, in alphabetical order, joint projects with Martin Beckenkamp, Markus Englerth, Sven Fischer, Sebastian Goerg, Hanjo Hamann, Sebastian Kube, Michael Kurschilgen, Christian Traxler, Gaoneng Yu and Lilia Zhurakhovska. Of course, these projects are covered by the group report. In this individual contribution, I do not want to duplicate the group report. Rather, I will comment on the development of my research agenda over the last two years, and on my plans for the future.

My main goal has been and will be to help establish the nascent discipline of experimental law and economics. In some fields of law, experiments have a long tradition. Law and psychology scholars have long ago started testing mock juries, lineups, or the identification of lying witnesses. Criminologists have long ago exploited the opportunity randomly to expose neighborhoods to different types of police presence, or convicts to different forms of correctional intervention. Nonetheless a great many legal questions have never been tested experimentally, although there is no methodological obstacle. More specifically, the subdiscipline closest to economics, i.e., law and economics, has only recently started to go to the lab. For the same reasons that have fuelled the success story of experimental economics, one may expect that the law is going to learn a great deal from this endeavor. Actually the law stands to learn even more and even faster than economics proper. As many legal critics of the law-and-economics approach have not become tired to repeat, the law is not just about money, and maybe not even just about incentives. Experiments provide the law with both at a time: rigorously controlled conditions, yet conceptual openness to cognitive and motivational factors that transcend textbook economics. Through the composition of the institute, both inputs to a successful contribution to experimental law and economics are amply available: legal expertise properly to define the issue and to translate findings back to the discipline, and experimental expertise to inspire the design, to implement the experiment properly, and to analyze the data adequately.

Experimental economics is a mature discipline. It would be a very bad idea if the lawyers, who are new to this, tried to reinvent the wheel. For my first series of experiments, this has also meant that I start from tried and tested designs, like the linear public good or

the prisoner's dilemma. Since these tools are so well understood, I reckon I will also frequently revert to them in the future. Yet what is perfect for microeconomics need not be perfect for law. I therefore plan to spend more effort in the future on trying to develop new designs that directly grow from legal questions. One such endeavor has already led to my first publication in the *Journal of Empirical Legal Studies*. Together with Michael Kurschilgen, we have stylized a provision from the German Copyright Statute. Another example is an experiment I have just run, together with criminologist Dan Nagin. We simply give one of two randomly matched participants the possibility to take any fraction she chooses from her counterpart's endowment. To my surprise, our participants were quite prepared to "steal in the lab", even if the threat with punishment was such that stealing had a negative expected value. A third example is my experiment with Alicja Pluta, meant to test whether prosecutors give in to the temptation to get the defendant for vaguely defined crimes. This experiment, however, also illustrates one of the challenges of this endeavor. In order to capture what we believed to be essential features of our research question, we had to design a relatively complicated sequential game. If experimental law and economics is going to make it as a discipline, it will need a consensus about primitives, and about standards.

The opposite challenge is external validity. At the end of the day, the only externally valid model of reality is reality. The comparative advantage of experiments is not being more realistic, but isolating effects that arguably are critical for a real-world phenomenon, and solving the identification problem. That said, it is of course legitimate that legal readers want to know more about the implications of experimental findings for the problems they are facing. In the first series of my experimental papers, in that respect too I have been close to the experimental economics tradition. In the introduction, these papers explain the legal research question. I relate my contribution to the existing (legal and economic) literature. I explain how the design of the experiment fits the research question. I interpret the results in the light of this question. I finally discuss limitations, including those concerning generalizability. Again, the next generation of experimental papers on legal issues may gradually develop solutions that are more congenial to law. In this respect, I have already tried out two options. The paper with Heike Hennig-Schmidt, Bernd Irlenbusch, and Sebastian Kube on the effectiveness of probation combines an experiment with a meta-study of the field evidence that has been assembled over the last decades. The ongoing projects with Sebastian Goerg and Sebastian Kube, on the one hand, and with Thorsten Chmura and Markus Englerth, on the other hand, increase external validity by not testing students, but convicted criminals in the first case, and prison inmates in the second.

Since so many legal issues have never been studied experimentally, I have not been very selective with issues. In terms of subfields of law, there are experiments that speak to issues of public law (for instance, the experiment with Bettina Rockenbach on public goods with positive or negative externalities), of private law (for instance, the experiment with Theodore Eisenberg on deterrence by torts), and on criminal law (for instance, the experiment with Bernd Irlenbusch on the effect of making punishment transparent on

those who previously were well-behaved). I think it is legitimate to pick more such low-hanging fruits in the years to come. But I also intend to spend more effort on one single issue: how come the law affects behavior? An experiment with Michael Kurschilgen has already given us a first handle on normativity, and how it interacts with the origin of normative expectations in the legal order. But many more aspects are still unclear, and I hope to get them clearer over time. Let me mention only one example. Legal philosopher Franz-Xaver Kaufmann once nicely put: a legal norm does not cease to exist because people stop obeying it. The norm is defunct if people violate it without being aware of the violation. Can this be turned into a hypothesis tested in the lab?

A scholar should be fascinated by his work. But he should also be able to convince his peers that he makes valuable contributions. If this scholar has such a thoroughly interdisciplinary agenda as I do, his peers come from different audiences. I do not want to lose contact with my German colleagues. This means that I have spent some of my time writing in German, for instance contributing to an upcoming treatise on administrative law. The editors, highly esteemed colleagues from this discipline, wanted me to write a chapter that relates this discipline to economics. I have taken the opportunity to formalize the principle of proportionality, which is one of the core tools of administrative law (and of constitutional) doctrine. My most important audience is, of course, the empirical legal movement. I am pleased that all my submissions to the Conference on Empirical Legal Studies were accepted, and that two of my papers have been accepted for publication in the *Journal of Empirical Legal Studies*. Given our experiments on enforcement are in the neighbourhood of criminology, I am trying to also publish in these journals. I am pleased that my experiment with Dan Nagin has been accepted for the next conference of the American Society of Criminology. Last, but not least, even if the research question is legal, quite a few of my experiments could also be of interest for experimental economists. So far, I have been able to publish my meta-study of dictator experiments (triggered by the dictator game with housed prisoners) in *Experimental Economics*. More papers are currently under review, and will hopefully lead to publications in good journals.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Glöckner A., Engel C., Can We Trust Intuitive Jurors? Standards of Proof and the Probative Value of Evidence in Coherence Based Reasoning, *Journal of Empirical Legal Studies*, Under Review.

Engel C., The Emergence of a New Rule of Customary Law: An Experimental Contribution, *Review of Law & Economics*, In Press.

Engel C., Contract as Exposure to Attack, *Journal of Institutional and Theoretical Economics (JITE)*, vol. 167, pp. 72-76, 2011.

Engel C., Dictator Games: A Meta Study, *Experimental Economics*, vol. 14, pp. 583-610, 2011.

Engel C., When is intellectual property needed as a carrot for innovators?, *Journal of Competition Law and Economics*, vol. 7, no. 2, pp. 277-299, 2011.

Engel C., Kurschilgen M., Fairness Ex Ante & Ex Post – An Experimentally Testing Ex Post Judicial Intervention into Blockbuster Deals, *Journal of Empirical Legal Studies*, vol. 8, no. 4, pp. 682-708, 2011.

Engel C., The Multiple Uses of Experimental Evidence in Legal Scholarship, *Journal of Institutional and Theoretical Economics (JITE)*, vol. 166, pp. 199-202, 2010.

Engel C., The Behaviour of Corporate Actors. How Much can we Learn from the Experimental Literature?, *Journal of Institutional Economics (JOIE)*, vol. 6, pp. 445-475, 2010.

Engel C., Erga Omnes. Why does Public International Law Ignore Priority of Contract, *Journal of Institutional and Theoretical Economics (26th International Seminar on the New Institutional Economics)*, vol. 165, pp. 24-28, 2009.

## **Books**

Jurimetrics, *Journal of Institutional and Theoretical Economics (27th International Seminar on the New Institutional Economics)*, Engel C., Schweizer U., (Eds.), vol. 166, Tübingen, Mohr Siebeck, pp. 203, 2010.

Coordination in the Absence of Sovereign Intervention, *Journal of Institutional and Theoretical Economics (26th International Seminar on the New Institutional Economics)*, Engel C., Schweizer U., (Eds.), vol. 165, Tübingen, Mohr Siebeck, pp. 192, 2009.

## **Book Chapters**

Engel C., Recht im Labor – der Bestsellerparagraph im Urheberrecht, *Struktur und Wandel des Verwaltungsrechts. Symposium zum 80. Geburtstag von Martin Bullinger*, Fehling M., Grewlich K., (Eds.), Baden-Baden, Nomos, pp. 9-29, 2011.

Engel C., Competition as a Socially Desirable Dilemma. Theory vs. Experimental Evidence, *Competition Policy and the Economics Approach*, Drexel J., Kerber W., Podszun R., (Eds.), Cheltenham, pp. 245-269, 2011.

Engel C., An Experimental Contribution to the Revision of the Guidelines on Research and Development Agreements, *Recht, Ordnung und Wettbewerb*, Baden-Baden, Nomos, pp. 227-240, 2011.

Engel C., Ernst-Joachim Mestmäcker, *Deutschsprachige Zivilrechtslehrer des 20. Jahrhunderts in Berichten ihrer Schüler*, Grundmann S., Riesenhuber K., (Eds.), vol. 2, Berlin, De Gruyter, pp. 53-69, 2010.

Engel C., Grundmann S., Haar B., Merkt H., et al., Das schwindende Vertrauen in die Marktwirtschaft und die Folgen für das Recht, *Festschrift für Klaus J. Hopt zum 70. Geburtstag am 24. August 2010*: De Gruyter, pp. 2733-2752, 2010.

Engel C., Behavioural Law and Economics im Urhebervertragsrecht – Ein Werkstattbericht, *Das Urhebervertragsrecht im Lichte der Verhaltensökonomik*, Riesenhuber K., Klöhn L., (Eds.), Berlin, pp. 17-37, 2010.

### **Articles (not peer-reviewed)**

Engel C., Die Bedeutung der Verhaltensökonomie für das Kartellrecht, *Beitrag der Verhaltensökonomie (Behavioral Economics) zum Handels- und Wirtschaftsrecht (Beiheft der Zeitschrift für das gesamte Handelsrecht und Wirtschaftsrecht)*, Fleischer H., Zimmer D., (Eds.), Frankfurt, pp. 100-121, 2011.

Engel C., Glöckner A., Schönfeldt K., Informationsverzerrungen bei rechtlichen Entscheidungen, *Richter ohne Robe*, vol. 22, pp. 135-136, 2010.

Engel C., Preponderance of the Evidence Versus Intime Conviction. A Behavioral Perspective on a Conflict Between American and Continental European Law, *Vermont Law Review*, vol. 33, pp. 435-467, 2009.

### **Reviews**

Engel C., Mario Martini: Der Markt als Instrument hoheitlicher Verteilungslenkung. Möglichkeiten und Grenzen einer marktgesteuerten staatlichen Verteilung des Mangels, Tübingen 2008, *Die Verwaltung*, vol. 44, pp. 131-133, 2011.

Engel C., Jan Hecker: Marktoptimierende Wirtschaftsaufsicht. Öffentlich-rechtliche Probleme staatlicher Wirtschaftsinterventionen zur Steigerung der Funktionsfähigkeit des Marktes, Tübingen 2007, *Archiv des öffentlichen Rechts*, vol. 134, pp. 151-153, 2009.

### **Preprints**

Betsch T., Lindow S., Engel C., Ulshöfer C., Kleber J., *Has The World Changed? My Neighbor Might Know Effects of Social Context on Routine Deviation*, issue 2011/21, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Engel C., Pluta A., *The People's Hired Guns? Experimentally Testing the Inclination of Prosecutors to Abuse the Vague Definition of Crimes*, issue 2011/14, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Engel C., *Law as a Precondition for Religious Freedom*, issue 2011/06, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Engel C., Kube S., Kurschilgen M., *Can we manage first impressions in cooperation problems? An experimental study on "Broken (and Fixed) Windows"*, issue 2011/05, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Engel C., *Besonderes Verwaltungsrecht und ökonomische Theorie*, issue 2011/02, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Engel C., Zhurakhovska L., *Oligopoly as a Socially Embedded Dilemma. An Experiment*, issue 2011/01, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Engel C., *An Experimental Contribution to the Revision of the Guidelines on Research and Development Agreements*, issue 2010/48, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Glöckner A., Engel C., *Role Induced Bias in Court: An Experimental Analysis*, issue 2010/37, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Engel C., Kurschilgen M., *Fairness Ex Ante & Ex Post – An Experimental Test of the German “Bestseller Paragraph”*, issue 2010/29, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Chmura T., Engel C., Englerth M., Pitz T., *At the Mercy of the Prisoner Next Door. Using an Experimental Measure of Selfishness as a Criminological Tool*, issue 2010/27, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Engel C., *An Experimental Contribution to the Theory of Customary (International) Law*, issue 2010/13, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Engel C., *Dictator Games: A Meta Study*, issue 2010/07, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Engel C., Irlenbusch B., *Turning the Lab into Jeremy Bentham’s Panopticon. The Effect of Punishment on Offenders and Non-Offenders*, issue 2010/06, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Engel C., Hennig-Schmidt H., Irlenbusch B., Kube S., *On Probation. An Experimental Analysis*, issue 2009/38, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Engel C., *Das schwindende Vertrauen in die Marktwirtschaft und die Folgen für das Recht*, issue 2009/37, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Engel C., Rockenbach B., *We Are Not Alone: The Impact of Externalities on Public Good Provision*, issue 2009/29, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Engel C., *Competition as a Socially Desirable Dilemma Theory vs. Experimental Evidence*, issue 2009/24, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Beckenkamp M., Engel C., Glöckner A., Irlenbusch B., Hennig-Schmidt H., Kube S., Kurschilgen M., Morell A., Nicklisch A., Normann H.-T., Towfigh E. V., *Beware of Broken Windows! First Impressions in Public-good Experiments*, issue 2009/21, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## **Projects (experiments run)**

When is the Risk of Cooperation Worth Taking? (with Lilia Zhurakhovska)

Are the Certainty and the Severity of Punishment Exchangeable? (with Dan Nagin)

Symmetric vs. Asymmetric Punishment Regimes for Bribery (with Sebastian Goerg and Gaoneng Yu)

Deterrence by Torts. An Experiment (with Theodore Eisenberg)

The "Jurisdiction of the Man Within". Intrinsic Norms in a Public-Goods Experiment (with Michael Kurschilgen)

Customary Law in the Lab (with Michael Kurschilgen)

Has the World Changed? My Neighbour Might Know (with Tilman Betsch and Stefanie Lindow)

The Hog Cycle of Law Professors (with Hanjo Hamann)

Internalization by Vote. A Public-Goods Experiment with Externalities (with Bettina Rockenbach)

## **Policy Reports**

### **Academic Advisory Council to the German Minister of Economics**

Contributions to the following advisory opinions:

#### **Zur Bankenregulierung in der Finanzkrise**

[On the Regulation of Banks during the Financial Crisis]

Letter to the Federal Minister of Economic Affairs and Technology, Michael Glos

23 January 2009

#### **Akzeptanz der Marktwirtschaft: Einkommensverteilung, Chancengleichheit und die Rolle des Staates**

[Acceptance of the Market Economy: Income Distribution, Equality of Opportunity and the Role of the State]

January 2010

#### **Zur Reform der Finanzierung der Gesetzlichen Krankenversicherung**

[On the Reform of the Financing of Compulsory Health Insurance]

April 2010

**Reform von Bankenregulierung und Bankenaufsicht nach der Finanzkrise**  
[On Reforming the Regulation and Supervision of Banks after the Financial Crisis]  
June 2010

**Überschuldung und Staatsinsolvenz in der Europäischen Union**  
[Debt overload and state bankruptcy in the European Union]  
January 2011

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

**Wettbewerb als sozial erwünschtes Dilemma**  
[Competition as a Socially Desirable Dilemma]  
Symposium 70. Geburtstag Prof. Streit, MPI for Economics, Jena, Germany  
26 February 2009

**Competition as a Socially Desirable Dilemma**  
Conference "Foundations and Limitations of an Economic Approach to Competition Law", MPI for Intellectual Property, Competition and Tax Law, Munich, Germany  
12 March 2009

**Behavioral Law and Economics im Urhebervertragsrecht**  
[Behavioral Law and Economics in Intellectual Property Law]  
INTERGU 2009 Kolloquium "Das Urhebervertragsrecht im Lichte der Verhaltensökonomik", Berlin, Germany  
23–24 April 2009

**Is Oligopoly an Ordinary Public Good?**  
CLEEN Conference, Tilburg, The Netherlands  
14–15 May 2009

**Operationalising Fairness in Art. 82c – Comment on Akman/Garrod**  
CLEEN Conference, Tilburg, The Netherlands  
14–15 May 2009

**Is a Cartel Just an Ordinary Prisoner's Dilemma?**  
Gruter Institute, Squaw Valley, U.S.A.  
17–21 May 2009

**Explaining Credit Card Mutuals – Comment on Bubb/Kaufman**

Symposium on the Law and Economics of Contract

University of Bonn, Germany

4–5 June 2009

**The Multiple Uses of Experimental Evidence in Legal Scholarship**

Seminar on Jurimetrics (JITE 2009), Kloster Eberbach, Germany

10–13 June 2009

**On Probation – An Experimental Analysis**

Bonner Juristenforum, Universitätsclub, Bonn, Germany

24 November 2009

**Tacit Collusion – The Neglected Experimental Evidence**

Nachwuchskreis Bundeskartellamt, Bonn, Germany

20 November 2009

**Experimentelle Evidenz als Instrument der Kartellrechtsanwendung**

[Tacit Collusion – The Neglected Experimental Evidence]

Nachwuchskreis Bundeskartellamt, Bonn, Germany

20 November 2009

**Recht im Labor – Vermindert Bewährung das Rückfallrisiko?**

[Probation – An Experimental Analysis]

Bonner Juristenforum, Universitätsclub, Bonn, Germany

24 November 2009

**Recht im Labor: der Bestsellerparagraph im Urheberrecht**

(joint with Michael Kurschilgen)

[Legal Studies in the Lab: the “Bestseller Provision” in the Copyright Act]

Bonner Colloquium, University of Bonn, Germany

10 December 2009

**2010**

**Jeremy Bentham im Labor – Sollten Saktionen möglichst sichtbar sein?**

[The Perils of Transparency: Testing Jeremy Bentham’s Advice to Sanctioning Authorities in the Lab] (joint with Bernd Irlenbusch)

Kolloquium Recht und Ökonomie, Bonn University, Germany

25 February 2010

## **At the Mercy of the Prisoner Next Door: Criminology Meets Experimental Economics**

(joint with Thorsten Chmura and Markus Englerth)

Applied Micro and Organization Seminar, Frankfurt, Germany

14 April 2010

## **Recht im Labor: Der Bestsellerparagraph im Urheberrecht**

[Legal Studies in the Lab: the “Bestseller Provision” in the Copyright Act]

(joint with Michael Kurschilgen)

Symposium zum 80. Geburtstag von Prof. Bullinger, Freiburg, Germany

15 April 2010

## **The Perils of Transparency: Testing Jeremy Bentham’s Advice to Sanctioning Authorities in the Lab**

(joint with Bernd Irlenbusch)

4<sup>th</sup> Competition Law and Economics European Network (CLEEN) Meeting 2010, ACLE, Amsterdam, The Netherlands

22 April 2010

## **An Experimental Contribution to the Theory of Customary (International) Law**

Seminar on “Evolutionary Approaches to Comparative Private Law”, Ghent University, Belgium

23 April 2010

## **On Probation. An Experimental Analysis**

(joint with Heike Hennig-Schmidt, Bernd Irlenbusch, Sebastian Kube)

Jahrestagung des Sozialwissenschaftlichen Ausschusses, University of Erfurt, Germany

6 May 2010

## **Fertigkeiten und Techniken – Entscheidungspsychologie und Recht**

[Intuition on the Bench] (joint with Andreas Glöckner)

Tagung der Richterinnen und Richter im Bezirk des LAG Hamm, Germany

18 May 2010

## **At the Mercy of the Prisoner Next Door. Criminology Meets Experimental Economics**

(joint with Thorsten Chmura and Markus Englerth)

5<sup>th</sup> Interdisciplinary Meeting MPG PhDnet

MPI for Radio Astronomy, Bonn, Germany

5 June 2010

**Contract as Exposure to Attack**

Seminar on Jurimetrics (JITE 2010), Budapest, Hungary

9–10 June 2010

**Völkerrecht im Labor? Ein experimenteller Beitrag zur Entstehung von  
Völkergewohnheitsrecht**

[An Experimental Contribution to the Theory of Customary (International) Law]

Wissenschaftliches Kolloquium anlässlich des 70. Geburtstages von Professor Dr. Hans von Mangoldt, Stuttgart, Germany

26 June 2010

**How is the Competition Dilemma Specific? An Experiment**

(joint with Lilia Zhurakhovska)

Conference on Empirical Legal Studies, University of Yale, New Haven, U.S.A.

5 November 2010

**Fairness Ex Ante & Ex Post – The Benefit of Renegotiation in Media Markets**

(joint with Michael J. Kurschilgen)

Conference on Empirical Legal Studies, University of Yale, New Haven, U.S.A.

6 November 2010

**The Tradeoff Between Redistribution and Effort**

(joint with Claudia Buch)

Technical University of Dresden, Germany

9 November 2010

**Governance by Law**

Inaugural Lecture, Graduate School "Governance im Europäischen und Globalen Wettbewerb"

Würzburger Graduiertenschule, University of Wuerzburg, Germany

23 November 2010

**Customary Law in the Lab**

(joint with Michael J. Kurschilgen)

University of Hamburg, Germany

9 December 2010

**2011****Customary Law in the Lab**

(joint with Michael Kurschilgen)

University of Rotterdam, The Netherlands

5 April 2011

**Law as Precondition for Freedom of Religion**

The Pontifical Academy of Social Sciences, The Vatican, Italy

2 May 2011

**The Emergence of Customary Law. Addressing a Longstanding Doctrinal Issue by Way of a Public Good Experiment**

(joint with Michael Kurschilgen)

Jahrestagung des Sozialwissenschaftlichen Ausschusses, University of Erfurt, Germany

5 May 2011

**Internalization by Vote. An Experiment**

(joint with Bettina Rockenbach)

MMM Workshop Hellwig/Gersbach/Grüner, Bonn, Germany

25–27 May 2011

**Fair Exclusion**

Seminar on Testing Contracts (JITE 2011), Krakow, Poland

15–18 June 2011

**Can we Manage First Impressions in Cooperation Problems? An Experimental Study on “Broken (and fixed) Windows”**

(joint with Michael Kurschilgen and Sebastian Kube)

Louis-André Gérard-Varet (LAGV #10) – Conference in Public Economics, Marseille, France

20–22 June 2011

**Self-Confidence and Team Work – Comments on Jean-Louis Rullière**

Louis-André Gérard-Varet (LAGV #10) – Conference in Public Economics, Marseille, France

20–22 June 2011

**Internationalization by Vote – A Public Goods Experiment with Externalities**

(joint with Bettina Rockenbach)

University of Konstanz, Germany

25 July 2011

**Normativität – Eine experimentelle Perspektive**

(Normativity: An Experimental Perspective)

Workshop “Normativität und Ethik”

University of Bonn, Germany

24 October 2011

**Internalization by Vote. A Public Goods Experiment with Externalities**

(joint with Bettina Rockenbach)

German Law and Economics Association, Bonn, Germany

28 October 2011

**Comments on “Preliminary References – Analyzing the Determinants that Made the ECJ the Powerful Court it Is”**

(Lars Hornuf/Stefan Voigt)

German Law and Economics Association, Bonn, Germany

28 October 2011

**Symmetric vs. Asymmetric Punishment Regimes for Bribery**

(joint with Sebastian Goerg and Gaoneng Yu)

Conference on Empirical Legal Studies, Northwestern Law, Chicago, U.S.A.

4 November 2011

**The Hog-Cycle of Law Professors (in cooperation with Hanjo Hamann)**

Conference on Empirical Legal Studies, Northwestern Law, Chicago, U.S.A.

4 November 2011

**Certainty versus Severity of Punishment. An Experiment**

(joint with Dan Nagin)

American Society of Criminology, Washington, U.S.A.

16 November 2011



## **Markus Englerth**

### **Summary Report**

Over the last two years, I only retained a part-time position with the Institute while concentrating primarily on my legal traineeship (*Referendariat*), which ended in November 2011. My research continued to focus on criminal law and criminology – a focus that in recent times has become increasingly prevalent at the institute.

In mid-2010, I successfully completed my doctorate in law. My thesis entitled "The Boundedly Rational Criminal – Behavioral Economics in Criminology" is an attempt to update the neoclassical rational-choice approach to criminal behavior, pioneered by economist Gary S. Becker, by incorporating insights from social and cognitive psychology. It aims to lay the theoretical groundwork for an interdisciplinary cooperation between criminology and behavioral economics. As expected, the book stirred some controversy; while well-received by economists, it attracted criticism from some traditional criminologists hostile to the notion that economists could have anything to contribute to the study of crime.

Whereas my dissertation is a mainly theoretical work building on existing research, I have simultaneously tried to put the approach proposed therein to work. In collaboration with professors Engel and Chmura (of Munich University), I have launched an empirical project aimed at deploying methods from Behavioral Economics to identify differences and similarities between criminals and non-criminals. For this purpose, we set up a complete decision lab in a prison for young offenders in Adelsberg, Germany, and had prisoners play a series of well-known economic games. We combined the results with a unique set of biographical data including detailed school performance reports provided by the prison school. Our preliminary findings have appeared in the study "At the Mercy of the Prisoner Next Door".

Finally, I contributed a chapter to a recently published Law & Economics textbook edited by my colleagues Emanuel Towfigh and Niels Petersen. The book is targeted at lawyers and law students seeking to understand the fundamental concepts of economic legal analysis. My contribution focuses particularly on behavioral economics and uses mainly criminal-law examples to illustrate the basic concepts of this approach.

### **Research Agenda**

I recently started writing a paper with attorney Alexander Sättele on some legal questions regarding the WikiLeaks controversy from a German perspective. The American government has found it difficult to prosecute WikiLeaks founder Julian Assange and his collab-

orators, relying on the Espionage Act of 1917, which clearly had a different threat scenario in mind. German criminal law is not tailored either to the particular and rather unprecedented challenge WikiLeaks poses to the interest of governments to preserve their secrets.

Foremost on my research agenda, however, is the completion of the empirical study mentioned above. So far, we have encountered a host of bureaucratic obstacles, but are hopeful that the Adelsheim prison will allow us a follow-up experiment using an improved design. We will then be able to compare our findings regarding cooperative behavior, present bias, risk preferences, and altruism in prisoners to those of a socio-demographically similar, non-criminal control group.

In general, I consider the encounter of criminology and behavioral economics a very promising one and hope to broaden my research agenda in this respect. There is still very little work making use of both the insights of traditional criminology and behavioral economics, despite the fact that both disciplines heavily rely on experiments and frequently draw from similar theoretical sources. However, the unusual media attention that work in this direction has attracted, as well as an increasing openness on the part of traditional criminologists, makes me hopeful for the future.

## **Publications (since 2009)**

### **Books**

Englerth M., Der beschränkt rationale Verbrecher – Behavioral Economics in der Kriminologie (Dissertation), *Kriminalwissenschaftliche Schriften*, vol. 28, Münster, LIT Verlag, pp. 452, 2010.

### **Book Chapters**

Englerth M., Verhaltensökonomie – eine Einführung mit strafrechtlichen Beispielen, *Ökonomische Methoden im Recht – Eine Einführung für Juristen*, Petersen N., Towfigh E. V., (Eds.), Tübingen, Mohr Siebeck, pp. 165-199, 2010.

### **Preprints**

Chmura T., Engel C., Englerth M., Pitz T., *At the Mercy of the Prisoner Next Door. Using an Experimental Measure of Selfishness as a Criminological Tool*, issue 2010/27, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

### **Press Coverage**

“Die Verbrecher-Versteher”, *Handelsblatt*, 28.04.2011.

“Der Erste Werfe den Anker”, *Frankfurter Allgemeine Zeitung*, 21.03.2011.

“Juristen auf den Spuren der Unvernunft”, *Frankfurter Allgemeine Zeitung*, 05.01.2009.

## **Lectures and Seminar Presentations (since 2009)**

### **The Law & Politics of International Terrorism**

(with F. Krumbein and P. Holtmann)

International Summerschool, King's College London, UK

July 2010



## **Armin Falk (External Scientific Member)**

My research is based on a behavioral economics approach. The philosophy of this approach is to increase the explanatory power of economics by providing it with a more realistic psychological foundation. Characteristic of this type of research is the predominant use of experiments and questionnaires, as well as an interdisciplinary focus that combines insights from economics with those from social psychology, sociology, and the neurosciences. The MPI for Collective Goods shares this interdisciplinary ideal and is very active and productive in high-level behavioral economics research. It is therefore an ideal place to collaborate with at all possible levels: discussing ideas with similarly interested scholars, running joint research projects, using institutional facilities such as the Bonn Econ Lab, or organizing joint seminars and workshops.

One concrete research area where I actively collaborate with the MPI is in the domain of non-binding default options, liberal paternalism and "nudges": contrary to standard economic conceptions, behavior is frequently not only shaped by prices, incentives, or institutions, but also by cognitive limitations and mistakes in the decision making process. Decision makers suffer from misperceptions of themselves and their environment. They mispredict future behavior and consequences of their actions. For example, decision makers overestimate their strength to resist future temptations. This can lead to time-inconsistent plans and procrastination of unpleasant tasks. Cognitive limitations and motivated reasoning can also lead to limited or selective attention to information. Consequently, decision makers have a wrong or incomplete view of the decision problem at hand. Given this type of boundedly rational behavior, economists have started to discuss a new set of policy instruments. Conscious use of non-binding defaults, i.e., rules that hold unless the parties actively choose to opt out, is a particularly important example of such a "soft policy". Similar instruments or "nudges" (see Thaler and Sunstein, 2008) have been successfully used to increase savings (see Thaler and Benartzi, 2004) and improve school choice (see Hastings and Weinstein, 2008). A study by Johnson and Goldstein (2003) documents that countries that have adopted presumed consent legislation on organ donations witness strikingly higher donor registration rates than countries with explicit consent legislation. In the light of such findings, policy makers are increasingly concerned about how default rules and other forms of nudges can be used optimally. For instance, the Obama Administration appointed Cass Sunstein, one of the main proponents of an effective use of nudges, as Director of the Office of Information and Regulatory Affairs.

Despite its importance, little is known about why defaults work and how they should be implemented. Together with Christoph Engel, Andreas Glöckner, Steffen Altmann, and Andreas Grunewald (University of Bonn), we have analyzed the role of attention as an important source of why defaults matter. In an eye-tracking experiment, we could show

that the risky choices are systematically affected if alternatives were highlighted as defaults. Defaults increase attention and predict later choices. Interestingly, this effect is prevalent only if the default option is on the right side of the screen. This suggests that the natural reading direction creates attention to what is seen first. This natural attention is overridden if the right option is highlighted. Our findings are important for the understanding of why defaults work and how they operate. Further research projects about defaults are planned: the MPI is a particularly interesting partner in this respect, as it provides knowledge in behavioral economics and the legal system. Since every legal act creates some default, studying defaults is of great importance for lawmakers; likewise, knowledge about the law helps designing interesting and relevant experiments about how to inform practical policy making. I am very much looking forward to discussing the role of defaults in law with Christoph Engel and his collaborators.

Next year we will organize a joint workshop with participants from the experimental and behavioral group of MPI and my team from the Bonn Econ Lab and the Center of Economics and Neurosciences (CENs). This will complement regular meetings and discussions that we have on a regular basis. For example, Christoph Engel and I had several discussions about two papers by Christoph on public-goods provision and the role of social norms, one with Michael Kurschilgen, the other with Bettina Rockenbach. Another example of collaboration is the fact that members of MPI often take part in my research seminar that takes places at CENs; several doctoral students from the MPI also took part in my recent PhD course on experimental methods. This summer I gave a short lecture about how to do scientific work at MPI. Another very close link between me and the MPI is the Bonn Econ Lab: in 2011 (as of the end of November 2011), nine researchers from the MPI (Ding, Engel, Fischer, Goerg, Grechenig, Kurschilgen, Llorente-Saguer, Nicklisch, Zhurakhovska) will have run 115 sessions on 16 different experiments in my lab. The number of subjects as of today is 2.847! As a director of the lab, I am very happy to see so many experiments run at my lab by MPI members, and I think that the close connection between the two institutions is of great mutual interest.

## References

Hastings Justine S. and Jeffrey M. Weinstein (2008): "Information, School Choice, and Academic Achievement: Evidence from Two Experiments", *Quarterly Journal of Economics*, vol. 123, pp. 1373-1414.

Johnson, E. and D. Goldstein (2003): "Do Defaults Save Lives?", *Science*, vol. 302, pp. 1338-1339.

Thaler, R. and S. Benartzi (2004): "Save More Tomorrow: Using Behavioral Economics to Increase Employee Saving", *Journal of Political Economy*, vol. 112, pp. 164-187.

Thaler, R. and C. Sunstein (2008): "Nudge: Improving Decisions about Health, Wealth, and Happiness", New Haven: Yale University Press.



## **Susann Fiedler**

### **Summary Report**

In October 2010, I joined the *Intuitive Experts* Group at the Max Planck Institute for Research on Collective Goods as a PhD student. I was already affiliated with the institute as a student assistant from April 2008 onwards. During that time I wrote my master thesis on information processing in voluntary contribution games under the supervision of Andreas Glöckner.

Following up on my thesis, I focus my current research on the affective and cognitive processes underlying judgment and decision making in risky choice and social dilemma situations, as well as in legal contexts. Although decision making research has largely progressed through models that account for outcomes only (like choices, contributions, or judgments), it is important further to improve our understanding of the cognitive processes underlying decision making and individual differences. Using process-tracing methods, such as eye-tracking technology, allows investigating heterogeneity among individuals and also allows for a better comparative evaluation of multiple theories. Most of my current research is centered around these two issues.

In a first series of experiments, I investigated how individuals differ in their information-processing strategies in social dilemma situations. In a joint project with Andreas Glöckner and Andreas Nicklisch (University of Hamburg), I explored the influence of Social Value Orientation on information search and processing in public-goods games using eye-tracking technology. We found that people with an individualistic (egoistic) value orientation do not engage in information search as much as cooperative persons do. Additionally, we demonstrated that individualists mainly look at payoffs, whereas cooperators attend information about contributions and payoffs about equally often. We could furthermore show that free-riding of others leads to increased arousal, as indicated by increased pupil dilation. Considering these findings, Andreas Glöckner, Stephan Dickert, and I further investigated if the social value orientation has also an influence on the information search in choices between outcome distributions for oneself and others. We used the Social Ring Measure to assess the attention allocated to the payoff for others and the own payoffs. As expected, individualists acquired less information than cooperators and focused mainly, but not exclusively, on their own payoffs.

In a second series of experiments, I studied decision making in risky choice situations (e.g., choices between outcomes that occur with certain probabilities) on a process level in a joint project with Andreas Glöckner. We were interested in testing predictions of a model for intuitive decision making, Decision Field Theory (DFT), and particularly its predictions for the pattern of information search. As predicted by DFT, the probabilities associated with risky outcomes correlate positively with the attention devoted to the

consequences. However, in conflict with the prediction of DFT, these correlations were only of weak magnitude and the amount of attention for an outcome also increases with its value. The probability that an alternative occurs seems to be only one of many factors influencing the attention spent on alternatives in the risky choice paradigm, rendering DFT an incomplete model of risky choices based on intuition.

One of the core methodological challenges in model comparison is the optimal selection of tasks that allow differentiating between a set of models (i.e., diagnostic tasks). Marc Jekel, Andreas Glöckner, and I developed a new method for diagnostic task selection to find a set of tasks for which predictions of the different theories sufficiently differ when considering multiple dependent measures (e.g., choices, decision time, confidence) simultaneously. In a model recovery simulation, we show that the suggested Euclidian Diagnostic Task Selection is superior to previously used approaches of representative task selection.

Besides working on topics within the framework of my PhD thesis, I work together with Frank Renkewitz and Heather Fuchs (University of Erfurt) in a joint project on the problem of publication biases in the field of Judgment and Decision making (JDM). We re-analyzed three current meta-analyses and showed that two indicated large publication biases and one remained inconclusive. A review of additional JDM meta-analyses show that most meta-analyses conduct no or insufficient analyses of publication bias. However, given our results and the rareness of non-significant effects in the literature, we suspect that biases occur quite often. Our findings suggest that conclusions based on meta-analyses without reported tests of publication bias should be interpreted with caution and publication policies and standard research practices should be revised to overcome the problem.

Another project with Andreas Glöckner investigates information distortions (coherence effects) in legal decision making. In one study, we were interested whether group deliberation of juries reduces the size of this bias. We find no overall influence of group deliberation on the coherence effect. Interestingly, however, so-called 'switchers', that is, people who change their judgment in the group deliberation, show significantly lower coherence effects than other persons. Following up on the question what influences the size of coherence effects, we showed that the bias increases with persons' preference for consistency.

## **Research Agenda**

Some of the research reported above is still work in progress. One of my main goals will be to finish these projects successfully in order to earn my PhD. Further research will extend my current work on aspects of information search in economic and social decision making. I am especially interested in working on questions of the affective and cognitive components in contribution and cooperation decisions. I aim to identify the mechanisms

by which individuals' information search patterns are shaped by differences in personality (joint project with Andreas Glöckner), on the one hand, and external influences (like the behavior of other players), on the other. Combining measures of contribution behavior as well as cognitive processes should make it possible to develop a more fine-grained process model of decision making in economic games.

Two future research projects along these lines will investigate information search and arousal in prisoner dilemma situations (joint work with Andreas Glöckner, Giuseppe Attanasi (Toulouse School of Economics), Alessandro Innocenti (University of Siena), and Piero Tedeschi (Università Cattolica Milano)).

In another project with Andreas Glöckner, we will investigate affective responses in risky choices. We are particularly interested in individuals' arousal patterns in risky choices with high and low stakes. We will thereby use skin conductance and pupil dilation as dependent measures.

Another project will aim at bridging perspectives of psychology and economics. Specifically we aim at putting economic variables in the personality space established in psychology. Benni Hilbig (University of Mannheim), Andreas Glöckner, and I will thereby investigate the potential relationships between personality traits, justice sensitivity and social value orientation.

## **Grants and Awards**

Young Scholar Award for paper presentation (200 €)  
LabSi Conference on "Neuroscience and Decision Making", Siena, Italy  
March 2011

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Jekel M., Fiedler S., Glöckner A., Diagnostic task selection for strategy classification in judgment and decision making, *Judgment and Decision Making*, In Press.

### **Manuscripts in Preparation (since 2010)**

Renkewitz, F., Fuchs, H. & Fiedler, S. (accepted). Is there evidence for publication bias in JDM research? *Judgment and Decision Making*

Fiedler, S., Glöckner, A., & Nicklisch, A. (in preparation). Information search and information integration in Public Good Games

Fiedler, S., & Glöckner, A. (in preparation). Information processing in risky decisions

Fiedler, S., & Glöckner, A. (in preparation) Coherence shifts in groups: Information distortions in legal decision making after group deliberation

## **Lectures and Seminar Presentations (since 2010)**

### **2010**

#### **Informationssuche und Integration in wiederholten Voluntary Contribution Mechanism (VCM) Games: Eine Eye-trackinganalyse**

[Information search and information integration in repeated Voluntary Contribution Mechanism (VCM) Games: An eye-tracking analysis]

(paper presentation with Andreas Glöckner & Andreas Nicklisch  
TEAP

Saarbrücken, Germany

March, 2010

#### **Information Search and Information Integration in Repeated Voluntary Contribution Mechanism (VCM) Games: An Eye-tracking Analysis**

(paper presentation with Andreas Glöckner & Andreas Nicklisch)

LabSi Conference on "Neuroscience and Decision Making"

(organized by Experimental Laboratory Siena)

September 2010

#### **Information search and information integration in repeated Voluntary Contribution Mechanism (VCM) Games: An eye-tracking analysis**

(poster presentation with Andreas Glöckner & Andreas Nicklisch)

Bonner Neuroökonomietagung

(organized by Center for Economics and Neuroscience)

Bonn, Germany

December 2010

### **2011**

#### **Blickbewegungen bei Entscheidungen unter Risiko: Eine Prozessanalyse**

[Eye movements in risky decisions: A process analysis]

(paper presentation with Andreas Glöckner)

TEAP

Halle, Germany

March, 2011

### **Attention and Arousal in Risky Choices: A Test of Decision Field Theory?**

(paper presentation with Andreas Glöckner)

Florence annual Workshop on Behavioural and Experimental Economics

(organized by Experimental Laboratory Siena & Florence)

Florence, Italy

April 2011

### **The Influence of Social Value Orientation on Information Search in Public-Goods Games**

(Paper presentation with Andreas Glöckner & Andreas Nicklisch)

International Conference on Behavioral Decision Making

(organized by Interdisciplinary Center Herzliya)

Herzliya, Israel

June 2011

### **Social Value Orientation and Individual Differences in Information Processing: An Eye-tracking Analysis**

(paper presentation with Andreas Glöckner & Andreas Nicklisch)

Economic Science Association European Conference

(organized by Economic Science Association)

Luxembourg, Luxembourg

September 2011

### **Organized workshops (since 2010)**

#### **2<sup>nd</sup> Workshop on Intuition: Methods and Recent Findings**

(together with Andreas Glöckner, Arndt Bröder (University of Mannheim), & Cilia Wittemann (University of Nijmegen))

Bonn, Germany

May 2011

#### **4<sup>th</sup> Judgment and Decision Making Workshop for Young Researchers**

(together with Berenike Waubert de Puiseau, Janina Hoffman (University of Basel), & Christine Platzer (University of Mannheim))

Bonn, Germany

August 2011



## **Sven Fischer**

### **Summary Report**

What drives individual behavior in (strategic) interactions of two or more people? What role do monetary incentives, norms, concern for others, or strategic constellation play? Are there stable biases in individual decision making? These are the central questions of my research which I try to answer using experimental methods.

In "Acceptance of Intentional Discriminatory Pay: An Experimental Result" (together with Eva-Maria Steiger – currently under review), we test whether agents in a principal-agent game reciprocate wage discrimination by withholding effort. In our experiments agents are symmetric. Still, a selfish principal has incentives to discriminate. Thus, the discrimination we are able to observe is intentional – a prerequisite for effects of reciprocity. We run a set of experiments, controlling for intentionality of offers, observability of the other agent's wage or the payoffs of the principal. Amongst others we find that at the beginning of our 15-period experiment, agents actually reciprocate negative discrimination by withholding effort. In the long run, however, they "surrender" to the incentives of the game and exert effort in order to maximize their own payoff even if discriminated against.

In another study with relevance for labor relations: "Effects of (No) Exclusion in Three-party Ultimatum Games" (together with Werner Güth, invited for resubmission at the *Journal of Economic Psychology*), we measure how subjects react to the exclusion of a third party. We control for intentionality of the decision to exclude, which turns out to have no effect. Similarly, not excluding the third party does not result in a kinder response. The lack of direct and indirect reciprocity stands in stark contrast to other experimental findings.

One robust finding from experimental research is that many people are willing to cooperate if they expect others to do just the same. However, if this is true, then there are incentives for strategic selfish agents to mimic cooperative types in early rounds of a repeated interaction. Currently, Johannes Weisser, Ro'i Zultan, and I are recasting an existing method of measuring conditional cooperation in public-goods games. With this new method, we will then later try to distinguish strategic from non-strategic cooperators.

Whereas cooperation in prisoner dilemma and public-goods games is a well-established fact, little is known about cooperation in cost-sharing games. Suppose agents are subjected to negative exogenous shocks which they can share with others. Sharing costs can either be efficient or inefficient. Then, by deciding what costs to share, agents can cooperate. Based on anecdotal evidence, I argue that many people have an aversion to burden costs on others. If this is true and under adequate assumptions on this aversion,

then imperfect information about the efficiency of sharing costs will increase inefficient cost-sharing compared to the complete information case. I analyze such effects – both theoretically as well as experimentally.

Many experimental studies find evidence for altruism. So far, however, there exists only little research on how one's own altruism is affected by group effects and the stated altruism of others. If altruism is guided by individual intrinsic preferences only, then stated altruism of others should have no effect. In a first set of experiments, however, Sebastian Goerg, Andreas Nicklisch, and I find strong group effects. Further sessions are necessary to test the stability of these.

Both theoretical and experimental research on other-regarding preferences tends to focus on bilateral or small group interactions. In everyday life, however, many economic decision problems are not merely bilateral. Often it is quite unclear who exactly will be affected, and to what extent. Furthermore, preference models like inequality aversion require agents to be aware of many aspects of income (or wealth) distribution, and here only among those who are affected by the interaction. Assuming boundedly rational agents with limited capacities, it is much more reasonable to assume that other-regarding concerns are reflected in concern for expected externalities of one's own actions. Is it possible to identify regularities in individual preferences over externalities? This is a question I am exploring in a joint project with Sebastian Goerg. First experimental results indicate that subjects care about the externalities of their decisions and are willing to sacrifice own payoff to produce better externalities. Furthermore, there appears to be an aversion towards producing negative externalities. However, further analysis of the data is required.

In a related project together with Sebastian Goerg and Hanjo Hamann, we are exploring how concern for externalities is affected if the decision is delegated to another subject. We compare different incentives and frames which mention different (legal) requirements put on the decider, and observe that they significantly affect decisions. While this indicates that concern over externalities is affected by external norms, we also find that certain patterns in behaviour are not affected.

In "Do People Fall for the Gambler's Fallacy in Markets?" (under review), I experimentally test whether market feedback, in the form of information on the median decision of other subjects in the previous round, suffices to help subjects to unlearn the Gambler's fallacy most of them fall prey to. Here, the Gambler's fallacy describes the wrong belief that a sequence of independent and identically distributed random draws is self-correcting, i.e., "mean-reversing". While feedback significantly reduces the occurrence of wrong beliefs, it does not suffice to crowd out the Gambler's fallacy completely.

## **Publications (since 2009)**

### **Book Chapters**

Fischer S., Güth W., Köhler C., Effects of Profitable Downsizing on Collective Bargaining, *Experimentelle Wirtschaftsforschung*, vol. 38, Tübingen, Mohr Siebeck, pp. 223-248, 2009.

### **Working Papers (available in several discussion paper series)**

Market feedback does not eliminate biases in the perception of independence 2009. (Under review).

Pay secrecy: avoiding negative reciprocity from discriminated workers? (with Eva Maria Steiger) 2009. (new version under review)

Effects of exclusion on social preferences, Jena, Economic Research Paper, 2011. (with Werner Güth, revise and resubmit *Journal of Economic Psychology*)

### **Work in Progress**

Effects of (no) exclusion in three-party ultimatum games (together with Werner Güth) (Invited for revise and resubmit by the *Journal of Economic Psychology*)

Acceptance of intentional discriminatory pay: an experimental result (together with Eva-Maria Steiger) (Under review).

Contribution rules in PGGs – An alternative for eliciting player types (together with Johannes Weisser and Ro'i Zultan)

Identifying strategic cooperation in repeated public good games (together with Ro'i Zultan)

Effects of imperfect information on cost sharing

Is warm glow divisible? (together with Sebastian Goerg and Andreas Nicklisch)

Preferences over externalities (together with Sebastian Goerg)

Delegation (together with Sebastian Goerg and Hanjo Hamann)

Non-compete clauses and the homo laboratoricus (together with Guido Bünstorf, Christoph Engel and Werner Güth)

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Do People Fall for the Gambler's Fallacy in Markets?**

Meeting of the Asia-Pacific Economic Science Association, Haifa, Israel  
March 2009

### **2010**

#### **Market Feedback Does not Eliminate Biases in the Perception of Independence**

Behavioral Finance Working Group Conference  
CASS Business School, London, UK  
July 2010

#### **Market Feedback Does not Eliminate Biases in the Perception of Independence**

25th Annual Congress of the EEA, Glasgow, UK  
August 2010

#### **Acceptance of Intentional Discriminatory Pay: an Experimental Result**

(together with Eva-Maria Steiger)  
25th Annual Congress of the European Economic Association  
August 2010

#### **Market Feedback Does not Eliminate Biases in the Perception of Independence**

Jahrestagung der Gesellschaft für Experimentelle Wirtschaftsforschung, Luxembourg  
September 2010

#### **Market Feedback Does not Eliminate Biases in the Perception of Independence**

5<sup>th</sup> Workshop on Monetary, Fiscal and Structural Policies with Heterogeneous Agents,  
Leuven, Belgium  
October 2010

### **2011**

#### **Acceptance of Intentional Discriminatory Pay: an Experimental Result**

(together with Eva-Maria Steiger)  
Florence Annual Workshop on Behavioral and Experimental Economics, Italy  
April 2011

**Acceptance of Intentional Discriminatory Pay: an Experimental Result**

(together with Eva-Maria Steiger)

4<sup>th</sup> Maastricht Behavioral and Experimental Economics Symposium, The Netherlands

June 2011

**Acceptance of Intentional Discriminatory Pay: an Experimental Result**

(together with Eva-Maria Steiger)

LJDM seminar at University College London, UK

July 2011



## **Alia Gizatulina**

### **Summary Report**

In the last two years, my research concentrated on two different topics:

#### **A. Implications of Agents' Private Information about their Belief Hierarchies for Mechanism Design.**

(i) In the project "Payoffs, Beliefs and Information: On Genericity of BDP Property in Models with Endogenous Beliefs",

Martin Hellwig and I show that in "most" economic environments, agents' beliefs are fully informative about their private signals, including their payoff parameters (BDP means "beliefs-determine-preferences"). As agents form their beliefs about environment by conditioning their prior beliefs on observed information, including their payoff parameters (e.g., valuation for an object in an auction or valuation for a public good), one would expect that their probabilistic assessments of residual uncertainty (e.g., valuations of an object by other agents) would depend unambiguously on information that they own themselves. Such uniqueness of an agent's interim beliefs to his payoff parameter is known from McAfee and Reny (1992) or Crémer and McLean (1988) to be a necessary condition for any social choice function to be implementable. The goal of the paper is hence to provide a sense to the notion "most of economic environment" and to show that indeed in most environments, agents' beliefs are fully informative about their payoff parameters. We do this by parameterizing environments by agents' prior beliefs. Thus, for "most" vectors of prior distributions over basic uncertainty (specifically, for a countable intersection of open and dense sets of prior probability measures), agents' interim beliefs would be injective mappings from their information to their probabilistic assessments about the remaining world.

(ii) In the project "Details Behind Belief Hierarchies Matter", Martin Hellwig and I explore to which extent the universal type space (UTS) construction of Mertens and Zamir (1985) could encompass all fine details of abstract type spaces once those are represented as belief-closed subsets of the UTS. The UTS is a space of all possible belief hierarchies that agents may have about the basic space of payoff-relevant uncertainty (e.g., cross-sectional distribution of valuations for a public good). Economists, for reasons of practicality, work with implicit abstract type spaces – in this case, they do not need to specify all orders of beliefs, as those can be derived from implicit representations (a typical example would be encoding all uncertainty into a prior over some set of payoff parameters). It turns out that a given subset of belief hierarchies in the UTS could be consistent with different implicit abstract type spaces. These abstract type spaces may differ in whether agents disagree on zero probability events or whether agents believe realization of some payoff-relevant parameters be correlated with some otherwise strategically irrelevant signals. The goal of this paper is twofold: to provide conditions under which one does not

lose details of abstract type spaces in transition to a given belief closed subset of the universal type space; and, in case such losses occur, to characterize what happens to necessary and sufficient conditions of implementability, specifically to the above-mentioned Beliefs-Determine-Preferences property (necessary) and to the Linear Independence of Beliefs property (sufficient).

## **B. Implications of Agents' Heterogeneity in Higher-order Beliefs for Functioning of Financial Markets.**

(i) In the project "Disagreement and Social Value of Public Information", I explore to which extent it is desirable for a public authority (say, a central bank) to provide a transparent account of their own information regarding economic fundamentals so that agents are better informed when taking actions matching unknown fundamentals. Morris and Shin (AER, 2004) have shown that when the central bank is unable to provide a sufficiently precise signal it is better for it not to give any information at all, as agents put inefficiently too much weight on its (too noisy) signal while disregarding their own private information. Their conclusions have been obtained under the assumption that agents agree on how they should interpret private and public signals. In my project, by contrast, I explore what the value of public information is when agents do not agree on likelihoods of signals, as there are several empirical accounts that, in reality, agents agree to disagree on how one should interpret a given public signal. The main conclusions the paper provides are in environments with common knowledge of disagreement; indeed, it may be quite valuable not to provide any public signal, even sufficiently precise, if it leads to higher disagreement. Moreover, even in environments where it leads to lower disagreement, similarly to the results of Morris and Shin, it may be valuable not to have any public signal for its detrimental impact on agents' incentives to rely on their private, informative signals about fundamentals.

(ii) In the project "Contagion Proof Market Mechanisms", I seek to characterize a market mechanism which would be prone to (inefficient) unravelling of trading due to panic sentiments. One of the reasons for a sudden halt of trading that was put forward in the existing literature is the absence of common knowledge of gains from trade among traders because of, e.g., the arrival of unexpected news (cf. Morris and Shin, 2011). In this literature, however, it is assumed that market participants decide whether or not to trade, given some pre-specified, fixed price. In other terms, the usual role of the price to aggregate dispersed information and beliefs is not present. Hence I study whether there exists a trading mechanism that would aggregate individual beliefs, induce a higher degree of common knowledge and hence efficient trade. As a preliminary result, I show that a double second price auction with provisos, as in the mechanism of Dasgupta and Maskin (QJE 2000), succeeds to ensure a sufficient degree of common knowledge that gains from trade are available whenever they are indeed available. Currently, I am exploring what happens with this mechanism when gains from trade are low and hence agents who seek to sell assets do not have incentives to reveal their private information (which is necessary to secure a sufficient degree of common knowledge), as they would like to take advantage of other traders.

## Research Agenda

In future I plan to continue to conduct research within the above two areas.

In theoretical mechanism design, I would like to explore at least two following questions.

(i) Could we say that the property of linear independence of belief types, which is sufficient to achieve full surplus extraction results in mechanism design, is “generic”, and in which sense, i.e., do we have similar results to the ones obtained for the BDP property (which is only a necessary condition for full surplus extraction)? One would suspect that it is true. As the matter of linear dependence of a continuum of functions is the matter of existence of a weighting function, one of the routes to answer this question is to rely on results from the theory of integral equations, where it is known that “most” equations do not have a solution. Translating this into our framework, it means that for most of sets of belief type, it is impossible to find a weighting function that gives a specific belief type as a linear (convex) combination of other belief types. However, so far we have not been able to pin down a formal result reflecting this intuition, and hence further research should be done.

(ii) I also plan to study to which extent the assumption of common knowledge of rationality, overwhelmingly used in the mechanism design literature, is too strong an assumption; specifically, how fast the set of implementable social-choice functions shrinks when one varies the degree of mutual knowledge of rationality (i.e., at the first level, an agent knows that he is rational, but he does not know if other agents know that he is rational; at the second level, each agent knows that everyone is rational, but they do not know if others know this fact, etc.; if we continue further and further with such affirmations, we will achieve an infinite mutual knowledge of rationality which is exactly the standard framework of common knowledge of rationality.)

For my research on financial markets, I would like to explore normative questions of prevention of systemic crises in financial system. Basically, there are two levels at which one may deal with those questions.

(i) First, one can take an “interim” perspective, i.e., assuming as given the structure of interdependencies in a financial market, and then explore the question how to prevent contagion. There are several mechanisms of contagion: one is as in the above-mentioned paper “Contagion-Proof Market Mechanisms”: the channel is agents’ pessimistic beliefs about others’ pessimism about worthiness of trading and providing liquidity on the market. Another contagion mechanism is sudden illiquidity of a bank which spreads to other banks via the assets (dampened value of a bank’s assets due to fire sales) and via the liability/leverage channel (impossibility to roll over short-term debts). One of the ways to stop further contagion is injection of liquidity; however, it is not clear per se whether a central authority should purchase troubled assets to influence the price, or whether banks should be given unconditional loans and, in this case, which banks should receive those loans – those that are illiquid or those that are connected to those

illiquid banks. To summarize, my goal in this area is to study different crisis amplification mechanisms and to search for remedies that help best to stop contagion.

(ii) Second, one can take an “ex ante” perspective – to seek to characterize optimal policies to prevent systemic crises by giving incentives for more efficient ex ante behavior. First, banks’ behavior could be inefficient vis-à-vis the real sector, e.g., as one of the goals of the financial sector is to provide funds for the real sector’s projects, banks may miscoordinate and invest in projects with highly correlated returns. Equally, they could overinvest into projects that are too risky. However, as growth in the real sector is affected by availability of funds, an optimal ex ante policy must weigh gains from hindering banks’ risk-taking against impaired real-sector investments. To answer those questions, and to study how the real sector affects the financial sector and vice versa, a macro model allowing for the financial sector is needed. A second direction of the research for the ex ante optimal regulation of the financial sector can be the design of policies inducing “efficient” interconnectedness among participants. Again, there are several ways that banks are interconnected – via mutual debt holdings or via derivative contracts. Hence it is desirable to provide a detailed analysis of the optimal regulation of leverage levels and the structure of mutual debt holdings together with the optimal regulation of financial instruments to be traded.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Gizatulina A., Hellwig M., *Informational Smallness and the Scope for Limiting Information Rents*, *Journal of Economic Theory*, vol. 145, pp. 2260-2281, 2010.

### **Preprints**

Gizatulina A., Hellwig M., *On the Robustness of the BDP Property for Families of Incomplete-Information Models*, issue 2011/29, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Gizatulina A., Hellwig M., *Beliefs, Payoffs, Information: On the Robustness of the BDP Property in Models with Endogenous Beliefs*, issue 2011/28, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Gizatulina A., Hellwig M., *Informational Smallness and the Scope for Limiting Information Rents*, issue 2009/28, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

### **Manuscripts in Preparation**

Endogenous Contract Enforcement Institutions

Beliefs, Payoffs, Information: on the Robustness of BDP Property in Models with Endogenous Beliefs

Details Behind Belief Hierarchies Matter (joint with Martin Hellwig)

On Genericity of BDP Families (joint with M. Hellwig)

Social Value of Public Information without Common Knowledge

## **Lectures and Seminar Presentations (since 2009)**

### **Details Behind Belief Hierarchies Matter**

Public Economic Theory Meeting 2009, Galway, Ireland

June 2009

### **Payoffs Can be Inferred From Beliefs, Generically, When Beliefs are Conditioned on Information**

Workshop "Information and Dynamic Mechanism Design", Bonn, Germany

June 2009

### **Payoffs Can be Inferred From Beliefs, Generically, When Beliefs are Conditioned on Information**

Econometric Society European Meeting, Barcelona, Spain

August 2009

## **2010**

### **Payoffs, Beliefs and Information: On Genericity of the BDP Property**

University of Geneva, Switzerland

March 2010

### **Payoffs, Beliefs and Information: On Genericity of the BDP Property**

ESNIE 2010 – Cargèse, France

May 2010

### **Informational Smallness and the Scope for Limiting Informational Rents**

Public Economic Theory Meeting 2010, Istanbul, Turkey

May 2010

### **Payoffs, Beliefs, and Information: On Genericity of the BDP Property**

University of Maastricht, The Netherlands

June 2010

### **Informational Smallness and the Scope for Limiting Informational Rents**

Econometric Society World Congress, Shanghai, China

August 2010

**Payoffs, Beliefs, and Information: On Genericity of the BDP Property**

Inaugural Meeting of Chinese Society of Game Theory, Beijing, China

August 2010

**2011**

**Disagreement and Social Value of Public Information**

Econometric Society Summer Meeting, Oslo, Norway

August 2011

**Details Behind Belief Hierarchies Matter**

European Economic Association Meeting, Oslo, Norway

August 2011



## **Andreas Glöckner**

### **Summary Report**

The last two years have been both very exciting and immensely productive. As head of the research group Intuitive Experts, I have been involved in many projects investigating the intuitive and deliberate processes of decision making, improving research methodology, and also in interdisciplinary projects with lawyers and economists from the institute on – from the perspective of a psychologist – more applied topics such as legal decision making, regulation, and cooperation in social dilemmas. I have become editor of several international journals and I have completed my *habilitation* (German Second Degree Dissertation). Some of the projects will be briefly described below.

### **Model Development and Testing**

As in the previous years, my research was centered on the fascinating phenomenon intuition, the feeling of knowing how to decide without knowing why. Where does intuition come from? How can we model it? In previous work, we had suggested the parallel constraint satisfaction (PCS) model for decision making to account for the complex interplay between intuition and deliberation. The PCS approach is based on the classic idea of Gestalt psychology that persons automatically aim to form coherent interpretations (mental representations) of tasks or situations they face. The underlying processes of (unconscious) structuring can be mathematically modeled using connectionist networks. After having established the basic model in 2008 for probabilistic inference tasks (e.g., which city is bigger?) in a joint publication with Tilmann Betsch, one of the core theoretical contributions of the last two years was to put the model in the larger framework of dual-process intuition-models.

### **Beyond Dual-process Models**

In a theoretical paper with Cilia Witteman (Glöckner & Witteman, 2010), we argue that psychological research has to go beyond the classic idea of dual-process models (assuming distinct intuitive vs. deliberate processes) by particularly specifying the processes underlying intuition. A review of the literature revealed four general kinds of processes that have been suggested to explain intuition: associative intuition which is based on learned affective responses of liking or not liking for an object; matching intuition-based on the similarity between current options and options we have had experiences with; accumulative intuition following the idea that feelings emerge from a quick process of accumulating evidence until a certain threshold is reached; and constructive intuition relying on the idea that feelings emerge from the construction of coherent interpretations as assumed in PCS. We also point out possibilities to test these kinds of models against

each other and discuss under which circumstances intuition leads to good or bad decisions.

In further papers concerned with theoretical issues, we elaborated on the general point of extensive thinking without effort as modeled in PCS (Betsch & Glöckner, 2010), closed gaps in PCS model formalization (Glöckner & Betsch, 2010; Glöckner, Betsch, & Schindler, 2010), and extended the model to new kinds of decision problems, particularly to risky choices (Glöckner & Herbold, 2011) and decisions made by experts in sports (Glöckner, Heinen, Johnson, & Raab, *in press*).

## **Empirical Tests**

Large parts of my work went into testing PCS empirically in many different kinds of tasks. One of the core contributions was a study using eye-tracking technology in risky choices (e.g., which of two gambles do you prefer?), in which we show that PCS can account better for multiple measures of information search and integration in risky choices than both classic compensatory models (e.g., expected utility models; cumulative prospect theory) and simple heuristics (e.g., priority heuristic) (Glöckner & Herbold, 2011). We conclude that risky choices are in some situations based on intuitive processes as well. Another contribution was to show that PCS can predict coherence effects, that is, systematic distortions of information in the decision process, not only concerning direction, but also concerning relative size (Glöckner, et al., 2010). Furthermore, we were able to show that passing decisions of expert handball playmakers can be very well predicted by the model (Glöckner, et al., *in press*). PCS also accounted best for the behavior of persons making recognition-based decisions in a formal model comparison with simple heuristics (Glöckner & Bröder, 2011). However, we also identified limiting conditions for PCS. PCS's ability to predict memory-based decisions was considerably lower than observed in decisions from given information (Glöckner & Hodges, 2011). We also started empirically testing the four different classes of intuition models mentioned above against each other. In two papers, we were able to show that arousal depends on the coherence between experience (or recognition) and additionally provided information which speaks against the usage of associative intuition and in favor of constructive intuition (i.e., PCS) in the respective tasks (Glöckner & Hochman, 2011; Hochman, Ayal, & Glöckner, 2010).

## **Method Developments**

One of the important projects for me in 2011 was to edit a special issue on Methodology in Judgment and Decision Making research together with Benjamin Hilbig. The main motivation was to provide a forum to discuss critically the weaknesses and potentials of methodological approaches that have become standard in the field, and to develop alternatives if necessary. Many important topics could be addressed that I strongly believe will help to move the field forward. Elaborating on classic ideas of Popper, we (Glöckner & Betsch, *under review*) contributed a paper on theory formulation. Specifically, we conducted an analysis of the empirical content of theories in Judgment and Decision Making (JDM) and identified the challenges in theory formulation for different classes of models. Furthermore, in projects with Marc Jekel and others we extended previous work

on multiple measure strategy classification (Jekel, Fiedler, & Glöckner, under review; Jekel, Nicklisch, & Glöckner, 2010).

### **Interdisciplinary / Applied Projects**

A large part of my time was also dedicated to applied interdisciplinary work. In a project with Emanuel Towfigh, we show that soccer bets should be considered games of chance and that a strict regulation would be in place because the assumed skill influence leads to overconfidence and illusion of control which both are known for contributing to problematic gambling. We were successful in publishing findings both in prestigious psychological (Towfigh & Glöckner, 2011) and legal (Glöckner & Towfigh, 2010) journals. Some of my work was also dedicated to legal judgments and legal intuition. In a handbook chapter, we provide an overview over recent theoretical and empirical work on Legal Intuition (Glöckner & Ebert, 2011). Supported by the Bavarian Ministry of Justice, we conducted the first experimental study that systematically investigated the decision behavior of official German Lay Judges. We thereby demonstrated the existence of several classic judgmental biases such as overconfidence, base-rate neglect, and coherence effects for lay judges (Glöckner & Landsberg, 2011). In an extension of this study, we also showed differences in reaction to complexity and arousal between lay judges, advanced law students, and student controls (Dickert, Herbig, Glöckner, Gansen, & Portack, in press). Finally, in joint projects with economists and psychologists, I investigated factors influencing the degree of cooperation in public goods (Glöckner, Irlenbusch, Kube, Nicklisch, & Norman, 2011) and prisoner's dilemma situations (Glöckner & Hilbig, under review).

### **Research Agenda**

My research in the last year of the group and beyond will focus on three crucial projects.

In a first project, which is jointly conducted with Marc Jekel and Arndt Bröder, we aim to implement and investigate long-term learning mechanisms in PCS. We want to capture mathematically the mechanisms of learning by using modified delta-rules to improve our understanding of the situational factors under which intuition leads to correct or wrong decisions. We have received a research grant of the German Science Foundation (DFG) to fund this project.

The second line of future research is a comprehensive interdisciplinary project on "why people obey the law", led by Berenike Waubert de Puiseau, Emanuel Towfigh, and me. In the project, a group of researchers from the institute aims to bring together perspectives of psychology (e.g., legitimacy approach by Tyler), economics (i.e., the economic approach by Becker), and law to improve our understanding of the relative importance of factors previously identified. The general aim is to develop a comprehensive model and to test variations across cultures using representative online-surveys in multiple countries.

The third project will be conducted together with Susann Fiedler. We aim to use eye-tracking technology and measurements of physiological arousal to elaborate and extend our previous research on tests of models for intuitive decision making and decision strategies and processes in strategic interactions in dilemma games.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

(IF = ISI Impact Factors 2010)

Glöckner A., Engel C., Can We Trust Intuitive Jurors? Standards of Proof and the Probative Value of Evidence in Coherence Based Reasoning, *Journal of Empirical Legal Studies*, Under Review. (IF:1.3 [Westlaw])

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Glöckner A., Betsch T., Accounting for critical evidence while being precise and avoiding the strategy selection problem in a parallel constraint satisfaction approach – A reply to Marewski, *Journal of Behavioral Decision Making*, vol. 23, pp. 468-472, 2010. (IF:1.672)

Betsch T., Glöckner A., Intuition in judgment and decision making: Extensive thinking without effort, *Psychological Inquiry*, vol. 21, pp. 279-294, 2010. (IF:1.40)

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## **Books**

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Glöckner A., Schönfeldt K., Ich überlege. Mein Bauch entscheidet? – Intuition und Entscheidung, *Richter ohne Robe*, vol. 21, pp. 60-61, 2009.

## Preprints

Glöckner A., Kube S., Nicklisch A., *The Joint Benefits of Observed and Unobserved Punishment: Comment to Unobserved Punishment Supports Cooperation*, issue 2011/30, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

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Dickert S., Herbig B., Glöckner A., Gansen C., Portack R., *The More the Better? Effects of Training and Information Amount in Legal Judgments*, issue 2010/34, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

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Horstmann N., Ahlgrimm A., Glöckner A., *How Distinct are Intuition and Deliberation? An Eye-Tracking Analysis of Instruction-Induced Decision Modes*, issue 2009/10, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Glöckner A., Irlenbusch B., Kube S., Nicklisch A., Normann H.-T., *Leading with(out) Sacrifice? A Public-Goods Experiment with a Super-Additive Player*, issue 2009/08, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Herbig B., Glöckner A., *Experts and Decision Making: First Steps Towards a Unifying Theory of Decision Making in Novices, Intermediates and Experts*, issue 2009/02, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## **Web Article**

Ashby N. J. S., Glöckner A., Dickert S., *Conscious and unconscious thought in risky choice: Testing the capacity principle and the appropriate weighting principle of Unconscious Thought Theory* : Frontiers in Psychology, 2011

## **Submitted Articles**

Glöckner, A., & Pachur, T. (under review). Parameter stability in cognitive models of risky choice: An analysis of Prospect Theory.

Glöckner, A., Towfigh, E., & Traxler, C. (under review). The development of legal expertise.

Glöckner, A., Nicklisch, A., & Kube, S. (under review). The benefits of latent sanctions in social dilemmas.

Glöckner, A., & Hilbig, B. E. (under review). What is adaptive about adaptive decision making? Testing single- versus multiple-strategy models in probabilistic inference tasks.

Glöckner, A., Tontrup, S., & Kleber, J. (under review). Investigating the query theory for value construction: Endowment effects are caused by bidirectional activation instead of query order.

Glöckner, A., & Betsch, T. (under review). Decisions beyond boundaries: When more information is processed faster than less.

Fiedler, S., & Glöckner, A. (under review). Coherence shifts in groups.

Glöckner, A., & Hilbig, B. E. (under review). Risk is relative: In certain environments, risk-aversion yields cooperation rather than defection.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Investigating Decision Making in Risky Choices Using Eye-tracking**

47<sup>th</sup> Annual Edwards' Bayesian Conference, Fullerton, U.S.A.

7 January 2009

#### **Intuition, Deliberation, Entscheiden: Parallel Constraint Satisfaction Modell und Evidenz**

[Intuition, Deliberation, Decision: Parallel Constraint Satisfaction Model and Evidence]  
University of Bonn, Germany

27 January 2009

## **Entscheidungen, Intuition und Expertise**

[Decision making, intuition, and expertise]

(Workshop with M. Raab) MPI for Collective Goods, Bonn, Germany

5 March 2009

## **Base-rate Respect by Intuition**

Workshop Decision making, intuition, and expertise

MPI for Collective Goods, Bonn, Germany

5 March 2009

## **Wie Intuition rationale Normen approximiert**

[How intuition approximates rational norms]

51. Tagung experimentell arbeitender Psychologen (TeaP), Jena

29 March 2009

## **Komplexe Modelle des Entscheidens: Eine konstruktive Erweiterung der Bounded Rationality-Perspektive**

[Complex models of decision making: A constructive extension of the bounded rationality approach]

51. Tagung experimentell arbeitender Psychologen (TeaP), Jena, Germany

29 March 2009

## **The Parallel Constraint Satisfaction Approach to Judgment and Decision Making**

Gerd Gigerenzer-MPI Colloquium, Berlin, Germany

6 May 2009

## **Sticky Rebates: Rollback Rebates Induce Non-Rational Loyalty in Consumers**

Competition Law and Economics European Network (CLEEN) Conference

Tilburg, Netherlands

13 May 2009

## **Discussion of: Naked Exclusion – Towards a Behavioral Approach to Exclusive Dealing by Boone, Müller & Suetens**

Competition Law and Economics European Network (CLEEN) Conference

Tilburg, Netherlands

14 May 2009

## **The Parallel Constraint Satisfaction Approach to Judgment and Decision Making**

Ralf Hertwig-Colloquium, University of Basel, Switzerland

26 May 2009

## **Intuition und Rationales Entscheiden: Theorie und Befunde zur Auflösung eines Widerspruchs**

[Intuition and rational decision making: Theory and findings to resolve a contradiction]  
Psychology Colloquium, University of Greifswald, Germany  
6 June 2009

## **2010**

### **Der Einfluss von Fokus auf Endowment Effekt**

[The influence of focus on the endowment effect]  
(paper presentation with Janet Kleber, Stephan Dickert, & Tilmann Betsch)  
TEAP, Saarbrücken, Germany  
March 2010

### **Informationssuche und Integration in wiederholten Voluntary Contribution Mechanism (VCM) Games: Eine Eye-tracking-Analyse**

[Information search and information integration in repeated Voluntary Contribution Mechanism (VCM) Games: An Eye-tracking analysis]  
(paper presentation with Susann Fiedler & Andreas Nicklisch)  
TEAP, Saarbrücken, Germany  
March 2010

### **Towards an Integrative Perspective on Intuition: The Complex Interplay Between 'Feelings' and Probabilistic Cues**

(paper presentation) TEAP, Saarbrücken, Germany  
March 2010

### **(Re)introducing Cognitive Dynamics to Judgment and Decision Making: The Parallel Constraint Satisfaction Approach**

(invited talk) Colloquium in the Department of General Psychology  
University of Mannheim, Germany  
May 2010

### **Information Search and Information Integration in Repeated Voluntary Contribution Mechanism (VCM) Games: An Eye-tracking Analysis**

(paper presentation with Susann Fiedler & Andreas Nicklisch)  
LabSi Conference on "Neuroscience and Decision Making"  
(organized by Experimental Laboratory Siena)  
September 2010

**What Causes Endowment Effects? A Connectionist Perspective.**

(paper presentation with Janet Kleber & Stephan Tontrup)

IAREP (International Association for Research in Economic Psychology)

Cologne, Germany

September 2010

**Decision Makers will Appropriately Weight Small Probabilities – If We Let Them**

(paper presentation with Benjamin Hilbig)

31st Annual Conference of the Society for Judgment and Decision Making (SJDM),

St. Louis, U.S.A.

November 2010

**Information search and information integration in repeated Voluntary Contribution Mechanism (VCM) Games: An Eye-tracking analysis**

(poster presentation with Susann Fiedler & Andreas Nicklisch)

Bonner Neuroökonomietagung (organized by Center for Economics and Neuroscience)

Bonn, Germany

Dezember 2010

**2011**

**Modellierung von komplexen Entscheidungen im Sport**

[Modeling of complex decisions in sports]

(paper presentation with Thomas Heinen, Joe Johnson & Markus Raab)

Tagung der Deutschen Vereinigung der Sportwissenschaften (dvs) – Sektion Sportmotorik

Köln, Germany

January 2011

**One or many? Testing Single- vs. Multiple Strategy Models in Probabilistic Inference Tasks**

(paper presentation with Benjamin Hilbig)

TEAP, Halle, Germany

March 2011

**Rationalität des Parallel Constraint Satisfaction Netzwerkmodells in feedbackarmen Umwelten**

[Rationality of Parallel Constraint Satisfaction network models in feedback poor environments] (paper presentation with Marc Jekel)

TEAP, Halle, Germany

March 2011

**Blickbewegungen bei Entscheidungen unter Risiko: Eine Prozessanalyse**

[Eye movements in risky decisions: A process analysis]

(paper presentation with Susann Fiedler)

TEAP, Halle, Germany

March 2011

**Attention and Arousal in Risky Choices: A Test of Decision Field Theory?**

(paper presentation with Andreas Glöckner)

Florence annual Workshop on Behavioral and Experimental Economics

(organized by Experimental Laboratory Siena & Florence)

Florence, Italy

April 2011

**The Parallel Constraint Satisfaction Model: A Connectionist Network Approach to Judgment and Decision Making**

(invited talk) Colloquium of the Institute of Cognitive Science (University of Osnabrück)

Osnabrück, Germany

May 2011

**An Eye-tracking Study on Information Processing in Risky Decisions**

(invited talk) University of Kiel

Kiel, Germany

June 2011

**Wetten, dass der HSV 2012 Meister wird? Intuitives Entscheiden – Theorie, Empirie und Implikationen**

[I'll bet you anything that the Hamburg football club HSV will be champion in 2012!]

Intuitive decision making – Theory, empirical evidence and implications] (invited talk)

University of Hamburg

Hamburg, Germany

June 2011

**Modeling the Cognitive Processes Underlying Intuition: A Parallel Constraint Satisfaction Approach to Decision Making**

(paper presentation) International Conference on Behavioral Decision Making

(organized by Interdisciplinary Center Herzliya)

Herzliya, Israel

June 2011

## **The Influence of Social Value Orientation on Information Search in Public Goods Games**

(paper presentation with Susann Fiedler & Andreas Nicklisch)

International Conference on Behavioral Decision Making

(organized by Interdisciplinary Center Herzliya)

Herzliya, Israel

June 2011

## **Unraveling the Endowment Effect: The effect of Attention and Deliberation Time**

(paper presentation with Stephan Dickert & Nathaniel Ashby)

International Conference on Behavioral Decision Making

(organized by Interdisciplinary Center Herzliya)

Herzliya, Israel

June 2011

## **Die effiziente Bereitstellung von Gemeinschaftsgütern**

[The efficient provision of public goods] (public habilitation talk)

University of Erfurt, Germany

July 2011

## **How to Compare Process Models for Decision Making: A Multiple Measure Maximum Likelihood Approach to Model Evaluation**

(paper presentation with Marc Jekel & Susann Fiedler)

SPUDM, Kingston, Great Britain

August 2011

## **Social Value Orientation and Individual Differences in Information Processing: An Eye-tracking Analysis**

(paper presentation with Susann Fiedler & Andreas Nicklisch)

Economic Science Association European Conference

(organized by Economic Science Association)

Luxembourg, Luxembourg

September 2011

## **Organized workshops (since 2010)**

2<sup>nd</sup> Workshop on Intuition: Methods and Recent Findings

Bonn, Germany

May 2010



## **Sebastian Goerg**

### **Summary Report**

I consider myself as an economist who works empirically and has wide interests in different topics. I enjoy working on the frontier of economics, psychology, and law. My main work-horse is experimental economics, be it lab or field experiments. During the last two years, I mainly focused on publishing the remaining chapters of my dissertation thesis in international journals. In addition, I collaborated on some shorter papers, closely related to the papers from my dissertation and published two book chapters. In the following I, shall briefly summarize these finished articles.

1. The first paper, joint with Gari Walkowitz (University of Cologne), is entitled "*On the Prevalence of Framing Effects Across Subject Pools in a Two-Person Cooperation Game*" and was published in the *Journal of Economic Psychology*. In this paper, we investigate the impact of game presentations on cooperation dependent on subject pool affiliation. In two continuous prisoner's dilemma games, decision makers can choose an individual level of cooperation. In the first game, a transfer creates a positive externality for the opposite player. In the second game, this externality is negative. In an international experimental study involving subjects from Abu-Dis (West Bank), Chengdu (China), Helsinki (Finland), and Jerusalem (Israel), we test for a strategic presentation bias applying these two games. Subjects in Abu-Dis and Chengdu show a substantially higher cooperation level in the game with a positive externality. In Helsinki and Jerusalem, no presentation effect is observed. Thus, cooperation levels are higher in Abu-Dis and Chengdu than in Helsinki and Jerusalem if the game with the positive externality is played, while results are vice versa in the game with the negative externality. We conclude that recognizing the impact of the chosen presentation might be essential for the design of culture-sensitive institutions or the conduct of international negotiations in which foreign agents interact for the first time. Depending on their ethnic background, decision makers might perceive bargaining and cooperation setups differently and therefore some institutions may generate higher levels of cooperation and agreements than others.

2. Together with Sebastian Kube (MPI Bonn and University of Bonn) and Ro'i Zultan (Ben Gurion University), I published a paper entitled "*Treating Equals Unequally – Incentives in Teams, Workers' Motivation and Production Technology*" in the *Journal of Labor Economics*. In this paper, we study how reward mechanisms and production technologies affect effort provision in teams. Our experimental results demonstrate that unequal rewards can potentially increase productivity by facilitating coordination, and that the effect strongly interacts with the exact shape of the production function. We show that in the case of a production function of complementarity, i.e., increasing returns to scale, highest efficiency is obtained if workers do not receive equal wages for equal effort. Taken together, our

data highlight the relevance of the production function for the construction of organizations and suggest that equal treatment of equals is neither a necessary nor a sufficient prerequisite for eliciting high performance in teams.

3. Together with Reinhard Selten (University of Bonn) and Thorsten Chmura (University of Munich), I developed and experimentally tested learning models based on the behavioral stationary concepts, which I already investigated in my dissertation. While it is known that learning dynamics based on Bayesian updating might lead to a Nash equilibrium (e.g., Kalai & Lehrer, 1993) it is by no means clear that actual human learning mechanisms must converge to Nash equilibrium. Broad experimental evidence suggests that, at least for the short run, human learning processes approach different points than Nash equilibrium. Therefore, it is very promising to investigate learning models that are based on (and in the optimal case even lead to) behavioral stationary concepts that are closer to the aggregate human behavior than Nash equilibrium. The investigated learning models include impulse balance learning, payoff-sampling learning (actions are done according to randomly sampled payoffs) and action-sampling learning (actions are done according to optimization against randomly sampled actions of the opponent). For control, we include the models of Reinforcement learning (e.g., Roth & Erev, 1995) and sophisticated EWA (Ho, Camerer, & Chong, 2007). *Games and Economic Behavior* asked for a re-submission of a revised version.

4. In addition, I published the following shorter papers and book chapters:

4.1. Together with Reinhard Selten (University of Bonn) and Thorsten Chmura (University of Munich), I was engaged in a discussion about behavioral stationary concepts (published in the *American Economic Review*).

4.2. Together with Johannes Abeler (University of Oxford), Steffen Altmann (IZA), Sebastian Kube (MPI Bonn and University of Bonn), and Matthias Wibral (University of Bonn), I wrote an review article about lab experiments in the field of labor economics. (accepted, *Analyse & Kritik*).

4.3. Together with other researchers from the Max-Planck-Institute, I contributed to a textbook about law and economics for law students. My contribution was the chapter about empirical methods.

4.4. Together with Sebastian Kube (University of Bonn), I contributed a chapter to the *Festschrift in Honor of Reinhard Selten*. In our contribution, we investigate the equity principle in simple gift-exchange relationships.

## **Research Agenda**

Besides finishing the above projects, I started a couple of new projects. In the following, I present three of them. I have selected them because they are in more advanced stages than the other new projects.

1. The influence of intensive probation on young criminals' recidivism rate  
(joint work with Christoph Engel and Christian Traxler).

We investigate the effect of intensive mentoring on short-term, mid-term, and long-term recidivism rates of young criminals. In our field experiment, all young offenders are convicted to a juvenile sentence on probation in Cologne (Germany's 4th largest city). For most of the convicted juveniles in the sample, this probation sentence is the last suspension of sentence before jail. We randomize the convicted offenders into an intensive probation program, lasting six months, and into a control group. Juveniles in the intensive probation program receive very extensive coaching, focusing on reintegration into education, housing, and the labor market.

Besides offenders' background characteristics (demographics, type of crime, number of convictions, school performance, housing and labor market situation) we observe the frequency of contacts with probation officers. In addition, the whole sample participates in controlled lab experiments at the beginning of the probation phase and after six months. In these experiments, trusting behavior and risk and time preferences are elicited and used 1.) to measure behavioral differences as a result of the treatment and 2.) to predict future recidivism rates.

2. Gift exchange with migrant workers and students in China  
(joint with Thorsten Chmura)

In this study we investigate the determinants of wage discrimination combining lab and real world data. Therefore, we conducted two gift-exchange experiments in Shanghai and Ningbo (both China) involving students and migrant workers. Students act in the role of employers and decide about the wage of the migrant workers, while the migrant workers choose their effort level given the actual wage. The employers have the possibility to condition the wage on the workers' origin. The workers' home province is the only criterion to differentiate between the migrant workers.

We observe a high variance in wages across provinces. Combining our lab results with real-world data, we can investigate the determinants of wage discrimination. In our setting, wages are positively influenced by the economic power of the workers' home province, and negatively influenced by the geographical distance between the employers' and workers' home provinces and the ethnical heterogeneity in workers' provinces. The same pattern is observed within a sample consisting exclusively of students.

3. Goals (th)at work – goals, incentives and workers' performance  
(joint with Sebastian Kube)

A randomized field experiment is used to investigate the connection between work goals, monetary incentives and work performance. Workers are observed in a natural work environment where they have to do a simple, but effort-intense task. Output is perfectly observable and workers are paid according to a piece-rate contract. While a regular piece rate serves as a benchmark, in some treatments the piece rate is paid conditional on reaching a pre-specified goal. We observe that the additional introduction of personal

work goals leads to a significant output increase. Interestingly, the effect persists even if meeting the output goal is not connected with monetary consequences. The positive effect of goals not only prevails if they are endogenously chosen by the workers, but also if goals are set exogenously by the principal – although in the latter case, the exact size of the goal plays a crucial role.

## **Awards and Grants**

### **2011**

German-Israeli Foundation for Scientific Research and Development (GIF)  
The impact of subjective expected relative similarity  
PIs: Ilan Fischer, Sebastian J. Goerg, and Reinhard Selten  
Duration: 01.01.2012 – 31.12.2014, Budget: 199 900 Euro

### **2010**

Heinz Sauermann Award of the Gesellschaft für Experimentelle Wirtschaftsforschung  
October 2010

## **Miscellaneous**

### **2011**

Visiting Research Scholar  
University of Michigan  
July, 2011 – January 2012

Research visit to the Center for the Study of Rationality,  
Hebrew University, Jerusalem, Israel  
May 2011

### **2010**

Research visit to the Center for the Study of Rationality,  
Hebrew University, Jerusalem, Israel  
May 2010

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Goerg S. J., Abeler J., Altmann S., Kube S., Wirbel M., Equity and Efficiency in Multi-Worker Firms: Insights from Experimental Economics, *Analyse & Kritik*, vol. 33, no. 1, pp. 325-347, 2011.

Selten R., Chmura T., Goerg S. J., Stationary Concepts for Experimental 2x2 Games: A Reply, *The American Economic Review*, vol. 101, no. 2, pp. 1041-1044, 2011.

Goerg S. J., Kube S., Zultan R., Treating Equals Unequally – Incentives in Teams, Workers' Motivation and Production Technology, *Journal of Labor Economics*, vol. 28, pp. 747-772, 2010.

Goerg S. J., Walkowitz G., On the Prevalence of Framing Effects Across Subject-Pools in a Two- Person Cooperation Game, *Journal of Economic Psychology*, vol. 31, pp. 849-859, 2010.

Goerg S. J., Selten R., Experimental Investigation of Stationary Concepts in Cyclic Duopoly Games, *Experimental Economics*, vol. 12, no. 3, pp. 253-271, 2009.

Goerg S. J., Kaiser J., Non-Parametric Testing of Distributions – the Epps-Singleton two-sample test using the Empirical Characteristic Function, *The Stata Journal*, vol. 9, no. 3, pp. 454-465, 2009.

### **Book Chapters**

Goerg S. J., Kube S., The equity principle in employment relationships, *The Selten School of Behavioral Economics – A Collection of Essays in Honor of Reinhard Selten*, Ockenfels A., Sadrieh A., (Eds.), Berlin, Heidelberg, New York, Springer, pp. 205-219, 2010.

Goerg S. J., Deskriptive Statistik und Statistische Testverfahren, *Ökonomische Methoden im Recht – Eine Einführung für Juristen*, Towfigh E. V., Petersen N., (Eds.), Tübingen, Mohr Siebeck, pp. 212-241, 2010.

### **Preprint**

Goerg S. J., Walkowitz G., *On the Prevalence of Framing Effects Across Subject-Pools in a Two- Person Cooperation Game*, issue 2010/28, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Treating Equals Unequally – Incentives in Teams, Workers' Motivation and Production Technology**

Research Seminar in Applied Microeconomics, University of Cologne, Germany  
20 July 2009

### **2010**

#### **Gift Exchange with Students and Migrant Workers in China**

Workshop on Economics, Law and Psychology, University of Zürich, Switzerland  
October 2010

#### **Gift Exchange with Students and Migrant Workers in China**

Annual conference of the Gesellschaft für experimentelle Wirtschaftsforschung,  
Luxembourg School of Finance, Université du Luxembourg, Luxembourg  
October 2010

#### **Bilateral Cooperation in Continuous Prisoner's Dilemma**

Workshop on Cognition and Cooperation,  
University of Bonn, Germany  
August 2010

#### **Gift Exchange with Students and Migrant Workers in China**

Workshop on Advanced Topics in Experimental and Behavioral Economics,  
Sichuan University, Chengdu, PR China  
March 2010

### **2011**

#### **Gift Exchange with Students and Migrant Workers in China**

International ESA Conference,  
University of Chicago and Purdue University, Chicago, U.S.A.  
July 2011

#### **Goals (th)at Work**

International ESA Conference,  
University of Chicago and Purdue University, U.S.A.  
July 2011

**Gift Exchange with Students and Migrant Workers in China**

Institutionen in der Entwicklung Ostasiens

Evangelische Akademie, Tutzing am Starnberger See, Germany

March 2011

**Bilateral Cooperation in Continuous Prisoner's Dilemma**

Experimental Perspectives on Behavioral Economics and Culture in East Asia

University Duisburg Essen, Germany

March 2011

**Bilateral Cooperation in Continuous Prisoner's Dilemma**

Workshop on Cognitive and Non-Cognitive Skills

IZA, Forschungsinstitut zur Zukunft der Arbeit, Bonn, Germany

January 2011



## **Olga Gorelkina**

### **Summary Report**

My research at the Max Planck Institute contributes to mechanism design. I have three ongoing projects in the field that follow up on my dissertation, which I completed in 2010. This report provides a summary of these projects and presents the motivation for my future research.

The joint theme of the three projects is the robustness of standard mechanisms to the changes in the common basic assumptions, respectively: infinite rationality, absence of collusion, and the planner's knowledge of the model. The first paper, "Implementation in K-Level Thinking Environment", studies the performance of two distinct mechanisms 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. The second paper, "A Collusion-robust Second-Price Auction", suggests a modification to the standard Vickrey auction that makes it robust to bidder collusion on participation. The third paper, "Estimation-Based Dynamic Implementation", shows how a betting scheme can be used in a dynamic context to achieve virtual implementation in an uncertain environment.

"Implementation in K-Level Thinking 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 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 the next paper, I design a 2-stage auction based on the second-price auction, which is, unlike the latter, robust to collusion on participation between bidders. Robustness is demonstrated in a non-repeated private value setting, when the cartel members can credibly commit to transfers. The 2-stage auction is designed in such a way that a non-winning member of a cartel can construct a bidding strategy to seize the whole cartel surplus. By backward induction, a contemplating winner will not initiate collusion, avoiding the revelation of information that peers could use against him.

In "Estimation-Based Dynamic Implementation", I study dynamic implementation with overlapping cohorts of participants. First, I define information-constrained dynamic efficiency as the total welfare maximization, conditional on information available to the current cohort. Second, I show that the efficiency can be achieved with arbitrary high

precision using a mechanism that involves betting on the future information and rewards according to the scoring rule (Good, 1952). Unlike the earlier scoring literature, the bets are made on the estimates of model parameters, such as the mean and covariance, and not other players' preference reports. The new arriving information is used to verify the parameter reports by constructing log-rewards, so virtually truthful revelation is induced.

## **Research Agenda**

My future research would be concerned with the universal type space formalization of the Bayesian theory, as in, e.g., Mertens, Zamir (1985). I make two following observations. First, the assumption of the knowledge of the model rules out the existence of types distinct in beliefs only. In other words, the observed information should uniquely determine beliefs, as long as we maintain that the agent knows the model. Second, the idea that the awareness of own knowledge or ignorance generally changes the state of knowledge or ignorance seems to be at odds with the current paradigm, where the infinite hierarchies over own beliefs feature static certainty in all own beliefs of lower order. The first point suggests that the universal type space can be restricted without loss of generality; the second, more important point suggests that it should also be reformulated so as to square with the observer effect on knowledge. The next step would be to see how these modifications change the results on robust implementation.



## **Kristoffel Grechenig**

### **Summary Report**

#### **Overview**

My research focuses on the economic analysis of law, particularly on private and corporate law & economics with further applications to other fields of law. I work theoretically, by applying simple game theory to legal questions; empirically, by conducting experiments to study legal issues; and

verbally, by making use of (behavioral) economic insights for the interpretation of the law. My papers have been published in law & economics journals as well as in law reviews.

#### **Specific Projects**

Part of my research focuses on sanctions for unobservable actions. In a public-goods experiment, we studied decentralized punishment behavior and reactions to punishment, where the contributions of the subjects to the public good were not observable. Instead, the subjects received signals with a certain noise level in each treatment. According to the experimental literature, the finding that punishment stabilized contributions at a fairly high level and that punishment increased welfare in the long run should be fairly robust. However, with some non-trivial degree of noise, cooperation was not significantly higher under a regime that allowed for decentralized punishment. Moreover, welfare was significantly lower compared to a regime without any punishment. This was surprising, since subjects could have simply not used the punishment option. The devastating effects of punishment were due to wrongful sanctions directed at cooperative subjects which were (partly) due to wrong signals. As a consequence of punishment, cooperative subjects decreased their contributions in the subsequent period, as simple regression analysis shows. The law accounts for these negative effects of sanctions by establishing standards of proof that preclude sanctions if there is too much noise. Our research gives a behavioral explanation of the widespread belief that the error of the type "convicting an innocent" is much more harmful to society than the error of the type "acquitting a guilty person". The paper was published in the *Journal of Empirical Legal Studies*. Our results give rise to further investigations into rewards, third-party punishment, endogenous allocation of subjects – all in a noisy environment. We are currently designing and running follow-up experiments along these lines.

My research with regard to modelling legal norms includes two papers published in the *International Review of Law and Economics*. In the more recent one, we show how liability for damages should be designed in a market environment with competition among firms, where firms compete via prices and precaution. We start from the premise that liability is incomplete, and we model reputation, using insights from behavioral economics. In this setup, firms have incentives to overinvest in precaution from a social standpoint in order

to attract consumers. As a consequence, lowering the level of liability is welfare-maximizing.

In another project, we model private and public protection of property (rights), using contest theory to capture the interaction between a thief and a property owner. We think of the state as a commitment device for a certain level of property defence (which moves before the simultaneous contest takes place). In addition, the state can put a cap on private defence, effectively shifting the entire investments to the state. We abstract from economies of scale and externalities and show that it is optimal for the property owners if they are restricted from protecting their property themselves. Consistent with empirical observations, mercenaries, the use of firearms, etc. are restricted. In a modern Western society, private protection of property is typically justified by a heterogeneity in defence technologies, where an individual has a better defence technologies, e.g., in cases of self-defence.

I am pleased to report that our paper on the divergence of legal thought that was published in German and in English in 2008 has been translated into several languages, including Spanish, Chinese, Portuguese, and Russian.

## **Presentations**

I have presented my projects at national and international conferences, including at the annual conference of the American Law and Economics Association at Princeton and the annual conference of the European Law and Economics Association in Paris. In addition, I was invited to present at the Conference of the Austrian Parliament commemorating the 90th anniversary of the Austrian Constitution, which included speakers such as the Austrian President and the President of the Austrian National Assembly.

## **Bonn LawEcon Workshop**

I co-organize the semi-monthly Bonn "LawEcon Workshop" (<http://www.wipol.uni-bonn.de/lehrveranstaltungen-1/lawecon-workshop>), where we invite both young and experienced Law & Economics scholars from European and U.S. law schools and economics departments. Past speakers include Jennifer Reinganum (Vanderbilt), Roberto Galbiati (Paris), Scott Hemphill (Columbia), Richard Brooks (Yale), Geoffrey Miller (NYU), Nicola Gennaioli (Pompeu Fabra), Lewis Kornhauser (NYU), Tom Ulen (Illinois), John Armour (Oxford), and many more.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Grechenig K., Baumann F., Friehe T., A note on the optimality of (even more) incomplete strict liability, *International Review of Law and Economics (IRLE)*, pp. 77-82, 2011.

Grechenig K., Sekyra M., No derivative shareholder suits in Europe: A model of percentage limits and collusion, *International Review of Law and Economics (IRLE)*, pp. 16-20, 2011.

Grechenig K., Roberto V., Rückschaufehler ("Hindsight Bias") bei Sorgfaltspflichtverletzungen, *Zeitschrift für Schweizerisches Recht (ZSR)*, pp. 5-26, 2011.

Grechenig K., Lachmayer K., Zur Abwägung von Menschenleben – Gedanken zur Leistungsfähigkeit der Verfassung, *Journal für Rechtspolitik (JRP)*, special issue: 90 years Austrian Constitution, Conference at the Austrian Parliament, pp. 35-45, 2011.

Litschka M., Grechenig K., Law by Human Intent or Evolution? Some Remarks on the Austrian School of Economics' Role in the Development of Law and Economics, *European Journal of Law and Economics (EJLE)*, pp. 57-79, 2010.

Grechenig K., Gelter M., Nützliche Gesetzesverletzungen in Kapitalgesellschaften aus rechtsökonomischer Sicht, *Wirtschaftspolitische Blätter (WiPol)*, pp. 35-47, 2010.

Grechenig K., Nicklisch A., Thöni C., Punishment Despite Reasonable Doubt – A Public Goods Experiment with Uncertainty over Contributions, *Journal of Empirical Legal Studies (JELS)*, vol. 7, pp. 847-867, 2010.

Grechenig K., Stremitzer A., Der Einwand rechtmäßigen Alternativverhaltens – Rechtsvergleich, Ökonomische Analyse und Implikationen für die Proportionalhaftung, *Rabels Zeitschrift für ausländisches und internationales Privatrecht (RabelsZ)*, pp. 336-371, 2009.

## **Book Chapters**

Roberto V., Grechenig K., Zurechnungsprobleme im Haftpflicht- und Sozialversicherungsrecht – die Rolle der Adäquanz, *Personen-Schaden-Forum, HAVE-Tagungsband*, Weber, (Ed.): Schulthess, pp. 55-70, 2009.

Grechenig K., Positive and Negative Information – Insider Trading Rethought, *Insider Trading – Global Developments and Analysis*, Gregoriou, Ali, (Eds.): CRC Press, pp. 245-259, 2009.

## **Articles (not peer-reviewed)**

Grechenig K., Schadensersatz bei Verletzung von § 14 WpHG? – Insiderhandel bei positiver und negativer Information, *Zeitschrift für Bankrecht und Bankwirtschaft (ZBB)*, pp. 232-241, 2010.

## **Preprints**

Grechenig K., Kolmar M., *The State's Enforcement Monopoly and the Private Protection of Property*, issue 2011/24, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Grechenig K., Sekyra M., *No Derivative Shareholder Suits in Europe – A Model of Percentage Limits and Collusion*, issue 2010/15, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Grechenig K., Nicklisch A., Thöni C., *Punishment despite Reasonable Doubt – A Public Goods Experiment with Uncertainty over Contributions*, issue 2010/11, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Baumann F., Friehe T., Grechenig K., *Switching Consumers and Product Liability: On the Optimality of Incomplete Strict Liability*, issue 2010/03, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

## **Selected Seminar Presentations (since 2009)**

### **2009**

#### **Bezugsrechtsausschluss und Ausgabepreis – Neues vom EuGH zur Verwässerung von Aktionärsrechten**

[Exclusion of Subscription Rights and Issuing Price: News from the ECJ on Watering Shareholders' Rights]

Forum Junge Rechtswissenschaft, University of Tübingen, Germany  
January 2009

#### **Discriminating Shareholders through the Exclusion of Pre-emption Rights?**

13th Annual Meeting of the Latin American and Caribbean Law and Economics Association (ALACDE), University Pompeu Fabra, Barcelona, Spain  
June 2009

### **2010**

#### **Punishment Despite Reasonable Doubt – A Public Goods Experiment with Uncertainty over Contributions**

20th Annual Meeting of the American Law and Economics Association (ALEA), Princeton University, U.S.A.  
May 2010

#### **Switching Consumers and Product Liability: On the Optimality of Incomplete Strict Liability**

Annual Conference of the Spanish Association of Law and Economics (AEDE), Universidad Autónoma de Madrid, Spain  
June 2010

**Zur Abwägung von Menschenleben**

[On Weighing Lives]

Conference at the Austrian Parliament commemorating the 90th anniversary of the Austrian Constitution, Vienna, Austria

September 2010

**Punishment Despite Reasonable Doubt – A Public Goods Experiment with Uncertainty over Contributions**

27th Annual Conference of the European Association for Law and Economics (EALE),

Paris, France

September 2010

**2011**

**Punishment Despite Reasonable Doubt – A Public Goods Experiment with Uncertainty over Contributions**

ACLE Seminar, Amsterdam Center for Law and Economics, The Netherlands

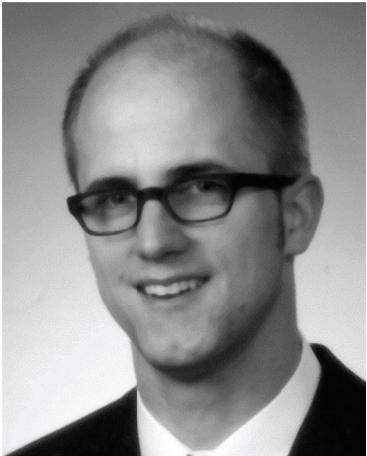
February 2011

**Punishment Despite Reasonable Doubt**

Behavioral and Experimental Legal Studies Conference

Hebrew University Law School & Center for the Study of Rationality, Jerusalem, Israel

May 2011



## **Hendrik Hakenes (Affiliate)**

### **Summary Report / Research Agenda**

In April 2007, I took a tenured position at the Leibniz University of Hanover, and therefore had to leave the Max Planck Institute. In 2011, I was offered a position at the University of Bonn. One reason I returned was the possibility to strengthen interaction with the Institute again. My research is mainly theoretical, but there are a couple of papers with empirical parts.

These are co-authored by Isabel Schnabel, a colleague from the University of Mainz. We started a series of papers when we were together at the institute, and many of these papers have been published by now. We are planning to continue our work in the future. The papers have benefited largely from discussion with the colleagues of the Max Planck Institute. In the following, I outline a couple of published papers, together with some work in progress.

#### **Rational Bubbles**

The paper "On the Existence and Prevention of Speculative Bubbles", joint work with Zeno Enders (University of Heidelberg), develops a model of rational bubbles based on the assumptions of unknown liquidity and limited liability of traders. In a bubble, the price of an asset rises dynamically above its steady-state value, justified by rational expectations about future price developments. The larger the expected future price increase, the more likely it is that the bubble will burst. We give a general condition for the possibility of bubbles, depending on the risk-free rate, uncertainty about liquidity, and traders' degree of leverage. Several policy measures for the prevention of bubbles are discussed. This paper was presented at the institute's econ workshop.

#### **Competitive Effects of Government Bail-out Policies**

The paper "Competition, Risk-Shifting, and Public Bail-out Policies", co-authored by Reint Gropp (European Business School) and Isabel Schnabel (University of Mainz), empirically investigates the effect of government bail-out policies on banks outside the safety net. We construct a measure of bail-out perceptions by using rating information. From there, we construct the market shares of insured competitor banks for any given bank and analyze the impact of this variable on banks' margins and risk-taking behavior, using a large sample of banks from OECD countries. Our results suggest that government guarantees to some banks strongly increase the risk-taking of the competitor banks not protected by such guarantees. In contrast, there is no evidence that public guarantees increase the protected banks' risk-taking. The paper was recently published in one of the top-3 finance journals, the *Review of Financial Studies*. The paper was based on an earlier theoretical paper, entitled "Banks without Parachutes – Competitive Effects of Government Bail-out Policies" (with Isabel Schnabel), which was published in the *Journal of Financial Stability*.

## **Loan Securitization**

The paper "Credit risk transfer and bank competition" (joint work with Isabel Schnabel) presents a banking model with imperfect competition in which borrowers' access to credit is improved when banks are able to transfer credit risks. However, the market for credit risk transfer (CRT) works smoothly only if the quality of loans is public information. If the quality of loans is private information, banks have an incentive to grant unprofitable loans that are then transferred to other parties, leading to an increase in aggregate risk. Higher competition increases welfare in the presence of CRT with public information. In contrast, welfare eventually decreases for high levels of competition in the presence of CRT with private information due to the expansion of unprofitable loans. This finding coincides with the decrease in credit quality observed during the late years of the credit boom preceding the subprime crisis. The paper has been published in the *Journal of Financial Intermediation*.

## **Bank Manager Compensation and Financial Stability**

The current working paper "Bank Bonuses and Bail-out Guarantees", joint work with Isabel Schnabel, shows that bonus contracts may arise endogenously as a response to agency problems within banks, and analyzes how compensation schemes change in reaction to anticipated bail-outs. If there is a problem of excessive risk-taking, bail-out expectations lead to steeper bonus schemes and even more risk-taking. If there is an effort problem, the compensation scheme becomes flatter and effort decreases. If both types of agency problems are present, a sufficiently large increase in bail-out perceptions makes it optimal for a welfare-maximizing regulator to impose ceilings on bank bonuses. In contrast, raising managers' liability is often counterproductive.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Hakenes H., Schnabel I., Capital Regulation, Bank Competition and Financial Stability, *Economics Letters*, vol. 113, no. 3, pp. 256-258, 2011.

Hakenes H., Schnabel I., Bank Size and Risk Taking under Basel II, *Journal of Banking and Finance*, vol. 35, no. 6, pp. 1436-1449, 2011.

Gropp R., Hakenes H., Schnabel I., Competition, Risk-Shifting, and Public Bail-out Policies, *Review of Financial Studies*, vol. 24, no. 6, pp. 2084-2120, 2011.

Hakenes H., Schnabel I., Banks without Parachutes – Competitive Effects of Government Bail-out Policies, *Journal of Financial Stability*, vol. 6, pp. 156-168, 2010.

Hakenes H., Schnabel I., The Threat of Capital Drain: A Rationale for Regional Public Banks?, *Journal of Institutional and Theoretical Economics*, vol. 166, no. 4, pp. 662-689, 2010.

Hakenes H., Schnabel I., Credit Risk Transfer and Bank Competition, *Journal of Financial Intermediation*, vol. 19, no. 3, pp. 308-332, 2010.

Hakenes H., Peitz M., Umbrella Branding and External Certification , *European Economic Review*, vol. 53, no. 2, pp. 186–196, 2009.

### **Book Chapters**

Hakenes H., Schnabel I., The Regulation of Credit Derivative Markets, *Macroeconomic Stability and Financial Regulation: Key Issues for the G20* 113-127, Dewatripont M., Freixas X., Portes R., (Eds.): Centre for Economic Policy Research (CEPR), pp. 113-127, 2009.

### **Preprints**

Enders Z., Hakenes H., *On the Existence and Prevention of Asset Price Bubbles*, issue 2010/44, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Dang T. V., Hakenes H., *Information Disclosure, Intertemporal Risk Sharing, and Asset Prices*, issue 2010/36, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Gropp R., Hakenes H., Schnabel I., *Competition, Risk-Shifting, and Public Bail-out Policies*, issue 2010/05, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Hakenes H., Schnabel I., *Credit Risk Transfer and Bank Competition*, issue 2009/33, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Looting and Gambling in Banking Crises**

Financial Intermediation Research Society (FIRS), Prague, Czech Republic  
May 2009

#### **Bank Bonus Systems in Financial Crises**

Annual meeting of the European Economic Association (EEA), Barcelona, Spain  
August 2009

#### **Bank Bonus Systems in Financial Crises**

Annual meeting of the German Economic Association (VfS), Magdeburg, Germany  
September 2009

**On the Existence and Prevention of Asset Price Bubbles**

University of Bonn, Germany

November 2009

**2010**

**Information Disclosure, Intertemporal Risk Sharing, and Asset Prices**

FRIAS Workshop on "Liquidity and Trust in Incomplete Markets"

March 2010

**On the Existence and Prevention of Asset Price Bubbles**

Annual meeting of the German Economic Association (VfS), Kiel, German

September 2010

**Bank Bonus Systems in Financial Crises**

Economic Association for Business Administration, Frankfurt

September 2010

**Bank Bonus Systems in Financial Crises**

Annual meeting of the German Finance Association (DGF), Hamburg

October 2010

**On the Existence and Prevention of Asset Price Bubbles**

Austrian National Bank, Vienna, University of Innsbruck, University of Mannheim, University of Karlsruhe (KIT), University of Osnabrück, Germany

November 2010



## **Hanjo Hamann**

### **Summary Report / Research Agenda**

Coming from a legal background, my work focusses on the emerging field of Behavioral Law and Economics (BLE) that strives to enrich the economic analysis of law with findings from classical behavioral sciences such as psychology. In recent years, BLE has rapidly gained ground in legal fields as diverse as criminal, consumer, labor, administrative, and procedural law; yet, applications to corporate law – which my

university education was centered around – are scarce. When joining the institute in 2010, I thus soon developed a keen interest in understanding why corporate law scholars barely ever have a bout at BLE. One of the very few that did noted as early as 2003 that “one of the remaining bastions of traditional law and economics is much of corporate-law scholarship, which views the corporation as a nexus of express and implied contracts entered into by rational, utility-maximizing constituencies”. This limited understanding seemingly owes to the tractability of modeling complex institutions such as corporations, but is hard to justify normatively. Even though corporate law in the past was construed less as a regulatory tool than other legal domains, the behavioral foundations of decision making are no less relevant here than elsewhere. My work tries to fill that gap.

When talking about behavioral foundations of corporate law, the first thing that comes to mind is agency theory, if construed as a behavioral hypothesis. Yet as two pioneers of behavioral economics noted, “much of agency theory is closer in spirit to an unbounded rationality tradition than to limited rationality ... Agency theory has become a branch of game theory”. Only recently, empirical studies have demonstrated behavioral implications of proxy relationships that are not easily reconciled with the classic assumptions of agency theory. My work picks up on this strand of research to illustrate the use of BLE in corporate law. More specifically, I design laboratory experiments to test various behavioral aspects of agency relationships within the corporation. The first such experiment was completed in June 2011. It tested the effects on managerial behavior of introducing legal rules that either favor shareholders (i.e., principals in terms of agency theory) or stakeholders (i.e., third parties), of variable remuneration, and of activating norms of behavioral consistency. In my future research agenda, I will also try to improve external validity by recruiting experimental subjects that are closer to the real economic decisions.

Corporate law scholars in Germany are outspoken in their welcoming interdisciplinary research. Hanno Merkt even declared it as one of “two central posits” of future corporate law research that it requires “an increase in interdisciplinary cooperation of corporate and capital markets law with the economic sciences, especially its empirical and econometric branches, but also with behavioral research.” I am therefore confident that my PhD thesis will successfully pioneer an overlooked, yet fruitful field of interdisciplinary work: Experimental Corporate Law.

Apart from this main body of research, I work interdisciplinarily on various legal topics. My recent projects include

- a time series analysis of the production function of law professors, using data on legal habitations in Germany (working title “The Hog-Cycle of Law Professors”, joint with Ch. Engel) which demonstrates that myopic behavior in the decision to qualify as a law professor leads to a so-called “hog cycle”, i.e., we find a robust negative autocorrelation with a lag of eight years.
- work on the view of corporate compliance as a recent regulatory development in academic scholarship and the ways it is addressed using interdisciplinary behavioral research. (An essay entitled “Compliance und Unternehmenskultur” has been published in the German “Corporate Compliance Journal”.)
- a nascent project aimed at testing experimentally whether the German system of corporate checks and balances actually improves decision-making (joint with M. Manâa and L. Zhurakhovska). We intend to compare group decision-making with decisions taken under the supervision of a veto-holder, which we hope captures an essential element of the German two-tier system of corporate governance.



## **Martin Hellwig**

My work over the past two years has again been much influenced by the financial crisis. Already in the last report, written in the fall of 2009, I noted that, in the wake of the crisis, I shifted the focus of my research from public economics to the analysis of financial institutions and financial stability. Since then, this shift in the research agenda has become even more pronounced. Moreover, a significant part of my time has been taken up by public service:

- March 2009 – January 2011: Chairman of the “Lenkungsrat Unternehmensfinanzierung, Wirtschaftsfonds Deutschland” (Advisory Committee for the German Government’s special fund to provide loans and loan guarantees for nonfinancial companies in the crisis).
- July 2010 – February 2011: Member of the “Expertenrat Ausstiegsstrategien für die krisenbedingten Bundesbeteiligungen an Banken” (Advisory Committee for the design of exit strategies from the Federal Government’s participations in banks)
- Since May 2011: Chairman of the Advisory Scientific Committee of the European Systemic Risk Board.

Some work on financial regulation was also done under the auspices of the Scientific Advisory Committee of the German Ministry of Economics and Technology, of which I have been a member since 1995. In addition, joint work on financial regulation was done in co-operation with A. Admati, P. DeMarzo, and P. Pfleiderer at Stanford. 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. This is reflected in several letters and articles, in the Financial Times as well as German newspapers. It is also been reflected in contributions to Bundestag committee hearings and in comments on the UK’s Independent Commission on Banking’s Interim Report (with Admati).

## **Financial Stability and Financial Regulation**

In this area, I have been concerned with the following topics:

- Systemic risk in the financial sector
- Regulatory reform, in particular, reform of capital regulation
- Bank resolution
- Sovereign debt and the financial crisis

Work on systemic risk in the financial crisis had been begun with the paper "Systemic Risk in the Financial Sector: An Analysis of the Subprime-Mortgage Financial Crisis", written in 2008, published as a monograph by the Netherlands Institute for Advanced Study and reprinted in the journal *De Economist* of the Royal Dutch Economics Association in 2009.

As I already wrote in the report for 2007 – 2009, this paper argues that developments from August 2007 to October 2008 were, by and large, driven by the interplay of price declines in malfunctioning markets, fair value accounting forcing banks to immediately put these price declines on their books, a lack of "free" equity, i.e., equity in excess of regulatory requirements implying that book losses induced an immediate need for deleveraging, i.e., asset sales, which in turn induced further price declines in markets, etc. Because, under the models-based approach to determining regulatory capital, bank equity altogether was very low, concerns about possible insolvencies arose fairly quickly, impairing the banks' ability to refinance and enhancing defensive attitudes that made for a desire to deleverage and a reluctance to acquire assets even though they might seem cheap.

This analysis of the crisis was taken up again in two major reports in 2010, a report of the Scientific Advisory Committee of the German Ministry of Economics and Technology of which I was the lead author ("Zur Reform von Bankenregulierung und Bankenaufsicht nach der Krise", May 2010) and a report for the Deutscher Juristentag, the annual congress of the German legal profession ("Finanzkrise und Reformbedarf", September 2010). Both reports adjust the previous analysis to take account of new information that had not been available when the earlier paper was written.

Both reports also amplify the criticism of the prevailing system of risk calibration of capital requirements for banks, arguing that this system involves fundamental flaws that cannot be corrected by fixing a detail here or there. An English version of this material is provided in Preprint 2010/31, "Capital Regulation after the Crisis: Business as Usual". The finding that the current system is fundamentally flawed leads on to the admittedly crude policy recommendation that capital requirements should be much higher and should not be risk sensitive. The recommendation is justified by the three observations that (i) without risk calibration, there are fewer incentives to engage in hedging of dubious quality and therefore less interconnectedness in the financial system, (ii) at capital ratios of 20 to 30 % of total assets, procyclical effects of the regulation will be much lower because a loss of one euro induces a deleveraging requirement of three to five euro rather than the thirty to one hundred euro that we currently observe, (iii) at these high capital ratios, suspicions of insolvency are less likely to arise and destroy the functioning of interbank markets. These system-oriented justifications contrast with standard institution-oriented justifications which rarely make clear what precisely the regulation is actually supposed to achieve and how it is going to do that.

In June 2010, I accepted an invitation from Anat Admati, Peter DeMarzo, and Paul Pfleiderer at Stanford to join forces for a joint effort to debunk many of the arguments that were made by industry representatives in the debate on bank capital regulation. This

work resulted in a joint paper, "Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity is Not Expensive" (Preprint 2010/42). The paper begins by explaining that many arguments in the discussion are simply fallacious because they run afoul of the well known Modigliani-Miller Theorem of corporate finance. This theorem asserts that, in the absence of distortions and frictions, any firm's funding costs are independent of its funding mix and depend only on the risk profile of the assets the firm holds; moreover, investment criteria, in the case of banks, lending criteria, should also be independent of the funding mix. Any argument that a higher share of equity funding would raise banks' funding costs or make them less willing to lend must therefore rely on distortions and frictions that invalidate the conclusions of Modigliani and Miller.

The second part of the paper examines distortions arising from tax discrimination between debt and equity and from too-big-to-fail bailout subsidies creating incentives for banks to have high leverage. The resulting deviations from the conclusions of Modigliani and Miller are acknowledged but said to be irrelevant for a debate on statutory regulation because, presumably, statutory regulation is driven by concerns about social rather than private costs and benefits. With tax discrimination in favour of debt and with bailout subsidies, the private benefits of the bank in choosing debt rather than equity funding are precisely balanced by the corresponding negative effects on the public budget. From a social perspective, these effects cancel out. They can justify why equity funding may be privately expensive for the bank, but not why society should consider equity funding of banks to be expensive.

The third major part of the paper examines the argument that minimum capital requirements would reduce the effectiveness of disciplining mechanisms associated with debt finance, in particular, short-term debt finance. In this argument, frictions invalidating the Modigliani-Miller Theorem arise from moral hazard and/or asymmetric information. The argument is prominent in the academic community; for instance, it is adduced in the *Squam Lake Report* on regulatory reform after the crisis to warn of raising capital requirements. In what is probably the most "researchy" part of the paper, we assess the role of debt and equity, market discipline and discipline by debt holders, in the literature. It turns out that the literature which asserts the beneficial disciplining effects of short-term debt finance is entirely built on theoretical models in which there is no outside equity. Monitoring incentives of debt holders are examined without considering that, when there is outside equity traded in public markets, debt holders have an incentive to free-ride on the information contained in market prices. Such free-riding implies that on the upswing, discipline by debt will be lacking; such discipline will only come in when stock prices indicate that a crisis is near, an (ex post) prediction that is confirmed by the buildup of risks before the crisis and in the crisis itself.

Given the specialness of the models suggesting that discipline by short-term (callable) debt is beneficial, even to the point that it might eliminate the moral hazard of excessive risk taking induced by debt finance itself, it is quite remarkable to what extent political recommendations have been built upon this theory, from Calomiris's recommendations

at congressional hearings in the nineties to the *Squam Lake Report*. It is also remarkable to what extent this literature treats the outcomes of observed contracting as socially efficient. Yet, we should know that in a second-best world, pecuniary externalities are relevant for welfare analysis. We should also know that contractual relations are affected by commitment powers and that some of the most important constraints come from a failure to properly commit future actions. The prevalence of short-term debt finance in banking might be the result of financing choices expanding leverage while imposing risks on incumbent holders of previously issued longer-term debt; in this case, statutory restrictions on such leverage might even be privately beneficial as they provide a remedy for the inability to precommit the bank to not diluting its debt later.

The paper with Admati, DeMarzo, and Pfleiderer has had even more of an echo than the earlier paper on systemic risk, partly because of Admati's tremendous marketing efforts, in particular in the United States, partly because it satisfied a need in the regulatory community, and to some extent in the media, to have counterarguments against the lobbying of the industry. Remarkably, in presentations and public discussions, the attention is usually focused on the first two parts, Modigliani-Miller and the effects of tax discrimination and bailout subsidies. The third part, on incentive contracting, has played hardly any role in public discussion. Yet this part has been central in academic discussion.

The two policy reports mentioned above also dwell on the subject of bank resolution. On this subject, I joined forces with Martin Summer from the Austrian National Bank to organize a research conference on the subject. This took place in Vienna in September 2010. The results were disturbing because it became clear that we do not have any good way to deal with the problem and, on some issues, such as international co-ordination and harmonization, we are not even trying to get there. This critical assessment also applies to the German Bank Restructuring Act of 2010. I commented on this law in a hearing of the Bundestag Finance Committee in October 2010 and wrote a more systematic critical analysis for a conference in Frankfurt in November 2010 ("The Problem of Bank Resolution Remains Unsolved: A Critique of the German Bank Restructuring Act of 2010").

Work on the European sovereign debt crisis has so far been limited to a paper analysing the interdependence of sovereign debt and banking crises that makes it so hard to disentangle the issues and move forward on policy ("Quo vadis Euroland? European Monetary Union between Crisis and Reform"). Policy recommendations concern (i) the need to take account of banking issues in designing mechanisms for fiscal governance, (ii) the need to make bank supervisors independent of their governments, and (iii) a need for a stronger European competence in bank supervision.

## Other Work

Work in other areas has mainly been a matter of continuing or revising previous work. In the area of public economic theory, this has involved revising the joint paper with Felix Bierbrauer on "Public Good Provision in a Large Economy". As an offshoot of the mechanism theoretic part of that paper, I have written two short notes on existence of common priors in such models ("Incomplete-Information Models of Large Economies with Anonymity: Existence and Uniqueness of Common Priors", Preprint 2011/08, "From Posteriors to Priors via Cycles: An Addendum", Preprint 2011/07 ). In addition, joint work with Alia Gizatulina on the so-called BDP property in Bayesian models with incomplete information has been much revised and finished ("Beliefs, Payoffs, Information: On the Robustness of the BDP Property in Models with Endogenous Beliefs", "On the Robustness of the BDP Property in Families of Incomplete-Information Modes").

## Research Agenda

In the near future, I will mainly continue to do work on financial institutions, financial stability and regulation. A major project is to turn the material of Admati et al. (2010) into a monograph. At this point, Admati et al. (2010) is too large and encompassing for a journal article. At the same time, Admati et al. (2010) is too short on such issues as the effects of capital regulation on bank lending, the role of incentive schemes in banks, the role of shareholder value and return on equity in guiding the behaviour of bank managers.

In the very short run, we are planning to write two short notes on how to deal with capital scarcity in a bank. A theoretical piece ("Addictive Leverage: Why Shareholders Resist Recapitalization") will point out that, in addition to the tax discrimination and bailout subsidy effects mentioned above, 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 there is a way to appropriate this rent, it makes the shareholders worse off. Moreover, if the buyback occurs in secondary markets, the rent to debt holders cannot be appropriated. Like the tax discrimination and bailout subsidy effects, this effect is driven by a private benefit to shareholders, which is not a social benefit. 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. A policy piece will consider different modes of improving the funding mix, paying particular attention to the question why banks prefer to deleverage, i.e. sell assets rather than raise more capital.

A second block of work concerns the notion of debt as providing discipline. One aim is to turn the discussion in Admati et al. (2010) into a piece of its own that might be suitable

for something like the *Journal of Economic Literature*. In terms of original research, the following questions are of interest:

- Whereas the literature considers the disciplining role of callable debt in models in which there is no outside equity, the question is what can be said about monitoring incentives and discipline when a bank is funded by outside equity as well as debt. Since share prices are very sensitive to new information, I would expect incentives for information collection to be much higher for shareholders than for debt holders. Indeed, I would not be surprised if, for debt holders, incentives for information collected are completely muted by the possibility to free-ride on the information collected by shareholders. Analysing this question will require a combination of a runs model à la Morris-Shin (AER 1998) with a model of communication through asset prices à la Grossman-Stiglitz (AER 1980), or Hellwig (1980). A first attempt in this direction has been presented by Angeletos and Werning (AER 2006), but their paper suffers from a variety of technical and conceptual problems (failure to integrate portfolio choice decisions for different instruments, different assumptions about risk preferences in different parts of the analysis) and is therefore not immediately applicable.
- Whereas the literature presumes that contracting outcomes are incentive-efficient, I would like to investigate the hypothesis that they expose the system to excessive fragility. Grounds for this hypothesis would be: (i) If short-term debt holders are overconfident about their ability to make use of the option to call or not to renew the debt, there is likely to be an excessive use of such instruments. (ii) The same is true if short-term debt issues provide the bank and the new investors with a way to impose risks on incumbent creditors with previously contracted claims. (iii) Negative externalities of individual decisions to withdraw funds are usually neglected.
- What are the implications of systemic fallout from deleveraging for the implementation of capital requirements over time? Reform proposals to have a macroprudential element in capital regulation underestimate the dangers of deleveraging, which is a matter of trying to adjust relations between stock variables that are out of line, rather than macroeconomic flows. One hypothesis would be that, in some contexts, the regulation should target levels rather than ratios of capital relative to assets.

At some point, I do want to return to the questions of public economics and governance that I had raised in previous reports and have not yet resolved. At this point however it seems more urgent to participate in the ongoing debate about the financial system and to do so through original research as well as contributions to the policy discussion.

## **Honours**

Gustav Stolper Prize 2009, Verein für Socialpolitik (German Economic Association)

Doctor honoris causa, University of Basel, November 2009

2010 Journal of Financial Intermediation Award for the Most Significant Article in 2009 ("A Reconsideration of the Jensen-Meckling Models of Outside Finance", *Journal of Financial Intermediation* 18 (2009) 495–52)

Thünen Lecturer 2010, Verein für Socialpolitik (German Economic Association)

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Hellwig M., Utilitarian Mechanism Design for an Excludable Public Good, *Economic Theory*, vol. 44, no. 3, pp. 361-397, 2010.

Hellwig M., A Generalization of the Atkinson-Stiglitz (1976) Theorem on the Undesirability of Nonuniform Excise Taxation, *Economics Letters*, vol. 108, pp. 156–158, 2010.

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21 January 2009

**The Treatment of Rebates under Art. 82 EC**

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23 January 2009

**Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

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28 January 2009

**Public Good Provision in a Large Economy**

Swiss Federal Polytechnic, Zürich, Switzerland  
12 February 2009

**Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

ifo Institute, Munich, Germany  
16 February 2009

**Efficiency versus Freedom to Compete – On the Normative Foundations of Competition Policy**

Conference on the More Economic Approach to Competition Policy, Max Planck Institute for Intellectual Property, Competition Law and Tax Law, Munich, Germany  
12 March 2009

**Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

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18 March 2009

**Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

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27 March 2009

**Eliminating the Procyclicality of Basel II**

Deutsche Bundesbank, Frankfurt, Germany  
7 April 2009

**Pitfalls in Not Thoroughly Cleaning Up the Banking Mess**

Working Group on the Financial Crisis, Christian Democratic Union Parliamentary Group, Berlin, Germany  
23 April 2009

**Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

University of St. Gallen, Switzerland

30 April 2009

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University of Bremen, Bremen, Germany

4 May 2009

**Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

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8 May 2009

**Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

4th Alfred Weber Lecture, University of Heidelberg, Heidelberg, Germany

12 May 2009

**Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

Austrian National Bank, Vienna, Austria

14 May 2009

**Public Good Provision in a Large Economy**

Joint Conference of the Max Planck Institute for Research on Collective Goods and the Hausdorff Centre of the University of Bonn on Incentives and Mechanism Design in Public Economics, Bonn, Germany

21 May 2009

**Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

Bank of Korea International Conference, Seoul, Korea

3 June 2009

**Provision and Pricing of Liquidity**

Conference of the Journal of Central Banking, Federal Reserve Bank of New York, New York, USA

12 June 2009

**Comment on Duffie "The Mechanics of Dealer Bank Failures"**

BIS Annual Conference, Basel, Switzerland

25 June 2009

**Public Good Provision in a Large Economy**

Society for Economic Dynamics Annual Conference, Istanbul, Turkey

3 July 2009

**Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

Katholieke Universiteit Leuven, Leuven, Belgium

17 July 2009

**Efficiency versus Freedom to Compete – On the Normative Foundations of Competition Policy**

Symposium in Honour of Werner Möschel, Tübingen, Germany

24 July 2009

**Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

Friedrich-Ebert-Stiftung, Bonn, Germany

29 July 2009

**Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

Summer Academy of the Studienstiftung des deutschen Volkes, St. Johann, Italy

1 September 2009

**Konzeptionelle Defizite der Regulierung als Faktor in der Krise**

[Conceptual Deficits of Regulation – a Contributory Cause of the Crisis]

Working Group on Controlling and Risk Management, Schmalenbach Gesellschaft, Berlin, Germany

18 September 2009

**Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

Hamburg Society for the Study of Insurance, Hamburg, Germany

8 October 2009

**Systemic Risk and Regulation**

Conference Organized by the Federal Ministry for Economic Cooperation and Development, Bonn, Germany

29 October 2009

**Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

University of Gießen, Germany

2 November 2009

**Konzeptionelle Defizite der Regulierung als Faktor in der Krise**

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3 November 2009

**Industrial Policy**

German Bankers' Association/Confederation of German Industry, Berlin, Germany  
10 November 2009

**Systemic Risk and Regulation**

Berlin-Brandenburg Academy of Sciences, Berlin, Germany  
12 November 2009

**Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

Keynote Lecture, Conference "Financial Crisis", University of Geneva, Geneva,  
Switzerland  
16 November 2009

**On the Economics and Politics of Corporate Governance**

Commonalities of Capitalism Conference, Schloss Ringberg, Germany  
19 November 2009

**Systemic Aspects of Risk Management in Banking and Finance**

University of Basel, Basel, Switzerland  
26 November 2009

**Systemic Risk and Regulation**

Swiss Finance Institute, Zurich, Switzerland  
30 November 2009

**Governance Failures and Systemic Risk in the Financial Crisis**

Law and Economics Conference, Swiss Federal Polytechnic, Zurich, Switzerland  
1 December 2009

**Issues in Corporate Governance**

Law and Economics Conference, Swiss Federal Polytechnic, Zurich, Switzerland  
2 December 2009

**Systemische Risiken im Finanzsektor: Eine Analyse der Finanzkrise**

[Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis]  
Workshop on Monetary Economics, Würzburg, Germany  
5 December 2009

**Conceptual Deficits of Banking Regulation as a determining factor in the Financial Crisis**

Erich Schneider Lecture, Kiel, Germany  
16 December 2009

## **2010**

### **Bankenregulierung und Bankenaufsicht nach der Finanzkrise**

[Banking Regulation and Banking Supervision after the Financial Crisis]

Klausurtagung der Arbeitsgruppe Wirtschaft und Technologie der CDU/CSU-Fraktion  
im Deutschen Bundestag, Berlin, Germany

21 February 2010

### **Die aktuelle Finanz- und Wirtschaftskrise aus wirtschaftshistorischer Perspektive**

[The current financial and economic crisis in historical perspective]

Jahrestagung des Wirtschaftshistorischen Ausschusses – Verein für Socialpolitik,  
Münster, Germany  
4 March 2010

### **Sind Staatsbeihilfen zur Stützung von Banken unvermeidbar?**

[Are Government Bailouts of Banks Unavoidable?]

Arbeitsgruppe Wettbewerb des Wirtschaftspolitischen Ausschusses im Verein für Social-  
politik, Essen, Germany  
15 March 2010

### **‘Verantwortung’ von Unternehmen im Spannungsfeld zwischen Privatautonomie und öffentlichem Interesse**

[‘Responsibility’ of Banks between private autonomy and public interest]

45. Jacob Burckhardt Gespräch, Villa Castelen, Basel, Switzerland  
19 March 2010

### **Systemische Risiken im Finanzsektor. Zu den Ursachen der Finanzkrise**

**2007/2008**

[Systemic risk in the financial sector: On the causes of the financial crisis 2007/2008]

Statistisch-Volkswirtschaftliche Gesellschaft Basel, Switzerland

22 March 2010

### **Banking Regulation and the Financial Crisis**

General lecture at Collège de France, Paris, France

10 May 2010

### **Public good provision in a large economy**

Lecture at Collège de France, Paris, France

12 May 2010

### **Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

University of Bern, Department of Volkswirtschaftslehre, Bern, Switzerland

17 May 2010

**Capital Regulation after the Crisis: Business as Usual?**

Conference Financial Regulation and Supervision in the new financial Architecture,  
Taormina, Sicily, Italy  
20 – 21 May 2010

**Marktversagen oder Staatsversagen? Zu den Ursachen der Finanzkrise**

[Market failure or government failure? On the causes of the financial crisis]  
Hochschule für Philosophie München, Rottendorf-Projekt, Germany  
11 June 2010

**Marktversagen oder Staatsversagen? Zu den Ursachen der Finanzkrise**

[Market failure or government failure? On the causes of the financial crisis]  
Public Lecture, Annual Meeting of the Max Planck Society, Hannover, Germany  
16 June 2010

**Systemic Risk in the Financial Sector: The Subprime Mortgage Financial Crisis**

University of Cologne, Germany  
5 July 2010

**New Sustainability: Sind Wirtschafts- und Finanzkrisen vermeidbar?**

[New sustainability: Are economic and financial crises avoidable?] Keynote Speech, Alpbach Economic Symposium, Alpbach, Austria  
31 August 2010

**Zwischen Privatautonomie und öffentlichem Interesse – zum Begriff der ‚Verantwortung‘ von Unternehmen**

[Between private autonomy and public interest – the concept of “responsibility” of a firm] Thünen-Vorlesung anlässlich Jahrestagung des Vereins für Socialpolitik, Kiel, Germany  
8 September 2010

**Unternehmensfinanzierung und Bankenregulierung nach der Finanzkrise**

[Corporate finance and banking regulation after the financial crisis] Heidelberger Gespräche zur Rechnungslegung, Heidelberg, Germany  
1 October 2010

**Zwischen Bailout und Staatsfinanzierung – Zur Dialektik des Verhaltens von Banken und souveränen Schuldern**

[Between Bailout and government finance – on the symbiosis of banks and sovereign debtors] Workshop der Friedrich-Ebert-Stiftung, Berlin, Germany  
13 October 2010

## **Conceptual Deficits of Banking Regulation – A Factor Behind the Financial Crisis of 2007/2008**

Conference The New Global Banking Regulations and the Cost of Intermediation,  
London Business School, London, UK  
14 October 2010

## **Regulierung von Netzindustrien**

[Regulation of network industries]

Universität Bonn, Philosophische & Rechts- und Staatswissenschaftliche Fakultät,  
Germany  
19 October 2010

## **Does Debt Provide 'Market Discipline' for Banks?**

European Corporate Governance Institute, Brussels, Belgium  
25 October 2010

## **Banking Regulation after the Crisis: Business as usual?**

University College London, UK  
3 November 2010

## **Too Big to Fail – Are Banks Different – do we need Special Rules for Bank Resolution?**

Conference on Bank Resolution, Institute for Law and Finance, Frankfurt/Main, Germany  
5 November 2010

## **Veranlassung und Verantwortung aus volkswirtschaftlicher Sicht**

[Initiation and responsibility – the economic view]  
6. Bonner Gespräch zum Energierecht, Bergisch-Gladbach, Germany  
7 November 2010

## **Systemische Risiken im Finanzsektor: Zu den Ursachen der Krise**

[Systemic Risk in the Financial Sector. On the Causes of the Crisis]  
Europäische Akademie Nordrhein-Westfalen, Bonn, Germany  
9 November 2010

## **Financial System Reform after the Crisis**

Vienna University of Economics and Business Day, Vienna, Austria  
18 November 2010

## **Wirtschaftsstabilisierung? Die nächste Finanzkrise kommt bestimmt!?**

[Stabilization? The next crisis is on its way]  
University of Cologne, Cologne, Germany  
1 December 2010

**Währungsunion, Monetäre und Finanzielle Stabilität?**

[Monetary and Financial Stability in the Monetary Union]

German Embassy Prag, Czech Republic

2 December 2010

**2011**

**What Framework for Dealing with Banks in Difficulties?**

Bellagio Group Meeting Paris, France

14-15 January 2011

**Banking Regulation after the Crisis**

Seminar at GREQAM, Marseille, France

17 January 2011

**Marktversagen oder Staatsversagen? Zu den Ursachen der Finanzkrise**

[Market failure or government failure? On the causes of the financial crisis]

Center for Interdisciplinary Research – University of Bielefeld, Germany

19 January 2011

**'Kasino-Kapitalismus' oder volkswirtschaftliche Notwendigkeit? – Nutzen und Risiken spekulativer Finanzprodukte**

[Casino Capitalism or Economic Necessity – Benefits and risks of financial innovations]

Impulsreferat anlässlich Podiumsdiskussion in der Hessischen Landesvertretung in Berlin, Germany

25 January 2011

**Reflections on the 'Wirtschaftsfonds Deutschland'**

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

31 January 2011

**Private Enforcement – Private Damage Claims and the Calculation of Damages**

Conference Public and Private Enforcement of competition law of Centre for European Economic Research Mannheim, Germany

10 March 2011

**Bankenregulierung nach der Krise – Reichen die Reformen aus?**

[Banking regulation after the crisis – are the reforms sufficient?]

Schweizerischer Gewerkschaftsbund, Bern, Switzerland

17 March 2011

## **Flaws in System Architecture and the Financial Crisis: More Regulatory Reform is Needed**

Centre for Central Banking Studies, Bank of England, London, UK

24 March 2011

## **Capital Regulation after the Crisis**

European Central Bank Frankfurt, Germany

28 March 2011

## **Quo vadis, Euroland? European Monetary Union between Crisis and Reform**

European University Institute Florence, Italy

14 April 2011

## **Reforms to Capital Structure and Levels as Devices for Minimizing Systemic Risk**

European University Institute Florence, Italy

16 April 2011

## **Achievements in the Financial Sector Reform**

European Central Bank, Frankfurt, Germany

19 May 2011

## **Incentives, 'Market Discipline' and the Financial Crisis**

Deutsches Institut für Wirtschaftsforschung Berlin (DIW), Germany

4 June 2011

## **Alternative Approaches to Modeling Systemic Risk**

ECB-CFS-NYFed Conference, Frankfurt, Germany

9 June 2011

## **Is European Bank Systemic Risk Sufficiently Contained?**

The ECB and its Watchers XIII Konferenz Frankfurt, Germany

10 June 2011

## **Finanzkrise und Reformbedarf**

[Financial Crisis and Regulatory Reform]

Jahresfestveranstaltung 2011 des Münchner Volkswirte Alumni-Clubs, München, Germany

14 June 2011

## **Public-Good Provision in a Large Economy**

Uppsala University and Uppsala Center for Fiscal Studies, Sweden

31 May 2011

**Regulatory Reforms (?) after the Crisis**

European Summer Symposium in Economic Theory 2011 (ESSET 2011)  
in Gerzensee, Switzerland

12 July 2011

**Bankenregulierung in Europa nach der Krise – Krise, welcher Krise?**

[Banking Regulation in Europe after the Crisis: Crisis? Which Crisis?]

XXII. Europäische Sommerakademie des Gustav-Stresemann-Instituts, Bonn, Germany

22 July 2011

**Zur Governance von Finanzinnovationen**

[On the Governance of Financial Institutions]

Jena Summer School, Jena, Germany

26 July 2011



## **Yoan Hermstrüwer**

### **Summary Report**

Before joining the Max Planck Institute in November 2010, I was a student of law and oriental studies at the Universities of Freiburg, Paris II (Panthéon-Assas) and Bonn. During my law studies, I worked as a student assistant to Professor Jouanjan from the University of Strasbourg. In this position I dealt with questions within the scope of legal history, legal philosophy, and constitutional law. The first project involved research on

French public law and the translation of a text on the historical and doctrinal foundations of French constitutional law. In a second project, I delved into the construction of German public law in the theories of Carl von Gerber, Paul Laband, and Georg Jellinek, and worked on the translation of a book. At that time, I also did some research on the philosophical and legal implications of international terrorism and published an analytical review paper under the title "Philosophie und Recht in Zeiten des Terrors. Terrorismus aus Perspektiven der Philosophie: Jürgen Habermas und Jacques Derrida". The main objective of this review was to introduce arguments from the theory of communicative action and deconstructivism into legal philosophy and public international law. Even though modern and postmodern philosophy differ considerably in their methods, the proposals made to handle terrorism seem to be congruent. In 2010, I began research in the field of comparative administrative procedural law. An outline of this research was published in "Zum recours pour excès de pouvoir im französischen Verwaltungsprozessrecht". The essential result is that, irrespective of legal harmonization at EU level, there is increasing natural convergence of individual rights protection in German and French administrative procedure.

During my time at the institute, I have worked on a small joint project initiated by Jörn Lüdemann. This purely didactical project was arranged around a case study of expert consultation in the legislative process and the proportionality of strict sales bans.

### **Research Agenda**

In my PhD thesis, supervised by Professor Engel, I will focus on data protection and information technology law and analyze data disclosure decisions from a behavioral law and economics perspective. Web 2.0 has brought about a paradigm shift in data processing and deeply affected the citizens' behavior in the online world. Most of the services offered online, searching on Google, buying on Amazon, the use of social plugins and social networks like Facebook, appear to be free. The online world is not just a social sphere, however; it is not simply a new form of democratic participation. The online world consists of markets, data markets in particular. As such they rely on the customer

for procurement of personal information. Personal data has become the new "currency" to pay for online services. In many cases, users are not aware that through their online behavior they reveal personal data. But even if they do know that data will be processed, in many cases users will not refrain from disclosing personal data. Is it because of the difficulty of assessing the value of personal information? Is it because they are being shown the prospect of obtaining services for free? Or do customers simply not care for privacy due to altering social norms in the online world? Data disclosure, the potential of data aggregation through cloud computing, and the use of knowledge about individual behavior have several legal implications. Data aggregation and the combination of customer-provided data can reinforce private data power. And data power may bring about a position that cannot be replicated by competitors, a problem sketched out in the merger procedure conducted by the European Commission in the Google/DoubleClick case. Moreover, data power can also entail infringements of the right to informational self-determination as developed by the German Constitutional Court in its case concerning population census. The genuine expression of the right to informational self-determination as derived from Art. 1 § 1 and Art. 2 § 1 of the German Constitution is consent. If the risks resulting from data disclosure, like data aggregation or secondary uses, are unknown, any decision on consent is a decision under uncertainty. In my thesis I will take recourse on behavioral law and economics as a method and analyze how insights on data disclosure behavior can be integrated into the framework of the European data protection directive, German data protection law, and the doctrine of the right to informational self-determination.

Besides, I would like to acquire further knowledge in constitutional law, administrative, constitutional and EU procedural law, European and international economic law, and competition law. To this end, I would like to engage in a legal and interdisciplinary dialogue with my colleagues.

## **Publications (since 2009)**

### **Articles (not peer-reviewed)**

Hermstrüwer Y., Zum recours pour excès de pouvoir im französischen Verwaltungsprozessrecht. Die cross-fertilisation objektiver und subjektiver Rechtsschutzsysteme, *Bonner Rechtsjournal*, vol. 3, pp. 222-225, 2010.

Hermstrüwer Y., Philosophie und Recht in Zeiten des Terrors. Terrorismus aus Perspektiven der Philosophie: Jürgen Habermas und Jacques Derrida, *Humboldt Forum Recht*, pp. 30-51, 2009.

## **Benjamin Hilbig (Affiliate)**



### **Summary Report**

I joined in the Intuitive Experts Group as a visiting post-doctoral researcher in September 2009. In January 2010, I returned to the University of Mannheim, but was very pleased to retain the status of affiliate group member. Many of the projects initiated during my time at the MPI in Bonn have turned out to be fruitful, and thus a lively and close cooperation has been established. This is also mirrored in the forthcoming special issue on "Methodology of Judgment and Decision Making research", edited by Andreas Glöckner and myself.

My main research interests are in the areas of Judgment and Decision Making, broadly defined. Much of my work has been closely linked to the goals of the Intuitive Experts Group, especially in terms of understanding underlying processes and principles of human decision making. For example, we (Hilbig & Pohl, 2009) have pitted the predictions of multi-strategy models against broad single-mechanism approaches, such as the PCS model proposed by Andreas Glöckner and co-workers. Also, we have worked on understanding the characteristics of automatic/intuitive information processing (Hilbig, Scholl, & Pohl, 2010), which is also a central goal of the Group. Combining and extending these directions, current joint work with the Intuitive Experts Group concerns the question of how information acquisition (especially the opportunity to process information automatically) influences the degree to which "rational" behavior is observed in risky choice situations. Finally, I have studied the influence of the nature and consequences of basic cognitive information processing on judgments of truth (Hilbig, 2009, *in press*). Part of the empirical work on these was conducted at the Lab of the Intuitive Experts Group, and feedback from several colleagues at the MPI strengthened this work substantially.

In a related line of research – a substantial part of which directly emerged during my time at the Intuitive Experts Group – I have dealt with methodological issues in the study of cognition in general and decision making in particular (Hilbig, 2010a, 2010b; Hilbig & Richter, 2011). Countless discussions with the members of the Intuitive Experts Group greatly aided me in these works and in their extension and application in the development of formal measurement models for human decision processes (Hilbig, Erdfelder, & Pohl, 2010, 2011). These mostly stem from the class of multinomial processing tree models (Erdfelder et al., 2009) and they are particularly useful for the task of identifying individual decision makers' strategies (Moshagen & Hilbig, *in press*), which has been another important focus of the Intuitive Experts Group.

Finally, based on my time at the MPI (and especially driven by the strong common ground between the Institute as a whole and the Intuitive Experts Group in particular), I have extended my work on social dilemmas and strategic interaction – especially in terms

of individual and/or situation determinants and their interaction (Hilbig & Zettler, 2009; Hilbig, Zettler, & Heydasch, in press; Moshagen, Hilbig, & Musch, in press; Zettler & Hilbig, 2010). Current projects and working papers together with Andreas Glöckner are strongly related to this line of work.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Hilbig B. E., Good things don't come easy (to mind): Explaining framing effects in judgments of truth, *Experimental Psychology*, In Press.

Hilbig B. E., Zettler I., Heydasch T., Personality, punishment, and public-goods: Strategic shifts towards cooperation as a matter of dispositional Honesty-Humility, *European Journal of Personality*, In Press.

Moshagen M., Hilbig B. E., Methodological notes on model comparisons and strategy classification: A falsificationist proposition, *Judgment and Decision Making*, In Press.

Glöckner A., & Hilbig B. E., Editorial: Methodology in Judgment and Decision Making Research, *Judgment and Decision Making*, In Press.

Hilbig B. E., Glöckner A., Yes, they can! Appropriate weighting of small probabilities as a function of information acquisition, *Acta Psychologica*, In Press.

Hilbig B. E., Erdfelder E., Pohl R. F., Fluent, fast, and frugal? A formal model evaluation of the interplay between memory, fluency, and comparative judgments, *Journal of Experimental Psychology: Learning, Memory, & Cognition*, vol. 37, pp. 827-839, 2011.

Hilbig B. E., Richter T., Homo heuristicus outnumbered: Comment on Gigerenzer and Brighton (2009), *Topics in Cognitive Science*, vol. 3, pp. 187-196, 2011.

Moshagen M., Hilbig B. E., Musch J., Defection in the dark? A randomized-response investigation of cooperativeness in social dilemma games, *European Journal of Social Psychology*, vol. 41, pp. 638-644, 2011.

Zettler I., Friedrich N., Hilbig B. E., Dissecting work commitment: The role of Machiavellianism, *Career Development International*, vol. 16, pp. 20-35, 2011.

Zettler I., Hilbig B. E., Haubrich J., Altruism at the ballots: Predicting political attitudes and behavior, *Journal of Research in Personality*, vol. 45, pp. 130-133, 2011.

Hilbig B. E., Erdfelder E., Pohl R. F., One-reason decision-making unveiled: A measurement model of the recognition heuristic, *Journal of Experimental Psychology: Learning, Memory, and Cognition*, vol. 36, pp. 123-134, 2010.

Zettler I., Hilbig B. E., Attitudes of the selfless: Explaining political orientation with altruism. *Personality and Individual Differences*, *Personality and Individual Differences*, vol. 48, no. 3, pp. 338-342, 2010.

Hilbig B. E., Precise models deserve precise measures: a methodological dissection, *Judgment and Decision Making*, vol. 5, pp. 272-284, 2010.

Hilbig B. E., Reconsidering "evidence" for fast-and-frugal heuristics, *Psychonomic Bulletin & Review*, vol. 17, pp. 923-930, 2010.

Hilbig B. E., Scholl S. G., Pohl R. F., Think or blink – is the recognition heuristic an "intuitive" strategy?, *Judgment and Decision Making*, vol. 5, pp. 300-309, 2010.

Zettler I., Hilbig B. E., Honesty-Humility and a person-situation-interaction at work, *European Journal of Personality*, vol. 24, pp. 569-582, 2010.

Erdfelder E., Auer T.-S., Hilbig B. E., Aßfalg A., Moshagen M., Nadarevic L., Multinomial processing tree models: A review of the literature, *Zeitschrift für Psychologie – Journal of Psychology*, vol. 217, no. 3, pp. 108-124, 2009.

Hilbig B. E., Pohl R. F., Bröder A., Criterion knowledge: A moderator of using the recognition heuristic?, *Journal of Behavioral Decision Making*, vol. 22, no. 5, pp. 510-522, 2009.

Massen C., Vaterrodt-Plünnecke B., Krings L., Hilbig B. E., Effects of instruction on learners' ability to generate an effective pathway in the method of loci, *Memory*, vol. 17, pp. 724-731, 2009.

Hilbig B. E., Sad, thus true: Negativity bias in judgments of truth, *Journal of Experimental Social Psychology*, vol. 45, no. 4, pp. 983-986, 2009.

Hilbig B. E., Pohl R. F., Ignorance- vs. evidence-based decision making: A decision time analysis of the recognition heuristic, *Journal of Experimental Psychology: Learning, Memory, and Cognition*, vol. 35, pp. 1296-1305, 2009.

Hilbig B. E., Zettler I., Pillars of cooperation: Honesty-Humility, social value orientations, and economic behavior, *Journal of Research in Personality*, vol. 43, no. 3, pp. 516-519, 2009.

## Reviews

Hilbig B. E., Heuristics: The Foundations of Adaptive Behavior. Gerd Gigerenzer, Ralph Hertwig, Thorsten Pachur (Eds.). Oxford University Press (2011). 872 pp., *Journal of Economic Psychology*, In Press.



## **Oliver Himmller**

### **Summary Report**

Two areas have been at the center of my research for the past years. The first one is the link between mass media and public policy, whereas the second focuses on 'indirect' responses to perceived norm violations.

In addition, I have spent some time revising two early papers from my dissertation. Both deal with education in the Netherlands. Assessing the effects of school choice on educational achievement is the aim of one paper, while the other proposes that teachers may have an incentive to grade more leniently in schools with a high percentage of disadvantaged students. I have also worked on a paper which tries to estimate the causal effect of health on wages taking into account selection and endogeneity by applying a new estimator proposed by Semykina and Wooldridge (2010).

**Mass media and public policy.** The relation between mass media and public policy is at the heart of two joint papers with Christian Bruns. In the first manuscript, a simple model explains the allocation of public spending across jurisdictions contingent on media activity. Incentives for politicians to spend more money where media coverage is higher arise from the fact that incumbents seeking reelection need voters to know what they have done for them. Maximizing the probability of reelection will shift more money to jurisdictions where an extra dollar gains more votes due to a larger share of the electorate being informed about the incumbents' policies. This prediction is tested empirically using US data on county-level federal grant allocation and local media markets. Approximating media activity by the proximity of licensed television stations, we find that counties that are closer to cities where many television stations are located receive significantly larger amounts of funds per capita.

How the media can serve to ensure the efficient use of public funds by elected agents is the issue dealt with in the second paper. In order to establish accountability, voters are in need of information. In an agency model with imperfect monitoring, we show that an informed electorate is more likely to hold an incumbent accountable. We propose that this information can be provided by newspapers. Panel data from Norwegian municipalities empirically back these ideas: increases in local newspaper circulation are associated with higher levels of local government efficiency, as measured by an index introduced by the Norwegian authorities.

**Norm violations.** Two joint papers with Thomas Cornelissen and Tobias Koenig are concerned with indirect or 'hidden' adjustment behavior that individuals may exhibit in response to perceived norm violations whenever a 'direct' response is infeasible. While it is standardly assumed that individuals adjust to perceived unfairness or norm violations in precisely the same area or relationship where the original offense has occurred, we

propose that grievances over being exposed to injustice may have broad consequences and also spill over to other contexts, causing non-compliant behavior there. Using data from the GSOEP, the first of these manuscripts shows that the perceived fairness of manager incomes matters for work morale: we find that those who think that manager compensation is unduly high are absent from work due to illness significantly more than those who are not of that opinion. In an extension of this short paper, we further develop the idea of economically relevant indirect adjustment behavior. We show that such 'fairness spillovers' may also be triggered by the perceived fairness of taxation in society. As an interesting aside, the results suggest that income fairness and tax fairness seem to be distinct categories.

## Research Agenda

Current and future work includes taking the idea of 'fairness spillovers' to the experimental lab as well as an investigation of how television affects public safety expenditures. A few other projects could be filed under the broader label 'education'.

**Fairness spillovers.** One major shortcoming of the research we have completed on indirect adjustment behavior in the face of norm violations is the lack of identification. Since we use survey data, in the absence of valid instruments we cannot be sure that our findings can be interpreted in a causal way. Therefore, we plan to run a lab experiment in order to generate clean evidence for the existence and economic relevance of these spillovers, in particular in situations where others' tax contributions are deemed unfair. The experiment will be run in cooperation with Sebastian Goerg and Tobias Koenig.

**Mass media and public policy.** I also plan to venture further into research on the impact of mass media on public policy. In a project with Christian Bruns, I wish to figure out theoretically whether (given the incentives for politicians that arise from media activity) different kinds of public goods and services should be centrally or decentrally provided in the presence of media markets that encompass multiple lower-level jurisdictions.

An empirical project with Christian Traxler aims at identifying the effect of mass media on public expenditure: when in the late 1980s a fourth television network arrived on the scene in the US, it introduced the genre of reality crime programming. We want to explore whether the staggered introduction of this network in the local American media markets thus created an exogenous variation in citizens' fear of crime, and whether this, in turn, has led to a shift in public expenditure towards public safety, holding constant actual local crime rates.

**Education and personality.** The effect of personality on educational outcomes is what I aim to estimate in a collaborative project with Tobias Koenig. There is a vast literature that focuses on the relation between schooling and personality traits, in particular the so-called Big Five. These traits have traditionally been viewed as stable over the course of time; yet, recent evidence suggests that this may be a tenuous assumption. In our re-

search, we investigate how core self-evaluations manifested in self-esteem are linked to educational success. As these educational outcomes may themselves affect personality and self-evaluations, we employ an instrumental variable approach in order to estimate the causal effect of self-esteem on high-school grades. Possible extensions of this research include looking into the relation between core self-evaluations and economic attitudes, as well as looking into whether a connection between particular genetic markers and core self-evaluations can be established.

Joint work with Robert Jaeckle will try to shed light on the economic situation of (functional) illiterates in Germany, using data from a large-scale adult literacy test that was conducted in 2010. We aim to assess how literacy relates to job-market outcomes, i.e., can low literacy explain abstention from the labor market, and what kinds of jobs do those with low literacy select, conditional on choosing to work? We plan to place particular emphasis on differences between immigrants and natives: how does the literacy of Germans and natives differ, and can predictors of such differences be identified? Finally, we would like to assess to what extent the wage gap between immigrants and natives can be attributed to differences in literacy.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Himmler O., Bruns C., Newspaper circulation and local government efficiency, *Scandinavian Journal of Economics*, vol. 113, no. 2, pp. 470-492, 2011.

Himmler O., Cornelissen T., Koenig T., Perceived Unfairness in CEO Compensation and Work Morale, *Economics Letters*, vol. 110, no. 1, pp. 45-48, 2011.

Himmler O., Jaeckle R., Health and wages – panel data estimates considering selection and endogeneity, *Journal of Human Resources*, vol. 45, no. 2, pp. 364-406, 2010.

Himmler O., Bruns C., Media activity and public spending, *Economics of Governance*, vol. 11, no. 4, pp. 309-332, 2010.

### **Working Papers**

Himmler O., Koenig, T., Self Esteem and Human Capital Formation, mimeo, 2011.

Himmler O., Cornelissen T., Koenig T., Fairness Spillovers – The Case of Taxation, *Working Paper Series*, No. 3217, München, Cesifo, 2010. (revise & resubmit: *Journal of Economic Behavior and Organization*).

Himmler O., The Effects of School Choice on Academic Achievement and Grading Standards, *Working Paper Series*, No. 2676, München, Cesifo, 2009.

## **Presentations and Lectures (since 2009)**

### **2009**

#### **Newspaper Circulation and Local Government Efficiency**

Workshop 'Taxation, Public Provision and the Future of the Nordic Welfare Model',  
Helsinki, Norway  
June 2009

#### **Fairness Spillovers – The Case of Taxation**

CReAM Seminar, University College London, UK  
October 2009

### **2010**

#### **Fairness Spillovers – The Case of Taxation**

Public Choice Society Annual Meeting, Monterey, CA, U.S.A.  
March 2010

#### **Fairness Spillovers – The Case of Taxation**

Public Economics Seminar LMU, Munich, Germany  
June 2010

#### **Fairness Spillovers – The Case of Taxation**

Econometric Society World Congress, Shanghai, China  
August 2010

### **2011**

#### **Self Esteem and Human Capital Formation**

Public Choice Society Annual Meeting, San Antonio, TX, U.S.A.  
March 2011



## **Felix Höffler (Affiliate)**

### **Summary Report**

I had worked at the Max Planck Institute as a Senior Research Fellow from August 2004 until August 2007. I then became a full professor of economics at the WHU – Otto Beisheim School of Management, Koblenz/Vallendar, and from there moved on to the University of Cologne in January 2011. At Cologne University, I am also Director of the Institute for Energy Economics. My work focuses on applied industrial economics, in particular network industries.

As a research affiliate, I hold close contact to the Max Planck Institute, since several of my research projects relate to the institute's research focus on network industries. First, I finished and published two papers on governance and ownership structures in network industries (Höffler and Kranz 2011a and 2011b), which I had already begun during my time at the MPI. Both papers analyze the legal obligation in the European Union to "legally unbundle" the network operations (in particular in the energy industry) from other activities (like electricity generation). In the policy debate, the European Commission has frequently argued for a stricter form of unbundling, namely ownership unbundling. In contrast to this, we argue that, as long as the network access is regulated, legal unbundling has preferable properties.

I continue this line of research by extending the analysis into the issue of network investments. Together with Sebastian Kranz, I have written a paper on how to provide robust incentives for network providers to undertake investments that benefit consumers by reducing wholesale prices. "Robust" refers to incentive schemes that use financial market information to avoid the problem of regulatory capture. The paper (Höffler and Kranz 2011c) benefited a lot from comments from members of the Max Planck Institute and was published as a Preprint of the MPI.

An ongoing project that relates to the MPI's research deals with so-called reserve electricity markets. This refers to a "buffer" which the network companies buy from electricity producers, such that they can call additional electricity generation in case of need. The procurement of this "buffer" is organized in an auction, and the German energy regulator made the individual bidding data from these auctions available to my co-authors and me (Growitsch, Höffler, and Wissner 2010). I presented a first work-in-progress report on this at the MPI's Econ Workshop in summer 2010. The project now aims for a theoretical analysis of such auctions (which already led to a nice paper by one of my PhD students at the University of Cologne, Richter 2011), and we also plan an empirical investigation into the actual bidding behavior.

Finally, I am still involved in what started as a joint project with Martin Hellwig at the institute back in 2004, and which aims at bridging gaps between lawyers and economists

in the field of practical regulation. Martin Hellwig and I contributed to a legal commentary to the German Telecommunications Act back in 2008. Due to substantial changes in the law, there will be a new edition of the commentary, and I plan to continue my contribution to this volume in the hope of bringing more economics into the regulatory debate in Germany.

I still benefit a lot from the cooperation with researchers at the MPI, and we plan to intensify the cooperation in the future, in particular in the field of industrial organization and regulatory economics. I am looking forward to additional cooperation between researchers from the Energy Economics Institute at Cologne University and researchers at the MPI who are interested in IO and regulation.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Höffler F., Kranz S., Legal Unbundling Can Be a Golden Mean Between Vertical Integration and Ownership Separation, *International Journal of Industrial Organization*, vol. 29, no. 5, pp. 576-588, 2011.

Bechtold S., Höffler F., An Economic Analysis of Trade-Secret Protection in Buyer-Seller Relationships, *Journal of Law, Economics & Organization*, vol. 27, pp. 137-158, 2011.

Höffler F., Kranz S., Imperfect Legal Unbundling of Monopolistic Bottlenecks, *Journal of Regulatory Economics*, vol. 39, no. 3, pp. 273-292, 2011.

Höffler F., Mobile termination and collusion revisited, *Journal of Regulatory Economics*, vol. 35, pp. 246-274, 2009.

### **Books**

Höffler F., Engpassmanagement und Anreize zum Netzausbau im leitungsgebundenen Energiesektor. Wirtschaftstheoretische Analyse und wirtschaftspolitische Handlungsempfehlungen, *Common Goods: Law, Politics and Economics*, vol. 20, Baden-Baden, Nomos, pp. 98, 2009.

### **Articles (not peer-reviewed)**

Growitsch C., Höffler F., Wissner M., Marktkonzentration und Marktmachtanalyse für den deutschen Regelenergiemarkt, *Zeitschrift für Energiewirtschaft*, vol. 34, no. 3, pp. 209-222, 2010.

### **Preprints**

Höffler F., Kranz S., *Using Forward Contracts to Reduce Regulatory Capture*, issue 2011/09, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

## **Working Papers**

Höffler, F., Richter, J., Simultaneous Equilibria on Electricity Spot and Electricity Reserve Markets, *University of Cologne, Institute of Energy Economics*, mimeo, 2011.



## **Nina Horstmann (Affiliate)**

### **Summary Report**

After finishing my studies in psychology at the University of Trier, I joined the institute as a research fellow of the independent research group *Intuitive Experts* in August 2007. While the first two years were mainly focused on data collection for my dissertation, in 2010 I completed last data analyses and started writing up my findings. Since January 2011, I have been continuing work on my dissertation as a guest researcher.

The research within the scope of my dissertation focuses on a comparison of information integration processes underlying intuitive and deliberate decision making. This research interest arose from the fact that until now relatively little is known about basic mental mechanisms of intuitive and deliberate processing modes. Indeed, numerous studies comparing intuition and deliberation have been published in recent years, but they have primarily used outcome measures such as decision quality, while cognitive processes have so far mainly been neglected. Additionally, although a multitude of dual-process theories is available (Evans, 2008), these theories only list superficial “process” properties without making claims regarding information integration processes. Therefore, a first question guiding my research is: which weighting schemes do persons use to integrate information into their decision? By means of strategy classification methods (Bröder, 2010; Glöckner, 2010), no difference in the frequency of strategy use could be found between intuitive and deliberate decisions. In both processing modes, decisions were mainly in line with the predictions of a weighted summing strategy, while simple heuristics were rather infrequently observed.

In a second step, in joint work with Andrea Ahlgrimm and Andreas Glöckner (see Horstmann, Ahlgrimm & Glöckner, 2009), I investigated if there are differences in the depth of processing using eye-tracking technology. Within the dual-process debate, roughly two classes of theories modeling the interplay of intuitive and deliberate processes can be distinguished. According to the traditional dual-process framework, intuition and deliberation are conceptualized as two completely distinct modes between which people alternate under different conditions (see Evans, 2008). However, another class of models (e.g., Glöckner & Betsch, 2008) assumes that every decision is based on intuitive or automatic processes and can be supplemented by deliberate processes if necessary. Overall, the analysis of well-established eye-tracking parameters supports the latter class of theories. Thus, instructions to decide intuitively or deliberately did not influence single fixation duration and short fixations considerably prevailed. As fixation duration is a reliable indicator for levels of processing (e.g., Velichkovsky et al., 1999), the findings provide first evidence that intuition and deliberation are not necessarily qualitatively different and separable processing modes.

A further question of my research concerns the integration of affective information in intuitive and deliberate decision making. Several dual-process theories assume that intuition is particularly sensitive to affective stimuli, while deliberation rather deals with neutral information (e.g., Kahneman, 2003). In joint work with Stephan Dickert, I investigated the influence of affectively charged, but invalid information on judgments in complex legal cases. When asked to evaluate each piece of information immediately, deliberate decision makers more often noticed the deficient predictive power of the affective information, while intuitive decision makers assigned a certain weight to this kind of information. Regarding the final judgment the picture is less clear. Overall, no differential influence of affective information on final judgments was found. However, first tentative evidence indicates that presentation time might have a differential impact on the integration of affective information in intuitive and deliberate processing modes.

Besides working on my dissertation, I contributed, in joint work with Daniel Hausmann and Stefan Ryf (University of Zurich), a chapter to the book *Foundations for Tracing Intuition: Challenges and Methods*, edited by Andreas Glöckner and Cilia Witteman. Within this chapter, we present a critical review of well-established methods for the experimental induction of intuitive and deliberate processing modes.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Horstmann N., Ahlgrimm A., Glöckner A., How Distinct are Intuition and Deliberation? An Eye-Tracking Analysis of Instruction-Induced Decision Modes, *Judgment and Decision Making*, vol. 4, pp. 335-354, 2009.

### **Book Chapters**

Horstmann N., Hausmann D., Ryf S., Methods for inducing intuitive and deliberate processing modes, *Foundations for tracing intuition: Challenges and methods*, Glöckner A., Witteman C. L. M., (Eds.), London, Psychology Press & Routledge, pp. 219-237, 2010.

### **Preprints**

Horstmann N., Ahlgrimm A., Glöckner A., How Distinct are Intuition and Deliberation? An Eye-Tracking Analysis of Instruction-Induced Decision Modes, issue 2009/10, Bonn, Max Planck Institute for Research on Collective Goods, 2009.



## **Jos Jansen**

Since October 2011, I am Deputy Professor of Economics at the University of Cologne (chair Prof. Ockenfels). This report also includes my activities in the last three months. During the last two years, my research activities have been related to intellectual property rights and the acquisition and use of information in oligopolistic industries and contests. My work is of a theoretical nature.

### **Summary Report**

In the period 2010-2011, my research covered four areas. First, I analyzed the incentives for knowledge diffusion between companies in oligopolistic industries with weak intellectual property right protection. Second, I looked into the effects of information exchange between oligopolistic firms on profits and welfare. Third, I analyzed the incentives of an oligopolist to disclose information strategically to competitors. Finally, I studied the incentives to invest in research and development or rent-seeking under asymmetric information.

#### **Incentives for Knowledge Diffusion in Oligopoly**

In the area of knowledge diffusion in oligopolistic markets with weak protection of intellectual property rights, I analyze the following basic trade-off. On the one hand, the diffusion of knowledge about a production technology may enable a competitor to adopt the technology to some degree and become a more "aggressive" competitor in the product market (expropriation effect). On the other hand, knowledge diffusion makes a competitor aware of the relative efficiency of the firm's diffused technology, which affects the competitor's strategy in the product market (signaling effect).

First, I drastically revised my paper about the effects of competitive pressure in the product market on the incentives of an innovative firm for the *Journal of Economics & Management Strategy*. The firm has private information about an indivisible process innovation, and chooses strategically whether to apply for a patent with probabilistic validity or rely on secrecy. By doing so, the firm manages its rivals' beliefs about the size of the innovation, and affects the incentives in the product market. A Cournot competitor tends to patent big innovations, and keep small innovations secret, while a Bertrand competitor adopts the reverse strategy. Increasing the number of firms gives a greater (smaller) patenting incentive for Cournot (Bertrand) competitors. Increasing the degree of product substitutability increases the incentives to patent the innovation.

Second, I study the technology-sharing incentives of two innovative firms that compete in quantities when intellectual property-right protection is absent. The skewness of the firms' technology distributions affects the relative sizes of the expected expropriation and signaling effects, which determines the technology-sharing incentives of the two firms. Interest-

ingly, the profit gain from technology-sharing is non-monotonic in the size of the innovation. A firm has the greatest incentive to share for intermediate technologies.

### **Effects of Information Exchange in Oligopoly**

In the area of information transmission in oligopolistic markets, I have studied the welfare effects of information sharing by oligopolistic firms. In particular, I study how the presence of endogenous information acquisition may change the impact of information sharing on the profits and the consumer surplus.

First, in a joint project with Juan José Ganuza, we analyze the effects of transmitting information about independently distributed production costs in a Cournot duopoly. We apply the modern concept of Integral Precision, which is based on convex orderings of conditional expected values of a random variable, to model endogenous information acquisition in a general way. If information is exogenous to the firms, then information-sharing hurts consumers on average. However, when information is acquired by firms, then information-sharing creates a greater incentive to acquire information, which increases the expected consumer surplus. This beneficial effect of information-sharing may dominate the former effect. We extend the analysis by studying these effects in an oligopoly, in a Bertrand duopoly, and in an environment with correlated costs.

Second, jointly with Rune Stenbacka, we analyze the effects of sharing information about a population risk on profits and consumer surplus in a duopolistic insurance industry. We focus on competition in insurance premiums. This paper could be helpful to evaluate the recent extension of a European-block exemption for joint information acquisition and dissemination in the insurance industry. With endogenous investments in information acquisition, the insurance companies have incentives to share information (both unilaterally and jointly). However, information exchange hurts consumers on average. Consequently, our model specifies circumstances under which sharing information on population risk would have anti-competitive effects contrary to the purpose of the current EU block exemption regulation applied to the insurance industry.

### **Incentives for Strategic Information Disclosure in Oligopoly**

Related to the incentives for strategic information disclosure, I studied two problems.

First, I analyzed the incentives of firms to disclose strategically the demand in an asymmetric Cournot duopoly. Each firm receives information about a common demand intercept with some probability. These probabilities can be asymmetric. If a firm receives information, it chooses whether to disclose or conceal the information. The disclosure of information may have two effects on a competitor. First, an uninformed competitor learns what the demand condition will be. This enables the competitor to adjust its outputs accordingly. Second, the competitor learns that the firm is informed. This affects the beliefs about the firm's strategy. If the firms' probabilities of receiving information are sufficiently different and it is unlikely that the market is big, then there exists no symmetric equilibrium. Instead, in an asymmetric equilibrium, the following disclosure strategies may be chosen. The firm that is likely to receive information discloses only a low demand

intercept to discourage its competitor in the product market. By contrast, the firm that is unlikely to become informed discloses only a high demand intercept. The firm thereby convinces its competitor that it is informed and will be an aggressive competitor.

Finally, in a joint research project with Luigi Filippini, we study the effects of a horizontal merger on the incentives of firms in an oligopoly to disclose information about production costs strategically. A merger between two firms has at least two effects on the incentives to disclose information. First, the merger increases the market concentration, and thereby changes the sensitivity of a firm's profit with respect to information disclosure. Second, the merged firm consolidates the information of the individual firms and coordinates the information disclosure and pricing strategies of the individual firms.

### **Incentives in Innovation**

The paper in this area explores the disclosure strategies in a simple contest. A contestant has private information about the size of the prize it can obtain as a winner of the contest. For example, a research laboratory may have private information about the cost reduction it can achieve if it is the first to patent a process innovation. The contestant has the smallest incentive to disclose prizes that are equal to the prize of the competitor. The disclosure incentives increase as the contestant's prize moves further away from the rival's prize. That is, the profit gain from disclosure is non-monotonic in the size of the contestant's prize, if the rival's prize lies in the interval of feasible prizes. I intend to explore the economic implications of this observation soon.

## **Research Agenda**

In the near future, I intend to revise and finish the research papers I have been working on so far, and venture into a few new problems within the area of Industrial Organization.

### **Incentives in Innovation**

In the near future, I intend to analyze the consequences of secrecy by innovative firms on the incentives to invest in a patent race. Secrecy creates ambiguity about the number of firms that are developing competing technologies in an industry. The more time passes during which no discovery was made, the more optimistic firms become about the competitive pressure, and the lower the investment incentives become. These investment dynamics have interesting economic consequences, which I will explore in the future. Characterizing the effects of secrecy and research dynamics on profits, welfare, and macroeconomic performance rank high on my research agenda. Furthermore, I would like to gain insights in the incentives of innovative firms for adopting secrecy in the first place.

## **Incentives in Regulation**

Finally, I intend to work on the incentive regulation of network industries. One problem that currently fascinates me is the optimal regulation of access to a network. Resolving the access pricing problem is often crucial for the successful deregulation of network industries, and there remain some open questions in this area. In particular, I would like to study the effect of cross-subsidization incentives on the optimal regulation of a network provider.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Jansen J., On Competition and the Strategic Management of Intellectual Property in Oligopoly, *Journal of Economics & Management Strategy*, vol. 20, no. 4, pp. 1043-1071, 2011.

Jansen J., Strategic Information Disclosure and Competition for an Imperfectly Protected Innovation, *Journal of Industrial Economics*, vol. 58 , no. 2, pp. 349–372, 2010.

### **Preprints**

Ganuza J. J., Jansen J., *Too Much Information Sharing? Welfare Effects of Sharing Acquired Cost Information in Oligopoly*, issue 2010/40, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Jansen J., *Share to Scare: Technology Sharing in the Absence of Intellectual Property Rights*, issue 2009/36, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Jansen J., *Beyond the Need to Boast: Cost Concealment Incentives and Exit in Cournot Duopoly*, issue 2009/32, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Jansen J., *On Competition and the Strategic Management of Intellectual Property in Oligopoly*, issue 2009/13, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Jansen J., *Strategic Information Disclosure and Competition for an Imperfectly Protected Innovation*, issue 2009/06, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

### **Work in Progress**

Jansen, J., Something Big (or Small) Is Gonna Happen: Strategic Information Disclosure in Contests. October 2010

Filippini, L. and J. Jansen, Mergers and Messages: Strategic Cost Disclosure and Mergers in Oligopoly. May 2011

Jansen, J. and R. Stenbacka: Information Exchange in the Insurance Industry: A Pro-competitive or Anti-competitive Device? June 2011

Jansen, J.: Strategic Disclosure of Demand Information by Heterogeneous Duopolists. September 2011

### **Discussion Papers**

Jansen J., On Competition and the Strategic Management of Intellectual Property in Oligopoly, *Discussion Paper Series*, issue 339, Mannheim, University of Mannheim / Sonderforschungsbereich/Transregio 15, 2010.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **On Competition and the Strategic Management of Intellectual Property in Oligopoly**

Economics Research Seminar, Helsinki Center of Economic Research, Helsinki, Finland  
January 2009

#### **On Competition and the Strategic Management of Intellectual Property in Oligopoly**

Economics Research Seminar, University of Cologne, Cologne, Germany  
February 2009

#### **Competition Policy towards the Disclosure of Acquired Demand Information in Duopoly**

Economics Seminar, Copenhagen Business School, Copenhagen, Denmark  
April 2009

#### **Competition Policy towards the Disclosure of Acquired Demand Information in Duopoly**

Workshop of Competition Law and Economics European Network, Tilburg, Netherlands  
May 2009

#### **Competition Policy towards the Disclosure of Acquired Demand Information in Duopoly**

Internal Economics Seminar, University of Bologna, Bologna, Italy  
May 2009

**Competition Policy towards the Disclosure of Acquired Demand Information in Duopoly**

Economics Seminar of Tuesdays, Università Cattolica Milano, Milan, Italy  
May 2009

**On Competition and the Strategic Management of Intellectual Property in Oligopoly**

24th Annual Congress of the European Economic Association, Barcelona, Spain  
August 2009

**Competition Policy towards the Disclosure of Acquired Demand Information in Duopoly**

36th Conference of the European Association for Research in Industrial Economics  
Ljubljana, Slovenia  
September 2009

**On Competition and the Strategic Management of Intellectual Property in Oligopoly**

International Conference on Competition Policy and Property Rights, Milan, Italy  
September 2009

**Too Much Information Sharing? Welfare Effects of Disclosing Acquired Cost Information**

(joint with Juan-José Ganuza)  
24th Jornadas de Economía Industrial, Vigo, Spain  
September 2009

**Something Big (or Small) Is Gonna Happen: Strategic Information Disclosure in Contests**

24th Jornadas de Economía Industrial, Vigo, Spain  
September 2009

**Share to Scare: Technology Sharing in the Absence of Intellectual Property Rights**

10<sup>th</sup> Internal Conference of SFB/Transregio 15, Tutzing, Germany  
October 2009

**Information Exchange in the Insurance Industry: A Procompetitive or Anticompetitive Device?**

(joint with Rune Stenbacka) Workshop on "Liquidity and Trust in Incomplete Markets,"  
Freiburg, Germany  
November 2009

**On Competition and the Strategic Management of Intellectual Property in Oligopoly**

Séminaire Économie et Économétrie de l’Innovation, Paris, France

December 2009

**2010**

**On Competition and the Strategic Management of Intellectual Property in Oligopoly**

SFB/TR 15 “Governance and the Efficiency of Economic Systems” Seminar, Berlin, Germany

January 2010

**Share to Scare: Technology Sharing in the Absence of Intellectual Property Rights**

Lunch Seminar “Theory, Organisation and Markets,” Paris School of Economics,

Paris, France

March 2010

**Too Much Information Sharing? Welfare Effects of Disclosing Acquired Cost Information**

(with Juan José Ganuza)

6th ACLE Competition & Regulation Meeting “Information, Communication and Competition”, Amsterdam, The Netherlands

April 2010

**Share to Scare: Technology Sharing in the Absence of Intellectual Property Rights**

Lunch Seminar, University of Bologna, Italy

May 2010

**Too Much Information Sharing? Welfare Effects of Disclosing Acquired Cost Information**

(with Juan-José Ganuza)

11th SFB/TR15 Conference on “Industrial Organization and Market Governance”, Caputh, Germany

May 2010

**Share to Scare: Technology Sharing in the Absence of Intellectual Property Rights**

Forschungsseminar für Wirtschaftspolitik und quantitative Wirtschaftsforschung, Friedrich-Alexander-Universität Erlangen-Nürnberg, Nuremberg, Germany

June 2010

**Too Much Information Sharing? Welfare Effects of Disclosing Acquired Cost Information**

(with Juan-José Ganuza)

Internal Microeconomics Seminar, Universitat Pompeu Fabra, Barcelona, Spain

June 2010

**Too Much Information Sharing? Welfare Effects of Disclosing Acquired Cost Information**

(with Juan-José Ganuza)

25th Congress of the European Economic Association, Glasgow, UK

August 2010

**Something Big (or Small) is Gonna Happen: Strategic Information Disclosure in Contests**

37th EARIE conference, Istanbul, Turkey

September 2010

**Something Big (or Small) is Gonna Happen: Strategic Information Disclosure in Contests**

ASSET meeting, Alicante, Spain

October 2010

**2011**

**Information Exchange in the Insurance Industry: A Pro-competitive or Anti-competitive Device?**

CLEEN workshop, Florence, Italy

May 2011

**Share to Scare: Technology Sharing in the Absence of Intellectual Property Rights**

4th ZEW Conference on Economics of Innovation and Patenting, Mannheim, Germany

May 2011

**Too Much Information Sharing? Welfare Effects of Disclosing Acquired Cost Information in Oligopoly**

Internal Seminar, University of Bologna, Italy

May 2011

**Share to Scare: Technology Sharing in the Absence of Intellectual Property Rights**

2nd Workshop Industrial Organization: Theory, Empirics and Experiments, Otranto, Italy

June 2011

**Share to Scare: Technology Sharing in the Absence of Intellectual Property Rights**

26th Jornadas de Economía Industrial, Valencia, Spain

September 2011

**Too Much Information Sharing? Welfare Effects of Disclosing Acquired Cost Information**

(with Juan-José Ganuza)

38th EARIE conference, Stockholm, Sweden

September 2011

**Share to Scare: Technology Sharing in the Absence of Intellectual Property Rights**

Institute of Economics, Econometrics and Finance Seminar, University of Groningen,

Groningen, The Netherlands

November 2011



## **Marc Jekel**

### **Summary Report**

I joined the research group *Intuitive Experts* in October 2010. My main interest is computational modeling of cognition in probabilistic decision making. I am further interested in developing statistical methods and implementing those methods in the open source software package R.

My main contribution to the *Intuitive Experts* group is and will be the further development of the parallel constraint satisfaction network model of decision making – the research framework of the group – and the development of statistical methods to evaluate this and alternative models of decision making.

### **Development of Statistical Methods in Decision Making**

My co-authors and I developed an implementation of a new statistical method to evaluate decision models (Jekel, Nicklisch, & Glöckner, 2010). In a typical study on decision making, participants decide between alternative options (e.g., to which organization do I wish to donate? Organization A or B?). Over a set of such tasks, different types of decision behavior can be recorded (e.g., choices, decision times, confidence in the decisions, etc.). Those measures then allow the researcher to identify the theoretical model from a set of candidate models that can best predict decision behavior. Past approaches to model comparisons focused on choices only to evaluate models. The new method allows for integration of all measures into a single conclusive index that reflects the fit between the total vector of decision behavior predicted by a model and the decision behavior observed in a study. One essential advantage of this method is that model comparisons become more reliable because evaluations are based on more and partially independent data points. A further advantage is that findings of mixed evidence (e.g., choices speak more for model A; but decision times speak more for model B) can be accounted. The method we suggest has been made publicly available as an easy-to-use function in R.

In a recent article, my co-authors and I developed a standardized method for selection of diagnostic decision tasks (Jekel, Fiedler, & Glöckner, under revision). In order to evaluate the predictive accuracy of a set of models, researchers have to choose a set of decision tasks that are presented to participants. Tasks are only useful for model comparison if they differentiate between decision models; that is, if subsets of strategies make different predictions for them. There has not been a method available that researchers can apply in order to identify such diagnostic tasks in an optimal and standardized way. The idea behind the method we suggest is that the predictions of each decision model for each decision task concerning a given set of dependent measures such as choices, decision times, and confidence can be plotted in a multi-dimensional prediction space that is spanned by the dependent variables. The diagnosticity of a task can be evaluated by the mean (Euclidian) distance of the models' predictions in this prediction space. We suggest

that in all studies aiming to conduct model comparisons, diagnostic tasks should be selected using this distance criterion. The method has been implemented as an easy-to-use function in R and will be made publicly available following the publication of the article.

### **Critical Evaluation of Methods in Decision Making**

A part of my further work is devoted to critically investigating methods used in decision making research.

In a current project, my co-author and I (Jekel & Glöckner, in preparation) investigate the consequences of a conceptually wrong implementation of a prominent decision strategy in research on adaptive heuristics. We show that the weighted compensatory decision strategy *Franklin's rule* is applied in a suboptimal way without an appropriate correction for error probability. We also show that this leads to substantial overestimations of the usage of alternative non-compensatory heuristics such as *Take The Best* (TTB): in some environments, even if persons behaved perfectly rationally, two thirds of them would be classified as users of simple heuristics! Hence, the bias is of such high magnitude that it puts into question many classic papers in favor of non-compensatory strategies. We suggest a reanalysis of these papers and the strict usage of an appropriate error correction in future research.

### **External Cooperations**

I have cooperated (Han & Jekel, 2011) and still cooperate (Gollwitzer, Rothmund, Alt, & Jekel, in preparation) with external scholars on projects in which I mainly utilize my knowledge of statistics and computational modeling in different applied settings (predictors of employees' turnover intentions; victim sensitivity and the ability to detect future defection).

### **Research Agenda: Network Model of Decision Making**

In the next two years, I will focus on an aspect of the parallel constraint satisfaction network of decision making that has been developed in the research group *Intuitive Experts*.

I am interested in how human learning of cue-criterion relationships in probabilistic decision making can be mathematically modeled in the proposed network. I am especially intrigued by the question of how successful learning can take place in dynamic, noisy, and feedback-scarce environments that resemble conditions of real-world environments.

In a pilot study, we (Jekel & Glöckner) could show that a learning algorithm that has been used in past research on network models (i.e., Delta Rule) is a promising candidate for successful learning. We could show that – under specific environmental conditions –

external feedback on the quality of a decision (e.g., feedback from a teacher) is not necessary for learning. The properties of the network model allows successful differentiation between "good" and "bad" (i.e., valid/non-valid) cues if the directions of the cues (i.e., if a cue speaks for or against a higher decision criterion) are known.

In a series of already planned studies, we (Jekel, Glöckner, & Bröder) will test the environmental conditions necessary for successful learning in simulation studies and evaluate the accuracy of the proposed learning algorithm for human learning in empirical studies.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Jekel M., Fiedler S., Glöckner A., Diagnostic task selection for strategy classification in judgment and decision making, *Judgment and Decision Making*, In Press.

Han G., Jekel M., The mediating role of job satisfaction between leader-member exchange and turnover intentions, *Journal of Nursing Management*, vol. 19, pp. 41-49, 2011.

Jekel M., Nicklisch A., Glöckner A., Implementation of the multiple-measure maximum likelihood strategy classification in R, *Judgement and Decision Making*, vol. 5, pp. 54-63, 2010.

### **Manuscripts in Preparation**

Gollwitzer M., Rothmund T., Alt B., & Jekel M., Victim sensitivity and the accuracy of social perceptions.

Jekel M., Misconceptions of Brunswik's representative sampling clarified: The impact of (non-)representative sampling on the accuracy of decision strategies.

Jekel M., & Glöckner A., Doing justice to Benjamin Franklin's ideas: Overestimation of heuristics caused by wrong implementations of weighted compensatory strategies.

## **Lectures and Seminar Presentations (since 2009)**

### **2010**

#### **Der Einfluss des Samplings auf die Akkuratheit von Strategien**

[The Impact of Sampling Schemes on the Accuracy of Strategies]

TEAP, Saarbrücken, Germany

March, 2010

### **2011**

#### **Rationalität des Parallel Constraint Satisfaction Netzwerkmodells in feedbackarmen Umwelten**

[Rationality of the Parallel Constraint Satisfaction Network Model in Feedback-scarce Environments]

(together with Andreas Glöckner)

TEAP, Halle, Germany

March, 2011

#### **How to Compare Process Models for Decision Making: A Multiple Measure**

#### **Maximum Likelihood Approach to Model Evaluation**

(together with Andreas Glöckner)

SPUDM, Kingston, England

August, 2011



## **Marco Kleine**

### **Summary Report**

I am a PhD candidate and joined the Max Planck Institute in February 2011. Moreover, I am part of the International Max Planck Research School on Adapting Behavior in a Fundamentally Uncertain World.

Before joining the MPI, I studied business administration at the Berlin School of Economics (2003-2006), gathered work experience as a commercial sales and project manager at the Siemens AG (2006-2008), and pursued a Master's degree in Economics at the University of Bonn (2008-2010). During the course of the Master's program, I became particularly interested in the application of Experimental Economics methods at the intersection between Behavioral Economics (especially other-regarding preferences, as well as communication in economic interactions, including "lying aversion"), Public Economics, and Personnel Economics, and I plan to conduct my research in this realm.

### **Research Agenda**

The first work in progress, a follow-up project of my Master's thesis, deals with "Communication and Trust in Principal-Team-Relationships". Sebastian Kube and I have investigated gift exchange in repeated interactions between a principal and a team of two agents. In this laboratory experiment – as in many work environments – the principal is not able to observe his subordinates' individual work effort and performance. Rather, he receives only aggregate information on the performance of the group of agents as a whole. The lack of information raises two central questions. First, does the absence of information about the agents' individual effort contributions inhibit successful gift exchange between the principal and the agents, e.g., because it reduces the principal's opportunities to pay agents equitably? Second, are there means to circumvent such problems, i.e., is there a way for principals to gather better information on agents' individual contributions? We examine reporting systems, which allow the agents to communicate their individual effort levels to the principal, as natural candidates for the principal to become better informed about individual performances of the agents. The underlying idea is that if these reports are (partially) truthful, the principal could take them into account and discriminate wages according to the equity principle, which in turn could be positive for the agents' work morale. Accordingly, we compare treatments with and without such one-way communication. We find that gift exchange relationships can be established, regardless of the treatment. Surprisingly, agents exert significantly lower efforts in the treatments, with both agents reporting their individual effort contributions, compared to those agents in the treatment without communication. This is despite the fact that principals in the former treatment can pay wages in line with the equity principle.

more often than in the latter treatment – due to partially truthful reports. Negative effects exceed this positive aspect: the agents' frequent misreporting spreads additional distrust in the principal-team setting, leading to lower efforts and wages.

Furthermore, I am currently planning a joint project with Sebastian Goerg and Lilia Zhurakhovska, which examines risky decision making for one's own and/or other people's account. Although in many situations people decide for others (parents for their children, investment managers for their customers, lawyers for their clients, doctors for their patients, etc.), research in experimental economics has mainly focused on individual decision making when the decision maker's own stakes are affected only. In our study, we aim at shedding light on similarities and differences in risky decision making, depending on whether the decision maker himself or another person is the beneficiary, or whether both are beneficiaries of the decision. Moreover, we examine the effect of social distance between the decision maker and the beneficiary: depending on the treatment, the "other" person affected by the risky choice of the decision maker is either a friend or a stranger. Treatment differences in risk attitudes might be due to a number of factors such as emotional reactions, ambiguity about the "other" person's risk preferences, accountability for the choices, etc. We intend to analyze the importance of these potential underlying driving factors amongst others by means of self-reports measuring emotions and by belief elicitations.

## **Publications (since 2009)**

### **Work in Progress**

Kleine, M., Kube, S., (in preparation). Communication and Trust in Principal-Team-Relationships: Experimental Evidence.



## **Sebastian Kube (Affiliate)**

### **Summary Report**

After I received my diploma in Economics from the University of Bonn, Germany, 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 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. Since 2008, I am a Research Fellow at the IZA. In April 2009, I became Professor of Economics at the University of Bonn. Since 2010, I am an affiliated researcher at the CENs (Center for Economics and Neuroscience) in Bonn. I am also Vice Director of the BonnEconLab since 2009.

### **Research Agenda**

I am very interested in the importance of interdependent preferences for economic behavior. In general, I use field and laboratory experiments to explore corresponding research questions from the areas of personnel and labor economics, public economics, and law. My current research mainly focuses on the following two fields:

#### **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. 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. Right now, I am exploring i) if communication can help to overcome some of the problems that are usually observed in gift-exchange games between one principal and multiple agents (joint work with Marco Kleine); ii) the importance of goals and milestones for workers' motivation and work behavior (joint work with Sebastian Goerg); and iii) behavioral and neuronal differences between the use of bonuses and fines – and their influence on extrinsic and intrinsic motivation (joint work with Armin Falk and Michael Lindner).

## **Cooperation, Sanctions, Laws, and Norms**

My research here covers factors that shape the 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, most studies are carried out jointly with 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. Right now, I am working on i) the interaction of legal and social norm enforcement, which includes novel methods to measure individuals' disposition to enforce norms (joint work with Christian Traxler); ii) information, i.e., impression management and whether it can shape cooperation (joint work with Christoph Engel and Michael Kurschilgen); iii) the priming of norms and subsequent (social) behavior (joint work with Wolfgang Schoop); and iv) a large online survey to shed light on the questions of when and why people obey a law (joint work with Berenike Waubert de Puiseau, Emanuel Towfigh, Aniol Llorente-Saguer, and other members of the institute).

## **Prizes**

Awarded the Etienne-Laspeyres Prize for Economics 2010 (University of Karlsruhe)

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Kube, S., Puppe, C., Maréchal, M. A., Do Wage Cuts Damage Work Morale? Evidence from a Natural Field Experiment, *Journal of the European Economic Association*, In Press.

Kube S., Puppe, C., Maréchal, M. A., The Currency of Reciprocity – Gift Exchange in the Workplace, *American Economic Review*, In Press.

Goerg S. J., Abeler J., Altmann S., Kube S., Wirbel M., Equity and Efficiency in Multi-Worker Firms: Insights from Experimental Economics, *Analyse & Kritik*, vol. 33, no. 1, pp. 325-347, 2011.

Glöckner A., Irlenbusch B., Kube S., Nicklisch A., Normann H.-T., Leading with(out) Sacrifice? A Public-Goods Experiment with a Super Privileged Player, *Economic Inquiry*, vol. 49, pp. 591-597, 2011.

Kube S., Traxler C., The interaction of legal and social norm enforcement, *Journal of Public Economic Theory*, vol. 13, no. 5, pp. 639-660, 2011.

Goerg S. J., Kube S., Zultan R., Treating Equals Unequally – Incentives in Teams, Workers' Motivation and Production Technology, *Journal of Labor Economics*, vol. 28, pp. 747-772, 2010.

Abeler J., Altmann S., Kube S., Wibral M., Gift Exchange and Workers' Fairness Concerns: When Equality is Unfair, *Journal of the European Economic Association*, vol. 8, no. 6, pp. 1299-1324, 2010.

Kube S., Corazzini L., Maréchal M. A., Two are better than One! Individuals' Contributions to "Unpacked" Public Goods, *Economics Letters*, vol. 104, no. 41, pp. 31-33, 2009.

Kube S., Puppe C., (When and How) Do Voters Try to Manipulate? Experimental Evidence from Borda Elections, *Public Choice*, vol. 139, pp. 39 ff., 2009.

Kube S., Kaiser J., Behavioral Finance meets Experimental Macroeconomics: On the Determinants of Currency Trade Decisions, *Journal of Behavioral Finance*, vol. 10, no. 1, pp. 44-54, 2009.

## **Book Chapters**

Goerg S. J., Kube S., The equity principle in employment relationships, *The Selten School of Behavioral Economics – A Collection of Essays in Honor of Reinhard Selten*, Ockenfels A., Sadrieh A., (Eds.), Berlin, Heidelberg, New York, Springer, pp. 204-219, 2010.

## **Preprints**

Glöckner A., Kube S., Nicklisch A., *The Joint Benefits of Observed and Unobserved Punishment: Comment to Unobserved Punishment Supports Cooperation*, issue 2011/30, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Engel C., Kube S., Kurschilgen M., *Can we manage first impressions in cooperation problems? An experimental study on "Broken (and Fixed) Windows"*, issue 2011/05, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Engel C., Hennig-Schmidt H., Irlenbusch B., Kube S., *On Probation. An Experimental Analysis*, issue 2009/38, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Beckenkamp M., Engel C., Glöckner A., Irlenbusch B., Hennig-Schmidt H., Kube S., Kurschilgen M., Morell A., Nicklisch A., Normann H.-T., Towfigh E. V., *Beware of Broken Windows! First Impressions in Public-good Experiments*, issue 2009/21, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Glöckner A., Irlenbusch B., Kube S., Nicklisch A., Normann H.-T., *Leading with(out) Sacrifice? A Public-Goods Experiment with a Super-Additive Player*, issue 2009/08, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## **Working Papers**

Can higher bonuses lead to less effort? Incentive Reversal in Teams  
(with Esteban Klor, Ro'i Zultan, and Eyal Winter)

IZA Discussion Paper No. 5501

[new version: Can higher bonuses lead to less effort? Incentive Reversal in Teams]

Choosing Your Object of Benevolence: A Field Experiment on Donation Options  
(with Bodo Aretz)

ZEW Discussion Paper No. 10-016

The benefits of latent payback in social dilemmas  
(with Andreas Glöckner and Andreas Nicklisch)

Elections and Deceptions

(with Luca Corazzini and Michel André Maréchal)

IEW Working Paper No. 421

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Wages and Working Morale**

When incentives Backfire – Theory meets Practice, London

30 June–1 July 2009

### **2011**

#### **Goals (th)at work**

(invited presentation) EALE, Cyprus

September 2011



## **Wolfgang Kuhle**

I work on macroeconomic incomplete market models with microeconomic foundations. In the last two years, one branch of my research was focused on demographic change and the associated role of government debt in the neoclassical overlapping generations model. The second branch of my work is aligned with current research that tries to use the concept of global games to develop credible micro foundations for macroeconomic phenomena such as stock market crashes and currency crises.

### **Overlapping Generations**

The neoclassical overlapping generations (OLG) model is characterized by a young working-aged 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 that can implement transfers (consumption loans) between the two cohorts by issuing government debt or through pension schemes. Using this framework, I have analyzed (i) how the upcoming demographic transition will affect the wage rate, the interest rate, and utility, and (ii) how different debt and pension policies affect utility of the inhabitants of the model economy. My research on these questions has resulted in five papers.

#### **“The Optimum Growth Rate for Population Reconsidered”**

In neoclassical OLG models, increases in the growth rate for a population affect utility through two main channels: there is the positive “intergenerational transfer effect”, which makes old-age provision cheaper, as there are more young productive agents for each retiree. At the same time, there is the negative “capital widening” effect, as higher population growth dilutes the capital stock. The paper “The Optimum Growth Rate for Population Reconsidered” gives the exact conditions under which this trade-off allows for an interior welfare-maximizing growth rate for population. More precisely, the paper gives conditions for an interior optimum and an interior minimum. Moreover, it extends Samuelson’s Serendipity Theorem to the sufficient conditions. Finally, it shows that the Serendipity Theorem is not valid for economies with public debt.

#### **“Dynamic Efficiency and the Two-Part Golden Rule with Heterogeneous Agents”**

This paper characterizes how the competitive market system in OLG models induces intragenerational transfers when the wage rate and the interest rate change. Starting from the well-known result that the golden rule allocation maximizes utility in the representative agent economy, this paper shows that, if the propensity to save varies among agents, the population can be separated into two groups. One of these groups prefers a capital intensity that exceeds the golden rule level. The other group prefers a capital intensity that falls short of the golden rule level. As a consequence, any change in gov-

ernment debt that shifts the capital intensity towards the golden rule level, has to be accompanied by a type-dependent lump-sum compensation scheme to be Pareto-improving. This paper is under revision for the Journal of Macroeconomics.

### **“The Optimum Structure for Government Debt”**

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 yet 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 to narrow the set of efficient debt structures in a Pareto-improving manner.

### **Research Agenda**

I joined the MPI in January 2011 to start work on the microeconomic roots of the recent macroeconomic crises. To this end, I would like to explore how the aggregate value of asset stocks adjusts at certain points in time, when beliefs about the future pay-offs associated with these assets change. Put differently, I believe that the aggregate (anticipated) “Balance sheet effects” associated with price changes play a large role in crises like the current one.

A second angle to aggregate crises phenomena which I intend to explore is provided by the global games approach. This literature studies how the interaction of private and public signals gives rise to threshold equilibria that may or may not be unique. In the baseline model, the precision of private and public information is exogenous and private signals are uncorrelated. In particular, the assumption that private signals are uncorrelated implies that the respective threshold levels in the economy are common knowledge. I intend to study the consequences that arise when common noise is added to the private signal. Such a correlated private signal may also be seen as a public signal with private noise.

Another related question that I am pursuing is concerned with a recent paper by Angeletos and Werning (2006). They endogenize the public signal through a stock market which aggregates dispersed private information. Two conclusions emerge from their analysis: (i) the informativeness of the price system increases with the precision of the private signal and (ii) for small private noise, the price system is so informative that agents can coordinate, and multiple equilibria arise. To understand these results better, I have begun to show that slight changes to the stock market game result in a unique

equilibrium when private information becomes very precise, while more precise private information still improves the public signal. In addition, I intend to examine cases where an improvement in the precision of private information yields a price system which is less informative.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Jaeger K., Kuhle W., The Optimum Growth Rate for Populations Reconsidered, *Journal of Population Economics*, vol. 22, no. 1, pp. 23-41, 2009.

### **Books**

Kuhle W., *Intertemporal Allocation with Incomplete Markets*. Doctoral Thesis University of Mannheim, pp. 108, VIII. 2010. Available at: [http://madoc.bib.uni-mannheim.de/madoc/volltexte/2010/3028/pdf/Kuhle\\_Diss.pdf](http://madoc.bib.uni-mannheim.de/madoc/volltexte/2010/3028/pdf/Kuhle_Diss.pdf)

### **Papers (Chapters 2-6 of my thesis):**

The Optimum Growth Rate for Population Reconsidered (Joint with K. Jaeger)

Dynamic Efficiency and the Two-Part Golden Rule with Heterogeneous Agents  
(under revision for the *Journal of Macroeconomics*)

The Optimum Structure for Government Debt

Intertemporal Compensation with Incomplete Markets

Demographic Change and the Rates of Return to Risky Capital and Safe Debt

## **Lectures and Seminar Presentations (since 2009)**

### **Dynamic Efficiency and Heterogeneous Agents**

MEA Seminar University of Mannheim, Germany  
January 2010

### **The Optimum Structure for Government Debt**

Overlapping Generation Days, UC Louvain, Belgium  
February 2010

### **The Optimum Structure for Government Debt**

University of Cologne, Germany  
September 2010

**The Optimum Structure for Government Debt**

Center for Macroeconomic Research conference Cologne, Germany  
September 2010

**The Neoclassical OLG Model Part I**

Analysis and Geometry Seminar University of Mannheim, Germany  
September 2010

**The Neoclassical OLG Model Part II**

Analysis and Geometry Seminar University of Mannheim, Germany  
September 2010

**The Optimum Structure for Government Debt**

Max Planck Institute for Research on Collective Goods, Bonn, Germany  
October 2010

**Dynamic Efficiency and the Two-Part Golden Rule**

Max Planck Institute for Research on Collective Goods, Bonn, Germany  
March 2011



## **Carlos Kurschilgen**

### **Summary Report**

Trained in Political Science, Economics, and Public Law at the Universities of Bonn and Toulouse, I graduated from Bonn in May 2010. My Master's thesis dealt with the optimization of political systems. More precisely, I confronted the actual power of the German constitutional court with its original responsibilities. I showed that the court had systematically interfered with genuine responsibilities of the legislator and thus gone beyond its constitutional limits. Nonetheless, the court is highly regarded in German public opinion. This triggers questions of perceived legitimacy.

My PhD project, which started in September 2010 at the Max Planck Institute for Research on Collective Goods, focuses on understanding the components of legitimacy and people's perception of different sources of legitimacy. To understand these factors better, I am approaching my research on an interdisciplinary basis, combining insights from Political Science, Experimental Economics, and Law, as well as Psychology, and relying, in particular, on survey studies and controlled laboratory and online experiments.

The idea of legitimacy, theories of which originate in Ancient Greece, where the question about "what makes power morally right" (Thucydides) first emerged, is incredibly broad. Generally speaking, exhibiting legitimacy provides acceptance, be it in (political) power or in any other social relations. Since joining the Institute as well as the IMPRS Uncertainty School in 2010, I have been working on several projects concerning different concepts of legitimacy. In collaboration with several members of the institute who work in different research fields, we have tackled the overall question of what causes political decisions to be accepted ( $\approx$ legitimate) empirically and whether the decision-making process may influence perceived legitimacy. We ran an experimental survey study which took place one week before the State elections in Rhineland-Palatinate (RP). Participants, an (online) representative sample based on the criteria gender and age, were all voters in RP. Using a scenario design based on questions of the Wahl-O-Mat, an online consulting tool for voters offered by the German Federal Agency for Civic Education, subjects were presented with three scenarios concerning future political decisions about laws to be implemented after the elections. We varied the decision processes and the decision output (counter-balancing positive and negative decision outputs) and controlled for the acceptance and the importance of the decision. The results show that whether plebiscites help legitimize political decisions strongly depends on the importance of the issue. We further reveal that the difference in the legitimizing power of the decision process is driven by the acceptance that this process causes in those people who do not agree with the decision. Decisions that are attributable to single parties perform poorly. Still there are many open questions left which will be covered in my research agenda.

Together with K. Chatziathanasiou, S. Dickert, E. Towfigh, and N. Petersen, I am leading a project related to the overarching question why governance by law is effective. As a fundamental piece, legitimacy is crucial for law acceptance and elementary in the law generation process. The aim of the study, which models a tax evasion situation in a laboratory experiment, is to observe behavioral differences contrasting a procedurally and a substantially legitimate norm. The concept of procedural legitimacy contemplates solely the procedure itself, evaluating the decision process exclusively by its capacity to meet certain goals. A legitimate procedure therefore can differ depending on its goal, i.e., the objective to produce highly efficient outcomes (laws) may require a different procedure than the realization of a high degree of self-determination. By contrast, the concept of substantial legitimacy focuses on the outcomes of the decision process, disregarding the process. The concept of substantial legitimacy focuses on the achievement of specific or predefined goals. The experimental framework attempts to capture a situation where participants have to react to two (tax) norms (one substantially legitimate and the other less legitimate) set by the experimenter. After a procedure of voting upon the norm to be implemented, we analyze in how far procedures matter and which factor might be more important for providing acceptance – substantial or procedural legitimacy. Additionally, in a more explorative part, we control for personality factors, expecting to see correlations between personality traits and (non-) compliance.

Together with Michael Kurschilgen, I am running a project analyzing sources of legitimacy, eventually showing that there are selection processes that generate higher acceptance of inequalities in social relations, and that can hence be interpreted as more legitimate. We are modeling a situation in a laboratory experiment, where people, after a qualification task, are randomly assigned higher and lower earnings. In a subsequent stage, after being randomly paired, low-earning subjects will be given an opportunity to express their discontent about the role allocation by taking away points from the randomly paired partner. Depending on the qualification task, we will finally show that there are selection procedures that help mitigate interpersonal conflicts by generating higher acceptance of inequalities.

## **Research Agenda**

I plan to continue my research in the field of experimental political science and behavioral economics, benefiting from the interaction and cooperation with other researchers both at the Institute and in the context of the IMPRS Uncertainty School. I am especially interested in extending my research agenda to electoral systems, empirical analyses of formal models of politics, and experimental methods in political science in general. Regarding my interests in behavioral economics, I am planning to do further research on questions of distributive and procedural fairness.

In the field of experimental political science, one project is already quite advanced. Having learned that whether plebiscites help legitimize political decisions depends on the

importance of the issue and knowing that decisions attributable to single parties perform poorly, further research questions emerge. What impact does the share of parliament votes have on the acceptance of the decision? How is acceptance influenced if the decision is taken across party borders? We want to tackle these questions in a laboratory setting, taking advantage of the controlled environment. Therefore, we plan to eliminate all contexts and take a closer look at people's acceptance of decisions under different majority constellations. Additionally, we wish to find an answer to the question whether the participation of political parties drives out the legitimacy of decisions. To approach this issue, we are planning to take a closer look at people's acceptance of decisions under simple group attribution, using the minimal group paradigm. Finally, we wish to know if simple group attribution together with cheap talk may affect voters' behavior.



## **Michael Kurschilgen**

### **Summary Report**

I joined the institute in 2007 as a doctoral student of the IMPRS Uncertainty. As a trained economist with a social-science minor, my research seeks to combine insights from Economics, Law, and Psychology and relies particularly on controlled laboratory experiments. I believe that, by improving our understanding of human behavior, we will ultimately be able to design better rules and policies.

In the context of my dissertation, I have been studying norms in the face of uncertainty. Norms can have many origins: institutionally imposed by a legislator, behavioral patterns within a social group, but also moral conceptions inherent to the individual. Equally, there are also many potential sources of uncertainty: nature, other people's behavior, and even one's own preferences. I have tackled several sub-questions of this overarching research topic in a number of separate studies.

Together with Christoph Engel, I have analyzed a seemingly odd norm from German copyright law, the so-called "bestseller paragraph". The market for copyrights is characterized by a highly skewed distribution of profits: very few movies, books and songs generate huge profits, whereas the great bulk barely manages to recover production cost. At the moment when the owner of intellectual property grants a licence ("ex ante"), neither party knows the true value of the traded commodity. The bestseller paragraph stipulates that the seller of a licence has a legally enforceable right to a bonus in case the work ("ex post") turns out a blockbuster. We experimentally explore the effect of the provision on market prices, on the number of deals struck and on perceived fairness. Our results show that the provision leads to lower prices for copyrights. More copyrights trade. The buyers express less ex-post discontent. This project was already started before 2009. However, since the last status report, the paper has undergone several serious revisions, especially of the hypotheses section and the data analysis. The paper has recently been published in the *Journal of Empirical Legal Studies*.

Together with Christoph Engel and Sebastian Kube, I have studied the effect of selective information as a soft paternalist governance tool in social dilemmas. The mechanism proposed in the paper moderates cooperation by controlling experiences. More specifically, it "manipulates" subjects' initial beliefs by providing them with selective information about (un)cooperative behavior in other, unrelated groups. We observe that contributions are considerably sensitive to such selective information. In fact, the selective information from unrelated groups appears to set a standard as to what type of behavior is expected to be *normal*. First impressions participants happen to make predict subsequent behavior. Our results, however, suggest an asymmetry in the strength of the reaction – which might pose a limit on the effectiveness of the mechanism in natural settings. People are particu-

larly sensitive to negative impressions, as optimistic beliefs about others' behavior are much more fragile than pessimistic ones. While the idea to this paper and some first experimental treatments stem from 2008, the project has grown considerably in the meantime, with several additional experimental treatments in Bonn, London, and Jena, as well as a much more elaborate data analysis. We have presented this paper at several conferences and submitted it to a journal.

Together with Christoph Engel, I have worked on a project that has been inspired by Adam Smith's "Theory of Moral Sentiments". Smith argues that people are torn between their selfish and their social self. In the context of an experimental public-goods game, we show that a little "nudge", namely the mere possibility of privately expressing one's intrinsic social norm, can prevent –or at least substantially delay– the erosion of cooperation, even in the absence of sanctions, monitoring, communication, and reputation. Our findings support Adam Smith's idea of overcoming selfishness by becoming conscious about one's own normative expectations. This mechanism builds on the heterogeneity of motives within individuals and therefore complements the common notion of heterogeneity between types. To solidify our results as well as to gain more precise insights about the nature of the mechanism, we are in the process of running several additional experimental treatments.

In a related paper, Christoph Engel and I have examined the emergence of customary law in the lab. Rational-choice theorists claim that what looks like custom is nothing but self-interest. Positivists doubt that anything beyond consent assumes the force of law. In this paper, we show that cooperation is significantly higher in the presence of a meta-rule for the formation of customary law. Yet, only if it is backed up by sanctions is the law significantly more effective than mere comity. Customary law guides behavior into the normatively desired direction as normative expectations and behavioral patterns co-evolve.

Following an invitation by Professor Shachar Kariv, I visited the Department of Economics at UC Berkeley in Fall 2010. During this research stay, I started working on the last, single-authored, project of my dissertation: how does people's generosity change they are confronted with different intrinsic norms?

A project on tacit collusion, which began in 2008 together with Alexander Morell and Ori Weisel (Hebrew University Jerusalem), has also benefitted considerably from the research environment at Berkeley, as we have shifted the focus of the paper more and more towards the question of learning (both individual and social learning) in increasingly complex environments.

Together with Carlos Kurschilgen, I have recently started work on a project that seeks to identify conditions under which inequality is accepted, with regard to allocations of wealth and income but also of power and opportunities. The idea is to establish a link between distributive fairness and justifications of claims, like need, effort, intelligence, status quo, market forces, and luck.

## **Publications (since 2009)**

### **Articles in Peer-Reviewed Journals**

Engel C., Kurschilgen M., Fairness Ex Ante & Ex Post – An Experimentally Testing Ex Post Judicial Intervention into Blockbuster Deals, *Journal of Empirical Legal Studies*, vol. 8, no. 4, pp. 682–708, 2011

Kurschilgen M., Disclosure, Agents, and Consumer Protection: Comment, *Journal of Institutional and Theoretical Economics*, vol. 167, no. 1, pp. 77-79, 2011.

### **Preprints**

Engel C., Kube S., Kurschilgen M., *Can we manage first impressions in cooperation problems? An experimental study on "Broken (and Fixed) Windows"*, issue 2011/05, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Beckenkamp M., Engel C., Glöckner A., Irlenbusch B., Hennig-Schmidt H., Kube S., Kurschilgen M., Morell A., Nicklisch A., Normann H.-T., Towfigh E. V., *Beware of Broken Windows! First Impressions in Public-good Experiments*, issue 2009/21, Bonn, Max Planck Institute for Research on Collective Goods, 2009

### **Working Papers**

Engel C., Kurschilgen M., *The "Jurisdiction Of The Man Within": Intrinsic Norms in a Public Goods Experiment*

Engel C., Kurschilgen M., *Customary Law in the Lab*

Kurschilgen M, Morell A., Weisel O., Learning tacit collusion – price competition between heterogeneous teams

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Fairness Ex Ante and Ex Post – An Experimental Test of the German “Bestseller Paragraph”**

IMPRS Thesis Workshop, Jena, Germany  
January 2009

#### **Fairness Ex Ante and Ex Post – An Experimental Test of the German “Bestseller Paragraph”**

Experimental Economics Seminar, Bonn University, Germany  
November 2009

**Fairness Ex Ante and Ex Post – An Experimental Test of the German “Bestseller Paragraph”**

Intellectual Property Seminar, ETH Zurich, Switzerland  
November 2009

**2010**

**Fairness Ex Ante and Ex Post – An Experimental Test of the German “Bestseller Paragraph”**

IMPRS Thesis Workshop, Ringberg, Germany  
January 2010

**Can we manage first impressions in cooperation problems? An experimental study on “Broken (and Fixed) Windows”**

International Meeting for Experimental and Behavioral Economics, Bilbao, Spain  
April 2010

**Disclosure, Agents, and Consumer Protection: Comment**

28th International Seminar on the New Institutional Economics, Budapest, Hungary  
June 2010

**Fairness Ex Ante and Ex Post – An Experimental Test of the German “Bestseller Paragraph”**

Economic Science Association World Meeting, Copenhagen, Denmark  
July 2010

**Fairness Ex Ante and Ex Post – An Experimental Test of the German “Bestseller Paragraph”**

Conference on Empirical Legal Studies, Yale University, New Haven, Connecticut, U.S.A.  
November 2010

**2011**

**Generosity in a Risky World**

IMPRS Thesis Workshop, Berlin, Germany  
January 2011

**Can we manage first impressions in cooperation problems? An experimental study on “Broken (and Fixed) Windows”**

Annual Conference of the Royal Economic Society, Royal Holloway University of London,  
Egham, UK  
April 2011

## **The “Jurisdiction Of The Man Within”: Intrinsic Norms in a Public Goods Experiment**

Philosophy and Economics Summer School, University of the Basque Country, Urrutia Ejalde Foundation, San Sebastián, Spain

July 2011

## **Fairness Ex Ante and Ex Post**

Law and Economics Colloquium, University of Bonn, Germany

October 2011

## **Press Coverage**

Engel C., Kube S., Kurschilgen M., *Can we manage first impressions in cooperation problems? An experimental study on “Broken (and Fixed) Windows”*

- ScienceDaily
- Handelsblatt
- Frankfurter Rundschau
- Die Welt
- Berliner Zeitung
- Kölner Stadt-Anzeiger
- General-Anzeiger Bonn
- Wiener Zeitung
- Neue Osnabrücker Zeitung
- Neue Ruhr Zeitung
- CORDIS Express
- Pressetext Austria
- The Epoch Times
- Baublatt
- Catalunya Vanguardista
- PsychCentral.com
- wissenschaft.de



## **Matthias Lang**

### **Summary Report**

My research focuses on communication and the economic modeling of uncertainty.

(i) Communication can provide credibility in strategic interactions. In the course of an interaction, agents' incentives change. Therefore, from an ex-ante perspective, they want to alter their ex-post incentives in a credible way. For this purpose, they communicate and provide information to other agents in order to give them the possibility to verify their behavior. As the communication takes place ex-post, specific contractual arrangements are required to make it credible and incentive-compatible.

Even if commitment is possible, there is a trade-off, because commitment requires communication that eliminates uncertainty influencing individuals' behavior. My second paper addresses this trade-off between communication and uncertainty, in particular ambiguity.

The risk created by vague communication or its absence also acts as a screening device and allows mitigating enforcement problems, which my third paper discusses in a setting of competition law.

In political elections, uncertainty about preference distributions gives rise to communicative voting, i.e., using your vote as a signal. This explains vote patterns that are otherwise difficult to account for with strategic voting.

(ii) The second category addresses the question whether the implications of ambiguity differ from risk. I first solve a moral hazard framework in the presence of ambiguity aversion and discuss the differences to a model in the absence of ambiguity aversion.

Then I distinguish further between first-order and second-order ambiguity aversion. This shows that many results that are attributed to ambiguity aversion are rather the result of first-order aversion to uncertainty. Thus, they could be replicated in a model with first-order aversion to risk in the absence of ambiguity aversion.

Another interesting question concerns the source of uncertainty, whether it arises endogenously from the strategic interaction with other players or is given by an exogenous process. In contests with several players competing for a prize, we show that it does not matter whether the uncertainty is modeled as a stochastic process on the contest input of each player, or whether it arises from players' strategies.

## Communication

### Contracting with Private Evaluations and Communication

Should principals explain and justify their evaluations? In this paper, the principal's evaluation is private information, but she can provide some justifications by sending a costly message. Indeed, it is optimal for the principal to explain her evaluation to the agent, if and only if the evaluation turns out to be bad. On the equilibrium path, the wage increases in the performance of the agent, as long as the principal provides a justification. However, there is pooling and a constant wage without a justification for good performances. This wage pattern fits empirical observations that subjective evaluations are lenient and show little discrimination for high performance. I show that this pattern is part of the optimal contract instead of biased behavior.

Furthermore, the optimal contract can be implemented in an ex-post budget-balanced way, if stochastic contracts are feasible.

### The Fog of Fraud – Mitigating Fraud by Strategic Ambiguity

(joint with A. Wambach)

Most insurance companies publish few data on the occurrence and detection of insurance fraud. This stands in contrast to the previous literature on costly state verification, which has shown that it is optimal to commit to an auditing strategy, as the credible announcement of thoroughly auditing claim reports might act as a powerful deterrent. We show that uncertainty about fraud detection can be an effective strategy to deter ambiguity-averse agents from reporting false insurance claims. If, in addition, the auditing costs of the insurers are heterogeneous, it can be optimal not to commit, because committing to a fraud-detection strategy eliminates the ambiguity. Thus, strategic ambiguity can be an equilibrium outcome in the market and competition does not force firms to provide the relevant information. This finding is also relevant in other auditing settings, like tax enforcement.

### Legal Uncertainty – an Effective Deterrence in Competition Law?

This article considers legal uncertainty in competition law. Contrary to perceived wisdom, I show that the uncertainty itself might have positive welfare effects, if it is sufficiently small. Legal uncertainty acts as a screening device, if the threshold of legality is uncertain. Then, near the threshold, firms decide contingent on their type whether to pursue controversial business practices. This allows mitigating the policy restrictions, as the competition authority cannot perfectly observe the types of the firms. Such an effect might influence the trade-off between per-se rules and rules of reason in competition law. In an extension, I discuss the effects of introducing ambiguity about the fine and prove that this mitigates enforcement problems, if auditing costs are sufficiently high.

## **Investing Your Vote – On the Emergence of Small Parties**

(joint with R. Aigner)

In many elections, parties obtain a significant number of votes despite failing to enter parliament due to election thresholds. This is puzzling, in particular if the chances to win a seat have been small or virtually zero. We analyze such a situation in the context of proportional representation with an institutional election threshold, which denies entry into parliament to parties with less than a specific percentage of votes. We argue that with repeated elections and uncertainty about political preferences some voters have a strategic incentive to vote for a new party even if it is sure to miss the threshold. The votes are not wasted, but invested, because they signal a strong backing in the general population and might enable the party to enter parliament in the next election. Given the election results, voters update their beliefs about preferences in the population. This allows the emergent party to be successful in the next election with a high probability, if its results have been sufficiently strong in the previous election.

## **Economic Modeling of Risk and Uncertainty**

### **Ambiguity Aversion in a Multitask Moral Hazard Framework**

This article explores the consequences of ambiguity aversion à la Choquet Expected Utility on moral hazard. It is shown that ambiguity leads to the provision of weaker incentives than risk. Frequently, no incentives at all are provided. This violates the informativeness principle of Holmström, as available information about performance is not used. Additionally, the principal's expected utility is lower under ambiguity than under risk. Consequently, the principal might prefer to base incentives on more objective and less ambiguous performance measures, even if these are slightly distortionary. Formally, the setting allows for arbitrary distributions of noise in the performance measure and heterogeneous levels of ambiguity and ambiguity aversion. Although the model considers a multi-task framework, the results carry over easily to a framework with a single task.

### **The Distinction between First-order and Second-order Ambiguity Aversion**

As in the case of risk, there is the distinction between first-order and second-order or smooth ambiguity aversion. Contrary to risk, there are tractable representations for both kinds of ambiguity aversion. This article highlights the effects of ambiguity aversion in general, in contrast to implications caused by first-order aversion to uncertainty. With second-order ambiguity aversion, the agent is willing to participate in an ambiguous act, if and only if an ambiguity-neutral agent with the same risk preferences does so. This condition is necessary, but not sufficient in the case of first-order ambiguity aversion. In particular, I prove that Holmström's informativeness principle holds with ambiguity aversion, if and only if it is of second order. In addition, the common results for insurance and investment decisions carry over to ambiguity, if it is of second order. For first-order ambiguity aversion, demand for full insurance coverage can coincide with an actuary unfair premium and no trade results emerge.

## **Equilibrium Equivalence of Stochastic Contests with Poisson Arrivals and All-Pay Auctions**

(joint with C. Seel and P. Strack)

We provide a microfoundation for the use of all-pay auctions to model contests in which each player's decision problem is dynamic and stochastic. To do so, we compare a stochastic contest model in continuous time to the single-prize common-value all-pay auction with discrete bids. Both models have the same symmetric equilibrium outcomes if the duration of the contest is above a threshold value and the contest has a cumulative structure, i.e., successes during the contest add up to the final outcome. We provide a time bound which shows that the necessary contest length for this equivalence is moderate. Formally, each player decides how long to run a privately observed Poisson process measuring her contest success and bears costs depending on her stopping time. The player who stops her process at the highest value wins a pre-specified prize.

## **Research Agenda**

I am still working on the distinction of first-order and second-order ambiguity aversion and its implication for incomplete contracts. There are several papers in which ambiguity aversion makes incomplete contracts optimal. In the light of the above findings, I wish to scrutinize whether these results are still valid in the case of second-order ambiguity aversion. Moreover, it seems interesting to extend this agenda to other behavioral approaches and to discuss which effects are due to the intrinsic behavioral traits and which are caused by the modeler's choice of first-order aversion, respectively.

Furthermore, there are two additional projects on which I am working. First, I want to analyze justifications of contractual pre-notification periods and outplacement efforts in a contract-theoretical framework. In particular, I concentrate on effects that cannot be replicated by severance payments. Finally, I am interested in the question whether relative performance measures amplify problems of agents choosing excessively risky projects, as they influence the agents' risk attitudes.

## **Publications (since 2009)**

### **Preprint**

Lang M., Wambach A., *The fog of fraud – mitigating fraud by strategic ambiguity*, issue 2010/24, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

## **Lectures and Seminar presentations (since 2009)**

### **2009**

#### **The Fog of Fraud – Mitigating Fraud by Strategic Ambiguity**

EDP Jamboree, London, UK

April 2009

#### **The Fog of Fraud – Mitigating Fraud by Strategic Ambiguity**

BGSE Micro Workshop, Bonn

December 2009

### **2010**

#### **The Fog of Fraud – Mitigating Fraud by Strategic Ambiguity**

Econ Workshop, MPI Bonn

January 2010

#### **Contracting with Private Evaluations and Communication**

Doctoral Meeting of Montpellier, Montpellier, France

May 2010

#### **Legal Uncertainty – an Effective Deterrence in Competition Law?**

Workshop for Junior Researchers on the Law & Economics of Intellectual Property and Competition Law, organized by IMPRS-CI and the Professorship for Intellectual Property, ETH Zurich, Kreuth

June 2010

#### **The distinction between first-order and second-order ambiguity aversion**

World Risk and Insurance Economics Congress, Singapore

July 2010

#### **Contracting with Private Evaluations and Communication**

Annual Meeting of the European Economic Association, Glasgow, UK

August 2010

#### **Contracting with Private Evaluations and Communication**

Jahrestagung des Vereins für Socialpolitik, Kiel

September 2010

**Legal Uncertainty – an Effective Deterrence in Competition Law?**

LawEcon Workshop, organized by the BGSE, the law department of the University of

Bonn and the MPI Bonn

November 2010

**Contracting with Private Evaluations and Communication**

Econ Workshop, MPI Bonn

November 2010

**Contracting with Private Evaluations and Communication**

BGSE Micro Workshop, Bonn

November 2010

**2011****Contracting with Private Evaluations and Communication**

Spring Meeting of Young Economists, Groningen, Netherlands

April 2011

**Legal Uncertainty – an Effective Deterrence in Competition Law?**

CLEEN Workshop, Florence, Italy

May 2011

**Legal Uncertainty – an Effective Deterrence in Competition Law?**

MMM Workshop, MPI Bonn

May 2011

**Contracting with Private Evaluations and Communication**

North American Summer Meeting of the Econometric Society, St. Louis, U.S.A.

June 2011

**Contracting with Private Evaluations and Communication**

Econometric Society European Meeting, Oslo, Norway

August 2011

**The Fog of Fraud – Mitigating Fraud by Strategic Ambiguity**

Annual Meeting of the European Economic Association, Oslo, Norway

August 2011

**The Fog of Fraud – Mitigating Fraud by Strategic Ambiguity**

Annual Meeting of the European Association for Research in Industrial Economics, Stockholm, Sweden

September 2011



## **Pascal Langenbach**

### **Summary Report**

In August 2011, I joined the International Max Planck Research School on Adapting Behavior in a Fundamentally Uncertain World. Before this, I worked at the institute as an undergraduate research assistant. Therefore I can only describe what I am planning to do.

My main focus during the upcoming years will be on my dissertation project which investigates the reasons of the enforcement procedure in administrative law. The substantive decision is already taken before the enforcement begins. Therefore the enforcement procedure does not aim at delivering an adequate solution to a substantive problem. But which are the functions of this procedure? Next to economic reasons and fundamental rights protection I would like to answer this question with the help of theories of "subjective" procedural justice. These theories, most famously represented by the psychologist Tom R. Tyler, link the perceived justice of a procedure with the legitimacy of the acting authority. In a second step, Tyler also sees implications from legitimacy to compliance to the authorities' orders. I would therefore like to test empirically which implications the different stages of the enforcement procedure have on people's views on legitimacy and on their behavior towards the authority. During the enforcement, the state overcomes people's opposition by force. It therefore shows that it alone holds power. Does the procedure help to make this explicit demonstration of sovereignty more acceptable to the people?

In addition to this, I am currently working on a group project which stems from a seminar of comparative constitutional law held by Professor Dieter Grimm in January 2011. In this project, we are trying to inquire the influence of legal academia on decisions of the federal constitutional court of Germany. I am therefore exploring the interference of academic discussions on the development of the constitutional duty of the state to protect fundamental rights from private intrusion ("grundrechtliche Schutzpflichten") by the constitutional court.

Since April 2011, I have been holding tutorials on Constitutional Law at the law faculty of Bonn University.



## **Philip Leifeld**

### **Summary Report**

As a doctoral fellow of the Max Planck International Research Network on Aging (MaxNetAging), I have worked on my PhD thesis about policy debates on German old-age security for the last three and a half years. The MaxNetAging Research School places doctoral students at various Max Planck Institutes and provides supervision and a stipend. In the context of the MaxNetAging program, I have spent three years at the

MPI in Bonn. The dissertation was recently submitted to the Department of Politics and Management at the University of Konstanz. Besides working on my PhD thesis, I was a visiting scholar at Columbia University in the fall semester of 2010, and I serve on the Board of Advisors of the Comparing Climate Change Policy Networks project ([www.compon.org](http://www.compon.org)).

My research interest is the collective production of political outcomes by governmental actors, such as legislators and state agencies, and non-governmental actors like interest groups. Within public policy analysis – a subdiscipline of political science – ideational approaches to policy-making are underdeveloped. My dissertation tries to fill this gap and provides a formal methodology for the analysis of policy debates using social network analysis. I have developed several new algorithms for the quantitative analysis of text data and implemented them in a free-to-use software package called Discourse Network Analyzer. The methods have been applied to several policy domains (pension politics, climate politics, and the conflict on software patents in Europe). An agent-based model has been developed in order to explain the empirical findings concerning the structure of policy debates and advocacy coalitions at a more abstract level. In addition to the publications listed below, some of the results have received “revise & resubmit” status in international journals.

At the Max Planck Institute, I have also been contributing to a joint project which deals with the legitimacy of decision-making by political parties versus other forms of collective decision-making. While the research above draws mainly on archive data, the political parties project employs survey experiments. A workshop on political parties and legitimacy was held in Bonn in July 2011.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Fisher D. R., Waggle J., Leifeld P., Where does Political Polarization Come From? Locating Polarization Within the U.S. Climate Change Debate. *American Behavioral Scientist*. In Press.

Leifeld P., Haunss S., Political Discourse Networks and the Conflict over Software Patents in Europe, *European Journal of Political Research*, In Press.

Leifeld P., Schneider, V., Information Exchange in Policy Networks, *American Journal of Political Science*, In Press.

### **Books**

*Politiknetzwerke. Modelle, Anwendungen und Visualisierungen*, Schneider V., Janning F., Leifeld P., Malang T., (Eds.), Wiesbaden, VS Verlag für Sozialwissenschaften, pp. 406, 2009.

### **Book Chapters**

Schneider V., Leifeld P., Malang T., Coping with Creeping Catastrophes: National Political Systems and the Challenge of Slow-Moving Policy Problems, *Long-Term Policies: Governing Social-Ecological Change*, Siebenhüner B., Jacob K., Arnold M., (Eds.), Cambridge, MIT Press, In Press.

Leifeld P., Die Untersuchung von Diskursnetzwerken mit dem Discourse Network Analyzer (DNA), *Politiknetzwerke, Modelle, Anwendungen und Visualisierungen*, Schneider V., Janning F., Leifeld P., Malang T., (Eds.), Wiesbaden, VS Verlag für Sozialwissenschaften, pp. 391-404, 2009.

Leifeld P., Janning F., Schneider V., Malang T., Diskursnetzwerkanalyse. Überlegungen zur Theoriebildung und Methodik, *Politiknetzwerke, Modelle, Anwendungen und Visualisierungen*, Schneider V., Janning F., Leifeld P., Malang T., (Eds.), Wiesbaden, VS Verlag für Sozialwissenschaften, pp. 59-92, 2009.

Leifeld P., Schneider V., Überzeugungssysteme, Diskursnetzwerke und politische Kommunikation: Ein zweiter Blick auf die deutsche Chemikalienkontrolle der 1980er Jahre, *Politiknetzwerke, Modelle, Anwendungen und Visualisierungen*, Schneider V., Janning F., Leifeld P., Malang T., (Eds.), Wiesbaden, VS Verlag für Sozialwissenschaften, pp. 139-158, 2009.

Leifeld P., Malang T., Glossar der Politiknetzwerkanalyse, *Politiknetzwerke, Modelle, Anwendungen und Visualisierungen*, Schneider V., Janning F., Leifeld P., Malang T., (Eds.), Wiesbaden, VS Verlag für Sozialwissenschaften, pp. 371-389, 2009.

Leifeld P., Eine Ko-Zitationsanalyse der quantitativen Netzwerkanalysen in der Politikwissenschaft, *Politiknetzwerke. Modelle, Anwendungen und Visualisierungen*, Schneider V., Janning F., Leifeld P., Malang T., (Eds.), Wiesbaden, VS Verlag für Sozialwissenschaften, pp. 93-113, 2009.

## **Preprints**

Leifeld P., Haunss S., *A Comparison between Political Claims Analysis and Discourse Network Analysis: The Case of Software Patents in the European Union*, issue 2010/21, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Leifeld P., Schneider V., *Institutional communication revisited: Preferences, opportunity structures and scientific expertise in policy networks*, issue 2010/12, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Comparing Political Systems in the Perception of Slow-Moving Policy Problems: Theoretical and Methodological Considerations and their Application to the Climate Change Problem**

(with Volker Schneider, Thomas Malang, Achim Lang)

7th International Science Conference on the Human Dimensions of Global Environmental Change, IHDP Open Meeting 2009, UN Campus, Bonn, Germany  
26-30 April 2009

#### **Discourse Network Analysis**

Comparing Climate Change Policy Networks (Compon) Workshop, IHDP Open Meeting 2009, Bonn  
26 April 2009

#### **The Analysis of Political Discourse Networks**

Poster presented at the Harvard Political Networks Conference  
Cambridge, Mass., U.S.A.  
12 June 2009

### **2010**

#### **Social Network Analysis and the Analysis of Policy Debates.**

Workshop Series "Networks & Time", Institute for Social and Economic Research and Policy/Department of Sociology, Columbia University in the City of New York, U.S.A.  
11 October 2010

**Discourse Network Analysis (DNA): Analyzing Elite Political Discourse from a Social Network Perspective**

Symposium "Networks in Political and Organizational Life: Concepts and Applications", Meersburg, Germany  
24–25 June 2010

**A Comparison between Political Claims Analysis and Discourse Network Analysis: The Case of Software Patents in the European Union**

(together with Sebastian Haunss, paper presented by co-author)  
MPIfG conference "Transnational Copyright: Organization, Mobilization, and Law", Fourth Conference on Economic Sociology and Political Economy, Villa Vignoni, Laveno di Menaggio, Lake Como, Italy  
12–15 June 2010

**Political Discourse Networks – The Missing Link in the Study of Policy-Oriented Discourse**

Workshop "Ideas, Policy Design and Policy Instruments. Casting Light on the Missing Link", ECPR Joint Sessions of Workshops, Münster, Germany  
22–27 March 2010

**Coping with Creeping Catastrophes: National Political Systems and the Challenge of Slow-Moving Policy Problems**

(together with Volker Schneider, Thomas Malang, paper presented by co-author)  
Workshop "Expecting the Unpredictable? The Strategic Governance of Long-Term Risks", ECPR Joint Sessions of Workshops, Münster, Germany  
22–27 March 2010

**2011**

**Discourse Network Analysis**

Presentation at the "Methodenkreis" at the Max Planck Institute for the Study of Societies (MPIfG), Cologne, Germany  
20 June 2011



## **Aniol Llorente-Saguer**

### **Summary Report**

Most of the research I have been pursuing in the last years lies at the intersection of Political Economy, Political Science, Microeconomic Theory, and Experimental Economics. Microeconomic theory provides a precise benchmark for studying the strategic interactions that different agents of the political arena (parties, candidates, voters, ...) face in different environments (different voting rules, different electoral systems).

Economic laboratory experiments allow a wide range of variation and create artificial environments that do not exist outside of the lab. Hence, experiments are particularly interesting to complement the theoretical studies, helping to identify the rights and wrongs of the economic predictions, and hence developing new theories.

One of the areas I have been interested in is voting mechanisms that can potentially allow voters to express the relative intensities of their preferences over different issues, in addition to the direction of their preferences. In a joint paper with Rafael Hortala-Vallve, for instance, recently published in *Games and Economic Behavior*, we analyze a simple mechanism for deciding a number of questions simultaneously. We show that in conflict resolution situations where two parties with opposed preferences need to make a number of decisions, this simple mechanism allows agents to trade off their voting power across issues and extract gains from differences in the intensities of their preferences. Another paper in that same line of research is the joint paper with Alessandra Casella and Thomas R. Palfrey, where we develop a competitive equilibrium theory of a market for votes. Before voting on a binary issue, individuals may buy and sell their votes with each other. We define the concept of *ex ante* competitive equilibrium, and show by construction that an equilibrium exists. The equilibrium we characterize always results in dictatorship if there is any trade, and the market for votes generates welfare losses, relative to simple majority voting, if the committee is large enough or the distribution of values not very skewed. We test the theoretical implications by implementing a competitive vote market in the laboratory using a continuous open-book multi-unit double auction.

In a similar line of research, I am currently working on experimental projects that study voting behavior. In a joint project with Laurent Bouton and Micael Castanheira, we are studying the properties of Approval Voting in a framework with a divided majority with common values in the laboratory. In another joint paper with David S. Ahn and Santiago Oliveros, we are analyzing the behavior of voters when they face multiple issues elections in the presence of non-separable preferences. Parallel to this line of research, I am involved in experimental projects on tournaments with heterogeneous agents (see joint work with Andrea Mattozzi, Roman Sheremeta, and Nora Szech) and on the effects of private and public information in coordination games (see joint work with Dietmar Fehr

and Frank Heinemann). Last but not least, I am involved in some group projects with other members of the institute, which I describe in more detail in the next section.

## **Research Agenda**

My research agenda for the next years is based on two pillars. The first pillar is to continue with the line of research described in the previous section. That is, to use microeconomic theories and experiments in order to answer questions in different areas, mainly Political Economy and Political Science. The second pillar of my research agenda relates to the particulars of the institute and its multidisciplinary character. One of my research goals is build new projects with other members of the institute and benefit from collaborating with experts of other disciplines. In my year at the institute, I have been involved in two group projects constituted by lawyers, economists, psychologists, and political scientists. The Parties Group, formed by Sophie Bade, Konstantin Chatziathanasiou, Andreas Glöckner, Sebastian Goerg, Carlos Kurschilgen, Philip Leifeld, Niels Petersen, and myself, is interested in the role that political parties have in the political process. We have already completed a survey study on the perceived legitimacy of plebiscites vis-à-vis other collective decision-making processes. The goal of this group is to develop further experimental and empirical projects to reach a better understanding of the role of political parties in the political process. The second group, led by Berenike Waubert de Puiseau and Andreas Glöckner, is interested in *Why People Obey the Law*. The goal of this group is to develop a cross-cultural survey study to determine the key elements that induce people to follow the law.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Llorente-Saguer A., Hortala-Vallve R., Pure Strategy Equilibria in Non-zero Sum Colonel Blotto Games, *International Journal of Game Theory*, In Press.

Llorente-Saguer A., Hortala-Vallve R., A Simple Mechanism for Resolving Conflict, *Games and Economic Behavior*, vol. 70, no. 2, pp. 375-391, 2010.

### **Working Papers**

Competitive Equilibrium in Markets for Votes  
with Alessandra Casella and Thomas R. Palfrey, submitted

An Experimental Comparison between Free Negotiation and a Multi-issue Point Mechanism with Rafael Hortala-Vallve and Rosemarie Nagel, submitted by R&R at *Experimental Economics*

The Power of Sunspots: An Experimental Analysis  
with Dietmar Fehr and Frank Heinemann, submitted

## **Work in Progress**

Measuring Overreaction to Public Information with Strong Priors: An Experimental Analysis  
with Dietmar Fehr and Frank Heinemann

Incentives and Efficiency in Two Stage Contests  
with Andrea Mattozzi

Divided Majority and Information Aggregation: a Lab experiment  
with Laurent Bouton and Micael Castanheira

Combinatorial Voting in the Lab  
with David S. Ahn and Santiago Oliveros

Experimental Investigation of Caps and Tie-Breaking Rules in All-Pay Auctions  
with Andrea Mattozzi, Roman Sheremeta and Nora Szech

## **Lectures and Seminar Presentations (since 2009)**

### **2010**

#### **Incentives and Efficiency in Two Stage Contests**

CENs Seminar, Bonn, Germany

December 2010

### **2011**

#### **Competitive Equilibrium in Market for votes**

Fourth Annual CESS – NYU Experimental Political Science Conference, New York, NY,  
U.S.A.

March 2011

#### **Competitive Equilibrium in Market for votes**

International Meeting in Experimental and Behavioral Economics, Barcelona, Spain  
April 2011

#### **Competitive Equilibrium in Market for votes**

4th Maastricht Behavioral and Experimental Economics Symposium, Maastricht, Holland  
June 2011

**Competitive Equilibrium in Market for votes**

Priorat Workshop in Theoretical Political Science, Priorat, Spain  
June 2011

**Competitive Equilibrium in Market for votes**

10th Journées Louis-André Gérard-Varet: Conference in public economics, Marseille, France  
June 2011

**Competitive Equilibrium in Market for votes**

Congress of the European Economic Association, Oslo, Norway  
August 2011

**Competitive Equilibrium in Market for votes**

American Political Science Association Meeting, Seattle, WA, U.S.A.  
September 2011

**Divided Majority and Information Aggregation: A Laboratory Experiment**

NYU Political Economy Seminar, NYU, New York, NY, U.S.A.  
September 2011

**The Power of Sunspots: An Experimental Analysis**

CESS Experimental Economics Seminar, NYU, New York, NY, U.S.A.  
November 2011



## **Jörn Lüdemann**

### **Summary Report**

In the last two years, work on my habilitation thesis, "Die Aufgabenprägung des Verwaltungsrechts" (*the significance of tasks for administrative law*), was at the core of my research. Taking telecommunications law and the law of bank supervision as examples, the thesis examines the importance of concrete administration tasks for the organization of administrative law. The more heterogeneous these tasks become, which the legislator imposes on the administration, the less instruction is ensured by general rules of administrative law, and the more important the concrete tasks become for constitutionally disciplining administrative law and its design. The importance of administrative tasks hence puts into perspective and modifies the significance of thinking in systems at the level of administrative law. Even today, the thinking in systems plays an exceptionally major role in the German research scene, compared to the research conducted in this field abroad. Methodically, the work combines dogmatics of administrative law with legal and economic theory and theory of science.

Another project handles the question on how to make economic theory and empiricism more beneficial to the field of public economic law. While in civil law the economic foundation has become an everyday feature of research, the science of administrative law is rather more tentative in this regard. The paper searches for reasons for this reticence, using concrete examples to examine the possibilities for an economic analysis of public economic law. It is based on a lecture I held at a conference on "Extradisciplinary knowledge in the science of administrative law" at the Center of Advanced Studies (University of Munich).

Besides a smaller didactic paper for a journal for young legal scholars (together with Yoan Hermstrüwer), I also wrote a contribution on international telecommunications law for the new edition of a textbook on international commercial law. This publication deals with the transnational economic-law rules for the law on telecommunications and the postal service.

As in previous years, I continue to teach courses in telecommunications and media law at the University of Osnabrück. In 2011, I also took on the course in Law and Economics. In the 2010 summer semester, I was interim professor at the University of Freiburg (Chair: Prof Dr Andreas Voßkuhle, President of the German Federal Constitutional Court). The main areas here were public economic law and media law.

## **Research Agenda**

A research project that has already begun and will remain a focus of my research for some time, deals with “state-run consumer direction” (“Staatliche Konsumlenkung”). The project analyzes reasons for, and manifestations of, state attempts to guide consumer behavior in various areas of life and exposes the economic and constitutional problems of such governance measures.

Further, I plan to continue a joint research project with Andreas Glöckner, covering both the fields of Psychology and Legal Studies. In this project, we discuss “Framing and the Willingness to Pay for Broadcasting Fees in Germany”. The experimental study is not only of interest in the context of the debates on media law in Germany; it also promises to provide first insights into the more general question of whether there is a connection between the framing of fees and the willingness to contribute to public goods.

A third project is part of a research cooperation on “science of administrative law in the early Federal Republic (1949-1976)”. My paper will consider the contribution of *Ernst Rudolf Huber* for the German public economic law.

## **Publications (since 2009)**

### **Books**

Lüdemann J., Funke A., *Öffentliches Recht und Wissenschaftstheorie*, Tübingen, Mohr Siebeck, pp. 216, 2010.

### **Book Chapters**

Lüdemann J., Rechtsetzung und Interdisziplinarität in der Verwaltungsrechtswissenschaft, *Öffentliches Recht und Wissenschaftstheorie*, Funke A., Lüdemann J., (Eds.), Tübingen, Mohr Siebeck, pp. 119-150, 2009.

Lüdemann J., Internationales Kommunikationsrecht, *Internationales Wirtschaftsrecht*, Tietje C., (Ed.), Berlin, New York, de Gruyter, pp. 433-453, 2009.

### **Articles (not peer-reviewed)**

Lüdemann J., Magen S., Mathis K., Effizienz statt Gerechtigkeit?, *Zeitschrift für Rechtsphilosophie*, vol. 7, pp. 97-110, 2009.

### **Review**

Lüdemann J., Rezension von Michael Fehling/Matthias Ruffert (Hrsg.), Regulierungsrecht, Tübingen 2010, *Neue Zeitschrift für Verwaltungsrecht*, pp. 1351, 2010.

## **Preprint**

Lüdemann J., *Rechtsetzung und Interdisziplinarität in der Verwaltungsrechtswissenschaft*, issue 2009/30, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Aktuelle Fragen des europäischen Kommunikationsrechts** [Current questions on European Communications Law]

Conference "Europarecht und europäisches Wirtschaftsrecht"  
Justizakademie des Landes Nordrhein-Westfalen, (Academy of Judges of North Rhine-Westphalia), Recklinghausen, Germany  
February 2009

#### **Privatheit in den Medien und die staatliche Medienaufsicht**

[Privateness in the media and state media supervision]  
"Ich hab' doch nichts zu verbergen. Das Private als Auslaufmodell?"  
Graduiertentagung der Bischoflichen Studienförderung Cusanuswerk  
Katholische Akademie Schwerte, Germany  
May 2009

#### **Staatliche Konsumlenkung im Verfassungsstaat**

[State-run consumer direction in the constitutional state]  
University of Bonn, Germany  
June 2009

#### **Telekommunikationsregulierung in Europa**

[Telecommunications regulation in Europe]  
Conference "Europarecht und europäisches Wirtschaftsrecht"  
Justizakademie des Landes Nordrhein-Westfalen, (Academy of Judges of North Rhine-Westphalia), Recklinghausen, Germany  
October 2009

### **2010**

#### **Konsumentensouveränität**

[Consumer Sovereignty]  
Research Colloquium "Administration Law", University of Cologne, Germany  
May 2010

**Rechtsstaat – the German Rule of Law?**

Comment on Anna-Bettina Kaiser

Research Colloquium "Administration Law"

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

November 2010

**2011**

**Rechtsökonomik im öffentlichen Wirtschaftsrecht**

[Law and economics of public economic law]

Extradisziplinäres Wissen in der Verwaltungsrechtswissenschaft

(Extradisciplinary knowledge in the science of administrative law)

University of Munich, Center for Advanced Studies (CAS)

August 2011



## **Stefan Magen (Affiliate)**

### **Summary Report**

In the period under report, I attained the *habilitation* and assumed a Chair in Public Law, Legal Philosophy, and Law and Economics at the Ruhr University in Bochum.

In my *habilitation* thesis, I had put forward an empirically founded theory on the relationship between cognitions of justice, preferences for fairness, and the law (details were already reported in the 2009 status report). Based on this theory, I pursued the question whether cognitions of justice might implicitly shape the meaning of legal doctrines without being explicitly mentioned. Here, a major law journal article is in preparation.

Through my previous work on the Law and Economics of emissions trading, I started to get interested in the relation between public law, market competition, and competition law. I analyzed the jurisprudence of German administrative courts on market openings for private waste paper collection and found that the leading decision is based on erroneous economic reasoning and probably will not stand up before the European Court of Justice. I also started to inquire the opportunities and limits of a "more economic approach" to the exception for services of general economic interest (Article 106 para. 2 TFEU, ex Art. 86 para 2. EC-Treaty), which governs the application of competition law on public-purpose interventions in many policy areas. Further, I began a project with a group of legal scholars on a systematic and comparative legal analysis of those areas of public law that substantially intervene in market competition. My focus in this collaboration lies on the question which economic aspects of the respective market interventions are relevant for the law and how they can be considered by the law.

Finally, I resumed my interest in Law and Religion, writing on the principle of neutrality and on the influence of the European Court of Human Rights on the labor relations of Churches in Germany.

### **Research Agenda**

My future research will have three main focuses. The first will remain on the relationship between fairness preferences and the law. Following a 'more cognitive approach' compared to other behavioral Law and Economics approaches, the emphasis continuous to be to identify, in collaboration with cognitive scientists, the cognitive processes by which the impact of the law on fairness preferences is mediated. In this respect, the theoretical framework put forward in my *habilitation* thesis will be used as a basis for empirical research. I will also try to make empirical research in this area bear on philosophical questions. While legal philosophy is traditionally concerned with questions of justice, it

often makes implicit assumptions about normative motives and normative reasoning, which can also be addressed empirically. In this regard, I will pick up the "experimental philosophy" movement and introduce it into legal philosophy.

The second focus continues to be the economic analysis in public law. Whereas Law and Economics is firmly established in private law, in public law this is the case only in few areas, such as environmental law or network regulation. However, economic ideas and mechanisms are increasingly being introduced into public law on a much wider range under the influence of European Law. Insofar, an important challenge will be to balance and adjust economic mechanisms aiming at efficiency to non-economic policy considerations and the rationality of the law. Here, the exploration of "public competition law" and of the prospects of a "more economic approach" to the exception for services of general economic interest will continue to be the main areas of research.

Finally, I will also stay active in the field of Law and Religion. One topic in which I am interested in this area is how constitutional provisions of religious freedom and neutrality influence the incentives of religious actors for strategic or even opportunistic behavior.

## **Publications (since 2009)**

### **Books**

Was weiß Dogmatik?, Magen S., Kirchhof G., Schneider K., (Eds.), Tübingen, Mohr Siebeck, In Press.

Magen S., *Gerechtigkeit als Proprium des Rechts*, (Habilitation Thesis), Bonn, pp. 619, 2009.

### **Book Chapters**

Magen S., Zur Legitimation Privaten Rechts, *Privates Recht*, Bumke C., Röthel A., (Eds.), Tübingen, Mohr Siebeck, In Press.

Magen S., Neutralität und negative Religionsfreiheit im staatlich verantworteten öffentlichen Raum, *Islam – Säkularismus – Religionsrecht*, Häberle L., (Ed.), Heidelberg, Springer, In Press.

Magen S., Spieltheorie, *Ökonomische Methoden im Recht*, Towfigh E. V., et al., (Eds.), Tübingen, Mohr Siebeck, pp. 71-116, 2010.

Magen S., Rechtliche und ökonomische Rationalität im Emissionshandel, *Recht und Markt. Wechselbeziehungen zweier Ordnungen*, Towfigh E. V., (Ed.), Baden-Baden, Nomos, pp. 9-28, 2009.

## **Articles (not peer-reviewed)**

Lüdemann J., Magen S., Mathis K., Effizienz statt Gerechtigkeit?, *Zeitschrift für Rechtsphilosophie*, pp. 97-110, 2009.

Magen S., Grundfälle zu Art. 4 III GG, *Juristische Schulung (JuS)*, pp. 995–999, 2009.

## **Review**

Magen S., Anderheiden M., Gemeinwohl in Republik und Union, *Rabels Zeitschrift für ausländisches und internationales Privatrecht*, pp. 222-226, 2010.

## **Preprint**

Magen S., *Rechtliche und ökonomische Rationalität im Emissionshandelsrecht*, issue 2009/19, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Rechtliche und ökonomische Rationalität im Emissionshandel**

[On the Interplay of Legal and Economic Concerns in Emissions Trading Law]  
Eröffnungsvortrag, 49. Assistententagung Öffentliches Recht, Recht und Markt – Wechselbeziehungen zweier Ordnungen, Bonn, Germany  
March 2009

#### **Hosting a conference on “Was weiß Dogmatik?”**

[What Kind of Knowledge is Provided by Legal Doctrine?]  
(jointly with Prof. Dr. Gregor Kirchhof, University of Munich, and Dr. Karsten Scheider, University of Bonn / Federal Constitutional Court)  
(speakers inter alia: Prof. Udo Di Fabio, judge of the FCC; Prof. Winfried Hassemer, former vice president of the FCC; Prof. Andreas Voßkuhle, president of the FCC; and other distinguished scholars)  
Max Planck Institute on Collective Goods, Bonn, Germany  
October 2009

### **2010**

#### **Kommunale Daseinsvorsorge in den Grenzen des europäischen Wettbewerbsrechts**

[Municipal Services of General Economic Interest within the Limits of European Competition Law], Habilitationsvortrag [Habilitation Lecture], University of Bonn, Germany  
February 2010

**Wieso in der Rechtsdogmatik fast nie und doch fast immer von Gerechtigkeit die Rede ist**

[Why Legal Doctrine Never, and yet Almost Always, Talks About Justice], Antrittsvorlesung als Privatdozent [Inaugural Lecture as a Lecturer], University of Bonn, Germany  
June 2010

**Fairness and Reciprocity as Schemes of Behavior**

Conference on "Contract Governance- Dimensions in Law and Interdisciplinary Research", Prof Stefan Grundmann/Prof Florian Mösllein/Prof Karl Riesenhuber, Humboldt-University, Berlin, Germany  
September 2010

**Die Legitimation Privaten Rechts**

[The Legitimation of Private Norms], DFG-Rundgespräch "Privates Recht"  
[DFG-Roundtable on Private Norms], Prof Christian Bumke/Prof Anne Röthel, Bucerius Law School, Hamburg, Germany  
April 2010

**Negative Religionsfreiheit – staatliche Neutralität – Religionsrecht**

[Negative Religious Freedom – Religious Neutrality – Religious Law], Conference on "Islam – Säkularismus – Religionsrecht" [Islam, Secularism, and Religious Law], Lindenthal-Institute, Cologne, Germany  
November 2010

**2011**

**Anfragen aus Sicht des deutschen Verfassungsrechts**

[Questions to the ECHR from the Perspective of German Constitutional Law"], Conference on "Straßburg und das kirchliche Arbeitsrecht" [Strasbourg and the Labor Law of the Churches], Ruhr-University, Bochum  
January 2011

**Spezifisches Verfassungsrecht als Prüfungsmaßstab**

der Urteilsverfassungsbeschwerde" [Specific Constitutional Law as an examination benchmark for a Constitutional Complaint], Turkish-German-Legal-Symposium, Suleyman Demirel University, Isparta, Turkey  
May 2011



## **Monia Manâa**

### **Summary Report**

My research interests are behavioral law and economics in combination with legal and economic history. In these fields, I am especially interested in the way legal institutions affect human behavior and vice versa, as well as the integration of new methodological approaches into legal science.

a.) In my Ph.D. thesis, entitled "The Power to Decide in Corporations between Law and Reality – A Case Study of the BMW Corporation" [*"Entscheidungsmacht in der Aktiengesellschaft zwischen Recht und Realität – Eine Fallstudie über die BMW AG"*], I focus on evaluating the internal organization of the decision-making process in Corporate Law and the actual behavior of the norm addressees in the corporation (insiders), i.e., the members of the management and supervisory boards and the major shareholders.

As Hopt has put it recently, "the boards in corporate groups are still a black box". To explore this black box, empirical evidence is important, albeit difficult to come by. Yet, it is possible to access such data by going back in time and evaluating company archives. For this purpose, I have introduced a new approach that compares the development and intentions of a legal framework with a case study and the qualitative analysis of the internal data found in the company archives, such as minutes of management and supervisory board meetings, annual records, correspondence, and memoranda. Regarding the corporate governance practice of BMW, the data propose that effective governance is more likely based on the internal leverage of the respective addressee of the norm, e.g., on individual behavior, than on the external legal framework. The data found indicate that the role and function of law and legal systems are different than presumed.

The data analysis takes into account two different aspects: on a first level, I am able to show that the compliance with legal norms regulating the allocation of decision rights is primarily a question of the size of the group and also a question of who is part of the decision-making process. On the second level, the documents from the company archives are also used to evaluate how law affects the information carried by the sources. By including research on the formal part of the documents (source evaluation), i.e., by analyzing the information sources in order to assess their credibility, I can show a development in an opposite direction to the legally intended one: the more people are involved in the decision-making process, the less reliable are the official documents (e.g., minutes of management and supervisory board meetings). As a result, the legal requirements have more effects on the documentation itself than the decision-making process. Therefore, the increasing demand of formal documentation required by German Corporate Law leads to more elaborate ways of concealing, rather than to the desired transparency of the factual power in the corporation.

b.) In addition, I finished a project on the legal consequences of the German financial crisis of 1931, on which only little research – both in legal and economic history – has been done up to now. In the aftermath of financial crises, legislators often develop new regulations. This is a global phenomenon that may easily provoke one to call these legal reforms “bubble laws”.

In Germany, the government responded quite quickly to the financial crisis of 1931 by introducing an Emergency Decree (“Verordnung über Aktienrecht, Bankenaufsicht und über eine Steueramnestie vom 19. September 1931”). Yet, was it really the financial crisis of 1931 that initiated this shift towards a modern interventionist state? With this Emergency Decree, the government, among other things, tried to counterbalance the weakness of the internal control inside the corporation by establishing a new external instance (audit), as well as implementing rules guaranteeing a better internal communication and more transparency.

In my research project, I show how legal and economic research and the already existing economic practice influenced the Corporate Law reform that led to the Emergency Decree of 1931 and to the Corporate Act of 1937. This will demonstrate that the perception of “economy” and its political meaning had already changed over the decades preceding the crisis of 1931 and the crisis was less a reason than an occasion to change Corporate Law. Germany was rather continuing its path of “regulated self-control” than establishing a new interventionist system in Corporate Law. This path was followed since 1870 when the supervisory board as a new mandatory organ was first installed; the so-called German “Sonderweg”.

c.) Further, in joint work with Hanjo Hamann and Lilia Zhurakhovska, I recently started a new project aimed at testing experimentally whether the German system of corporate checks and balances actually improves joint decision-making. We intend to compare group decision-making with decisions taken under the supervision of a veto-holder, which we hope captures an essential element of the German two-tier system of corporate governance.

## **Honours**

Since Spring 2009: Mentee, Mentoring-Program (LMU excellent), LMU Mentoring: provides career support for highly qualified, emerging female academics working toward a professorship, Ludwig-Maximilians-Universität, Munich.

## **Publications (since 2009)**

Manâa M., Die Wirtschaftskrise von 1931 als Wendepunkt? Deutschlands Weg vom organisierten zum regulierten Kapitalismus, *Jahrbuch für Wirtschaftsgeschichte*, Akademie Verlag, vol. 2, pp. 95-116, 2011.

## **Lectures and Presentations (since 2009)**

### **2009**

#### **Legal Business History – A Bridge between Law and Reality: Exemplified by the Evaluation of the Corporate Governance Practice of the BMW AG from 1949 to 1977**

First Early Career Workshop, Law and Society Association, Denver, U.S.A.  
25–27 May 2009

#### **Banking Law and Corporate Law after the German Financial Crisis of 1931**

Conference: Causes and Consequences of the German Financial Crisis of 1931 in National and International Perspective  
Max Planck Institute for Research on Collective Goods, Bonn, Germany  
18 September 2009

### **2010**

#### **Legal Business History**

Law and Society Association Conference, Chicago, U.S.A.  
May 2010

#### **Do Rules Really Rule? Longitudinal Case Study on the Behavior of Board Members at the BMW Corporation**

6th Annual Meeting of Asian Law and Economics Association, Beijing, China  
August 2010

## 2011

### **Do Economic Crises Fundamentally Change Economic Policy?**

Law and Society Association Conference, San Francisco, U.S.A.

May 2011

### **Do Economic Crises Alter Concepts of State Regulation? The Influence of Legal and Economic Research on Corporate Law Before the Economic Crisis of 1931**

[Verändern Wirtschaftskrisen staatliche Regulierungskonzepte? Der Einfluss juristischer und ökonomischer Forschung auf das Aktienrecht im Vorfeld der Wirtschaftskrise von 1931.]

Workshop: Venues where juridical and economic rationalities of regulation interact in the 19<sup>th</sup> and early 20<sup>th</sup> century, Max Planck Institute for European Legal History, Frankfurt am Main, Germany

June 2011

### **Die Entwicklung der Bankenaufsicht in Deutschland von 1934 bis 1961**

[The Legal Development of Banking Supervision in Germany from 1934 to 1961]

Arbeitskreis Bank- und Versicherungsgeschichte der Gesellschaft für Unternehmensge-

schichte e.V. zum Thema „Bankenregulierung“, Frankfurt, Germany

September 2011



## **Alexander Morell**

### **Summary Report**

In the second half 2010, I defended my doctoral thesis, which deals with the assessment of rollback rebates under article 102 TFEU (formerly 82 EC) – a controversial topic both between the EU and the US and within both jurisdictions.

As reported in the last status report, I reviewed the behavioral (law and) economics literature to find clear-cut and applicable prerequisites that justify presuming certain target rebates to be abusive. For the thesis, I was awarded the Otto Hahn Medal of the Max Planck Society. The thesis has been published by Nomos in September 2011.

My main project during the last two years was pursuing my *Referendariat* (a required clerkship for German lawyers) at the District Court of Bonn between 2008 and 2011. I took the opportunity to gain deeper insights into fields of application of the laws on which I did and may do research.

I spent three month at the German Cartel Office in a unit dealing with the abuse of dominance in the energy sector. Here, I learned how difficult it is to raise and process market data in a reliable way. I felt reconfirmed that looking for simple but effective tests based on economic theory is a more predictable and a more manageable approach than a pure case-by-case analysis of market data.

Furthermore I spent three months at the Directorate General for the Internal Market of the European Commission in a unit dealing with financial market regulation. I learned how difficult it is to respect the high dynamic of this sector while regulating it. Private contract law and regulation through administrative law seemed highly interlinked in this field. I would like to pursue research in this field once I fully reintegrate into the MPI in September.

In cooperation with Michael Kurschilgen and Ori Weisel (from the Center for the Study of Rationality, Jerusalem), I am working on an experimental paper on the competition between teams. Gary Bornstein has shown that how teams behave in competition depends crucially on the internal distribution of payoffs. We would like to investigate how this effect plays out in markets with heterogeneous teams, and which factors can influence it. Ultimately, we hope to find suggestions on how joint ventures of small enterprises could be organized most effectively, conditional on the goal pursued. We have generated first data in the lab. Very preliminary results suggest that learning the equilibrium strongly depends on how payoffs are distributed within teams.

In the last status report, I outlined a project on modifying an experiment of Abeler et al. (2009) to test whether the assumption of a plurality of reference points in the theory of reference-dependent preferences (Köszegi/Rabin, 2006) is appropriate. Using the exper-

imental paradigm of Abeler had to be abandoned. We were made aware of the fact that Abeler himself is pursuing the same idea. When we contacted him, we learned that his project had advanced a lot further than ours at the time. I am still working on testing aspects of the theory in the lab, though using a different design.

## **Honors**

### **Otto-Hahn Medaille der Max Planck Gesellschaft 2010**

[Otto Hahn Medal of the Max Planck Society] for the Dissertation Thesis "(Behavioral) Law and Economics im europäischen Wettbewerbsrecht – Missbrauchsaufsicht über Zielrabatte" ["(Behavioral) Law and Economics in European competition law – abuse of dominance by means of target rebates"] at the University of Bonn, 2010.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Morell A., Behavioral Antitrust and Merger Control: Comment, *Journal of Institutional and Theoretical Economics*, vol. 167, no. 1, pp. 143-148, 2011.

### **Book**

Morell A., (Behavioral) Law and Economics im europäischen Wettbewerbsrecht, Missbrauchsaufsicht über Zielrabatte, *Wirtschaftsrecht und Wirtschaftspolitik*, Baden-Baden, Nomos, vol. 255, pp. 284, 2011.

### **Articles (not peer-reviewed)**

Morell A., Zur Verwirkung des Anfechtungsrechts eines Aktionärs, zu OLG Köln, Urt. v. 28.7.2011 – Az. 18 U 213/10, *Entscheidungen zum Wirtschaftsrecht*, vol. 27, pp. 761-762, 2011.

### **Preprints**

Beckenkamp M., Engel C., Glöckner A., Irlenbusch B., Hennig-Schmidt H., Kube S., Kurschilgen M., Morell A., Nicklisch A., Normann H., Towfigh E., *Beware of Broken Windows! First Impressions in Public-good Experiments*, issue 2009/21, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Morell A., Glöckner A., Towfigh E., *Sticky Rebates: Rollback Rebates Induce Non-Rational Loyalty in Consumers – Experimental Evidence*, issue 2009/23, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Sticky rebates: Do Rollback Rebates Induce Non-Rational Loyalty In Consumers? – Experimental Evidence**

ALEA Annual Meeting at University of San Diego, U.S.A.  
15–16 May 2009

#### **Sticky rebates: Do Rollback Rebates Induce Non-Rational Loyalty In Consumers? – Experimental Evidence**

LawEcon Workshop, University of Bonn, Germany  
26 May 2009



## **Andreas Nicklisch (Affiliate)**

### **Summary Report**

I am currently Assistant Professor for Microeconomics at the University of Hamburg. I was Senior Research Associate at the Max Planck Institute for Research on Collective Goods between 2005 and 2010, and I am still affiliated with the institute. My research area is behavioral economics. My current work is focussed on two specific fields: first, research on individual cooperation in social dilemmas under uncertainty, and second, the interplay between formal and informal contracts in principal-agent relationships. Let me introduce some of my recent articles and on-going projects in order to explain my research agenda.

#### **Cooperation in Social Dilemmas**

Cooperation in social dilemmas is at the centre of experimental public economics. Social dilemmas are characterized by a mismatch between individual incentives and socially desirable actions. Efficiency is fully obtained if all individuals cooperate, while each individual maximizes the own payoff by defecting. A large number of mechanisms have been tested with respect to the potentials of increasing the level of cooperation within small groups. However, the overwhelming majority of mechanisms are tested in unambiguous environments and under complete information concerning the behavior of other group members. My research extends previous analyses to the domain of uncertainty and imperfect knowledge.

In a recent, joint article with Andreas Glöckner, Bernd Irlenbusch, Sebastian Kube, and Hans-Theo Normann (2011), the question of leadership and conditional cooperation is explored. Particularly, the article shows that privileged members (i.e., those who participate more from group cooperation than others) can initiate cooperation among non-privileged players only to a small extent. In other words, our experimental results suggest that other group members evaluate ambiguous intentions differently than clear-cut intentions: the cooperation rate of a sacrificing group member is considered kindlier than the same cooperation rate of a non-sacrificing group member, and others condition their own cooperation rate accordingly.

In another paper, jointly with Irenaeus Wolf (2011), we analyze the kind of norm (i.e., a shared understanding which behavior is inappropriate) that triggers sanctions in social dilemmas. In particular, we ask whether there exists such a norm, and whether this norm is of absolute or relative nature (i.e., whether this norm exists independently from the level of cooperation within the group, or whether the norm relates to the level). By use of extensive econometric analysis, we are able to identify such a norm which is of absolute nature.

Finally, in a third article, joint work with Kristoffel Grechenig and Christian Thöni (2010), we introduce imperfect information when applying a particular mechanism, decentralized punishment. Here, each group member can administer costly punishment to other members for not being cooperative. A large body of research has shown that individuals are willing to execute punishment even in anonymous, non-repeated interactions, and that the cooperation rate increases enormously when providing this mechanism. However, this result is restricted to an environment of perfect information concerning the cooperation rate of others. In our paper, we can show that introducing imperfect knowledge dramatically changes the superior results for decentralized punishment. Players apply sanctions even under imperfect knowledge, so that many co-operators are punished and decrease their rate of cooperation. As a consequence, for a severe degree of noise, providing no punishing mechanism is more efficient than providing one.

My current research on social dilemmas continues the analysis of cooperation and sanctioning under imperfect information. For this purpose, I introduce an environment where players can actively choose between different sanctioning mechanisms (decentralized, centralized, and no punishment) for different levels of information inaccuracy. Therefore, the results of this experiment will allow me to answer the question whether there are optimal sanctioning institutions for certain information qualities within societies.

### **Formal and Informal Contracts**

My second stream of research focuses on the interplay of formal and informal contracts for cooperation in principal-agent relationships. In a first article (Nicklisch, 2011), I analyze the subjective perception of payoff interdependence between subjects in an initially unknown environment. Here, I compare the strategies individual players develop based on their subjective perceptions in order to coordinate Pareto-efficiently with theoretically optimal coordination strategies.

Along this line of research, in a joint study with Gerlinde Fellner, we test the effect of poorly specified obligations in labor market contracts and compare the efficiency obtained by means of such a contract against the efficiency obtained by contracts that does not specify those obligations at all. This study contributes to the existing literature on crowding-out of intrinsic motivation by extending this stream of research to labor contract theory. This project is financially supported by a research grant of the Vienna University of Economics and Business.

In a third step, a joint research project with Alain Cohn and Ernst Fehr from the Institute for Empirical Research in Economics at the University of Zurich, we analyze how agents react in informal components of their labor contract while the formal components are changed. This project is of special interest since it is designed as a field experiment, that is, subjects do not know that they are participating in an experiment. The project was initiated during my time as visiting scholar at the Institute for Empirical Research in Economics at the University of Zurich between September 2009 and February 2010.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Nicklisch A., Learning strategic environments: An experimental study of strategy formation and transfer, *Theory and Decision*, vol. 71, pp. 539-558, 2011.

Nicklisch A., Wolf I., The cooperation norms in multiple-stage punishment (with I. Wolf), *Journal of Public Economic Theory*, vol. 13, no. 5, pp. 791-827, 2011.

Nicklisch A., Does collusive advertising facilitate collusive pricing? Evidence from experimental duopolies, *European Journal of Law and Economics*, In Press.

Glöckner A., Irlenbusch B., Kube S., Nicklisch A., Normann H.-T., Leading with(out) Sacrifice? A Public-Goods Experiment with a Super Privileged Player, *Economic Inquiry*, vol. 49, pp. 591-597, 2011.

Grechenig K., Nicklisch A., Thöni C., Punishment Despite Reasonable Doubt – A Public Goods Experiment with Sanctions Under Uncertainty, *Journal of Empirical Legal Studies (JELS)*, vol. 7, no. 4, pp. 847-867, 2010.

Jekel M., Nicklisch A., Glöckner A., Implementation of the multiple-measure maximum likelihood strategy classification in R, *Judgement and Decision Making*, vol. 5, pp. 54-63, 2010.

Nicklisch A., Cantner U., Güth W., Weiland T., Competition in product design: An experiment exploring innovation behavior, *Metroeconomica*, vol. 60, no. 4, pp. 724-752, 2009.

Nicklisch A., Alewell D., Wage differentials and social comparison: An experimental study of interrelated ultimatum bargaining, *International Review of Law and Economics*, vol. 29, pp. 210-220, 2009.

Nicklisch A., The (de)composition of firms: Interdependent preferences of corporate actors, *European Business Organization Law Review*, vol. 10, no. 2, pp. 291-305, 2009.

### **Book Chapters**

Nicklisch A., Mikroökonomik, *Ökonomische Methoden im Recht*, Tübingen, Mohr Siebeck, pp. 35-70, 2010.

Nicklisch A., Vertragstheorie, *Ökonomische Methoden im Recht*, Tübingen, Mohr Siebeck, pp. 117-132, 2010.

### **Articles (not peer-reviewed)**

Hohmann T., Lobinger B., Nicklisch A., Analyse der subjektiven und objektiven Auswirkungen der Regeländerungen im Stabhochsprung, *Zeitschrift für Sportpsychologie*, vol. 17, pp. 12-20, 2010.

## **Preprints**

Glöckner A., Kube S., Nicklisch A., *The Joint Benefits of Observed and Unobserved Punishment: Comment to Unobserved Punishment Supports Cooperation*, issue 2011/30, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Grechenig K., Nicklisch A., Thöni C., *Punishment despite Reasonable Doubt – A Public Goods Experiment with Uncertainty over Contributions*, issue 2010/11, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Nicklisch A., Wolff I., *Cooperation norms in multiple-stage punishment*, issue 2009/40, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Beckenkamp M., Engel C., Glöckner A., Irlenbusch B., Hennig-Schmidt H., Kube S., Kurschilgen M., Morell A., Nicklisch A., Normann H.-T., Towfigh E. V., *Beware of Broken Windows! First Impressions in Public-good Experiments*, issue 2009/21, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Glöckner A., Irlenbusch B., Kube S., Nicklisch A., Normann H.-T., *Leading with(out) Sacrifice? A Public-Goods Experiment with a Super-Additive Player*, issue 2009/08, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **The Benefits of Latent Feedback**

Public Economic Theory Conference, Galway, Ireland  
June 2009

#### **Controlling versus Supporting Actions in Virtual World Principal-agents interactions**

International Meeting of the Economic Science Association, Washington, U.S.A.  
June 2009

### **2010**

#### **Virtual Field Evidence on the Hidden Cost of Control**

IAREP SABE Conference, Cologne, Germany  
September 2010

#### **The Benefits of Latent Payback in Social Dilemmas**

Annual Meeting Verein für Socialpolitik, Kiel, Germany  
October 2010

**The Benefits of Latent Payback in Social Dilemmas**

Annual Meeting Gesellschaft für Experimentelle Wirtschaftsforschung, Luxemburg, Luxemburg  
October 2010

**2011**

**Noisy Sticks or Noisy Carrots: Endogenous Institutional Choice in Social Dilemmas with Uncertainty**

4th Thurgau Experimental Economics Meeting, Kreuzlingen, Switzerland  
May 2011

**Noisy Sticks or Noisy Carrots: Endogenous Institutional Choice in Social Dilemmas with Uncertainty**

14th Social Dilemma Conference, Amsterdam, Netherlands  
July 2011

**On the Nature of Reciprocity: Evidence from the Ultimatum Reciprocity Measure**

European Economic Association Meeting, Oslo, Norway  
August 2011

**Noisy Sticks or Noisy Carrots: Endogenous Institutional Choice in Social Dilemmas with Uncertainty**

Economic Science Association/European Conference, Luxemburg, Luxemburg  
September 2011



## **Niels Petersen**

### **Summary Report**

My current research focuses, in principle, on my postdoctoral thesis (*habilitation*). In this project, I am analyzing the rationality of balancing in constitutional adjudication. Constitutional courts often have to decide about conflicts of competing constitutional values or interests. Even if specific individual rights are protected by constitutions, this protection is rarely absolute. Instead, the right may be restricted either for the protection of competing individual rights or the promotion of certain public interests. Constitutional courts often resolve these conflicts by using some form of proportionality test. At the heart of this proportionality test, they often apply a cost-benefit analysis, in which they balance the two competing rights, taking into account the extent to which a specific measure promotes or restricts one of the competing aims.

In legal theory, this balancing of competing values is often heavily criticized. Critics point out that a rational balancing was not possible because the competing values are not commensurable, i.e., they lack a common normative currency that allows for a cost-benefit-analysis. Furthermore, courts that balance competing interests have to deal with empirical uncertainty regarding the effect of the measure in question on the restricted right and the promoted public purpose. My postdoctoral thesis aims to observe and evaluate different strategies of courts to rationalize this balancing procedure. For this purpose, it will compare the judgments of constitutional courts of different jurisdictions. Methodologically, it will recur to qualitative case-studies, as well as some modest quantitative analysis.

Besides my postdoctoral thesis, I have also invested a significant amount of time in methodological education and worked on some smaller projects during the last two years. Most notably, I took a leave of absence for one year to do a Masters in Quantitative Methods in the Social Sciences at Columbia University. The Master program enabled me to study the methodological foundations of empirical research and statistical analysis. There were three research projects that were inspired by or initiated during this year. Inspired by my methodological studies, I wrote a reflection on the use of social science methods for legal doctrine (*Braucht die Rechtswissenschaft eine empirische Wende?*). Illustrating my conception, I used decisions from the German constitutional court.

Furthermore, I produced a quantitative analysis that analyzes the relationship between the existence of an antitrust law and the level of democracy and economic performance of a country (*Antitrust Law and the Promotion of Democracy and Economic Growth*). The idea behind the project was to test the effectiveness of antitrust law in promoting its normative goals. I found that there was no statistically significant effect on the level of democracy, but a positive effect on economic growth. Finally, I participated in a project

of the Max Planck Institute for International Law and Comparative Constitutional Law on lawmaking by international courts. In a qualitative case-study analysis, I identified certain factors determining the effectiveness of 'lawmaking' by the International Court of Justice (*Lawmaking by the International Court of Justice – Factors of Success*).

A final major project was a German textbook that I wrote together with my colleague Emanuel Towfigh with the support of some fellows of the institute (*Ökonomische Methoden im Recht*). The textbook focuses on the use of social science methods for legal research. In contrast to the already existing textbooks, which mainly concentrate on the analysis of certain areas of law using economic expertise, we put an emphasis on methodology, like economic modeling or empirical research. The goal is to give a general introduction for legal scholars, highlighting the use of social science methods for legal work and enabling them better to understand social science papers that might be useful for legal research. The textbook was published in autumn 2010, and we got some very positive feedback from German legal scholars and the daily press (Frankfurter Allgemeine Zeitung, March 21, 2011, p. 14).

## **Research Agenda**

In the next two years, I plan to use most of my time and resources on my postdoctoral thesis. I hope to finish the thesis within the next two years. Besides, I am working on some smaller projects that are related to my postdoctoral thesis. Most notably, I am working on a project together with Emanuel Towfigh on the influence of the political predisposition of judges on the constitutional court on their decision-making. The project is supposed to be a quantitative project that seeks to analyze, codify and statistically evaluate different decisions of the German constitutional court.

Finally, I am involved in two interdisciplinary projects with different members of the institute. One project is supposed to analyze empirically the legitimacy of parties as institutions to channel and aggregate collective preferences in the political process. This is a joint project with Emanuel Towfigh, Andreas Glöckner, Sebastian Georg, Aniol Llorente-Saguer, Sophie Bade, and others. Furthermore, I participate in an experimental project that analyzes and compares the acceptance of different political decision-making procedures. In particular, we wish to investigate whether participation increases the acceptance of a decision even if the result of the political process is contrary to the preferences of a particular participant. This is a joint project with Carlos Kurschilgen, Stephan Dickert, and Emanuel Towfigh.

## **Honors & Grants**

Postgraduate Scholarship of the Haniel Foundation for a Masters in Quantitative Methods in the Social Sciences at Columbia University (33,000 EUR)

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Petersen N., International Law, Cultural Diversity and Democratic Rule. Beyond the Divide between Universalism and Relativism, *Asian Journal of International Law*, vol. 1, pp. 149-163, 2011.

Petersen N., Lawmaking by the International Court of Justice – Factors of Success, *German Law Journal*, vol. 12, pp. 1295-1316, 2011.

Petersen N., How Rational is International Law?, *European Journal of International Law*, vol. 20, pp. 1247-1262, 2009.

Petersen N., Rational Choice or Deliberation? – Customary International Law between Coordination and Constitutionalization, *Journal of Institutional and Theoretical Economics*, vol. 165, pp. 71-85, 2009.

### **Books**

Towfigh E. V., Petersen N., *Ökonomische Methoden im Recht. Eine Einführung für Juristen*, Tübingen, Mohr Siebeck, pp. 257, 2010.

Petersen N., Demokratie als teleologisches Prinzip. Zur Legitimität von Staatsgewalt im Völkerrecht, *Beiträge zum ausländischen öffentlichen Recht und Völkerrecht*, vol. 204: Springer, pp. 280, 2009.

*Recht und Markt — Wechselbeziehungen zweier Ordnungen.* 49. Assistententagung *Öffentliches Recht*, Bonn., Towfigh E. V., Schmolke K. U., Petersen N., Lutz-Bachmann S., Lange A.-K., Grefrat H., (Eds.), Baden-Baden, Nomos, pp. 270, 2009.

### **Book Chapters**

Petersen N., The Role of Consent and Uncertainty in the Formation of Customary International Law, *Reexamining Customary International Law*, Lepard B. D., (Ed.), Cambridge, Cambridge University Press, In Press.

Petersen N., Towfigh E. V., Grefrat H., Lange A.-K., Lutz-Bachmann S., Schmolke K. U., Schönfeldt K., Recht und Markt – Zwischen rechtlicher Regulierung der Wirtschaft und Ökonomisierung des Rechts, *Perspektiven des öffentlichen Rechts. Festgabe 50 Jahre Assistententagung Öffentliches Recht*, Dalibor M., et al., (Eds.), Baden-Baden, Nomos, In Press.

Petersen N., Globalisierungsforschung in Kultur- und Sozialwissenschaften: Rechtswissenschaft, *Globalisierung. Ein interdisziplinäres Handbuch*, Niederberger A., Schink P., (Eds.), Stuttgart, Verlag J. B. Metzler, pp. 122-131, 2011.

Petersen N., Demokratie und Grundgesetz – Veränderungen des Demokratieprinzips in Art. 20 Abs. 2 GG angesichts der Herausforderungen moderner Staatlichkeit, *Jahrbuch des öffentlichen Rechts der Gegenwart*, vol. 58, pp. 137-171, 2010.

Petersen N., Völkerrecht und Gewaltenteilung – Die aktuelle Rechtsprechung des US Supreme Court zur innerstaatlichen Wirkung von völkerrechtlichen Verträgen –, *Völkerrecht im innerstaatlichen Bereich*, Binder C., Fuchs C., Goldmann M., Lachmeyer K., Kleinlein T., (Eds.), vol. 13, Baden-Baden, Nomos, pp. 49-63, 2010.

### **Articles (not peer-reviewed)**

Petersen N., Braucht die Rechtswissenschaft eine empirische Wende?, *Der Staat*, vol. 49, pp. 435-455, 2010.

### **Book review**

Petersen N., Brian D. Lepard: *Customary international law. A new theory with practical applications*, *European journal of international law*, vol. 21, no. 2, pp. 795-797, 2010.

### **Preprints**

Petersen N., *Avoiding the Common Wisdom Fallacy: The Role of Social Sciences in Constitutional Adjudication*, issue 2011/22, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Petersen N., *The Role of Consent and Uncertainty in the Formation of Customary International Law*, issue 2011/04, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Petersen N., *Antitrust Law and the Promotion of Democracy and Economic Growth*, issue 2011/03, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Petersen N., *Braucht die Rechtswissenschaft eine empirische Wende?*, issue 2010/10, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Petersen N., *The Reception of International Law by Constitutional Courts through the Prism of Legitimacy*, issue 2009/39, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Petersen N., *Review Essay: How Rational is International Law?*, issue 2009/16, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Petersen N., *Abkehr von der internationalen Gemeinschaft? – Die aktuelle Rechtsprechung des US Supreme Court zur innerstaatlichen Wirkung von völkerrechtlichen Verträgen –*, issue 2009/05, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Human Rights Protection by Means of Foreign Rule? A Liberal Response to the Charge of Paternalism**

Comment on Daniel Voelsen at Conference on the Legitimacy of Political Systems  
Berlin, Germany  
29 January 2009

#### **Recht und Markt**

[The Law and the Market]  
Welcome Address at the 49th Conference for Doctoral and Postdoctoral Scholars in the field of Public Law, Bonn, Germany  
10 March 2009

#### **Contracts and Promises – An Approach to Pre-Play Agreements**

Comment on Topi Miettinen at Conference on Frontiers in the Economic Analysis of Contract Law, Bonn, Germany  
4 June 2009

#### **Demokratie als teleologisches Prinzip**

[Democracy as a Teleological Principle]  
Colloquium on Issues in Political Philosophy  
Goethe University, Frankfurt/Main, Germany  
8 June 2009

#### **Die Rezeption von Völkerrecht durch Verfassungsgerichte**

[The Reception of International Law through Constitutional Courts]  
Workshop on the Normativity and the Legitimacy of Political Orders, Hamburg, Germany  
11 July 2009

#### **Rational Choice und die Effektivität von Normen ohne Sanktionsmechanismus**

[Rational Choice and the Effectiveness of Norms Without a Sanction Mechanism]  
Colloquium on the formation of rules, the technique of rule-making and the effect of legal norms, Bonn, Germany  
24 July 2009

#### **International Law, Democracy and Cultural Diversity**

Second Biennial General Conference of the Asian Society of International Law:  
International Law in a Multi-polar and Multi-civilizational World, Tokyo, Japan  
2 August 2009

## **2010**

### **Braucht die Rechtswissenschaft eine empirische Wende?**

[Does Legal Scholarship Need an Empirical Turn?]

Invited Presentation at the Karlsruher Dialog zum Informationsrecht, Karlsruhe, Germany  
12 January 2010

### **Lawmaking by the International Court of Justice**

Invited Presentation at the Max Planck Institute for Comparative Public Law and International Law, Heidelberg, Germany  
27 July 2010

### **The Effect of Antitrust Institutions on Economic Development and Democracy**

Invited Presentation at the Hamburg Lectures on Law and Economics, Hamburg, Germany  
4 November 2010

### **The Role of Consent in the Formation of Customary International Law**

Invited Presentation at the ASIL Symposium on Reexamining Customary International Law, Washington D.C., U.S.A.  
12 November 2010

### **Antitrust Law and the Promotion of Democracy and Economic Growth**

Presentation at the Sixth Annual Conference of the Italian Society of Law and Economics, Bolzano, Italy  
10 December 2010

## **2011**

### **Auswirkungen von Kartellrecht auf Demokratie und ökonomische Entwicklung**

[The Effect of Antitrust Law on Democracy and Economic Development]

Invited Presentation at the Kolloquium Recht und Ökonomie of the University of Bonn, Germany  
24 March 2011

### **Antitrust Challenges of Deep Globalization**

Invited Panelist at 12th Annual Conference of the American Antitrust Institute: International Economics for Antitrust – Learning from Two Decades of Deep Globalization, Washington D.C., U.S.A.

23 June 2011

**Judicial Balancing and Legislative Margin of Appreciation**

Invited Presentation at the Conference on Paradoxes of Constitutionalism, Dresden,

Germany

19 July 2011

**The Role of Economics and Social Sciences in Constitutional Adjudication**

Presentation in the Special Workshop on 'Law and Economics – Foundations and

Applications' at the XXVth World Congress of Philosophy of Law and Social Philosophy,

Frankfurt, Germany

17 August 2011

**Antitrust Law and the Promotion of Democracy and Economic Growth**

Presentation at the 2011 Annual Conference of the European Association of Law &

Economics, Hamburg, Germany

23 September 2011

**Initiativen der UN zu Demokratisierung und Good Governance**

[Initiatives of the United Nations for the Promotion of Democracy and Good Governance]

Presentation at the Conference *Entwicklungstrends zu mehr globaler Demokratie: Eine*

*Zwischenbilanz 15 Jahre nach der Agenda für Demokratisierung* of the Deutsche Gesell-

schaft für die Vereinten Nationen, Berlin, Germany

28 October 2011



## **Susanne Prantl (Affiliate)**

### **Summary Report**

During the last two years, I continued research on the relation between institutions, public policies, regulation, and economic performance, focusing to a large part on the consequences of interactions between different such interventions. With this specific focus, I have responded to various excellent research opportunities at the Max-Planck Institute. Empirical evidence on interactions of interventions influencing economic performance is still scarce. Contributions towards filling this gap are of interest to researchers and decision makers who are involved in designing real-world institutions, public policies or legal rules that are meant to align the incentives of individuals and the actions of economic agents with the underlying policy aims, ultimately the aim of increasing social welfare.

#### **Patent Laws and Product Market Regulation**

A substantial body of empirical literature focusing on the average impact of intellectual property rights, as specified in patent laws, on innovation finds no evidence suggesting a positive average impact. At first sight, this is a puzzling result as patents are designed to allow for temporary exclusion of product market competitors from non-rival ideas and innovations. During my research visit to Harvard University (09/2009-12/2009), Philippe Aghion (Harvard University), Peter Howitt (Brown University), and I started a project that aims at investigating whether patent protection can foster a positive influence of increasing product market competition on innovative investments.

Our empirical analysis delivers comprehensive empirical evidence on a positive interaction between patent protection and increases in product market competition following from product market reforms. We rationalize our findings using a stylized version of an endogenous growth model with step-by-step innovation. In this model, technological followers in any sector first need to catch up with the technological leader in the same sector before becoming leaders themselves. It then follows that in a positive fraction of sectors in equilibrium, firms are "neck-and-neck", i.e., at the same technological level before innovating. And it is from the existence of these neck-and-neck sectors that product market competition and patent protection may become complementary instead of being mutually exclusive. The reason is that stronger patent protection increases post-innovation rents for a neck-and-neck firm which successfully innovates, whereas stronger product market competition tends to reduce pre-innovation rents for such a firm more than it reduces its post-innovation rents. Overall, the gap between pre- and post-innovation rents increases when product market competition intensifies, and the more so when patent protection is stronger.

## **Product Market Regulation and Labor Market Regulation**

In joint work with Alexandra Spitz-Oener (Humboldt University Berlin), we contribute comprehensive micro-data evidence establishing the institutional setting in product and labor markets as an important source of systematic heterogeneity in the response of native wages to a large inflow of close substitutes in production.

We exploit the German reunification experiment that led to a substantial influx of Germans who had grown up in the former German Democratic Republic onto the labor market of the Federal Republic of Germany after the fall of the Berlin Wall in 1989. East Germans are closer substitutes in production for West Germans than immigrants typically are for native workers. Accordingly, this internal migration wave is ideally suited to testing predictions following from standard immigration models, in which immigrant and native labor are assumed to represent close substitutes in production. In addition, the influx of East Germans into the West German labor market was substantial.

Germany after reunification is also well-suited for our purposes, due to its regulatory framework. We first isolated the segment of the West German labor market characterized by product markets with almost free firm entry and by weak labor market institutions. This segment fits with the standard immigration model with perfect competition in product and labor markets, leading to the prediction that immigrants who represent close substitutes in production exert a downward pressure on the wages of competing native workers. Next, we isolated the labor market segment in which the consequences of immigration on competing natives' wages are dependent on product market regulation substantially hampering firm entry and on labor market institutions giving workers a strong influence on the decision-making of firms. Product market regulation determines product market competition, and thereby firms' profits, while labor market regulation determines the worker influence, and thereby the distribution of profits between workers and firms. The interaction of these institutions can lead real wages to reflect only weakly the marginal product of labor – a property that should matter for labor market outcomes when the marginal product of labor changes as a result of an economic shock.

In distinguishing the different labor market segments, we relied on two artifacts. One is the German Trade and Crafts Code (GTCC) – a product market regulation that substantially restricts firm entry in a clearly defined set of product markets, and not in others. The other is the German Works Constitution Act – a labor market regulation setting the conditions under which work councils have to be formed in establishments, these councils being the institutions that determine the influence of incumbent workers on the decision-making of firms.

For the classical labor market segment with almost free firm entry and weak worker influence, we find a negative effect of immigration of close substitutes in production on the wage growth of competing native workers. In contrast, natives turn out to be shielded from such pressure in the labor market segment where product and labor market regulation interact. The source of data variation that we use for identifying these effects is the differing inflow of East Germans across occupation-age cells in the West German labor

market and across time after 1989. To account for potential endogeneity of immigration in equations explaining native wages, resulting from migrants' self-selection or endogenous employer decisions, we implemented an instrumental variable approach. Our instruments are constructed from data on all East Germans, on those migrating to West Germany and on those staying in East Germany, in combination with comprehensive information on the occupations in which these East Germans received their vocational training degrees in East Germany before the fall of the Berlin Wall in 1989.

### **Company Law and Firm Entry**

In the past, I investigated the effects of the firm entry regulation imposed by the German Trade and Crafts Code (Handwerksordnung) on entry in general, sustained entry of firms that survive for several years after market entry, as well as on the performance of entrants. Germany at the dawn of the 21st century is well-suited for studying firm entry regulation: the regulatory framework is restrictive and the substantial, natural experiment in entry regulation accompanying German reunification can be exploited for identifying regulatory effects of interest. In a recent paper (joint with Ulrike Böhme, University of Hamburg), we study the impact of the German Limited Liability Company Law (GmbHG) which implied an expensive and complex incorporation process for limited liability companies with a substantial statutory minimum capital requirement during the 1990s.

As entrepreneurs choose between legal forms when entering the market, either a legal form with limited liability or without it, we suggest an empirical approach for identifying entry cost effects that takes this decision into account. The empirical findings show, among others, that entry regulation based on the German Limited Liability Company Law reduces the entry rate after reunification more for limited liability firms in the regulatory context of the East German transition economy than in the context of the more stable West German market economy. This corresponds to the previous finding of a stronger reduction of entry into self-employment after reunification in East than in West Germany in response to the firm entry regulation in the German Trade and Crafts Code (Prantl and Spitz-Oener, 2009). Both types of regulation not only reduce entry in general, but also the entry of firms that survive for at least five years after market entry (Prantl 2010). Not only transient, short-living entrants are suppressed, but also long-living entrants, and the latter have a much higher potential of positively impacting technological progress, economic growth, and social welfare.

### **Honors & Grants**

Offer: Professor of Economics, esp. Microeconomics and Empirical Economics (W2), Johannes Gutenberg-University Mainz, declined in 2010.

Offer: Professor of Economics, esp. Industrial Economics and Applied Microeconometrics (W2), University of Cologne, accepted in 2010.

09/2009-12/2009: Visiting Scholar, Department of Economics, Harvard University, Cambridge (MA).

01/2007-12/2009: Research grant "Competition and Innovation", Wissenschaftsgemeinschaft Gottfried Wilhelm Leibniz (WGL), Pakt für Forschung und Innovation. Co-investigator (joint with Thomaso Duso and Lars-Hendrik Röller), 201.300€: research project, 984.000€: total amount for all institutions involved.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Prantl S., The Impact of Firm Entry Regulation on Long-living Entrants, *Small Business Economics*, In Press.

Prantl S., Spitz-Oener A., How Does Entry Regulation Influence Entry into Self-employment and Occupational Mobility?, *Economics of Transition*, vol. 17, no. 4, pp. 769-802, 2009.

Aghion P., Blundell R., Griffith R., Howitt P., Prantl S., The Effects of Entry on Incumbent Innovation and Productivity, *Review of Economics and Statistics*, vol. 91, no. 1, pp. 20-32, 2009.

Prantl S., Almus M., Egeln J., Engel D., Kreditvergabe durch Genossenschaftsbanken, Kreditbanken und Sparkassen: eine empirische Analyse von Förderkrediten für junge, kleine Unternehmen [Lending Decisions of Cooperative Banks, Private Credit Banks and Savings Banks], *Journal of Applied Social Science Studies (Schmollers Jahrbuch Zeitschrift – für Wirtschafts- und Sozialwissenschaften)*, vol. 129, no. 1, pp. 83-132, 2009.

### **Book Chapters**

Prantl S., Entry Regulation and Firm Entry: Evidence from German Reunification, *Handbook of Research on Innovation and Entrepreneurship*, Audretsch D. B., Falck O., Heblich S., Lederer A., (Eds.), Northampton, Edward Elgar, pp. 74-87, 2011.

Nöth M., Prantl S., Regulierung und Insolvenz von Banken, (in German), *Bankaufsichtsrecht – Entwicklungen und Perspektiven*, Grieser S. G., Heemann M., (Eds.), Frankfurt a. M., Frankfurt School Verlag, pp. 229-246, 2010.

### **Preprints**

Prantl S., *The Impact of Firm Entry Regulation on Long-living Entrants*, issue 2010/30, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

## **Discussion Papers**

Prantl S., Spitz-Oener A., How Does Entry Regulation Influence Entry into Self-employment and Occupational Mobility?, IFS Working Paper W09/14, Institute for Fiscal Studies, London, UK, 2009.

## **Unpublished Working Papers**

Aghion P., Howitt P., Prantl S., Patent Protection, Product Market Competition and Innovative Investments.

Prantl S. and Spitz-Oener A., The Impact of Immigration on Natives' Wages: Heterogeneity resulting from Product and Labor Market Regulation.

Prantl, S., Böhme, U., Company Law and Firm Entry.

Prantl, S., Exit Decisions of Young Firms.

Prantl, S., The Role of Policies Supporting New Firms.

Prantl, S., The Design of Firm Entry Policies: What Matters? What Doesn't?

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Entry Regulation, Self-Employment and Employee Reallocation**

University of Hamburg

27 February 2009

#### **Entry Regulation, Self-Employment and Employee Reallocation**

Max-Planck Institute for Research on Collective Goods, Bonn

11 March 2009

#### **How Does Entry Regulation Influence Entry into Self-employment and Occupational Mobility?**

Competition Workshop organized by The Netherlands Bureau for Economic Policy

Analysis (CPB), The Dutch Ministry of Economic Affairs and Tilburg University, The Hague

2 April 2009

#### **How Does Entry Regulation Influence Entry into Self-employment and Occupational Mobility?**

Conference of the Collaborative Research Centre SFB/TR15, Caputh

14 May 2009

## **2010**

### **The Impact of Immigration on Natives' Wages: Impact Heterogeneity and Regulation**

University College London, UK

15 April 2010

### **The Impact of Immigration on Natives' Wages: Impact Heterogeneity and Regulation**

University of Amsterdam and Tinbergen Institute, Amsterdam, The Netherlands

10 December 2010

## **2011**

### **The Impact of Immigration on Natives' Wages: Heterogeneity resulting from Product and Labor Market Regulation**

Ausschuss für Industrieökonomik, Verein für Socialpolitik, University of Vienna, Austria

24 February 2011

### **The Impact of Immigration on Natives' Wages: Heterogeneity resulting from Product and Labor Market Regulation**

University of Zurich, Switzerland

23 March 2011

### **The Impact of Immigration on Natives' Wages: Heterogeneity resulting from Product and Labor Market Regulation**

Royal Economic Society Annual Conference, Royal Holloway University of London, UK

18 April 2011

### **Intellectual Property Rights and the Effects of Product Market Reforms on R&D Investments**

Jahrestagung, Verein für Socialpolitik, Frankfurt, Germany

6 September 2011

### **Intellectual Property Rights and the Effects of Product Market Reforms on R&D Investments**

Frankfurt School of Finance and Management, Germany

21 September 2011

### **Patent Protection, Product Market Competition and Innovative Investments**

EWI, University of Cologne, Germany

25 October 2011

**The Impact of Immigration on Natives' Wages: Heterogeneity resulting from Product and Labor Market Regulation**

Applied Micro and Organization Seminar, University of Frankfurt, Germany

30 November 2011



## **Isabel Schnabel (Affiliate)**

### **Summary Report and Research Agenda**

#### **Stability and Efficiency of Financial Systems and Institutions**

In 2007, I left the Max Planck Institute for Research on Collective Goods to take up a tenured position at Johannes Gutenberg University in Mainz. Since then, many papers that were written at the Institute (many of which are co-authored by Prof Dr Hendrik Hakenes) have been published. The main focus of my research still is on the stability of financial systems and institutions and is therefore closely related to the Institute's research focus. My work is both empirical and theoretical. In my earlier empirical papers, I analyzed historical episodes because these constitute interesting case studies containing many elements of more recent crises. My recent empirical work is based on contemporary data sets. Most of my theoretical work was inspired by empirical observations. Here I will only give a selected overview of my recent research. Please also see the entry of Hendrik Hakenes for additional joint papers.

#### **Competitive Effects of Government Bail-out Policies**

The paper "Competition, Risk-Shifting, and Public Bail-out Policies", co-authored by Reint Gropp (European Business School) and Hendrik Hakenes (University of Bonn), empirically investigates the effect of government bail-out policies on banks outside the safety net. We construct a measure of bail-out perceptions by using rating information. From there, we construct the market shares of insured competitor banks for any given bank, and analyze the impact of this variable on banks' margins and risk-taking behavior, using a large sample of banks from OECD countries. Our results suggest that government guarantees to some banks strongly increase the risk-taking of the competitor banks not protected by such guarantees. In contrast, there is no evidence that public guarantees increase the protected banks' risk-taking. The paper was recently published in one of the top-3 finance journals, the *Review of Financial Studies*. The paper was based on an earlier theoretical paper, entitled "Banks without Parachutes – Competitive Effects of Government Bail-out Policies" (with Hendrik Hakenes), which was published in the *Journal of Financial Stability*.

#### **Bank Manager Compensation and Financial Stability**

The current working paper "Bank Bonuses and Bail-out Guarantees", with Hendrik Hakenes, shows that bonus contracts may arise endogenously as a response to agency problems within banks, and analyzes how compensation schemes change in reaction to anticipated bail-outs. If there is a problem of excessive risk-taking, bail-out expectations lead to steeper bonus schemes and even more risk-taking. If there is an effort problem, the compensation scheme becomes flatter and effort decreases. If both types of agency problems are present, a sufficiently large increase in bail-out perceptions makes it opti-

mal for a welfare-maximizing regulator to impose ceilings on bank bonuses. In contrast, raising managers' liability is often counterproductive.

### **Effects of Recent Regulatory Reforms in the Banking Sector**

Another recent working paper, "The Radical Reform of the Financial System – Who Cares?", written with Alexander Schäfer and Beatrice Weder (Johannes Gutenberg University Mainz), analyzes the reaction of stock and CDS prices of banks from Europe and the United States to major regulatory events in the years 2009 and 2010, employing an event study analysis. We consider both international and national regulatory events. We find that the vast majority of reform events have not had any significant impact on markets. Both equity and CDS returns of banks did not differ significantly from their "normal" levels. A notable exception is the announcement of the Volcker Rule. Overall, market reactions suggest that the impact of reforms on banks' safety and profitability as well as on bail-out expectations has been minor.

### **Public Ownership of Banks and Economic Growth**

The paper "Public Ownership of Banks and Economic Growth: The Impact of Country Heterogeneity", co-authored by Tobias Körner (Ruhr Graduate School in Economics), questions the finding by La Porta, Lopez-De-Silanes and Shleifer (2002) that public ownership of banks is always associated with lower GDP growth. We show that this relationship does not hold for all countries, but depends on a country's initial conditions, in particular its financial development and political institutions. Public ownership is harmful only if a country has low financial development and low institutional quality. The negative impact of public ownership on growth fades quickly as the financial and political system develops. In highly developed countries, we find no effects, or even positive effects. Policy conclusions for individual countries are likely to be misleading if such heterogeneity is ignored. The paper was recently published in *The Economics of Transition* as part of a Symposium on banking in transition economies.

### **Financial Integration and Economic Growth**

The working paper "Financial Integration and Growth – Is Emerging Europe Different?", written with Christian Friedrich (Graduate Institute Geneva) and Jeromin Zettelmeyer (European Bank for Reconstruction and Development), shows, on the basis of industry-level data, that the European transition region benefited much more strongly from financial integration in terms of economic growth than other developing countries in the years preceding the current crisis. We analyze several factors that may explain this finding: financial development, institutional quality, trade integration, political integration, and financial integration itself. The explanation that stands out is political integration. Within the group of transition countries, the effect of financial integration is strongest for countries that are politically closest to the EU. This suggests that political and financial integration are complementary and that political integration can considerably increase the benefits of financial integration.

## **Honors & Grants**

2011 First prize, Postbank Finance Award (prize money: 50,000 Euros)

2010 Best Teaching Award, Department of Economics, Goethe University Frankfurt

2009 Isabel Schnabel declined an offer to become a W3 Professor of Economics, especially Macroeconomics at Ruhr University Bochum and accepted an offer to become a W3 Professor of Economics, especially Financial Economics at Johannes Gutenberg University of Mainz

Since December 2006: Research Affiliate at the Centre for Economic Policy Research (CEPR) in the program area "Financial Economics" (renewed 2011)

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Hakenes H., Schnabel I., Bank Size and Risk Taking under Basel II, *Journal of Banking and Finance*, vol. 35, no. 6, pp. 1436-1449, 2011.

Hakenes H., Schnabel I., Capital Regulation, Bank Competition, and Financial Stability, *Economics Letters*, vol. 118, pp. 256-258, 2011.

Gropp R., Hakenes H., Schnabel I., Competition, Risk-Shifting, and Public Bail-out Policies, *Review of Financial Studies*, vol. 24, no. 6, pp. 2084-2120, 2011.

Schnabel I., Bonin J. P., The great transformation: From government-owned to foreign-controlled banking sectors. A symposium on banking in transition, *Economics of Transition*, vol. 19(3), pp. 397-405, 2011.

Schnabel I., Körner T., Public Ownership of Banks and Economic Growth: The Impact of Country Heterogeneity, *Economics of Transition*, vol. 19, no. 3, pp. 407-441, 2011.

Hakenes H., Schnabel I., Banks without Parachutes – Competitive Effects of Government Bail-out Policies, *Journal of Financial Stability*, vol. 6, pp. 156-168, 2010.

Hakenes H., Schnabel I., The Threat of Capital Drain: A Rationale for Regional Public Banks?, *Journal of Institutional and Theoretical Economics*, vol. 166, no. 4, pp. 662-689, 2010.

Hakenes H., Schnabel I., Credit Risk Transfer and Bank Competition, *Journal of Financial Intermediation*, vol. 19, no. 3, pp. 308-332, 2010.

Schnabel I., The Role of Liquidity and Implicit Guarantees in the German Twin Crisis of 1931, *Journal of International Money and Finance*, vol. 8, pp. 1-25, 2009.

Schnabel I., Lessons from Financial Crises – Historical Perspectives and Theoretical Concepts, *Bankhistorisches Archiv*, Beiheft 47, pp. 89-97, 2010.

Hakenes H., Schnabel I., The Regulation of Credit Derivative Markets, *Macroeconomic Stability and Financial Regulation: Key Issues for the G20* 113-127, Dewatripont M., Freixas X., Portes R., (Eds.): Centre for Economic Policy Research (CEPR), pp. 113-127, 2009.

### **Newspaper Articles**

Burhop C., Schnabel I., Warum die Banken fielen: die Ereignisse von 1931 zeigen: Krisenanalysen leiden oft darunter, dass Daten fehlen, *Frankfurter Allgemeine Sonntagszeitung*, 1.11.2009.

### **Preprints**

Körner T., Schnabel I., *Public Ownership of Banks and Economic Growth – The Role of Heterogeneity*, issue 2010/41, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Gropp R., Hakenes H., Schnabel I., *Competition, Risk-Shifting, and Public Bail-out Policies*, issue 2010/05, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Hakenes H., Schnabel I., *Credit Risk Transfer and Bank Competition*, issue 2009/33, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

### **Unpublished Research Papers**

“The Radical Reform of the Financial System – Who Cares?”, with Alexander Schäfer and Beatrice Weder (Johannes Gutenberg University Mainz).

“Bank Bonuses and Bail-out Guarantees”, with Hendrik Hakenes (University of Bonn).

“Financial Integration and Growth – Is Emerging Europe Different?”, with Christian Friedrich (Graduate Institute Geneva) and Jeromin Zettelmeyer (EBRD).

“Contagion Among Interbank Money Markets During the Subprime Crisis”, with Puriya Abbassi (Johannes Gutenberg University Mainz).

“The ‘Kipper- und Wipperzeit’ and the Foundation of Public Deposit Banks”, with Hyun Song Shin (Princeton University).

## **Lectures and Seminar Presentation (since 2009)**

### **2009**

#### **The Regulation of Credit Derivative Markets**

#### **Financial Regulation and Macroeconomic Stability – Key Issues for the G20**

CEPR, London, UK

January 2009

#### **Lessons from Financial Crises – Historical Perspectives and Theoretical Concepts**

Symposium des Instituts für Bankhistorische Forschung / Deutsche Bundesbank,

Frankfurt, Germany

June 2009

#### **What Can We Learn from Historical Financial Crises?**

Lecture Series of the President, University of Gießen, Germany

November 2009

### **2010**

#### **Financial Integration and Growth – Is Emerging Europe Different?**

Faculty Seminar, University of Tübingen, Germany

February 2010

#### **Financial Integration and Growth – Is Emerging Europe Different?**

Faculty Seminar, University of Bayreuth, Germany

May 2010

#### **Financial Integration and Growth – Is Emerging Europe Different?**

#### **What Future for Financial Globalization**

European Central Bank / Journal of International Economics, Frankfurt, Germany

September 2010

#### **Discussant to Viral Acharya: "A Pyrrhic Victory? – The Ultimate Cost of Bank Bailouts"**

The Economics of Bank Insolvency, Restructuring, and Recapitalization, Austrian National

Bank / MPI Bonn, Vienna, Austria

September 2010

#### **Too Big to Fail – What Have We Learned?**

Symposium, University of Hohenheim, Stuttgart, Germany

October 2010

**Financial Integration and Growth – Is Emerging Europe Different?**

Faculty Seminar, University of Osnabrück, Germany

November 2010

**2011**

**Financial Integration and Growth – Is Emerging Europe Different?**

Brown Bag Seminar, Frankfurt School of Finance and Management, Germany

January 2011

**Discussant to Marc Flandreau: “New Deal Financial Acts and the Business of Foreign Debt Underwriting: Autopsy of a Regime Change”**

The Subprime Crisis and How it Changed the Past, Past, Present, and Policy Conference, CEPR / Norges Bank, Geneva, Switzerland

February 2011

**Bank Bonus Systems and Bail-Out Guarantees**

Applied Micro and Organization Seminar, Goethe University Frankfurt, Germany

February 2011

**Discussant to Tim Schmidt-Eisenlohr: “Bank bailouts, international linkages and cooperation”**

Current Macroeconomic Challenges, Deutsche Bundesbank, Banque de France, University of Hamburg, Germany

May 2011

**Financial Integration and Growth – Is Emerging Europe Different?**

Annual Meeting of the Verein für Socialpolitik, Frankfurt am Main, Germany

September 2011

**Financial Integration and Growth – Is Emerging Europe Different?**

1st GSEFM Research Workshop, JGU Mainz, Germany

September 2011

**Discussant to Tomasz Wieladek: “Financial Protectionism: the First Tests”. The Costs and Benefits of International Banking**

Deutsche Bundesbank, Eltville, Germany

October 2011

**Financial Integration and Growth – Is Emerging Europe Different? Finance and Insurance**

Seminar, University of Bonn, Germany

November 2011



## **Mark Schweizer**

### **Summary Report**

Having a background as a practising attorney and having done previous research on the influence of heuristics and biases on judicial decision making, I joined the Intuitive Experts junior research group as a guest researcher in October 2010, supported by a research grant from the Swiss National Science Foundation.

My field of research is evidence law, specifically the evaluation of evidence by judges. Historically as well as today, it is acknowledged by lawyers that both rationality and intuition play an important role in the assessment of evidence. My research interest lies in exploring both the rational as well as the intuitive side of fact-finding by courts. On the rational side, I examine the role that modeling with probabilistic networks can play in evaluating factual hypotheses. Such models can both explain doctrinal institutions – such as the doctrine of “Anscheinsbeweis” – as well as provide a coherent framework for evaluating evidence. On the intuitive side, psychological models such as parallel constraint satisfaction models explain the circumstances under which judicial decision makers deviate from the normative ideal provided by subjective probability theory. Insights gained from these models may help to design procedural rules, narrowing the gap between the rational ideal and actual decision making.

Hoping to complete my *habilitation* by the end of 2012, I am working almost exclusively on this project. An experimental study on the reasons for decision thresholds in civil cases – loss aversion, omission bias, or reputational effects – is planned.

As a part-time judge at the Swiss Federal Patent Court, I can draw from my practical experience to inform my theoretical research.

### **Research Agenda**

Historically, the evaluation of evidence by courts has oscillated between a purely rational and a purely intuitive approach, with mixed models dominating. According to Italian-canonical procedural law, judges were bound by legal rules on the probative force of evidence. This was seen as necessary, and defended as such, to curb judicial power and ensure the uniform administration of justice. With the introduction of the jury during the French revolution, all rules of evidence were radically abolished and replaced by the “conviction intime” of the juror, the unguided total impression formed on the basis of the evidence heard and seen by the juror.

German doctrine was initially very sceptical of this concept of free evaluation of evidence, as unguided intuition was seen as prone to error, and the unregulated power of judges or juries to make factual findings as potentially abusive. Only once the concept of "conviction intime" was tamed and understood as "conviction raisonée", as conviction based on rational reasoning, was it adopted in German countries together with the jury in the mid-19<sup>th</sup> century. It was emphasized that while there were no legal rules on the probative force of evidentiary facts, the evaluation of evidence nonetheless had to conform to rules of logic (Denkgesetze) and empirical knowledge (Erfahrungssätze). While the jury was abolished in 1924, the doctrine of the free evaluation of evidence, understood as "conviction raisonée", is still the law in Germany.

While it is undisputed that the "rules of logic" that may not be violated when finding facts encompass traditional (Aristotelian) logic, hypothesis-testing requires an inductive logic. Attempts have been made to show that Bayes' rule may inform judicial decision making, but they have met with resistance by mainstream doctrine as mere "number-crunching" that apparently provides a misleading sense of accuracy and is unsuitable for use in complex cases. I attempt to show that subjective utility theory may indeed provide a coherent framework for the evaluation of evidence, and, in its modern form of Bayesian networks, is also suitable to model complex cases.

However, coherence of the evaluation does not necessarily guarantee its correspondence with reality. Here, legal doctrine has emphasized the importance of experiential rules (Erfahrungssätze), which should anchor inferences in reality. I examine whether the doctrine of experiential rules is indeed able to fulfil the role it is supposed to play, and whether experiential rules can be re-conceptualized as empirical frequencies.

While rational models of evidence evaluation may provide a normative standard, the actual fact-finding by judges is not purely rational. It is widely accepted that humans do not evaluate evidence purely in the manner prescribed by subjective probability theory. In a second part of my *habilitation*, I plan to explore the insights which empirical psychological research on the evaluation of evidence can provide.

Lastly, rational choice theory provides a compelling (if not undisputed) argument for a decision threshold (Beweismaß) of 50% in civil cases, where the disutilities of type-I and type-II errors are (arguably) equal. While the preponderance of the evidence standard in US and English civil law can be understood as a subjective probability of 50% of the decision maker, German doctrine and case law has never accepted such a low decision standard. German courts and commentators are loath to put a number on the actual standard, but it is accepted that it must be much higher than 50%. In an experimental study, I plan to examine which cognitive mechanisms drive this insistence on a higher decision threshold.

## **Publications (since 2009)**

### **Books**

Müller B., Schweizer M., Kennzeichenrecht – Entwicklungen 2010, NJUS, Bern, pp. 134, 2011.

### **Articles (not peer-reviewed)**

Eichenberger C., Schweizer M., Schriftliche Zeugenaussagen, *Jusletter*, 28. Februar 2011.

Schweizer M., Imaging method used during treatment by surgery patentable, *Journal of Intellectual Property Law and Practice* (case note), January 2011.

Schweizer M., Der Anspruch auf genaue Beschreibung gemäss Art. 77 PatG – Gedanken eines Mitglieds des Bundespatentgerichts, *sic!*, vol. 930, 12/2010.

Schweizer M., Vorsorgliche Beweisabnahme nach schweizerischer Zivilprozessordnung und Patentgesetz, *Zeitschrift für Zivilprozess- und Zwangsvollstreckungsrecht*, vol. 21/22, pp. 1-33, 2010.

Schweizer M., UNOX(fig.): Absoluter Schutz für Kennzeichen zwischenstaatlicher Organisation?, *Jusletter* (case note), 8. Februar 2010.

## **Lectures and Seminar Presentations (since 2009)**

### **2010**

#### **Kognitive Täuschungen und richterliche Entscheidfindung**

[Cognitive illusions and judicial decision making]

Guest lecture, University of Lucerne, Switzerland

12 May 2010

#### **European Patent Law and Litigation**

Health and Intellectual Property Law in a Global Environment

University of Geneva and Seton Hall, Geneva, Switzerland

4 August 2010

### **2011**

#### **Bestätigungsfehler und Rückschaufehler**

[confirmation bias and hindsight bias]

Schweizerische Richterakademie, Zertifikatslehrgang Judikative, Biel, Switzerland

13 May 2011



## **Gregor Schwerhoff**

As a member of the Bonn Graduate School of Economics (BGSE), and following a year as a visiting PhD student at the Universitat Pompeu Fabra in Barcelona, I started working in the Max Planck Institute in September 2010 under the supervision of Martin Hellwig. Since then, I have revised and presented my two working papers, while starting a new project which I plan to include in my thesis.

The first working paper is a theoretical and empirical investigation of the allocation of parental leave between spouses. It is joint work with Juliane Parys, a colleague at the BGSE. Using a bargaining model, we make theoretical predictions on how individual characteristics affect the relative time that spouses interrupt their career in order to take care of very young children. Working with a data set on the newly introduced parental leave law "Elterngeld" in Germany, we find evidence that higher income and age lead to higher bargaining weight, which is used to reduce career interruption time for childcare at the expense of the other spouse.

The second paper is joint work with Mouhamadou Sy from the Paris School of Economics. It analyzes the contribution of non-monetary factors to the gradual reduction in inflation during the time from 1990 to 2010. A striking fact about disinflation is that it is a truly global phenomenon, meaning that it occurs on all continents. This is surprising, since the traditional explanation for changing inflation patterns is a change in monetary policy and not all central banks have pursued the same objective with the same capability. But at the same time as disinflation occurred, we also observe a worldwide process of increasing trade openness. So we show, in a theoretical model, how increasing trade improves productivity via increasing competition. All other things being equal, higher productivity slows down inflation, since it allows producing the same good with fewer inputs. We find empirical evidence for this effect using a newly constructed database including more than 100 countries.

Since coming to the MPI, I started working on two new projects. The first one is joint work with Martin Stürmer of the Institute for International Economic Policy, Bonn. We develop a model that explains the long-term development of prices for non-renewable resources and their consumption. Our hypothesis is that prices are more or less stable in the long run since the increasing cost of research to make deposits of lower resource density accessible trades off with an equally increasing amount of the resource made available for a given advance in research. Roughly stable production cost then permits the economy to produce and consume an exponentially increasing amount of the resource as the economy itself expands exponentially.

## **Lectures and Seminar Presentations (since 2009)**

### **2010**

#### **Efficient Intra-Household Allocation of Parental Leave**

Jamboree of the European Doctoral Program, Barcelona, Spain  
19 March 2010

#### **The Non-Monetary Side of the Global Disinflation**

XIXth Aix-Marseille Doctoral Spring School in Economics, Aix-en-Provence, France  
21 May 2010

#### **The Non-Monetary Side of the Global Disinflation**

PhD Workshop for Macroeconomics, Barcelona, Spain  
10 June 2010

#### **Efficient Intra-Household Allocation of Parental Leave**

BGSE Macroeconomics Workshop, Bonn, Germany  
13 July 2010

### **2011**

#### **The Non-Monetary Side of the Global Disinflation**

4th RGS Doctoral Conference in Economics, Dortmund, Germany  
22 February 2011

#### **The Non-Monetary Side of the Global Disinflation**

Spring Meeting of Young Economists, Groningen, the Netherlands  
15 April 2011

#### **The Non-Monetary Side of the Global Disinflation**

4th International Doctoral Meeting of Montpellier, Montpellier, France  
03 May 2011

#### **The Non-Monetary Side of the Global Disinflation**

XIth Doctoral Meeting in International Trade and International Finance, Nice, France  
26 May 2011



## **Michael Stork**

### **Summary Report**

To date, my research has focused on two main topics: the effect of uncertainty on compliance in tax law and the use of economic evidence in American antitrust law. A common thread in these topics is the comparison of competing legal norms: discerning the efficacy of alternative approaches within discrete areas of law and evaluating the correspondence of these approaches to existing experimental results.

My work on uncertainty and compliance in tax law coincided with my ten-month stay at this institute. My project is related to the institute's joint project in that it focuses on the anatomy of law, and my approach has been shaped by the institute's expertise across the fields of law, economics, and psychology. Although my research on uncertainty and tax compliance is ongoing, it suggests that the ubiquitous debate concerning *ex ante* certainty in legal norms – such as debates about rules and standards, judicial discretion, or the allocation of legislative and judicial resources – can be clarified by using a behavioral approach that incorporates the research on motivated directional biases.

Instead of framing the debate about legal form around the level of *ex ante* uncertainty – often represented as a single-dimension continuum between rules and standards – this approach suggests expanding the representation of legal norms in two ways. First, a legal norm should be represented as a two-dimensional, conditional directive (an if-then statement, in which the amount and effect of uncertainty differs independently by clause). Second, a legal norm should also be represented as a multi-level conditional directive (a complex series of if-then statements, in which the amount and effect of uncertainty differs independently *within each clause*). In sum, I suggest that debates about *ex ante* certainty should represent legal norms as a pyramid of conditional directives, in which the amount and effect of uncertainty on compliance differs both by and within each clause.

This representation of legal norms as multi-level, conditional directives accounts for the inconsistent effect of uncertainty on compliance by incorporating the research on motivated directional biases. By understanding how the effect of uncertainty on compliance differs within a legal norm, the structure of a legal norm can be better crafted toward its intended goal. The goal of my current research, therefore, is to provide a coherent theoretical framework and experimental support which will clarify the debate about structuring legal norms.

Tax law, because of its broad and frequent application, is an especially relevant area in which to discuss the implications of my approach. The conclusions of this research, therefore, are relevant to current discussions about simplifying the tax code, introducing alternative norms like anti-abuse rules, or allocating resources between law creation and law enforcement. Also, because the structure of norms is a prevalent topic in many legal

fields, a contribution to this topic may have widespread application. For example, much of my previous research in antitrust law involved questions about the structure of legal norms.

Before coming to the institute as a guest researcher in October of 2010, I received a bachelor's degree in economics from Boston College. My senior thesis at Boston College examined the standards for economic evidence in American antitrust law, comparing different methods of economic reasoning (theoretical, experimental, and econometric) and evaluating the application of each method in legal cases concerning vertical restraints of trade. My primary research question focused on alternative economic methods presented as legal evidence, but this approach also required an analysis of competing legal norms in American antitrust law – especially the debate between *per se* illegality and the Rule of Reason. My current research on uncertainty and compliance, therefore, has much in common with my previous research on economic evidence.

## **Research Agenda**

In the future, I would like to continue with experimental work on alternative legal norms by exploring a number of different avenues: comparing legal norms using dependent variables other than compliance, tracking the long-run effects and consistency of legal form through repeated rounds, and applying the results of this experimental work to areas other than tax law. I also plan to continue researching economic methodology and the legal standards of economic evidence, especially with respect to computational and experimental methods. In short, I will continue examining the structure and efficacy of alternative legal processes, especially through behavioral and experimental methods.



## **Emanuel Vahid Towfigh**

### **Summary Report**

The research program I follow has an emphasis on constitutional law. Principally, I pursue it by applying methods of behavioral law and economics – an approach quite alien to classical German legal scholarship. This is why, over the last few years, I studied the methods of behavioral economics and cognitive and social psychology intensively. This ultimately led to a very well-received publication of a textbook

on the use of economic methods in the law (together with Niels Petersen et al.). My research focuses on the question of how law can have an effective influence on individual behavior in order to solve specific societal problems. In this context, I have, e.g., recently shown in experimental studies that the German gambling regulation is unconstitutional, as its underlying assumptions cannot stand empirical validation; and that the European Commission is right, from a behavioral perspective, when regulating targeted rollback rebates with a view to their exploiting decision biases (to cite just two examples). In the gambling study (research together with Andreas Glöckner), we have shown that a higher expertise in the domain of the game may lead only under very special circumstances to better performance in predicting outcomes. Moreover, the data provide evidence that sport bettors tend to be over-confident and fall prey to an illusion of control (an important mediating factor for addiction) when predicting results of soccer matches, and that these effects get larger the more skill bettors have. In other words, it is precisely the skill portion of the gambles that makes them dangerous. Therefore we could conclude that the distinction drawn between ("harmless" and unregulated) skill games and ("dangerous" and prohibited) games of chance is arbitrary and should be given up. The paper attracted considerable attention in the national press and in political debate, where the question of regulation the gambling market was virulent in the past months.

Currently, I am working on (field) experiments that relate to my *habilitation* project. My *habilitation* project asks how political parties influence democratic legitimization. This project emerged from the empirical question on the acceptance of parties and the decisions made by them, and will address the legitimization questions at hand from a behavioral perspective. It thus combines my material interest for fundamental questions of constitutional law and my empirical approach. In connection with this research interest, we have formed a small group of people interested in questions of political parties (*Parties Group*, together with Sophie Bade, Konstantin Chatziathanasiou, Andreas Glöckner, Sebastian Goerg, Carlos Kurschilgen, Philip Leifeld, Aniol Llorente-Saguer, Niels Petersen), a group that has already completed a survey study on the question in which cases people prefer plebiscites and when they prefer representative decision-making. We will develop this strand of research further (see below, *Research Agenda*). Moreover, I am actively involved in two other group projects, namely in the *Why People Obey the Law*

project that aims at identifying, in a large cross-cultural survey study, which elements drive people's behavior to follow the law, and in the *Legitimacy Project*, based on the group's joint experimental workhorse, aiming at identifying what role input and output legitimacy factors play when it comes to compliance with legal rules.

In reminiscence to my academic past, I am still following up on and, on a very limited scale, trying to contribute to questions of the constitutional law pertaining to religions and church-state relations more broadly.

## Research Agenda

Empirical studies over the last few years have shown that citizens of Western democracies feel increasingly powerless, and this feeling becomes apparent at all political levels in low voter turnout at elections, in an increasingly difficult recruitment of professional politicians, in the dramatic levels of rejection for elected politicians, and in people's loss of confidence in almost every type of political institution. With political participation of citizens in the classical arenas of politics dwindling, the legitimization of the political system is also called into question. One of the main reasons for these developments that empirical studies identified is that citizens are disenchanted with political parties. With this in mind, the obvious next step is to ask whether it is perhaps precisely the concept of partocracy that is harmful to the acceptance and therefore, ultimately, to the legitimization of state order and political decisions. Systematic efforts to deploy alternative institutional arrangements have, however, not yet been undertaken in the scholarship on the state. My project is designed to make a first step towards filling this gap.

To answer the question, I would like to take a four-step approach. In the *first step*, I want to explore the empirical findings on the behavioral influence parties exert on the different actors in the political arena, and the change of acceptance of state decisions caused by the involvement of parties in the decision making process. I am particularly interested in the mechanisms that cause the reduction or strengthening of acceptance. In a *second step*, I want to evaluate the empirical findings from a perspective of constitutional and political theory and thus relate the empirical findings on the acceptance of decisions to the fundamental principles of democratic representation and to the mechanisms of legitimizing political power. Once equipped with a solid empirical and theoretical understanding of the central parameters that are essential to conducting the research issues in question, it is time to develop criteria for reorientation, in a *third step*, and to derive from these some central elements of possible institutional alternatives. In this context, the previous considerations can help to explain the legal reasons for any aberrations, in addition to any aspects or cases in which the legal discussion skirts the actual problem. The *fourth step* is dedicated to coin this solution into a suggestion for specific legislation.

It is in this context that I see my activity in the *Parties Group*. As a group uniting researchers from backgrounds as diverse as theoretical and empirical economics, psychology,

law, and political science, we are currently exploring and pursuing different experimental and empirical paths to get a better understanding of the effects that participation of political parties in the political process has. An important corner stone of our project was a workshop with Rebecca Morton from New York University and Dan Simon of the University of Southern California, held in July 2011 at the Institute.

For the academic year 2011/12, I have been accepted as a Hauser Research Scholar at the New York University School of Law with a part of my *habilitation* research agenda. As many of NYU's scholars are working on constitutional theory and empirical questions, I am excited to have the opportunity to work on these issues in New York. In a sense, the same holds for my election to the *Young Academy at the Berlin-Brandenburg Academy of Sciences and Humanities and the National Academy of Sciences Leopoldina*, where together with scholars from a number of different fields (and, for that matter, even artists), I will be working on alternative concepts of representation and on the question of concepts for emerging democracies.

## **Honors & Grants**

Since 2011: 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]

2011/12: Hauser Research Scholarship for research as a Global Fellow at New York University School of Law

## **Publications (since 2009)**

### **Articles in Editor-reviewed Journals**

Towfigh E. V., Glöckner A., Game over: Empirical support for soccer bets regulation, *Psychology, Public Policy, and Law*, vol. 17, no. 3, pp. 475–505, 2011.

Glöckner A., Towfigh E. V., Geschicktes Glücksspiel. Die Sportwette als Grenzfall des Glücksspielrechts, *JuristenZeitung*, vol. 65, no. 21, pp. 1027-1035, 2010.

Reviewed by: Vec, Wetten, dass Schalke es diesmal schafft? Deutscher Meister wird nur der FCB: Selbstüberschätzung bei Sportwetten als Herausforderung des Glücksspielrechts, F.A.Z. dated 1 September 2010, p. N3; Fritsch, Sport-Wetter halten sich für schlau, Zeit Online dated 14 October 2010; Der Monat, Der Monat 2-2011; Niehnus, LexisNexis Recht Rezensionen (LNCA 2010-190438 dated 17.12.2010); MaxPlanckResearch, Not Skill – But Luck, MaxPlanckResearch 1|2011, p. 61

Towfigh E. V., Komplexität und Normenklarheit – oder Gesetze sind für Juristen gemacht, *Der Staat*, vol. 48, pp. 29-73, 2009.

Reviewed by: Frankfurter Allgemeine Zeitung (F.A.Z.), 29 April 2009, p. N4; Ewer, Der Anwalt als Übersetzer — oder: Profis für Komplexität, AnwBl 2010 (issue 5), p. 297

## Books

Towfigh E. V., Petersen N., Ökonomische Methoden im Recht. Eine Einführung für Juristen, Tübingen, Mohr Siebeck, pp. 257, 2010.

Reviewed by: Leyens, Juristische Schulung (JuS) 2011 (issue 1), p. XVII; Zenthöfer, Der Erste werfe den Anker. Erstaunliche Einsichten für Jursiten, F.A.Z. dated 21 March 2011, p. 14; Rath, Legal Tribune Online, 12 December 2010

Recht und Markt. Wechselbeziehungen zweier Ordnungen. 49. Assistententagung Öffentliches Recht, Bonn., Towfigh E. V., Schmolke K. U., Petersen N., Lutz-Bachmann S., Lange A.-K., Grefrat H., (Eds.), Baden-Baden, Nomos, pp. 270, 2009.

Reviewed by: Adams, Deutsches Verwaltungsblatt (DVBl. ), 2010, p. 965 f.

## Book Chapters

Towfigh E. V., Demokratische Repräsentation im Parteienstaat, *Aktualität Weimarer Staatsrechtslehre*, Schröder, von Ungern-Sternberg, (Eds.), Tübingen, Mohr, In Press.

Towfigh E. V., Religious Plurality in Society, *Transforming the Global Legal Order: Baha'i Principles and Contemporary Social Issues*, Rahmanian A., Lepard B. D., (Eds.), Oxford, George Ronald, In Press.

Petersen N., Towfigh E. V., Grefrath H., Lange A.-K., Lutz-Bachmann S., Schmolke K. U., Schönfeldt K., Recht und Markt – Rechtliche Regulierung der Wirtschaft vs. Ökonomisierung des Rechts, *Perspektiven des öffentlichen Rechts. Festgabe 50 Jahre Assistententagung Öffentliches Recht*, Dalibor M., et al., (Eds.), Baden-Baden, Nomos, In Press.

Towfigh E. V., Vom Kopftuchverbot bis zum Ruf des Muezzin: Rechtliche Möglichkeiten und Grenzen freier Religionsausübung in Deutschland und ihre Praxis, *Die Rolle der Religion im Integrationsprozess: Die deutsche Islamdebatte*, Ucar, (Ed.), vol. 2, Frankfurt, Peter Lang, pp. 459-484, 2010.

## Reviews

Towfigh E. V., Eifert, Martin / Hoffmann-Riem, Wolfgang (eds.), Innovationsfördernde Regulierung, Innovation und Recht II, Berlin 2009, Duncker & Humblot, *Der Staat*, In Press.

Towfigh E. V., Volker Middendorf, Die Qualität kollektiver Entscheidungen. Kommunikationsprozesse direkter und repräsentativer Demokratie im Vergleich, *Jahrbuch für direkte Demokratie* 2011, Feld L., et al., (Eds.), In Press.

## Preprints

Towfigh E. V., *Old Weimar meets New Political Economy: Democratic Representation in the Party State*, issue 2011/16, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Towfigh E. V., Glöckner A., *Game Over: Empirical Support for Soccer Bets Regulation*, issue 2010/33, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Glöckner A., Towfigh E. V., *Geschicktes Glücksspiel. Die Sportwette als Grenzfall des Glücksspielrechts*, issue 2010/32, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Morell A., Glöckner A., Towfigh E. V., *Sticky Rebates: Target Rebates Induce Non-Rational Loyalty in Consumers*, issue 2009/23, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Beckenkamp M., Engel C., Glöckner A., Irlenbusch B., Hennig-Schmidt H., Kube S., Kurschilgen M., Morell A., Nicklisch A., Normann H.-T., Towfigh E. V., *Beware of Broken Windows! First Impressions in Public-good Experiments*, issue 2009/21, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## Work in Progress

Economic Methods in Law. An Introduction for Lawyers  
(textbook, with N. Petersen)

Development of Legal Expertise. A Field Study of Learning Behavior among Last-Year Law Students  
(with C. Traxler and A. Glöckner)

Rien ne va plus: Why we have to do away with the Predominant Factor Test in Gambling Law  
(with A. Glöckner and R. Reid)

Politics Without Parties and Politik ohne Parteien  
(parallel book projects / habilitation thesis)

Plebiscites and Catastrophes: A survey on political participation after the Fukushima incident  
Dealing with Complexity in the Law

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Recht + Markt**

[The Law and the Market]

(together with H. Grefrath, A. Lange, S. Lutz-Bachmann, Dr. N. Petersen, Dr. K. U. Schmolke) 49. Assistententagung Öffentliches Recht, Bonn, Germany 10–13 March 2009

#### **Regelbildung, Regelungstechnik und Regelwirkung**

[Rule Formation, Regulation Technique, and Rule Effect]

(together with Jens Binder, Florian Mösllein)

Colloquium, Bonn, Germany

23/24 July 2009

#### **Klebrige Rabatte: Irrationale Konsumentenentscheidungen bei rückwirkenden Schwellenrabatten**

[Sticky Rebates: Rollback Rebates Induce Non-Rational Loyalty in Consumers]

(together with Alexander Morell, Andreas Glöckner)

Symposium Entscheidungsforschung, Deutsche Gesellschaft für Psychologie (DGPs),

13. Fachgruppentagung Rechtspsychologie, Gießen, Germany

29 August 2009

#### **Sticky Rebates: Rollback Rebates Induce Non-Rational Loyalty in Consumers – Experimental Evidence**

(together with Alexander Morell, Andreas Glöckner)

European Association of Law and Economics, 25th Annual Conference 2009, Rome, Italy

17–19 September 2009

#### **Entscheidungpsychologie und Recht**

[Decision Psychology and Law]

Seminar (together with Andreas Glöckner), Justizakademie Nordrhein-Westfalen

[Academy of Judges of Northrhine-Westphalia], Recklinghausen, Germany

4 December 2009

### **2010**

#### **Spielen ist Experimentieren mit dem Zufall: Die Sportwette als Grenzfall des Glücksspielrechts**

[Gambling is Experimenting with Chance. Sports bets as a borderline case of gambling law]

Symposion in honor of Professor Dr. E.-J. Mestmäcker, University of Tübingen, Germany

March 2010

## **Putting the Law to the Lab. Insight from Legal Experiments**

Hamburg Lectures on Law and Economics

Institute of Law and Economics at the University of Hamburg, Germany

May 2010

## **Demokratische Repräsentation im Parteienstaat**

[Democratic Representation in the Party State]

Conference "Aktualität der Weimarer Staatsrechtslehre", University of Münster

Report by Wihl, Tagungsbericht "Zur Aktualität der Weimarer Staats- und Verwaltungsrechtslehre", ARSP 97 (2011), issue 1, pp. 128 ff., Münster, Germany

September 2010

## **Die rechtliche Verfassung der Bahai-Gemeinde. Theologische Grundlagen ihrer Gemeindeordnung**

[The Legal Constitution of the Bahai Community. Theological Foundations of its Administrative Order]

Katholische Studienwoche des Institut für Staatskirchenrecht der Diözesen Deutschlands, Ludwig-Windhorst-Haus Lingen, Germany

November 2010

## **2011**

### **Geschicktes Glückspiel. Die Sportwette als Grenzfall des Glückspielrechts**

[Skillful Gambling. Sports bets as a borderline case for gambling law]

Kolloquium Recht und Ökonomie, Center for Advanced Studies in Law and Economics (CASTLE), University of Bonn, Germany

April 2011

### **Plebiscites and Catastrophes: A survey on political participation after the Fukushima incident**

Workshop "Interdisciplinary Research on Political Parties", Max Planck Institute for Research on Collective Goods, Bonn, Germany

5 July 2011

### **Partocracy and Democratic Representation**

Workshop "Paradoxes of Constitutionalism", University of Dresden, Germany

19 July 2011



## **Christian Traxler (Affiliate)**

### **Summary Report**

Over the last two years, I continued my research on questions in the domains of Public Finance, the Economics of Crime and Behavioral Economics. Below I will discuss three strands of work that are representative for my research interests.

#### **A. Enforcement, Compliance, and Social Interaction**

My main body of work over the last years built upon a cooperation with FIS (Fee Information Service Co.), an Austrian authority that governs the collection and enforcement of TV license fees ('Rundfunkgebühren'). Together with this institution, I conducted a large-scale natural field experiment, which sent roughly 50,000 mailings to potential evaders of the fees (Fellner, Sausgruber, Traxler, forthcoming). The experiment manipulated the message of the cover letter and measured the impact on the frequency of mailing recipients that started to pay the fees. As compared to a baseline mailing, the main treatment included a threat that stressed a high detection risk and the severity of potential fines. The threat mailings resulted in an economically and statistically significant increase in compliance. In contrast, a moral appeal did not have any effect. Complementary evidence suggested that the impact of the threat is explained by an increase in households' expectations regarding their subjective detection risk.

Within the same institutional context, I used detailed micro-data on the enforcement activities of TV licensing inspectors, to study spillovers from enforcement on evading households that had no interaction with inspectors (Rincke and Traxler, forthcoming). Using weather conditions as instruments, the paper identified a strong response of evaders to increased enforcement in their neighborhood.

In principle, these spillovers could be driven by two channels: households may update their perceived detection risk in response to detections in their vicinity. In addition, detections mechanically increase compliance, which could trigger multiplier effects via conformity motives. A follow-up paper (with Friederike Mengel and Francesco Drago; work in progress) tries to disentangle these two effects. The paper employs novel data on all Austrian households. For 11 months, we observed compliance, detections and registrations (i.e., a switch from evasion to compliance) at the household level. We focused on a pre-defined set of small Austrian municipalities (covering roughly 300,000 households) and used the households' address information to geo-code each single observation. We were then able to compute local  $x$ -neighborhood networks, assuming that a household was linked to the neighboring household if it was located within  $x$  meters.<sup>1</sup> At the network level, we then studied social interaction in compliance. In particular, we asked what the impact of

<sup>1</sup> Currently we are working with 20m, 30m, ... , 50m networks. In the range of 30m-50m, the results do not seem to be very sensitive to the distance we use. Below 30m, however, the networks become "too small" (i.e., there are too many singletons).

the other households' compliance (as well as detections among other households in the network) was on an evading household.

To answer this question, one has to solve Manski's reflection problem. One of the main innovations of our approach is that we use exogenous variation on compliance introduced by the mailing field experiment (discussed above) to overcome the problem. The idea is quite simple: for a given number of mailings sent into a network, the share of threat vs. no-threat mailings is random by design. As we know that the different mailings have significantly different effects on the response of mailing recipients, the variation in the number of threat mailings provides truly exogenous variation for the compliance of those treated by mailings. Using the exogenous variation provided by the field experiment, our preliminary estimates indicate a sizeable and highly significant effect on the compliance of others. We then develop a formal model of compliance and social interaction within a network, which allows us to assess how the social interaction effect varies with certain network properties (such as clustering, average and variance degree, density, etc.). The structural model further enables us to derive testable predictions on the two channels that can produce the enforcement spillovers (see above). At the moment, we are working on testing these predictions still using reduced form estimates.

## **B. Crime in Prussia, 1882-1913**

This project is based on a new data set on crime rates in Prussia. Based on printed yearbooks on crime, I collected data for more than 20 different crimes committed in all 37 Prussian districts (*Regierungsbezirke*) between 1882 and 1913. The data are considered to be of high quality and excellent internal consistency. Moreover, they allow differentiating between different subgroups of criminals (e.g., young offenders, male vs. female, etc.). In addition, the historical context allows applying empirical strategies which are not necessarily feasible when one works with modern data. Hence, the data are promising to tackle several research questions from the Economics of Crime.

A first paper (joint with Carsten Burhop, work in progress) studies the causal impact of alcohol consumption on crime. To do so, we compiled data on beer production from the official tax records (*Brausteuer*). Fixed effects panel estimations indicate a strong correlation between beer and crime rates, suggesting a close association between the two. However, it would be naive to make causal interpretations of this correlation. As is well understood in the literature, the alcohol-crime link is hard to identify due to reversed causality, omitted variable and measurement issues. We solve the identification problem by employing a novel instrumental variables (IV) approach. Our IV strategy rests on the fact that beer production was sensitive to grain inputs, which were in turn affected by weather shocks. More specifically, we use one year lagged monthly data on rainfall and temperature from more than 20 Prussian weather stations as instruments. We first demonstrate that 'bad' weather during the past year's sowing and harvesting period for spring barley had a negative impact on barley yield, barley prices and – ultimately – present-year beer production.

Using exogenous variation in beer production induced by lagged weather conditions, we estimate the impact of beer on different crime rates. Our estimates suggest that a one-percent increase of beer consumption leads to a roughly one-percent increase in violent crimes. This result is very stable with respect to different specifications and alternative IVs. The driving force behind the finding is the strong effect of beer consumption on simple and aggravated assault and battery. More severe violent crimes (e.g., robbery and homicide), however, are not affected by beer consumption. Turning to property crimes, we do not find any evidence on beer consumption having an effect. However, once we consider crime rates among specific parts of the population, we do find a significant effect of beer consumption on property crimes – mainly petty larceny and theft – among young criminals.

### **C. Legal and Social Norm Enforcement – Experimental Approaches**

In this strand of research, I consider the possible interactions of legal and social norm enforcement in a series of lab experiments. A first paper asked how formal law enforcement affects the informal enforcement of norms (Kube and Traxler, forthcoming). Are the two enforcement institutions substitutes or complements, i.e., do centralized (legal) sanctions crowd out or crowd in decentralized (social) sanctions? The research question was addressed within the context of a linear public-good game with decentralized punishment. In addition to these decentralized sanctions, we introduced a treatment with a centralized enforcement mechanism that imposed mild (non-deterrent) sanctions on deviations from the socially optimal contribution level. To study the true *ceteris paribus* effect of the treatment on decentralized sanctions, we developed a novel strategy method at the punishment stage. The method allowed us to assess individual sanctioning choices, keeping contributions constant between the treatments. Our results showed that social sanctions were partially crowded out by legal sanctions. While individuals imposed less punishment on average, the marginal social cum legal sanctions faced by a free-rider were higher in the presence of centralized sanctions. In line with this observation, we found that the legal sanctions triggered a substantial increase in norm compliance: a higher level of cooperation was obtained at lower costs of sanctioning. Consequently, the implicit delegation of norm enforcement to a formal, centralized institution allowed for a significant increase in overall welfare.

In a follow-up study (work in progress), we extend these results from a one-shot to a repeated game. We consider whether the interplay of centralized and decentralized sanctions remains successful over time and whether mild laws (non-deterrent sanctions) *per se* can sustain a high level of compliance. While our experimental evidence approves the first, it negates the latter question. Hence, mild laws only turn out to be effective once they are combined with the decentralized enforcement of compliance.

### **Further Professional Activities**

Together with Roberto Galbiati (University of Paris-Nanterre), I established a workshop series on the economics of crime. A first workshop, which included keynote lectures by

John Donohue (Stanford) and Jens Ludwig (Chicago), took place in Paris in September 2009. The second meeting was held at the institute in Bonn, in October 2010. Keynote lectures were given by Phil Cook and Rafael Di Tella. In 2011, the series was continued at the Collegio Carlo Alberto, with Giovanni Mastrobuoni (Collegio Carlo Alberto) as the local organizer. Next to the keynotes by Steven Durlauf and Steven Raphael, the workshop attracted a very active group of researchers from several outstanding European and US Departments. In 2012, the series will be continued at the University of Frankfurt.

Since the first meeting, the workshops have contributed to intensifying the interaction and cooperation between researchers in this field and helped to establish the empirical work on the Economics of Crime in Europe. My commitment to expand this research area in Europe also resulted in a special issue in the *German Economic Review*, edited by Jens Ludwig, Horst Entorf, and myself (in preparation).

My interest in Law and Economics beyond the Economics of Crime is reflected in the organization of the bi-weekly Law&Econ Seminar together with the University of Bonn. From 2008 until February 2011, I served as one organizer of this seminar.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Traxler C., Rincke J., Enforcement Spillovers, *Review of Economics and Statistics*, In Press.

Fellner G., Sausgruber R., Traxler C., Testing Enforcement Strategies in the Field: Legal Threat, Moral Appeal and Social Information, *Journal of the European Economic Association*, In Press.

Traxler C., Rienner G., Norms, moods, and free lunch: Longitudinal evidence on payments from a Pay-What-You-Want restaurant, *Journal of Socio-Economics*, In Press.

Traxler C., Majority Voting and the Welfare Implications of Tax Avoidance, *Journal of Public Economics*, vol. 96, no. 1-2, pp. 1-9, 2012.

Kube S., Traxler C., The Interaction of Legal and Social Norm Enforcement, *Journal of Public Economic Theory*, vol. 13, no. 5, pp. 639-660, 2011.

Traxler C., Spichtig M., Social Norms and the Evolution of Conditional Cooperation, *Journal of Economics*, vol. 102, no. 3, pp. 237-262, 2011.

Trautmann S. T., Traxler C., Reserve prices as reference points – Evidence from auctions for football players at Hattrick.org, *Journal of Economic Psychology*, vol. 31, no. 2, pp. 230-240, 2010.

Traxler C., Social Norms and Conditional Cooperative Taxpayers, *European Journal of Political Economy*, vol. 26, no. 1, pp. 89-103, 2010.

Slemrod J., Traxler C., Optimal observability in a linear income tax, *Economics Letters*, vol. 108, no. 2, pp. 105-108, 2010.

Traxler C., Voting over taxes: the case of tax evasion, *Public Choice*, vol. 140, no. 1-2, pp. 43-58, 2009.

## **Preprints**

Traxler C., Burhop C., *Poverty and crime in 19th century Germany: A reassessment*, issue 2010/35, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Slemrod J., Traxler C., *Optimal observability in a linear income tax*, issue 2010/04, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Fellner G., Sausgruber R., Traxler C., *Testing Enforcement Strategies in the Field: Legal Threat, Moral Appeal and Social Information*, issue 2009/31, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Traxler C., *Majority Voting and the Welfare Implications of Tax Avoidance*, issue 2009/22, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Rincke J., Traxler C., *Deterrence Through Word of Mouth*, issue 2009/04, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

Traxler C., Winter J., *Survey Evidence on Conditional Norm Enforcement*, issue 2009/03, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## **Working Papers – Invited for Resubmission**

Majority Voting and the Welfare Implications of Tax Avoidance, July 2011, resubmitted to the *Journal of Public Economics* (3<sup>rd</sup> round).

Longitudinal Evidence on Payments in a Pay-As-You-Wish Restaurant (with Gerhard Riener), June 2011, resubmitted to the *Journal of Socio Economics* (2<sup>nd</sup> round).

## **Working Papers – Under Review**

Poverty and Crime in 19th Century Germany: A Reassessment (with Carsten Burhop), Max Planck Institute for Research on Collective Goods, Working Paper 2010-35.

Survey Evidence on Conditional Norm Enforcement (with Joachim Winter), Max Planck Institute for Research on Collective Goods, Working Paper 2009-03.

## **Working in Progress**

Compliance and Social Interaction in Neighborhood Networks (with Friederike Mengel and Francesco Drago).

Beer, Booze, and Brawls – On the Causal Impact of Alcohol on Crime for Prussia, 1882-1912 (with Carsten Burhop).

Nudges at the Dentist – A Field Experiment on Dental Check-ups (with Steffen Altmann).

The Optimal Design of Deadlines – Field Evidence from Check-up Reminders (with Steffen Altmann and Philipp Weinscheink).

The Economics of Maritime Piracy (with Stefanie Brilon).

The Dynamics of Centralized and Decentralized Norm Enforcement (with Sebastian Kube).

Nudges at the Dentist – A Field Experiment on Dental Check-ups (with Steffen Altmann).

Optimal tax cum enforcement policies and occupational choice (with Rainald Borck).

Interest Group Formation, Information Transmission and Political Convergence: An Experimental Approach (with Ernesto Reuben and Frans van Winden).

Bunching at the Autobahn – The Effect of Fine-'Notches' on Speeding (with Ansgar Wohlschlegel).

Intensive Probation and Recidivism among Young Offenders – Evidence from a Field Experiment (joint with Christoph Engel and Sebastian Goerg).

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **Testing Enforcement Strategies in the Field: Legal Threat, Moral Appeal and Social Information**

(together with Gerlinde Fellner, Rupert Sausgruber)

Workshop on Public Goods, ETH Zurich, Switzerland

February 2009

#### **Testing Enforcement Strategies in the Field: Legal Threat, Moral Appeal and Social Information**

(together with Gerlinde Fellner, Rupert Sausgruber)

EconomiX Seminar – Université Paris X, Nanterre, France

February 2009

#### **Testing Enforcement Strategies in the Field: Legal Threat, Moral Appeal and Social Information**

(together with Gerlinde Fellner, Rupert Sausgruber)

Public Finance Seminar – University of Michigan, Ann Arbor, U.S.A.

May 2009

**The Interaction of Legal and Social Norm Enforcement**

PET-Workshop on 'Public Economics: Theory and Experiments', Lyon, France  
June 2009

**Deterrence through Word of Mouth**

(together with Johannes Rincke)  
European Economic Association Meeting, Barcelona, Spain  
August 2009

**Testing Enforcement Strategies in the Field: Legal Threat, Moral Appeal and Social Information**

(together with Gerlinde Fellner, Rupert Sausgruber)  
National Tax Association, Annual Conference, Denver, U.S.A.  
November 2009

**2010****Enforcement Spillovers**

(with Johannes Rincke)  
American Economic Association Meeting, Atlanta, U.S.A.  
January 2010

**Beer, Booze and Brawls – Panel Evidence on the Causal Effect of Alcohol on Crime for Prussia, 1882-1913**

(with Carsten Burhop)  
University of Cologne, Germany  
May 2010

**The Economics of Evasion: Micro Evidence from TV Licence Fees**

Invited Presentation, University of Heidelberg, Germany  
September 2010

**Beer, Booze and Brawls – Panel Evidence on the Causal Effect of Alcohol on Crime for Prussia, 1882-1913**

(with Carsten Burhop)  
CSEF Naples, Italy  
November 2010

**The Economics of Evasion: Micro Evidence from TV Licence Fees**

University of Marburg, Germany  
November 2010

## **2011**

### **Beer, Booze and Brawls – Panel Evidence on the Causal Effect of Alcohol on Crime for Prussia, 1882-1913**

(with Carsten Burhop)

University of Frankfurt, Germany

February 2011

### **Beer, Booze and Brawls – Panel Evidence on the Causal Effect of Alcohol on Crime for Prussia, 1882-1913**

(with Carsten Burhop)

University of Mainz, Germany

February 2011

### **Poverty and Crime in 19th Century Germany: A Reassessment**

(with Carsten Burhop)

Royal Economic Society Meeting, London, UK

April 2011

### **Optimal Income Taxation, Tax Enforcement and Occupational Choice**

(with Rainald Borck)

International Institute of Public Finance, Annual Congress, Ann Arbor, U.S.A.

August 2011

## **Workshop Organizations**

### **The Empirics of Crime and Deterrence**

1st Bonn & Paris Workshop on Law and Economics (joint organization with Roberto Galbiati): University of Paris Nanterre, Paris, France

September 25–26, 2009



## **Berenike Waubert de Puiseau**

After the completion of my diploma degree in psychology, with business administration and criminal law as minors, at the University of Mannheim in October 2010, I joined the research group *Intuitive Experts* in November 2010. Throughout my studies, I worked as a research assistant in the Cognition and Individual Differences lab at the University of Mannheim. Further, I worked as a research assistant in the Forensic Psychology lab at the University of New South Wales, Australia, where I got involved with several research

projects related to psychology and law. Both basic cognitive psychology and legal psychology are the major focus of my interest. More specifically, I am interested in bridging the gap between basic cognitive and social psychology (as well as formal models) and applied legal psychological research.

In this vein, I have taken up a dissertation project that aims at explaining why people obey the law. In line with the general goals of the *Intuitive Experts* group, this interdisciplinary project applies basic decision making theory to complex 'real life' situations. In fact, the research team unites researchers from the three main scientific areas represented at this institute (namely, psychology, law, and economics), among whom are Dr Andreas Glöckner (psychology) as my advisor, Dr Emanuel Towfigh (law), Prof Sebastian Kube, Dr Sebastian Goerg, and Dr Aniol Llorente-Saguer (the three of them representing economics).

Employing methods from these three research areas, we investigate two main questions. First, in what way do different theories of law obedience contradict or complement each other in predicting individual obedience of the law? And second, how do cultures differ with respect to law obedience?

To address the first question we use a theoretical and empirical approach comparing and combining three theories for law obedience: (1) legitimacy issues (psychology), (2) the neoclassical approach (economic), and (3) personality/ individual differences (criminology/ law). The first theory stems from Tyler (1990). It represents the legal psychological approach focusing on the legitimacy of the law, the judicial system and the law enforcement. The second theory is the economic approach by Becker (1968). It postulates that the probability of breaking the law depends on a rational cost-benefit analysis. The third theory is of criminological origin and is termed The General Theory of Crime (Gottfredson & Hirschi, 2007). This approach relates law obedience to individual differences such as self-control – the higher an individual's self-control, the lower the disobedience proclivity. We developed a survey to test these theories.

The second main goal is the comparison of law obedience across cultures which has not been sufficiently investigated in previous research. We try to answer a very essential question: to what extent does the influence of different predictors for law obedience vary

between cultures. Furthermore, we test the generalizability of theoretical assumptions. In other words, we want to know whether the three theories apply to different cultures.

In addition to this main project, I have worked on three further projects in the field of psychology and law, with which I had already been involved before the beginning of my dissertation. Together with my diploma thesis advisors, I conducted an experiment employing the Cultural Consensus Theory (CCT) and its formalization, the General Condorcet Model (GCM), to improve the assessment of eyewitness memory (cf. Waubert de Puiseau, Aßfalg, Erdfelder, & Bernstein, under review). Our results show that the formal model accurately predicts the answer key (i.e., the correct answers to the questions), hence, it enables a better assessment of individual eyewitness competence (i.e., testimony quality). In this project, we employ theoretical research in cognitive psychology to explore a legal psychological topic.

In my second project (cf. Titcomb, Goodman-Delahunty, & Waubert de Puiseau, in preparation), we analyzed a sample of convicted intrafamilial sex offenders, who were referred to a pre-trial diversion program in Sydney, comparing biological and nonbiological fathers. The paper aims at clarifying whether nonbiological fathers who sexually abuse their stepchildren should be classified as intra- or extrafamilial offenders. The lack of differences between sexually abusive biological and stepfathers has important policy implications. This project is of forensic psychology nature, hence, it relates closely to clinical issues.

Intercultural differences and the general applicability of theories, which is the core of my dissertation project, further play a role in another research project that I have been working on since early 2010 (cf. Waubert de Puiseau, Glöckner & Musch, in preparation). The project has evolved from an internship I completed in Benin, West Africa, during which I conducted a study on sexual harassment serving the role of corruption, in Benin's school system. There were two main goals to the study, in which more than 250 Beninese high school students participated: first, I assessed the prevalence and the scope of sexual harassment and its perception by students. Second, I measured rape-related attitudes such as rape myth acceptance, sexism, and gender roles. Results indicate a fairly high prevalence of sexual harassment, as well as considerable levels of average hostile and benevolent sexism and rape myth acceptance. This legal psychological project strongly relates to educational and gender issues as well as individual differences that also play a role in Gottfredson's and Hirschi's General Theory of Crime (2007).

## **Research Agenda**

In the following months, I aim to continue my dissertation project and collect data from about ten different countries. (Quasi-)Experimental variations will allow us to compare the relative influence of law obedience predictors suggested by Tyler and Becker. Further,

regression analyses will provide information about Gottfredson's and Hirschi's approach as well as background variables including religion, personality differences, and values. Based on these data, I want to develop a sensible theory that unifies the various approaches, and takes into account cross-cultural differences. I plan to test its predictions in further studies and to conduct experiments (using techniques from cognitive and social psychology, such as priming) to clarify the underlying mechanisms of intuitive and/or deliberate decision making in law obedience. In the long run, this implies the application of the Parallel Constraint Satisfaction Model (PCS, Glöckner & Betsch, 2008) to disentangle automatic and controlled decision making processes in this complex context.

In addition to my dissertation project, I am currently planning another study together with my external PhD advisor Jochen Musch (University of Düsseldorf) and one of his PhD students Adrian Hoffmann. In our study, we aim to assess the allegedly true prevalence of experienced and committed rape and sexual assault in women and men using the so-called Randomized Response Technique (RRT). This tool employing a formal model enables a very high degree of anonymity through stochastic allocation of questions to participants. With this project, we aim to shed light on the true prevalence of rape in Germany, given that existing prevalence rates vary largely and no precise measure is available. Furthermore, we compare the rates obtained through direct questioning to those obtained using RRT. In another project that I am working on together with Marie Landsberg and Dr Andreas Glöckner, we investigate the factors that influence a state attorney's decision either to continue police investigations and to file a criminal lawsuit or to discontinue investigations in accordance with §§153, 153a, 170 StPO. Thereby, we relate decision-making psychology to legal issues using a 'real-world' sample of NRW state attorneys. Furthermore, together with André Aßfalg, I will continue work on the legal psychological application of CCT. One focus is to develop a strategy to assess properly recall data in order to be used within the CCT framework. Another focus is to investigate the influence of stereotypical responses on the performance of the GCM. All of these additional projects investigate questions from the psychology and law arena and attempt to bridge the gap between basic cognitive and social psychology on one hand, and applied legal psychology on the other hand.

## **Awards**

AP-LS Travel Award for paper presentation (500 USD)  
4<sup>th</sup> International Conference of Psychology and Law, Miami, FL, U.S.A.  
March 2011

AP-LS Outstanding student poster award (150 USD) (with Caroline Titcomb & Jane Goodman-Delahunty)  
4<sup>th</sup> International Conference of Psychology and Law, Miami, FL, U.S.A.  
March 2011

Young Researcher Award of the psychology and law group of the German Society for Psychology for the diploma thesis "Beyond testimony: A formal modeling approach to eyewitness memory" (500€) [Nachwuchsförderpreis der Fachgruppe Rechtspsychologie der Deutschen Gesellschaft für Psychologie für die Diplomarbeit „Beyond testimony: A formal modeling approach to eyewitness memory“]

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Titcomb C. R., Goodman-Delahunty J., Waubert de Puiseau B., Pre-trial diversion for intrafamilial child sexual offending: Does biological paternity matter?, *Criminal Justice and Behavior*, In Press.

### **Research Report**

Waubert de Puiseau B., *Le harcèlement sexuel des filles comme forme de corruption en milieu scolaire. Rapport final.*: CAO-Bénin / Deutscher Entwicklungsdienst Bénin, 2010.

### **Work in Progress (since 2009)**

Waubert de Puiseau, B., Aßfalg, A., Erdfelder, E., & Bernstein, D. M. (under review). Extracting the truth from conflicting eyewitness reports: A formal modeling approach.

Waubert de Puiseau, B., Glöckner, A., et al. (in preparation). So why do they obey the law? An empirical comparison of theories.

Waubert de Puiseau, B., Glöckner & Musch, J. (in preparation). Sexual harassment and rape related attitudes in Benin's school system.

## **Lectures and Seminar Presentations (since 2009)**

### **2010**

**Veridical Truth: A Formal Modeling Approach to Eyewitness Testimony**  
(paper presentation with André Aßfalg, Edgar Erdfelder, & Daniel M. Bernstein)  
20<sup>th</sup> Conference of the European Association of Psychology and Law  
(European Association of Psychology and Law)  
Gothenburg, Sweden  
June 2010

**Risks of Intrafamilial Sexual Offending: Step-fathers versus Biological Fathers**

(paper presentation with Jane Goodman-Delahunty and Caroline Titcomb)

National Conference of the Australian College for Child and Family Protection

Practitioners

(Australian College for Child and Family Protection Practitioners)

Canberra, ACT, Australia

November 2010

**2011****Sexual Harassment, Rape Myths and Sexism in Bénin's School System. A Field Study**

(paper presentation) 4<sup>th</sup> International Conference of Psychology and Law

(American Psychology-Law Society, European Association of Psychology and Law, and

Australian and New Zealand Association of Psychiatry, Psychology and Law)

Miami, FL, U.S.A.

March 2011

**Intrafamilial Sex Offending: Does Biology Matter?**

(poster presentation with Caroline Titcomb and Jane Goodman-Delahunty)

4<sup>th</sup> International Conference of Psychology and Law

(American Psychology-Law Society, European Association of Psychology and Law, and

Australian and New Zealand Association of Psychiatry, Psychology and Law)

Miami, FL, U.S.A.

March 2011

**Beyond Testimony: A Formal Modeling Approach to Eyewitness Memory**

(invited talk) 14. Fachgruppentagung Rechtspsychologie

[14th German Congress of Psychology and Law]

Deutsche Gesellschaft für Psychologie [German Society of Psychology]

Münster, Germany

September 2011

**Warum befolgen Menschen das Gesetz? Ein multifaktorieller Erklärungsansatz**

[Why do People Obey the Law? A Multifactorial Approach]

(paper presentation with Andreas Glöckner, Sebastian J. Goerg, and Emanuel V. Towfigh)

14. Fachgruppentagung Rechtspsychologie

[14th German Congress of Psychology and Law]

Deutsche Gesellschaft für Psychologie [German Society of Psychology]

Münster, Germany

September 2011

**Bezahlen für gute Noten – Eine Exploration sexuellen Missbrauchs als Korruption an beninischen Schulen**

[Pay for Good Grades – An Exploration of Sexual Harassment as one Form of Corruption in Beninese Schools]

(poster presentation with Andreas Glöckner)

14. Fachgruppentagung Rechtspsychologie

[14th German Congress of Psychology and Law]

Deutsche Gesellschaft für Psychologie [German Society of Psychology]

Münster, Germany

September 2011

**Organized workshops (since 2009)**

4<sup>th</sup> Judgment and Decision Making Workshop for Young Researchers

Bonn, Germany

August 2011



## **Philipp Weinschenk**

### **Summary Report**

I am currently a senior research fellow, joined the institute September 2006, and received my doctoral degree in November 2009. My main research interests are contract theory, behavioral economics, and industrial organization. From January to May 2011, I visited Harvard University.

### **Papers**

The last two years I worked on the following papers:

**Moral Hazard and Ambiguity (revise and resubmit RAND):** We consider a principal-agent model with moral hazard where the agent's knowledge about the performance measure is ambiguous and he is averse towards ambiguity. We show that the principal may optimally provide no incentives or contract only on a subset of all informative performance measures. That is, the Informativeness Principle does not hold in our model. These results stand in stark contrast to the ones of the orthodox theory, but are empirically of high relevance.

**Rater Bias in Performance Appraisal: On Horns, Halos, and Incentive Provision (joint work with Daniel Müller):** The horns and halo effect, which refers to a supervisor's tendency to judge an employee as either good or bad and then to seek out evidence that supports that opinion, is regarded as one of the major problems for organizations. We investigate the implications of the horns and halo effect in a dynamic principal-supervisor-agent model with moral hazard. While this form of rater bias weakens incentives for the agent to exert effort in the second period, at the same time it strengthens implicit first-period incentives arising from prospective second-period rents. Under the optimal contract, as long as the bias is not overly strong, its adverse effect on second-period incentives is fully offset by exploitation of stronger first-period incentives. In consequence, and in contrast to a widespread opinion in human resource management, the horns and halo effect is not necessarily harmful for an organization with regard to incentive provision and performance.

**Procrastination in Teams, Contract Design, and Discrimination:** We study a dynamic model of team production with moral hazard, where a group of perfectly rational players works repeatedly on a joint task. When the reward for solving the task is shared equally, we show that the players begin to invest effort only shortly before the time limit. We explore how the team can design a wage contract that mitigates this form of procrastination. We show that the second-best optimal contract is discriminatory. We investigate how limited liability or the need to share information and experiences influences the team's problem.

Discrimination, Moral Hazard, and Welfare: We study discrimination in a model of moral hazard in teams. We show that a principal may optimally discriminate between agents – in the sense of remunerating them differently – although the agents have the same productive characteristics. The idea is that due to moral hazard it may be cheaper for the principal to motivate one agent to work hard and another to work little, instead of motivating both to work moderately. Consequently, taste-based discrimination need not be costly. We also examine the welfare effects of discrimination.

Moreover, I am currently working together with Susanne Prantl on a paper about regulation and firm exit, with Steffen Altmann and Christian Traxler on a paper about reminders and their design, and on two papers about perks and working conditions.

## **Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

Herweg F., Müller D., Weinschenk P., *Binary Payment Schemes: Moral Hazard and Loss Aversion*, *American Economic Review*, vol. 100, no. 2, pp. 2451-2477, 2010.

### **Preprints**

Weinschenk P., *Procrastination in Teams, Contract Design and Discrimination*, issue 2011/13, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

Weinschenk P., *Increasing Workload in a Stochastic Environment*, issue 2010/43, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Weinschenk P., *Moral Hazard and Ambiguity*, issue 2010/39, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Herweg F., Müller D., Weinschenk P., *Binary Payment Schemes: Moral Hazard and Loss Aversion*, issue 2010/38, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Weinschenk P., *Skill Formation under Incomplete Information*, issue 2010/26, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Weinschenk P., *Entry and Incumbent Innovation*, issue 2010/17, Bonn, Max Planck Institute for Research on Collective Goods, 2010.

Weinschenk P., *Persistence of Monopoly and Research Specialization*, issue 2009/11, Bonn, Max Planck Institute for Research on Collective Goods, pp. 27, 2009.

## **Lectures and Seminar Presentations (since 2009)**

### **2009**

#### **The Optimality of Simple Contracts: Moral Hazard and Loss Aversion**

(joint work with Fabian Herweg and Daniel Müller)

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

February 2009

#### **A Problem of Liability – How Strict Liability can Lead to Distortions and Redistribution**

Bonn Law Econ Workshop, Germany

April 2009

#### **Strategic Delegation and the Betrand Paradox**

Third International Conference on Game Theory and Management in St. Petersburg, Russia

June 2009

#### **Ambiguity in a Principal-Agent Model**

Nordic Behavioral and Experimental Economics Conference, Oslo, Norway

October 2009

### **2010**

#### **Procrastination in Teams, Contract Design, and Discrimination**

MPI, Bonn, Germany

March 2010

#### **Increasing Workload in a Stochastic Environment**

MPI, Bonn, Germany

March 2010

#### **Increasing Workload in a Stochastic Environment**

IMEBE, Bilbao, Spain

April 2010

#### **Increasing Workload in a Stochastic Environment**

EEA, Glasgow, UK

August 2010

#### **Skill Formation under Incomplete Information**

Econometric Society Winter Meeting, Rome, Italy

November 2010

**Rater Bias in Performance Appraisal**

On Horns, Halos, and Incentive Provision: Nordic Behavioral and Experimental Economics Conference, Helsinki, Finland  
November 2010

**2011**

**Procrastination in Teams, Contract Design, and Discrimination**

Harvard, Cambridge (MA), U.S.A.  
February 2011

**Discrimination, Moral Hazard, and Welfare**

Harvard, Cambridge (MA), U.S.A.  
April 2011



## **Carl Christian von Weizsäcker**

### **Summary Report**

My research was on the following topics:

1. Adaptive preferences and their consequences. This continues my research which I called "Welfare Economics of Adaptive Preferences" in the 2007-2009 report. I have found that most of the well-established deviations of actual human behavior from the neoclassical model of "Homo Oeconomicus" can be subsumed under my concept of adaptive preferences. I thus now speak of "Homo Oeconomicus Adaptivus". I have deepened my understanding of the evolution of preferences, i.e., of the "survival value" of adaptive preferences. I have developed a theory of partial equilibrium optimization or cost-benefit analysis under adaptive preferences. I now merge my theory with my ideas about the development of liberty under the concept of "pragmatic compossibility of individual rights to act": adaptive preferences are a precondition for the historically observed mode of gradually increasing rights to act. These ideas encompass what has traditionally been called "welfare economics", but they go beyond that field. I hope to finish a book-like manuscript on all this in the near future.

2. Macro-economics and capital theory. The "great recession" of recent years led me to return to old ideas of mine in capital theory. By developing this approach further, I believe to have shown that, in the OECD countries plus China, the supply of capital by individuals exceeds the demand for capital by firms, and this even at a real rate of interest of zero. Public debt is then required as an outlet for the willingness to provide for one's future, if the financial system offers the opportunity to save free of risk at a non-negative real rate of interest, i.e., if the financial system offers the advantages of price stability. Obviously, such a result has implications for the question: "how to deal with the present public debt crisis?"

3. Asymmetric markets. The science of economics begins with the first sentence of the Wealth of Nations: "The greatest improvement in the productive powers of labour, and the greater part of the skill, dexterity, and judgement with which it is anywhere directed, or applied, seem to have been the effects of the division of labour." The implications of this division of labor structure of modern society for the way markets predominantly operate have not been fully drawn by economics: Most markets are asymmetric. Suppliers compete, thus are under the yoke of competitive pressure, whereas the demand side has the freedom of choice, i.e., it is not under the yoke of competitive pressure. Prices, as a rule, need to be above marginal cost. Suppliers are transaction-hungry all the time; the demand side is transaction-saturated after having bought those quantities that conform to competitive prices. The model of perfect competition, thus, is fundamentally misleading for describing a society characterized by the division of labor. This observation offers the opportunity to understand better

such concepts as "the freedom to compete" ("Wettbewerbsfreiheit"), and indeed the concept of liberty itself. Thus, there is a close connection to my work described above under section 1.

4. Climate policy. From my earlier involvement in energy policy, I maintain an interest in the important "collective good" of stabilizing the climate. I try to keep up with the scientific and public debate in this field. At this time, my particular interest focuses on the question: are those people right (a large and growing group in Germany and other European countries) who claim that our basic model of social life (a democratic government with a market economy that generates positive growth rates of GDP) must be radically changed? This debate contains substantial challenges for economists, who generally defend this basic model. The debate is then also linked with the conceptual (or should we say: "philosophical"?) issues I have to deal with in my work described in sections 1, 2 and 3 above.

Of the 51 lectures I have listed below almost all can be linked to one of the four fields of research I have listed here: 12 to field 1; 14 to field 2; 11 to field 3, 10 to field 4.

## **Select Publications (since 2009)**

### **Articles in Peer-reviewed Journals**

von Weizsäcker C. C., A new technical progress function (1962), *German Economic Review*, vol. 11, no. 3, pp. 248-265, 2010.

von Weizsäcker C. C., Die Notwendigkeit von Staatsschulden, *Wirtschaftsdienst, Zeitschrift für Wirtschaftspolitik*, vol. 90, no. 11, pp. 711-727, 2010.

### **Book Chapters**

von Weizsäcker C. C., Ökonomik – Changieren zwischen Krise und Fortschritt, *Normative und institutionelle Grundfragen der Ökonomik, Jahrbuch 10*, Held M., Kubon-Gilke R., Sturm R., (Eds.), Marburg, pp. 263-297, 2011.

von Weizsäcker C. C., Homo Oeconomicus Adaptivus – Die Logik des Handelns bei veränderlichen Präferenzen, *Wohin steuert die ökonomische Wissenschaft? Ein Methodenstreit in der Volkswirtschaftslehre*, Caspari V., Schefold B., (Eds.), vol. 3, Frankfurt/New York, pp. 221-255, 2011.

von Weizsäcker C. C., Die heutige (Krisen-) Relevanz der Kapitaltheorie, *Glaube und Rationalität in der Krise, Symposium zu Ehren von Hans G. Nutzinger*, Frank B., (Ed.), Marburg, pp. 127-150, 2011.

von Weizsäcker C. C., Wettbewerb auf den drei Ebenen wirtschaftlicher Aktivität, *Recht, Ordnung und Wettbewerb, Festschrift zum 70. Geburtstag von Wernhard Möschel*, Bechtold S., Jickeli J., Rohe M., (Eds.), Baden-Baden, Nomos, pp. 855-869, 2011.

von Weizsäcker C. C., Über den Fortschritt, *Freiburger Schule und die Zukunft der sozialen Marktwirtschaft*, Tscheulin D. K., Vanberg V. J., Gehrig T., (Eds.), Berlin, pp. 122-134, 2010.

von Weizsäcker C. C., Die Marke ist ein öffentliches Gut, *Jahrbuch Markentechnik 2011/2012, Markenmobilisierung Markenwelt Markenforschung Horizonte*, Deichsel A., Schmidt M., (Eds.), Wiesbaden, pp. 201-218, 2010.

von Weizsäcker C. C., Ramser H. J., Stadler M., Das Konzept des relevanten Marktes für die Feststellung von Marktmacht, *Marktmacht, Wirtschaftswissenschaftliches Seminar Ottobeuren*, vol. 39, Tübingen, pp. 141-157, 2010.

von Weizsäcker C. C., Ökonomisierung als Folge der lebendigen Demokratie, *Wettbewerbspolitik und Kartellrecht in der Marktwirtschaft, 50 Jahre FIW: 1960 bis 2010*, vol. 34, Köln, Carl Heymanns Verlag, pp. 107-113, 2010.

von Weizsäcker C. C., Paul Anthony Samuelson, *Von Wilfredo Pareto bis Amartya Sen*, Kurz H. D., (Ed.), vol. 2, München, pp. 301-319, 2009.

von Weizsäcker C. C., Asymmetrie der Märkte und Wettbewerbsfreiheit, *Evolution und freiheitlicher Wettbewerb, Erich Hoppmann und die aktuelle Diskussion, Untersuchungen zur Ordnungstheorie und Ordnungspolitik*, Vanberg V. J., (Ed.), vol. 58, Tübingen, pp. 211-244, 2009.

### **Articles (not peer-reviewed)**

von Weizsäcker C. C., Antworten an Helmstädtner und Neuthinger – Eine Erwiderung, *Wirtschaftsdienst, Zeitschrift für Wirtschaftspolitik*, vol. 91, no. 7, pp. 494-495, 2011.

von Weizsäcker C. C., Das Janusgesicht der Staatsschulden, *Wegweiser für Kapitalanlagen, Bernecker Verlagsgesellschaft mbH*, vol. 44, pp. 66, 2010.

von Weizsäcker C. C., Climate Protection without Borders, *MaxPlanckResearch*, vol. 1, pp. 66-72, 2009.

von Weizsäcker C. C., Climate Protection without Borders, *Environmental Policy and Law, The Journal for Decision-Makers*, vol. 39, no. 3, pp. 149-151, 2009.

### **Reviews**

von Weizsäcker C. C., A Radical View on Climate Economics, Book Review of F. FitzRoy and E. Papyrakis, *An Introduction to Climate Change Economics and Policy, GAIA*, vol. 19, no. 3, pp. 224-225, 2010.

von Weizsäcker C. C., B.M.S. van Praag and A. Ferrer-i-Carbonell, Happiness Quantified, Oxford University Press 2007, *Journal of Economics*, vol. 96, pp. 289-293, 2009.

## **Newspaper Articles**

Von Weizsäcker, C. C., Die große Transformation: ein Luftballon. Bedarf der Übergang in eine Weltwirtschaft, die den Klimaschutz beachtet, einer Umwälzung ähnlicher Größe wie die industrielle Revolution? Das behauptet der Wissenschaftliche Beirat Globale Umweltveränderungen. Seine Vorschläge sind widersprüchlich und offenbar ein seltsames Demokratieverständnis, *Frankfurter Allgemeine Zeitung*, no. 228, pp. 12, 30.09.2011.

von Weizsäcker C. C., Wie vertragen sich Nachhaltigkeit und Demokratie?, *Neue Zürcher Zeitung*, no. 15, pp. 31, 20.01.2010.

von Weizsäcker C. C., Markt und Freiheit: Wettbewerb ist die Voraussetzung für Fortschritt, *Die ZEIT online*, 27.04.2010.

von Weizsäcker C. C., Das Janusgesicht der Staatsschulden, *Frankfurter Allgemeine Zeitung*, no. 126, pp. 12, 04.06.2010.

von Weizsäcker C. C., Kein Wachstum, nur noch Glück?, *Frankfurter Allgemeine Zeitung*, pp. 10, 21.06.2010.

von Weizsäcker C. C., Chancen und Grenzen der Zukunftsgestaltung durch Forschung, *Frankfurter Allgemeine Zeitung*, no. 258, pp. 12, 5.11.2010.

von Weizsäcker C. C., Rationale Klimapolitik, *Frankfurter Allgemeine Zeitung*, no. 1, pp. 12, 2.1.2009.

## **Preprints**

von Weizsäcker C. C., *Public Debt Requirements in A Regime of Price Stability*, issue 2011/20, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

von Weizsäcker C. C., *Homo Oeconomicus Adaptivus – Die Logik des Handelns bei veränderlichen Präferenzen*, issue 2011/10, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

von Weizsäcker C. C., *Asymmetrie der Märkte und Wettbewerbsfreiheit*, issue 2009/07, Bonn, Max Planck Institute for Research on Collective Goods, 2009.

## **Discussion Papers**

von Weizsäcker C. C., *Antitrust Problems of Four Party Credit Card Systems*, Discussion Paper 30 Pages, Bonn Max Planck Institute, February 2009.

von Weizsäcker C. C., *Notizen zum Thema: "Demokratie als Quelle der Kommerzialisierung des Lebens."* Discussion Paper, 8 Pages, February 2009.

von Weizsäcker C. C., *Public Debt – Just in Case*, Discussion Paper, 41 Pages, Bonn, Max Planck Institute, May 2009.

## **Lectures and Presentations (since 2009)**

### **2009**

#### **Demokratie als Quelle der Kommerzialisierung des Lebens**

[Democracy as a Source of Commercializing Life]

Studium Generale, University of Passau, Germany

20 January 2009

#### **Panel Discussion on Lignite Coal Policy in Germany**

Frankfurt, Germany

2 March 2009

#### **Wie lange dauert die Krise?**

[How Long Will the Crisis Last?]

Arbeitsgemeinschaft Selbständiger Unternehmer (ASU), Cologne, Germany

25 March 2009

#### **Chancen durch mehr Marktwirtschaft auch in der Klimapolitik**

[Chances through More Free-market Economy in Climate Policy]

Friedrich Naumann Stiftung, Speech at a Meeting of the Board of Trustees of the Foundation, Babelsberg near Berlin, Germany

2 April 2009

#### **Theoretisches zur Bewältigung der Weltwirtschaftskrise**

[Theories on Overcoming the World Economic Crisis]

Akademie, Düsseldorf, Germany

24 April 2009

#### **The Blind Alleys of Climate Policy**

Paper at the 8<sup>th</sup> Munich Economic Summit with the Topic "Climate and Energy",

CES-Ifo, Munich, Germany

28 May 2009

#### **Comment on Che and Choi, Shrink-Wraps. Who Should bear the Cost of Mass Market Contract Terms?**

Conference "Frontiers in the Economic Analysis of Contract Law", University of Bonn, Germany

5 June 2009

#### **Public Debt – Just in Case**

Economics Department, University of Dortmund, Germany

15 June 2009

**Die Zukunft der Weltenergiewirtschaft**

[The Future of World Energy]

Elektrizitätswerk Mittelbaden, Offenburg, Germany

17 June 2009

**Ist die Energieversorgung ohne Kernenergie sinnvoll?**

[Does Electricity Provision Make Sense Without Nuclear Energy?]

Lecture at an Academy Conference on Nuclear Energy, Akademie Düsseldorf, Germany

19 June 2009

**Asymmetric Markets and the Evolution of the Division of Labour**

Evolutorischer Ausschuss des Vereins für Socialpolitik

Jena, Germany

2 July 2009

**Public Debt and Fiscal Policy: A Different View**

Rheinisch-Westfälisches Institut für Wirtschaftsforschung

Essen, Germany

16 July 2009

**Antitrust Problems of Four-Party Credit-Card Systems**

Annual Meeting of European Association for Research in Industrial Economics (EARIE),

Ljubljana, Slovenia

5 September 2009

**Antitrust Problems of Four-Party Credit-Card Systems**

Annual Meeting Verein für Socialpolitik

Magdeburg, Germany

10 September 2009

**The Concept of the “Relevant Market” in Assessing Market Power**

Wissenschaftliches Seminar Ottobeuren, Germany

14 September 2009

**After-Dinner Speech**

Farewell Meeting of the Anglo-German Foundation for the Study of Industrial Society

Berlin

29 October 2009

**Welfare Economics, Psychology, and Adaptive Preferences**

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

2 November 2009

**Welfare Economics, Psychology, and Adaptive Preferences**

Fakultätsseminar University of Dresden

3 November 2009

**The Concept of Competition and the Economic Approach to Antitrust**

Intervention at a Seminar organised by the German Monopoly Commission

Berlin

5 November 2009

**Discussion of Social Choice Paper by Wulf Gärtner**

Conference New Frontiers of Normative Economics (Walter Eucken Institut)

Freiburg (Breisgau)

12 December 2009

**2010**

**The Economic and Social Function of Brands and Trademarks**

Lecture in the Course of Professor Deichsel on the Sociology of Branding

University of Hamburg

27 January 2010

**Crisis in Economics? On the Relation between Economics, Brain Research, and Psychology**

Studium Generale, Justus Liebig University, Gießen, Germany

1 February 2010

**Normative Economics, Psychology and the Concept of Rationality**

Workshop "Norms in Economics" at Johann-Wolfgang Goethe University,

Frankfurt, Germany

18 February 2010

**Panel on the Economists' "Methodenstreit" in Germany**

Workshop "Norms in Economics" at Johann-Wolfgang Goethe University,

Frankfurt, Germany

19 February 2010

**Panel on the Present Financial Crisis**

Workshop of Herbert Giersch Foundation

Frankfurt, Germany

24 February 2010

**Panel on Energy Policy and Climate Policy**

Forum für Zukunftsenergien

Berlin, Germany

3 March 2010

**Economics: Oscillation between Crisis and Progress**

Workshop on *Economics in Crisis?* Evangelische Akademie Tutzing, Germany

10 March 2010

**Cost-Benefit Analysis with Adaptive Preferences**

MPI Collective Goods, Bonn

19 April 2010

**Cost-Benefit Analysis with Adaptive Preferences**

MPI Munich, Germany

20 April 2010

**Market Asymmetry and the Concept of "Freedom to Compete"  
(Wettbewerbsfreiheit)**

Law & Economics Seminar of Professor Daniel Zimmer

University of Bonn, Germany

29 April 2010

**Volume Maximization of Four-Party Credit-Card Systems**

Conference on Platform markets – Regulation and Competition Policy, ZEW, MaCCI,

University of Mannheim, GESY, Germany

01 June 2010

**Rational Climate Policy**

Der Bonner Kreis, Bonn, Germany

8 June 2010

**Sustainability and Democracy; Are They Compatible?**

Lecture at the invitation of Johann Schneider-Ammann at Ammann-Schweiz AG

Langenthal, Switzerland

10 June 2010

**The Crisis of the World Economy**

Munich Economics Alumni-Club

Munich, Germany

15 June 2010

**The (Crisis) Relevance of Capital Theory**

Lecture at the Symposium at the occasion of the retirement Hans Nutzinger,  
University of Kassel, Germany  
8 July 2010

**The Necessity of Public Debt**

Annual Meeting Verein für Socialpolitik, Kiel, Germany  
9 September 2010

**Performance Motivation and Social Justice: On the Benabou-Tirole Theory**

40. Wirtschaftswissenschaftliches Seminar Ottobeuren, Germany  
13 September 2010

**Panel EU von Weizsäcker vs CC von Weizsäcker**

Energiekongress 2010, Greenpeace Energy  
Berlin, Germany  
25 September 2010

**Panel on Social Policy**

Free Democratic Party Congress  
Berlin, Germany  
2 October 2010

**Climate Policy in Europe**

Georg von Holtzbrinck-School for Journalism  
Düsseldorf, Germany  
4 October 2010

**How Should a World Climate Agreement Look Like?**

Swiss Equity cleantec day  
Zürich, Switzerland  
12 October 2010

**Opportunities and Limits of Shaping the Future by Doing Research**

Lecture in the presence of Federal Chancellor Angela Merkel at the Annual Meeting of  
Acatech (The German Academy of Engineering Science)  
Berlin, Germany  
19 October 2010

**Sustainability and Democracy; Are They Compatible?**

Lecture at the Invitation of Basle Society of Economics and Statistics  
Basel, Switzerland  
25 October 2010

## **What Should a World Climate Agreement Look Like?**

University of Cologne, Germany

28 October 2010

## **A Framework for the Analysis of Competition**

Inaugural Lecture at Düsseldorf Institute for Competition Economics (DICE), Germany

2 November 2010

## **Old Age Provision and Public Debt**

Annual Congress of Arbeitsgemeinschaft Berufsständischer Versorgungseinrichtungen e. V. (ABV), Cologne, Germany

12 November 2010

## **2011**

### **Public Debt and Capital Theory**

Seminar Hellwig – Bierbrauer

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

13 January 2011

### **Public Debt**

Cologne, Germany

18 January 2011

### **Crisis of the Market Economy?**

Studium Generale, University of Cologne, Germany

19 January 2011

### **How to Deal with Public Debt in Global Financial Markets?**

Deutsche Bank Advisors Conference 2011, Frankfurt, Germany

26 January 2011

### **Reminiscences On German Telecommunication Policy 1975 – 1996**

Workshop, History of Regulation in Telecommunications:

University of Bonn, Germany

27 January 2011

### **Public Debt Requirements and their Causes.**

Wirtschaftspolitisches Forum,

Frankfurt, Germany

8 February 2011

## **Large Technical Projects: Innovation and Acceptance or Otherwise in Democratic Societies**

Conference "Gesellschaftliche Relevanz technologischer Innovation" organized by Bavarian State Ministry for Education and Cultural Affairs and Deutsches Museum München, Munich, Germany

28 February 2011

## **Public Debt Requirements in a Regime of Price Stability**

Theory Seminar of Professor Hans Gersbach, ETH Zürich

12 April 2011

## **Legitimacy of the Market Economy – Problems of Justice in the Market Economy**

Bergischer CV Zirkel, Bergisch Gladbach, Germany

14 April 2011

## **The Janus-Head of Public Debt**

Montags-Gesellschaft Köln, Cologne, Germany

18 April 2011

## **Welfare Economics with Adaptive Preferences: A Progress Report**

Theory Seminar of Professor Claudia Keser

University of Göttingen

27 April 2011

## **The Samuelson- Giersch Controversy of 1983: The Age of Keynes or the Age of Schumpeter?**

Conference in Memory of Herbert Giersch

Freiburg, Germany

11 May 2011

## **The Government Monopoly to Use Force, Public Debt and Individual Provision for Old Age and for the Children**

Walter Adolf Jöhr Lecture at the University of St.Gallen, Switzerland

20 May 2011

## **The Politics of Sustainability**

Studium Generale

University of Mainz, Germany

1 June 2011

**A Concept of Freedom to Compete (Wettbewerbsfreiheit) in a System of  
Asymmetric Markets**

Panel on the Occasion of Celebrating the 70<sup>th</sup> birthday of Wernhard Möschel

University of Tübingen

17 June 2011



## **Gaoneng Yu**

### **Summary Report**

Bribery is becoming an increasingly serious social problem worldwide. According to Transparency International, corruption has increased over the last three years, say to six out of ten people around the world. One in four people report having paid bribes in the last year. More than 20 countries have reported significant increases in petty bribery since 2006.<sup>1</sup>

Admittedly, criminal decision-making is a rather

complicated process and influenced by many factors other than punishment. However, legal sanctioning, especially punishment, remains an indispensable part of the preventive measures in a broad sense, and thus should not be neglected.

In the last two years, I have done research on punishment strategies towards bribery offenses as a PhD student of IMPRS. The methodology adopted is legal comparison, behavioral analysis, and experimental study. The experimental part is nearly finished.

In major legal orders such as the UK, the U.S., Germany, and France, bribers and recipients face equally severe criminal sanctions. In contrast, countries like China, Russia, and Japan treat the briber more mildly. This asymmetry not only raises a moral issue; one may also wonder which punishment strategy is more effective in curbing corruption. For this purpose, my colleague and I designed and run a lab experiment in Bonn (Germany) and Shanghai (China) with exactly the same design. In a group of 2 players, the proposer and the responder each receive an endowment of 100 Taler and 60 Taler, respectively. They have to make decisions sequentially in 3 stages: offering, responding, and punishment. The proposer starts the game by making a binary decision whether to make an offer of 40 Taler to the responder, thereby asking for a favor. If no offer is made, the game ends. If an offer is made, the game goes to the second stage. In this stage, the responder has three choices: reject the offer, accept the offer but grant no favor, or accept the offer and grant a favor. If the offer is rejected, payoffs for both players remain the same as their initial endowments and the game ends. If the responder decides to accept but does not grant the favor, the game goes to the punishment stage. If the offer is accepted and a favor is granted, the game goes to the lottery stage. In the punishment stage, the proposer can decide whether to punish the responder or not. If punished, both receive damage and the offered 40 Taler is destroyed; if not punished, the responder keeps the transferred 40 Taler, while the proposer loses it for nothing. In the lottery stage, a number (integer) between 0 and 99 is randomly drawn. If the number is 75 or higher, both players suffer damage and the transferred 40 Taler is destroyed; if the number is smaller than 75, the proposer receives a benefit of 120 Taler, and the responder keeps the offered 40 Taler. Two treatments, symmetric and asymmetric punish-

1 See 2010 Global Corruption Barometer, available via [http://www.transparency.org/policy\\_research/surveys\\_indices/gcb/2010](http://www.transparency.org/policy_research/surveys_indices/gcb/2010), accessed 2 Jan 2011.

ment, are manipulated by varying the damage for the proposer (50 Taler in symmetric and 10 Taler in asymmetric, damage for the responder never changes).

The results show that, in both countries, with symmetric punishment, recipients are less likely to grant the socially undesirable favor, bribers are more likely to report to the authorities with asymmetric punishment, which suggests a tradeoff between deterrence and law enforcement. In a forward-looking perspective, lawmakers must decide which aim carries more weight. In addition, we found extremely strong treatment effects on offers in Shanghai, but not in Bonn.

If the situation we have tested in our experiment captures the essence of the interaction between a briber and an official, we have a clear message for policymakers. If bribers are punished more leniently, there is more corruption. Interested parties are less hesitant to approach a public official and offer a side payment in exchange for an expected violation of their professional duties.

Most importantly, if punishment is asymmetric, bribers no longer have reason to fear that they will be a let down by the official. In principle, this risk is pronounced. Since corrupt deals are illegal, the briber cannot take the official to court if the official cashes in the bribe but does not grant the expected favor. Yet the asymmetry of punishment provides bribers with a fairly cheap technology for punishing dishonest officials. If she breaks the implicit deal, at a relatively small cost for herself, the briber may impose severe harm on the official. Our experiment shows that bribers indeed use this technology, and that this is rightly anticipated by most officials. Fairness preferences, in the form of punishing sentiments, therefore lead to the almost perfect enforcement of the corrupt deal.

## **Research Agenda**

Until now, sufficient literature has been collected and the structure of my thesis has been settled. As the experiment has been successfully conducted and a draft paper has been finished, in the next six months I will focus on writing up the rest parts of the thesis.

My thesis is made up of 5 parts. Part 1 lays the foundation for the following parts by providing some basic understandings of bribery and punishment from behavioral perspective. Chapter 2 introduces the definition and classifications of bribery, the essence and structure of bribery, motivation of bribery, and the behavioral features of bribery. Chapter 3 briefly reviews the theories of punishment in criminal law, theories of deterrence, and efficiency and effectiveness of criminal law.

Part 2 and Part 3 make a legal comparison and a behavioral analysis on what to punish and how to punish in bribery, respectively. Bribery laws of major legal orders including the U.S., the UK, Germany, France, Italy, Spain, Russia, Japan, Chinese mainland, Hong Kong, Taiwan, and Macao are examined. Specifically, chapter 4 examines the legal classifications and the key elements of bribery offenses; chapter 5 discusses several

specific issues, including whether opportunism and bribery for discharge of duty should be made punishable from behavioral perspective; chapter 6 is concerned with the determinants of the degrees of punishment for bribery and the treatment of illegal gains; chapter 7 compares the effects of symmetric punishment, asymmetric punishment, and leniency for self-report towards bribery parties.

Part 4 deals with experimental study on bribery. Chapter 8 surveys bribery modeling and bribery experiments in general, while chapter 9 presents an experiment particularly designed for testing the effects of symmetric and asymmetric punishment on bribery decision-making. Part 5 provides some policy implications and concludes (chapter 10).



## **Lilia Zhurakhovska**

### **Summary Report**

I am a PhD candidate at the MPI for Research on Collective Goods Bonn. Having studied economics and Scandinavian studies at the Universities of Munich, Växjö, and Bonn, I graduated in economics from the University of Bonn in November 2009.

I have written my diploma thesis with the title "Latent Rewards and Indirect Reciprocity" under the supervision of Armin Falk. The thesis is concerned with potential indirect reciprocity as a motive for prior direct reciprocity, which I have analyzed experimentally. While the diploma thesis was a pilot study, I continued to work on the topic and have fine-tuned the study during the last year. Most theoretical and empirical studies explain the existence of indirect reciprocity by repeated interactions and strategic reputation-building. In modern societies, many contacts are anonymous single events. One needs to pay more attention to strong indirect reciprocity. I show that strong indirect reciprocity exists, that it is anticipated by potential recipients, and that it can change their behavior.

Furthermore, I have conducted an experiment with Christoph Engel using personality traits and beliefs to explain subjects' choices within the prisoner's dilemma. The paper with the title "When is the Risk of Cooperation worth Taking? Motivating Forces in an Experimental Prisoner's Dilemma" analyzes the role of five factors in the tendency for agents to cooperate in prisoner's dilemma games. The main novelty of the paper is that it succeeds in using the agent's behavior in different tests to explain choices in a prisoner's dilemma. The success in this dimension is surprising, given that prior studies failed to establish connections between the agent's behavior in prisoner's dilemma and personality tests. The present study distinguishes itself from such prior studies in that it analyzes prisoner's dilemma as a game of mixed motives, simultaneously permitting five explicatory variables, namely risk, loss and inefficiency aversion, as well as greed and optimism about cooperatives in the population. This paper solves two problems at once: 1. It is impossible to isolate many motives when only varying parameters. 2. Prior studies did not succeed in using personality tests to explain behavior in prisoner's dilemma games.

The second experiment with Christoph Engel with the title "Oligopoly as a Socially Embedded Dilemma. An Experiment" is an extension of the first one. From the perspective of competitors, competition may be modeled as a prisoner's dilemma. Setting the monopoly price is cooperation, undercutting is defection. Jointly, competitors are better off if both are faithful to a cartel. Individually, profit is highest if only the competitor(s) is (are) loyal to the cartel. Yet collusion inflicts harm on the opposite market side and, through the deadweight loss, on society at large. Moreover, almost all legal orders combat cartels. Through the threat with antitrust intervention, gains from cooperation are uncertain. In

the field, both qualifications combine. To prevent participants from using their world knowledge about antitrust, we experimentally test them on a neutral matrix game. In that paper, we used the data from the first experiment as the baseline and enriched the setting by three further treatments, where we include, either a negative externality on a third participant, or uncertainty about gains from cooperation, or both. Uncertainty dampens cooperation, though only slightly. Surprisingly, externalities are immaterial. If we control for beliefs, they even foster cooperation. If we combine both qualifications and do not control for beliefs, we only find an uncertainty effect. If we add beliefs as a control variable, we only find that externalities enhance cooperation, even if gains from collusion are uncertain. Hence the fact that the dilemma of oligopolists is socially embedded matters less than one might have expected.

## **Research Agenda**

I plan to continue my research in the field of behavioral law and economics including aspects from psychology. My fields of interest include reciprocity (especially indirect reciprocity), antitrust, reasons for cooperation, discrimination, and delegated decision making.

I am currently working on a joint project with Christoph Engel and Sebastian Goerg on the topic of discrimination. In the psychological literature, discrimination is routinely measured with the Implicit Association Test. As a first step, we plan to supplement this procedure by a combination of two standard economic experiments, giving the subjects an opportunity to discriminate other participants. Asking for their beliefs about the productivity of their co-players, we want to give them the opportunity to cooperate conditionally. We expect that discrimination affects willingness to cooperate on a direct and on an indirect path. Specifically, we expect participants in the discrimination condition to exhibit a smaller willingness to cooperate (conditionally) than in the no-discrimination condition. We further expect participants in the discrimination condition to hold less favorable beliefs about the willingness of their anonymous partners to cooperate. If we control for beliefs, the main effect of discrimination should at least be smaller, if not insignificant. Proper statistical tests permitting, we thus expect the effect of discrimination to be partially or completely mediated by beliefs. If that expectation were borne out, we would have an incentivized instrument for measuring discrimination, and for quantifying the insurance / statistical component. We would also run the IAT, and check to which degree both tests measure the same construct.

Provided the first design works out fine, we consider adding a second stage to the experiment (or run a new experiment, using the previous design as a first stage), and having participants then play a trust game with members of the discriminated group. We expect that a) many participants will not want to forego all gains from cooperation for fear of being let down / out of a taste for discrimination and b) through the positive experience they might learn to cooperate more (which our design would allow us to measure by

running the game before and after the intervention). To test this, after the learning phase with the trust game (low stakes) we would have a test phase with a dilemma game (high stakes).

Furthermore I am planning an experiment with Sebastian Goerg and Marco Kleine on the topic of risky decision making on behalf of others. The preliminary title of the study is "Risky Choices for me, my friend, & a stranger". Risky decision making is a core discipline of (behavioral) economics. Many researchers have analyzed decision making by individuals when they decide on their own account. The main findings are that many people are risk-averse and exhibit loss-aversion in risky choices. However, in many situations, people decide for others (parents for their children, investment managers for their customers, advocates for their clients, doctors for their patients, etc.), and results from the research on individual decision making can most probably not be translated one to one to these situations. In our study, we aim at shedding light on similarities and differences in risky decision making – depending on the beneficiary of the decision. Accordingly, we study risky decision making, varying whether own and/or other people's money is at stake. Moreover, we examine the effect of social distance between the decision maker and the beneficiary on risk- and loss-aversion. Our main research questions are: does people's risk- and loss-aversion differ, depending on whether their own money is at stake only, other people's money is at stake only, or own and other people's money is at stake? How is risk- and loss-aversion in decision making for others affected by social distance between the decision maker and the beneficiary? Are risk- and loss-aversion affected similarly by differences in the beneficiary of the decision? Five treatments differ with respect to the beneficiary of the decision made by the active player: Me, Friend, Stranger, Me & Friend, Me & Stranger. Derived in part from results of the existing literature on risky decision making for others' accounts and in part from related literature on the role of social distance for emotions and the role of emotions for decision making, our hypotheses are as follows: (a) People are more risk-averse and loss-averse when they make decisions for themselves than when they make decisions for a stranger. (b) People are more risk- and loss-averse when deciding for a friend than when deciding for a stranger (due to more perceived responsibility and higher emotional arousal). (c) People are more risk- and loss-averse when they make decisions for a friend than when they make decisions for themselves (because perceived responsibility and emotional arousal are high, and there is ambiguity over risk preferences of the friend). (d) People show no significantly different risk- and loss-aversion in all treatments in which own money is at stake (Me & Friend, Me & Stranger, Me). (e) The direction of treatment differences is the same for risk- as for loss-aversion.

My recent projects include a nascent project aimed at testing experimentally whether the German system of corporate checks and balances actually improves decision making (joint with Monia Manâa and Hanjo Hamann). We intend to compare group decision making with decisions taken under the supervision of a veto-holder, which we hope captures an essential element of the German two-tier system of corporate governance.

## **Publications (since 2009)**

### **Preprints**

Engel C., Zhurakhovska L., *Oligopoly as a Socially Embedded Dilemma. An Experiment*, issue 2011/01, Bonn, Max Planck Institute for Research on Collective Goods, 2011.

## **Lectures and Seminar Presentations (since 2009)**

### **2010**

#### **How is the Competition Dilemma Specific? An Experiment**

Conference on Empirical Legal Studies

Yale Law School, New Haven, USA

5-6 November 2010

### **2011**

#### **Strong Indirect Reciprocity and its Influence on Trustworthiness: A One-Shot Experiment**

Workshop: IMPRS Thesis Workshop, MPI for Human Development, Berlin; Germany

21-24 February 2011

#### **Strong Indirect Reciprocity and its Influence on Trustworthiness**

Annual International Meeting of the Economic Science Association 2011

Chicago, IL, USA

7-10 July 2011

#### **When is the Risk of Cooperation Worth Taking? Motivating Forces in an Experimental Prisoner's Dilemma**

Annual International Meeting of the Economic Science Association 2011

Chicago, IL, USA

7-10 July 2011

#### **Strong Indirect Reciprocity and its Influence on Trustworthiness**

Economic Science Association European Conference 2011

Luxembourg, Luxembourg

14-17 September 2011

**When is the Risk of Cooperation Worth Taking? Motivating Forces in an Experimental Prisoner's Dilemma**

Economic Science Association European Conference 2011

Luxembourg, Luxembourg

14-17 September 2011



## **E. Conferences and Workshops**



## **E. Conferences and Workshops organized by the Max Planck Institute for Research on Collective Goods**

### **2009**

#### **3<sup>rd</sup> IMPRS Thesis Workshop**

University of Jena, Germany

16–18 February 2009

#### **Workshop Decision Making, Intuition and Expertise**

Jointly organized with Markus Raab, University of Cologne

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

5 March, 2009

#### **Workshop on “Incentives, Efficiency, and Redistribution in Public”**

Jointly organized with Hausdorff Center for Mathematics, University of Bonn

22–24 May 2009

#### **Jurimetrics**

27th Seminar on the New Institutional Economics

Jointly organized with Urs Schweizer, University of Bonn

Kloster Eberbach, Germany

10–13 June 2009

#### **Causes and consequences of the german financial crisis of 1931 in national and international perspective**

With financial support by the Fritz-Thyssen-Foundation

17–18 September 2009

#### **1<sup>st</sup> Bonn & Paris Workshop on Law and Economics: “The Empirics of Crime and Deterrence”**

Jointly organized with University of Paris Ouest, Nanterre, France

25–26 September 2009

#### **Was weiß Dogmatik?**

[What Kind of Knowledge is Provided by Legal Doctrine?]

KölnBonner Forum Conference

Jointly organized with Gregor Kirchhof and Karsten Schneider, University of Bonn

2 Oktober 2009

## **Workshop with Professors Bruno Frey and Dieter Frey**

Max Planck Institute for Research on Collective Goods, Bonn  
29–30 October 2009

## **2010**

### **Workshop Current Findings in Economic Psychology**

Jointly organized with Detlef Fetschenhauer, University of Cologne  
University of Cologne, Germany  
22 January 2010

### **IMPRS Thesis Workshop**

University of Jena  
15–19 February 2010

### **2<sup>nd</sup> International Workshop Intuition: Methods and Recent Findings**

Jointly organized with Arndt Bröder, University Bonn, and Cilia Witteman, Radboud University Nijmegen, Netherlands  
Max Planck Institute for Research on Collective Goods, Bonn, Germany  
21 May 2010

### **B2C – Business to Consumer Transactions**

28<sup>th</sup> Seminar on the New Institutional Economics  
Jointly organized with Urs Schweizer, Universität Bonn, Germany  
Budapest, Hungary  
9–12 June 2010

### **Öffentliches Wettbewerbsrecht**

[Public Competition Law]  
Workshop, Research Network „Öffentliches Wettbewerbsrecht“  
Jointly organized with Gregor Kirchhof, University of Bonn and Stefan Korte, FU Berlin  
15–17 September 2010

### **The Economics of Bank Insolvency, Restructuring and Recapitalisation**

Conference jointly organized with Austrian National Bank  
Vienna, Austria  
16–17 September 2010

### **2<sup>nd</sup> Bonn & Paris Workshop on Law and Economics: “The Empirics of Law Enforcement and Compliance”**

Jointly organized with University of Paris Ouest, Nanterre, France  
Max Planck Institute for Research on Collective Goods, Bonn  
8–9 October 2010

**Workshop with Professors Bruno Frey and Dieter Frey**

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

28–29 October 2010

**2011****IMPRS Thesis Workshop**

University of Jena

16–18 February 2011

**MMM Workshop**

Jointly organized with University of Mannheim, Max Planck Institute for Tax Law and Public Finance Munich, Max Planck Institute for Research on Collective Goods Bonn, Swiss Federal Institute of Technology Zurich – Department of Macroeconomics, Innovation and Policy

Gustav-Stresemann-Institute, Bonn

25–27 May 2011

**Testing Contracts**

29th Seminar on the New Institutional Economics

Jointly organized with Urs Schweizer, University of Bonn, Germany

Krakow, Poland

10–13 June 2011

**4<sup>th</sup> Workshop Judgment and Decision Making for Young Researchers**

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

3–5 August 2011

**Workshop with Professors Bruno Frey and Dieter Frey**

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

27–28 October 2011



## **F. Lectures and Discussion Rounds**



## **F. Lectures and Discussion Rounds**

### **F.I External Seminars**

#### **2009**

##### **Valeska Grönert**

Vanderbilt University

"Competition over Standards and Taxes"

8 January 2009 (Economics Seminar)

##### **Ralph Hertwig**

Basel University

"Social Rationality"

12 January 2009 (Science Seminar)

##### **Nick Netzer**

University of Zürich

"Competitive Markets without Commitment"

14 January 2009 (Economics Seminar)

##### **Stefanie Hiß**

University of Bamberg

"The Art of Corporate and the Science of Consumer Credit Rating in the US and Germany"

19 January 2009 (Science Seminar)

##### **Wieland Müller**

Tilburg University

"Naked exclusion: Towards a Behavioral Approach to Exclusive Dealing"

26 January 2009 (Science Seminar)

##### **Alon Harel**

University of Jerusalem

"Uncertainty Revisited: Legal Prediction and Legal Postdiction"

2 February 2009 (Science Seminar)

##### **Mark Spoerer**

Humboldt University Berlin

"The Imposed Gift of 'Versailles': The Fiscal Effects of Restricting the Size of Germany's Armed Forces, 1924-1929"

4 February 2009 (Economics Seminar)

**Avishalom Tor**

University of Haifa

“Behavioral Agency Problem”

9 February 2009 (Science Seminar)

**Sophie Bade**

Pennsylvania State University

“Political Advocacy with Collective Decision Making”

17 February 2009 (Economics Seminar)

**Wolfram Höfling**

Cologne University

“Organ Transplants as a Collective Good”

2 March 2009

**David Martimort**

Toulouse University

“How Much Discretion for Agencies? A Political-economy Perspective on Risk Regulation”

9 March 2009 (Science Seminar)

**Susanne Prantl**

Social Science Research Center Berlin

“How Does Entry Regulation Influence Self-employment and Employee Reallocation?”

11 March 2009 (Economics Seminar)

**Mark Rütgers**

Leiden University

“Constructing Trust: The Oath of Office in an Interdisciplinary Perspective”

16 March 2009 (Science Seminar)

**Friederike Mengel**

Maastricht University

“Cooperation in Viscous Populations – Experimental Evidence”

“The Evolution of Function-valued Traits for Conditional Cooperation”

23 March 2009 (Science Seminar)

**Johannes Binswanger**

Tilburg University

“Policy Reforms: Beliefs, Political Institutions, and the Social Learning Process”

25 March 2009 (Economics Seminar)

**Kai A. Konrads**

Munich University

"The Last Refuge of a Scoundrel? Patriotism and Tax Compliance"

30 March 2009 (Science Seminar)

**Pierre Boyer**

Toulouse School of Economics

"Government Organization and Public Goods Provision"

8 April 2009 (Economics Seminar)

**Brigitte Haar**

Frankfurt University

"Markt durch Transparenz? – Zu neuer Regulierung und ihrer Implementierung im Ratingsektor"

[Market Through Transparency? On the New Regulation and its Implementation in the Rating Sector]

20 April 2009 (Science Seminar)

**Armin Falk**

Bonn University

"Two Papers on Reference Dependent Preferences"

27 April 2009

**Davide Cantoni**

Harvard University

"Testing the Weber Hypothesis. The Economic Effects of the Protestant Reformation in the German Lands"

22 April 2009 (Economics Seminar)

**Pinar Akman**

Norwich University

"Behavioral Economics and Operationalising the Prohibition of Unfair Pricing"

04 May 2009

**Nora Szech**

Bonn University

"A Simple Auction Model Where Allocating Costly Information Equally is Worst"

20 May 2009 (Economics Seminar)

**Patricia Funk**

Pompeu Fabra, Barcelona

"How do Electoral Systems Affect Fiscal Policy? Evidence from State and Local Governments, 1890 to 2005"

25 May 2009

**John Boyd**

University of Minnesota

“Banking Crises and Crisis Dating: Theory and Evidence”

26 May 2009 (Economics Seminar)

**Ferdinand von Siemens**

Amsterdam University

“Negative Externalities and Equilibrium Existence in Competitive Markets with Adverse Selection”

27 May 2009 (Economics Seminar)

**Roman Inderst**

Frankfurt University

“Sales Talk, Return Policies, and the Role of Consumer Protection”

8 June 2009

**Ted Eisenberg**

Cornell Law School, New York

“The Decision to Award Punitive Damages: An Empirical Study”

15 June 2009

**Xiaojian Zhao**

Mannheim University

“Strategic Mis-Selling and Pre-contractual Cognition”

16 June 2009 (Economics Seminar)

**Winand Emons**

Bern University

“Non-comparative versus Comparative Advertising as a Quality Signal”

22 June 2009

**Sebastian Köhne**

Mannheim University

“The First Order Approach to Moral Hazard Problems with Hidden Saving”

23 June 2009 (Economics Seminar)

**Maurice Stucke**

University of Tennessee

“Money, Is That What I Want? Competition Policy and the Role of Behavioral Economics”

29 June 2009

**Abdolkadrim Sadrieh**

Magdeburg University

"Strategic Risk in Principal-agent Contracting"

6 July 2009

**Joseph G. Johnson**

Miami University

"Computational Models of Decision Making"

13 July 2009

**Daisuke Oyama**

Hitotsubashi University and Paris School of Economics

"On the Strategic Impact of an Event under Non-common Priors"

15 July 2009 (Economics Seminar)

**Richard Brooks**

Yale Law School

"Field and Natural Experiments Testing the Effects of Diversity"

20 July 2009

**Jochen Streb**

University of Hohenheim

"Negotiating Contract Types and Contract Clauses in the German Construction Industry during the 'Third Reich'"

22 July 2009 (Economics Seminar)

**Abdolkadrim Sadrieh**

Magdeburg University

"Strategic Risk in Principal-agent Contracting"

6 July 2009

**Joseph G. Johnson**

Miami University

"Computational Models of Decision Making"

13 July 2009

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15 July 2009 (Economics Seminar)

**Richard Brooks**

Yale Law School

“Field and Natural Experiments Testing the Effects of Diversity”

20 July 2009

**Marco M. Sorge**

Bonn University

“The Role of Judiciary in Public Decision Making Process”

16 September 2009 (Economics Seminar)

**Francesco Cinnirella**

CES ifo Munich

“The Trade-off between Fertility and Education: Evidence from before the Demographic Transition”

1 October 2009 (Economics Seminar)

**Johannes Gierlinger**

Toulouse School of Economics and Oxford University

“Restoring Optimal Risk Bearing under Knightian Uncertainty”

07 October 2009 (Economics Seminar)

**Mathias Schmoekel**

University of Bonn

“Ausgewählte Einflüsse der Psychologie auf die Rechtswissenschaft im 19. und 20. Jahrhundert”

[Influences of Psychology on Legal Thinking in the 19th and 20th Century]

12 October 2009

**David Jaeger**

University of Cologne

“Non Parametric Regression”

16 October 2009 (Economics Seminar)

**Horst Entorf**

University of Frankfurt

“Economic Analysis of German Punishment Data – Is Being ‘Soft on Crime’ the Solution to Rising Crime Rates?”

19 October 2009

**Frédéric Koessler**

Paris School of Economics

“Advertising Heterogeneous Products to Heterogeneous Consumers”

21 October 2009 (Economics Seminar)

**Lars Börner**

Free University of Berlin

"The Economics of Debt-clearing Mechanisms in Europe from the 13th to the 18th Century"

28 October 2009 (Economics Seminar)

**Thomas Duve**

Max-Planck-Institut für Europäische Rechtsgeschichte, Frankfurt

"Warum außereuropäische Rechtsgeschichte?"

[Why an Extra-european History of Law?]

9 November 2009

**Emanuel Hansen**

University of Bonn

"Political Competition with Citizen Activists and Endogenously Formed Parties"

11 November 2009 (Economics Seminar)

**Benjamin Hilbig**

University of Mannheim

"Information Valence and Truth Judgments – Preliminary Investigations"

16 November 2009

**Frans van Winden**

University of Amsterdam

"On the Role of Empathy and Sympathy in Sharing"

23 November 2009

**Kaj Thomsson**

Yale University

"Legislative Vetoes and Efficiency-enhancing Reform: Evidence from the History of US Labor Regulation"

25 November 2009 (Economics Seminar)

**Sascha Topolinski**

University of Würzburg

"Understanding the Procedural Architecture of Intuitive Judgments"

30 November 2009

**David Jaeger**

University of Cologne

"Hurdle Models, or Two Part Models, as an Alternative to Tobit and Heckman" and

"General Method of Moments (GMM)"

4 December 2009 (Econometrics Seminar)

**Helen Callaghan**

Max Planck Institute for the Study of Societies, Cologne

“Pride and Prejudice? – Motives for Economic Patriotism in the Market for Corporate Control”

7 December 2009

**Sigrid Quack**

Max Planck Institute for the Study of Societies, Cologne

“Die Auseinandersetzungen um die Regulierung des Copyright”

[Disputes about Intellectual Property Law]

7 December 2009

**Olivier Tercieux**

Paris School of Economics

“Subgame-perfect Implementation with Almost Complete Information”

15 December 2009 (Economics Seminar)

**Pierre Boyer**

Toulouse School of Economics

“Two-tier Governments, Redistributive Policies and Public Good Provision”

22 December 2009 (Economics Seminar)

**2010****Klaus Abbink**

University of East Anglia, Norwich

“The Dark Side”

18 January 2010

**Dirk Helbing**

Swiss Federal Institute of Technology Zurich

“Cooperation, Norms, and Conflict: Towards Simulating the Foundations of Society”

25 January 2010

**Roy Zultan**

Rationality Center Jerusalem

“Cycles of Conditional Cooperation in a Real-time Voluntary Contribution Mechanism”

1 February 2010

**Jens Prüfer**

Tilburg University

“A Theory of Contract Enforcement Institutions: Courts and Social Networks”

10 February 2010 (Economics Seminar)

**Hendrik Hakenes**

University of Hannover

"The Birth and Burst of Asset Prices Bubbles"

17 February 2010 (Economics Seminar)

**Rudolf Müller**

University of Maastricht

"Path-monotonicity and Truthful Implementation"

24 February 2010 (Economics Seminar)

**René Levinsky**

Max Planck Institute Jena

"Calculus and Linear Algebra"

02 – 04 March 2010

**Merim Bilalic**

MPG Tuebingen

"(In)flexibility of Experts – the Mechanism of the Einstellung (Mental Set) Effect"

15 March 2010

**Jo Seldeslachts**

Social Science Research Center Berlin (WZB)

"Research Networks as a Collusive Tool: An Empirical Assessment"

17 March 2010 (Economics Seminar)

**Avishalom Tor**

University of Haifa

"Behavioral Antitrust: A New Approach to the Rule of Reason after *LEEGIN*"

22 March 2010

**Adrian Furnham**

University College London

"The Psychology of Money"

29 March 2010

**Michael Tomasello**

Max Planck Institute for Evolutionary Anthropology, Leipzig

"Origins of Human Cooperation"

12 April 2010

**Mikhail Drugov**

University Carlos III of Madrid

"Bias, Noise and Litigation"

13 April 2010 (Economics Seminar)

**David Nagin**

Teresa and H. John Heinz III University

Carnegie Mellon Heinz College, Pittsburgh

"The Deterrent Effect of Imprisonment"

30 April 2010

**Rune Stenbacka**

Hanken School of Economics, Helsinki

"History-based Price Discrimination in Markets with Switching Costs"

3 May 2010

**Emanuele Tarantino**

EUI Florence and Tilburg University

"Vertical Integration and Market Foreclosure with Complementary Inputs"

5 May 2010 (Economics Seminar)

**Charles Noussair**

Tilburg University

"From the Lab to the Field: Cooperation among Fishermen"

10 May 2010

**Dezsö Szalay**

University of Bonn

"Regulating a Multi-product and Multi-type Monopolist"

19 May 2010 (Economics Seminar)

**Peter Zweifel**

University of Zurich

"Social Mobility and Preferences for Redistribution: Evidence from a Discrete Choice Experiment"

31 May 2010

**David Jaeger**

University of Cologne

"Count Models"

31 May 2010

**Imran Rasul**

University College London

"The Making of Modern America: Estimating Migration Flows Using Administrative Records from Ellis Island 1892-1924"

7 June 2010

**Richard Tol**

Economic and Social Institute Dublin  
"Economic Impacts of Climate Change"  
14 June 2010

**Julien Daubanes**

ETH Zurich  
"Optimum Commodity Taxation with a Non-renewable Resource"  
15 June 2010 (Economics Seminar)

**Julien Daubanes**

ETH Zurich  
"Optimum Commodity Taxation with a Non-renewable Resource"  
17 June 2010 (Economics Seminar)

**John Weymark**

Vanderbilt University  
"How Optimal Nonlinear Income Taxes Change when the Distribution of the Population Changes"  
23 June 2010 (Economics Seminar)

**Heike Schweitzer**

University of Mannheim  
"Sovereign Wealth Funds – Market Investors or 'Imperialist Capitalists'?"  
28 June 2010

**Johannes Becker**

ETH Zurich  
"Debt-sensitive Majority Rules"  
30 June 2010 (Economics Seminar)

**Mirko Seithe**

University of Bonn / MarcAurelConsult  
"Introduction to Bonn Experimental System"  
5 July 2010

**Horst Eidenmüller**

University of Munich  
"Why Withdrawal Rights?"  
12 July 2010

**Felix Höffler**

WHU – Otto Beisheim School of Management, Vallendar

“Asymmetric Bidders in Discriminatory Multi-unit Auctions. Evidence From Reserve Electricity Auctions”

14 July 2010 (Economics Seminar)

**Elena Panova**

L'Université du Québec à Montréal

4 August 2010 (Economics Seminar)

**Alexey Kushnir**

University of Zurich

“Prefence Signaling in Matching Markets”

14 September 2010 (Economics Seminar)

**Thomas Gaube**

University of Osnabrück

“Taxation of Annual Income as a Commitment Device”

8 October 2010 (Economics Seminar)

**Henrik Kleven**

London School of Economics

“Unwilling or Unable to Cheat? Evidence from a Tax Audit Experiment in Denmark”

18 October 2010

**Thomas Braendle**

University of Basel

“Political Selection of Public Servants and Parliamentary Oversight”

20 October 2010 (Economics Seminar)

**Ruben Durante**

Science Po, Paris

“Risk, Cooperation and the Economic Origins of Social Trust: an Empirical Investigation”

25 October 2010

**Ludovic Renou**

University of Leicester

“Mechanism Design and Communication Networks”

27 October 2010 (Economics Seminar)

**Olivier Bos**

University of Paris II Panthéon-Assas  
"Charitable Asymmetric Bidders"  
2 November 2010 (Economics Seminar)

**Robert Sugden**

University of East Anglia, Norwich  
"Focal Points in Tacit Coordination Games"  
8 November 2010

**Ralf Poscher**

University of Freiburg  
"Das geteilte Missverständnis der Rechtsanwendungstheorien?"  
15 November 2010

**Ziv Hellman**

Hebrew University of Jerusalem  
"Almost Common Priors"  
16 November 2010 (Economics Seminar)

**Matteo Rizzolli**

University of Bozen  
"Judicial Errors and Deterrence. Theory and Experimental Evidence?"  
22 November 2010

**Gregor Schwerhoff**

University of Bonn  
"The Global Dimension of the Global Disinflation"  
1 December 2010 (Economics Seminar)

**Simone Cerreia Vioglio**

Università Bocconi  
"Maxmin Expected Utility on a Subjective State Space: Convex Preferences under Risk"  
6 December 2010

**Daniel L. Chen**

Duke Law School  
"Markets and Morality: How Does Competition Affect Moral Judgment?"  
13 December 2010

**Elke Renner**

University of Nottingham  
"Responsibility, Risk Aversion and other Regarding Behaviour"

13 December 2010

**Niklas Potrafke**

University of Konstanz

“Political Ideology and Economic Freedom in the US States”

16 December 2010 (Economics Seminar)

## **2011**

**Paola Manzini**

University of St. Andrews

“Moody Choice”

17 January 2011

**Susanne Prantl**

University of Cologne

“Patent Protection and the Effect of Product Market Reforms on R&D Investments”

20 January 2011 (Economics Seminar)

**Imran Rasul**

University College London

“The Making of Modern America: Migratory Flows in the Age of Mass Migration”

24 January 2011

**Ksenia Panidi**

ECARES, Université Libre de Bruxelles

“Ostrich Effect in Health Care Decisions”

26 January 2011 (Economics Seminar)

**Armin Schmutzler**

University of Zurich

“The Relation between Competition and Investment – A Unifying Approach”

7 February 2011

**Bas Jacobs**

University of Rotterdam

“The Marginal Cost of Public Funds is One”

14 February 2011

**Andrea Mattozzi (paper in cooperation with Antonio Merlo)**

Universitat Autònoma de Barcelona

“Mediocracy”

21 February 2011

**Melanie Gerhards (in cooperation with Matthias Heinz)**

University of Frankfurt

"In Good Times and Bad – Reciprocal Behavior in Times of Crisis under Incomplete Contracts"

28 February 2011 (Ratio Seminar)

**Mike Felgenhauer**

University of Mannheim

"Strategic Private Experimentation"

28 February 2011

**Janbernd Oebbecke**

University of Münster

"Lösungen für die kommunale Finanzkrise"

[Solutions for the Crisis of Municipal Finance]

14 March 2011

**Maarten Pieter Schinkel**

University of Amsterdam

"Market Oversight Games"

21 March 2011

**Stefan Behringer**

University of Bonn

"Price Wars in Two-sided Markets: The Case of the UK Quality Newspapers"

6 April 2011 (Economics Seminar)

**David Rand**

Harvard University

"Slow to Anger and Fast to Forgive: Cooperation in an Uncertain World"

11 April 2011

**Rafael Aigner**

MPI Bonn and University of Bonn

"Investing Your Vote – The Emergence of Small Parties"

12 April 2011 (Economics Seminar)

**Jean-Robert Tyran**

University of Copenhagen

"The Price of Prejudice"

18 April 2011

**Walter Krämer**

University of Dortmund  
"Wie lügt man mit Statistik?"  
[How to Lie with Statistics?]  
9 May 2011

**Sigrid Suetens**

University of Tilburg  
"Maladaptive Reciprocal Altruism"  
16 May 2011

**Barbara Spellman**

University of Virginia  
"Causation in the Lab"  
6 June 2011

**Martin Schauer**

University of Virginia  
"On the Nature of the Nature of Law"  
6 June 2011

**Marco Maria Sorge**

University of Bonn  
"Strategic Appointments and Legislative Delegation under Bureaucratic Lobbying"  
16 June 2011 (Economics Seminar)

**Stefan Machura**

Bangor University, UK  
"Lay Judges in German Mixed Courts – Conflict and Cooperation"  
27 June 2011

**Ludger Breuer**

University of Bonn  
"Whistleblowing and Tax Compliance"  
27 June 2011

**Christina Gathmann**

University of Mannheim  
"Germany's New Family Policy, Childcare and Labor Supply"  
28 June 2011 (Economics Seminar)

**Rebecca Morton**

New York University

"The Dark Side of the Vote: Misleading Signals, Social Information, and Information Aggregation Through Majority Voting"

4 July 2011

**Nikos Nikiforakis**

University of Melbourne

"Normative Conflict & Feuds: The Limits of Self-enforcement"

6 July 2011

**Dan Simon**

University of Southern California, USA

"'Cold' and 'Hot' Cognitions in Decision Making"

6 July 2011

**Christiane Ehses-Friese**

IMPRS Jena

"Expert Communication to an Informed Decision Maker"

11 July 2011 (Ratio Seminar)

**Shyam Sunder**

Yale School of Management, USA

"Risky Curves: From Unobservable Utility to Observable Opportunity Sets"

11 July 2011

**Shyam Sunder**

Yale School of Management, USA

"Real Phenomena, Theory and Design of Laboratory Experiments in Economics"

14 July 2011 (Sunder Workshop)

**Matthias Wibral**

CENs, University of Bonn

"Myopic Loss Aversion and Changing Feedback Institutions"

14 July 2011 (Sunder Workshop)

## **F.II Internal Seminars**

### **2009**

#### **David Jaeger**

University of Cologne

“Maximum Likelihood”

9 January 2009 (Econometrics Seminar)

#### **Christoph Engel & Michael Kurschilgen**

Max Planck Institute for Research on Collective Goods, Bonn

“Fairness Ex Ante and Ex Post – Putting a Rule from Copyright Law to the Experimental Test”

26 January 2009

#### **Felix Bierbrauer**

Max Planck Institute for Research on Collective Goods, Bonn

“The Political Economy of Early Elections”

6 February 2009 (Economics Seminar)

#### **David Jaeger**

University of Cologne

“Model Selection”

13 February 2009 (Econometrics Seminar)

#### **Philipp Weinschenk**

Max Planck Institute for Research on Collective Goods, Bonn

“The Optimality of Simple Contracts – Moral Hazard and Loss Aversion”

25 February 2009 (Economics Seminar)

#### **Andreas Nicklisch**

Max Planck Institute for Research on Collective Goods, Bonn

“Pride and Prejudice: The Human Side of Incentive Theory”

9 March 2009 (Ratio Seminar)

#### **David Jaeger**

University of Cologne

“Dynamic Panel Data”

9 April 2009 (Econometrics Seminar)

#### **Felix Bierbrauer**

Max Planck Institute for Research on Collective Goods, Bonn

“Optimal Income Taxation and Public Goods Provision with Aggregate Uncertainty”

6 May 2009 (Economics Seminar)

**Christoph Engel & Bernd Irlenbusch, Sebastian Kube, Heike Henning-Schmidt**

Max Planck Institute for Research on Collective Goods, Bonn

“Probation”

15 June 2009 (Ratio Seminar)

**Sophie Bade**

Max Planck Institute for Research on Collective Goods, Bonn

“Information in Problems of Housing Allocation”

8 July 2009 (Economics Seminar)

**David Jaeger**

University of Cologne

“Testing Model Assumptions”

10 July 2009 (Econometrics Seminar)

**Lilia Zhurakhovska**

Max Planck Institute for Research on Collective Goods, Bonn

“Latent Reward and Indirect Reciprocity”

13 July 2009 (Ratio Seminar)

**Susann Fiedler**

Max Planck Institute for Research on Collective Goods, Bonn

“Keeping an Eye on the Motives! A Fine-grained Analysis of Behavior in Public Good Games”

20 July 2009 (Ratio Seminar)

**Jieyao Ding**

Max Planck Institute for Research on Collective Goods, Bonn

“An Experimental Design from an Ancient Chinese Saying”

20 July 2009 (Ratio Seminar)

**Martin Beckenkamp**

Max Planck Institute for Research on Collective Goods, Bonn

“How People Behave in Blind Environmental Dilemmas”

27 August 2009 (Ratio Seminar)

**Jieyao Ding**

Max Planck Institute for Research on Collective Goods, Bonn

“Experimental Study of Behavioral Spillovers in Multiple Games without Feedback” and

“Testing for Gift Exchange in Labor Market Using Field Experiment”

19 October 2009 (Ratio Seminar)

**Kristoffel Grechenig**

Max Planck Institute for Research on Collective Goods, Bonn

“Switching Consumers and Product Liability: A Note on the Optimality of Incomplete Strict Liability”

26 October 2009 (Ratio Seminar)

**Christoph Engel & Philip Leifeld**

Max Planck Institute for Research on Collective Goods, Bonn

“Who Is Afraid of Revenge? The Effect of Counterpunishment in the Lab”

26 October 2009 (Ratio Seminar)

**Felix Bierbrauer**

Max Planck Institute for Research on Collective Goods, Bonn

“Mechanism Design, Incomplete Contracts and Regulation”

26 October 2009 (Economics Seminar)

**Christoph Engel**

Max Planck Institute for Research on Collective Goods, Bonn

“On Probation – An Experimental Analysis”

29 October 2009 (Frey-Frey Seminar)

**Kristoffel Grechenig**

Max Planck Institute for Research on Collective Goods, Bonn

“Punishment Despite Reasonable Doubt – A Public Goods Experiment with Uncertainty over Contributions”

30 October 2009 (Frey-Frey Seminar)

**Georg von Heusinger**

Max Planck Institute for Research on Collective Goods, Bonn

“Does the Contribution Order matter? – Endogenous Contribution Order in Threshold Public Goods”

2 November 2009 (Ratio Seminar)

**Stephan Dickert**

Max Planck Institute for Research on Collective Goods, Bonn

“Justice Sensitivity”

2 November 2009 (Post Tests)

**Carl Christian von Weizsäcker**

Max Planck Institute for Research on Collective Goods, Bonn

“Welfare Economics, Psychology, and Adaptive Preferences”

2 November 2009

**Stephan Dickert**

Max Planck Institute for Research on Collective Goods, Bonn  
"Social Values and Affect as Determinants of Cooperation"  
9 November 2009 (Ratio Seminar)

**Sebastian Goerg**

Max Planck Institute for Research on Collective Goods, Bonn  
"The Carrot or the Stick? – Rewards and Punishment under Uncertainty"  
16 November 2009 (Ratio Seminar)

**Georg von Heusinger**

Max Planck Institute for Research on Collective Goods, Bonn  
"Belief Elicitation"  
16 November 2009 (Post Tests)

**Christoph Engel / Emanuel Towfigh**

Max Planck Institute for Research on Collective Goods, Bonn  
"Customary Law in the Lab"  
23 November 2009 (Ratio Seminar)

**Alexander Kirchner**

Max Planck Institute for Research on Collective Goods, Bonn  
"Law and Social Norms"  
23 November 2009 (Ratio Seminar)

**Felix Bierbrauer**

Max Planck Institute for Research on Collective Goods, Bonn  
"The Theory of Incentive Mechanisms and the Samuelson Critique of a Contractarian Approach to Public-good Provision"  
8 December 2009 (Economics Seminar)

**Christoph Engel / Michael Kurschilgen**

Max Planck Institute for Research on Collective Goods, Bonn  
"Fairness Ex Ante and Ex Post: Copyright Law in the Lab"  
14 December 2009 (Ratio Seminar)

**Philipp Weinschenk**

Max Planck Institute for Research on Collective Goods, Bonn  
"The Optimality of Simple Contracts: Moral Hazard and Loss Aversion"  
14 December 2009 (Joint Seminar with Cologne MPI)

**Martin Beckenkamp**

Max Planck Institute for Research on Collective Goods, Bonn

“Cooperation in Blind Environmental Dilemmas – An Experimental Study”

14 December 2009 (Joint Seminar with Cologne MPI)

**Emanuel Towfigh / Andreas Glöckner**

Max Planck Institute for Research on Collective Goods, Bonn

“Skilful Gambling? A Field Experiment on the Relation between Skill, Performance and Confidence in Soccer Bets”

21 December 2009 (Ratio Seminar)

**2010****Matthias Lang**

Max Planck Institute for Research on Collective Goods, Bonn

“The Fog of Fraud – Mitigating Fraud by Strategic Ambiguity”

13 January 2010 (Economics Seminar)

**Gaoneng Yu**

Max Planck Institute for Research on Collective Goods, Bonn

“Effects of Asymmetric Punishment on Bribery Decision-Making”

18 January 2010

**Sebastian Goerg**

Max Planck Institute for Research on Collective Goods, Bonn

“Wage Discrimination – Gift Exchange with Migrant Workers in China”

25 January 2010

**Carsten Burhop**

Max Planck Institute for Research on Collective Goods, Bonn

“Transaction Costs at the Berlin Stock Exchange, 1892-1913”

27 January 2010 (Economics Seminar)

**Philipp Weinschenk**

Max Planck Institute for Research on Collective Goods, Bonn

“On Economics of Procrastination”

3 February 2010 (Economics Seminar)

**Andreas Glöckner**

Max Planck Institute for Research on Collective Goods, Bonn

“Look into my Eyes: Pupil Reaction to Altruists”

1 March 2010

**Jos Jansen**

Max Planck Institute for Research on Collective Goods, Bonn

“On Competition and the Strategic Management of Intellectual Property in Oligopoly”

10 March 2010 (Economics Seminar)

**Andreas Nicklisch**

Max Planck Institute for Research on Collective Goods, Bonn

“How to Spend Six Months in Zurich”

22 March 2010

**Felix Bierbrauer**

Max Planck Institute for Research on Collective Goods, Bonn

“Optimal Income Taxation and Public-goods Provision with Preference and Productivity Shocks”

31 March 2010 (Economics Seminar)

**Carl Christian von Weizsäcker**

Max Planck Institute for Research on Collective Goods, Bonn

„Cost-benefit Analysis with Adaptive Preferences“

19 April 2010

**Susanne Prantl**

Max Planck Institute for Research on Collective Goods, Bonn

“The Impact of Immigration on Native Wages: Impact Heterogeneity and Product Market Regulation”

19 April 2010

**Sophie Bade**

Max Planck Institute for Research on Collective Goods, Bonn

“Risk Aversion, Loss Aversion, Ambiguity Aversion – Rambling about Independence”

26 April 2010

**Christian Traxler**

Max Planck Institute for Research on Collective Goods, Bonn

“Beer, [Booze] and Brawls: Preliminary Evidence on the Causal Effect of Alcohol on Crime for Prussia, 1882-1913”

28 April 2010 (Economics Seminar)

**Andreas Nicklisch**

Max Planck Institute for Research on Collective Goods, Bonn

“Signaling commitment in principal-agent relations”

3 May 2010

**Alicja Pluta**

Max Planck Institute for Research on Collective Goods, Bonn

"Framing Someone in the Lab: Ambiguous Rules as a Source of Bias"

3 May 2010

**Michael Kurschilgen**

Max Planck Institute for Research on Collective Goods, Bonn

"Let Conscience be Your Guide"

10 May 2010

**Sebastian Goerg**

Max Planck Institute for Research on Collective Goods, Bonn

"Learning in 2x2 Games"

31 May 2010

**Georg von Heusinger**

Max Planck Institute for Research on Collective Goods, Bonn

"First Come, Best Served?"

"Real-Time Provision of Threshold Public Goods"

7 June 2010 (Ratio Seminar)

**Jieyao Ding**

Max Planck Institute for Research on Collective Goods, Bonn

"Choice Bracketing and Social Preference: Experimental Evidence from Trust Game and Simultaneous Prisoners' Dilemma Game"

7 June 2010 (Ratio Seminar)

**Lilia Zhurakhovska**

Max Planck Institute for Research on Collective Goods, Bonn

"How is the Competition Dilemma Specific? An Experiment"

14 June 2010 (Ratio Seminar)

**Tobias Salz**

Max Planck Institute for Research on Collective Goods, Bonn

"Punishment under Uncertain Kindness Signals"

28 June 2010 (Ratio Seminar)

**Sebastian Goerg**

Max Planck Institute for Research on Collective Goods, Bonn

"Incentives in the Field and in the Lab"

28 June 2010 (Ratio Seminar)

**Daniel R. Hawes**

Max Planck Institute for Research on Collective Goods, Bonn  
"Cooperation and Costly Punishment: The Role of Identity"  
5 July 2010 (Ratio Seminar)

**Stefanie Brilon**

Max Planck Institute for Research on Collective Goods, Bonn  
"The Economics of Maritime Piracy"  
7 July 2010 (Economics Seminar)

**Niels Petersen**

Max Planck Institute for Research on Collective Goods, Bonn  
"Does Antitrust Law Promote Freedom and Democracy?"  
12 July 2010 (Ratio Seminar)

**Matthias Lang**

Max Planck Institute for Research on Collective Goods, Bonn  
"Communication as a way to Contract on Unverifiable Information"  
10 November 2010 (Economics Seminar)

**Nathan Ashby (in cooperation with A. Glöckner, S. Dickert)**

Max Planck Institute for Research on Collective Goods, Bonn  
"Deliberation, Attention, and the Endowment Effect"  
15 November 2010 (Ratio Seminar)

**Aniol Llorente-Saguer (joint project with Andrea Mattozzi)**

Max Planck Institute for Research on Collective Goods, Bonn  
"Incentives and Efficiency in Two Stage Contests"  
15 November 2010 (Ratio Seminar)

**Jieyao Ding**

Max Planck Institute for Research on Collective Goods, Bonn  
"Which Numbers to Choose for my Lottery Ticket? Empirical Evidences from the Field"  
22 November 2010 (Ratio Seminar)

**Philipp Weinschenk**

Max Planck Institute for Research on Collective Goods, Bonn  
"On the (Non-)Use of Money"  
24 November 2010 (Economics Seminar)

**Sven Fischer**

Max Planck Institute for Research on Collective Goods, Bonn

“Fellner & Fischer: ‘The Effect of Information on Incurring Costs on Others – A Theoretical and Experimental Analysis – Frist Draft’”

6 December 2010 (Econometrics Seminar)

**Marc Jekel**

Max Planck Institute for Research on Collective Goods, Bonn

“The Impact of Sampling Schemes on the Accuracy of Decision Strategies”

6 December 2010

**Stephan Dickert**

Max Planck Institute for Research on Collective Goods, Bonn

“Taking the Easy Way out of Moral Dilemmas? Dissonance Reduction in Donation Decisions”

6 December 2010 (Ratio Seminar)

**Jieyao Ding**

Max Planck Institute for Research on Collective Goods, Bonn

“Illusion of Play: Learning without Feedback”

20 December 2010

**2011****Lilia Zhurakhovska**

Max Planck Institute for Research on Collective Goods, Bonn

“Latent Rewards & Indirect Reciprocity”

17 January 2010 (Ratio Seminar)

**Georg von Heusinger**

Max-Planck-Institute for Research on Collective Goods

“The Humble Indie Bundle: Evidence on Crowding Out and Charitable Giving from a Pay-as-you-want Natural Experiment”

31 January 2011 (Ratio Seminar)

**Sebastian Goerg and Sebastian Kube**

Max-Planck-Institute for Research on Collective Goods

“Goals (th)at work – Goals, Incentives and Workers’ Performance”

7 February 2011 (Ratio Seminar)

**Martin Hellwig**

Max-Planck-Institute for Research on Collective Goods

„Reflections on the ‚Wirtschaftsfonds Deutschland’“

31 January 2011

**Olga Gorelkina**

Max Planck Institute for Research on Collective Goods, Bonn  
"A Collusion-Proof Second Price Auction"  
23 February 2011 (Economics Seminar)

**Sophie Bade**

Max Planck Institute for Research on Collective Goods, Bonn  
"Eliciting Ambiguity-Averse Preferences"  
9 March 2011 (Economics Seminar)

**Kristoffel Grechenig**

Max-Planck-Institute for Research on Collective Goods  
"Evolution of Sanctions under Uncertainty"  
14 March 2011 (Ratio Seminar)

**Hanjo Hamann**

Max-Planck-Institute for Research on Collective Goods  
"Clean Hands, Clean Conscience: An Experiment on the Behavioral Externalities of Agency"  
14 March 2011 (Ratio Seminar)

**Berenike Waubert de Puiseau**

Max-Planck-Institute for Research on Collective Goods  
"Why People Obey the Law – an Integrated Multi-factorial Investigation"  
28 March 2011 (Ratio Seminar)

**Wolfgang Kuhle**

Max-Planck-Institute for Research on Collective Goods  
"Dynamic Efficiency and the Two-part Golden Rule with Heterogeneous Agents"  
30 March 2011 (Economics Seminar)

**Felix Bierbrauer**

Max Planck Institute for Research on Collective Goods, Bonn  
"An Exploration into the Theory of Psychological Mechanism Design"  
4 April 2011

**Michael Kurschilgen**

Max-Planck-Institute for Research on Collective Goods  
"Generosity in a Risky World"  
11 April 2011 (Ratio Seminar)

**Rafael Aigner**

Max Planck Institute for Research on Collective Goods, Bonn  
"Investing Your Vote – The Emergence of Small Parties"  
12 April 2011 (Economics Seminar)

**Michael Stork**

Max-Planck-Institute for Research on Collective Goods  
"Legal Form and Legal Complexity"  
18 April 2011 (Ratio Seminar)

**Aniol Llorente-Saguer**

Max-Planck-Institute for Research on Collective Goods  
"Divided Majority and Information Aggregation: a Lab Experiment"  
18 April 2011 (Ratio Seminar)

**Carlos Kurschilgen (in cooperation with Emanuel Towfigh, Niels Petersen, Stephan Dickert und Konstantin Chatzithanasiou)**

Max-Planck-Institute for Research on Collective Goods  
"Legitimacy: Procedure vs. Substance"  
9 May 2011 (Ratio Seminar)

**Christian Traxler**

Max Planck Institute for Research on Collective Goods, Bonn  
"Reminders and Dental Check-ups"  
12 May 2011 (Economics Seminar)

**Kristoffel Grechenig**

Max Planck Institute for Research on Collective Goods, Bonn  
"The State's Enforcement Monopoly and the Private Protection of Property Rights"  
16 May 2011 (Ratio Seminar)

**Oliver Himmller**

Max Planck Institute for Research on Collective Goods, Bonn  
"Self-Esteem and Human Capital Formation"  
18 May 2011 (Economics Seminar)

**Lilia Zhurakhovska (in cooperation with Sebastian Goerg and Marco Kleine)**

Max Planck Institute for Research on Collective Goods, Bonn  
"Risky Choices for me, my Friend & a Stranger"  
30 May 2011 (Ratio Seminar)

**Sebastian Goerg**

Max Planck Institute for Research on Collective Goods, Bonn

“Flag Priming in the Prisoner’s Dilemma – Cooperation and National Symbols”

6 June 2011 (Ratio Seminar)

**Sebastian Goerg (in cooperation with Emanuel Towfigh and Andreas Glöckner)**

Max Planck Institute for Research on Collective Goods, Bonn

“The Legitimizing Power of Plebiscites”

6 June 2011 (Ratio Seminar)

**Armin Falk**

University of Bonn

Fireside Talk

30 May 2011

**Jieyao Ding**

Max Planck Institute for Research on Collective Goods, Bonn

“Let’s go to the Other’s Shoes – Does Perspective Taking Stimulate Pro-social Action?”

4 July 2011 (Ratio)

**Niels Petersen**

Max Planck Institute for Research on Collective Goods, Bonn

“A Taxonomy of Different Perspectives on Legitimacy”

5 July 2011 (Introductory Session, Betty Morton Workshop)

**Niels Petersen**

Max Planck Institute for Research on Collective Goods, Bonn

“Determinants of Decisions of Constitutional Judges”

5 July 2011 (Betty Morton Workshop)

**Emanuel Towfigh and Aniol Llorente-Saguer**

Max Planck Institute for Research on Collective Goods, Bonn

“Plebiscites and Catastrophes: A Survey Study on Political Participation after the Fukushima Incident”

5 July 2011 (Betty Morton Workshop)

**Carlos Kurschilgen (in cooperation with Emanuel Towfigh, Niels Petersen, Stephan Dickert und Konstantin Chatziathanasiou)**

Max-Planck-Institute for Research on Collective Goods

“Legitimacy: Procedure vs. Substance”

5 July 2011 (Betty Morton Workshop)

**Carlos Kurschilgen**

Max-Planck-Institute for Research on Collective Goods

“Consensus: Decisions across Party Borders”

6 July 2011 (Betty Morton Workshop)

**Sophie Bade and Andreas Glöckner**

Max-Planck-Institute for Research on Collective Goods

“Theorizing the Legitimacy of Collective Decision Making”

7 July 2011 (Betty Morton Workshop)

**Philipp Weinschenk**

Max Planck Institute for Research on Collective Goods, Bonn

“The Provision of Perks, Moral Hazard and Limited Liability”

7 July 2011 (Economics Seminar)

**Michael Stork**

Max Planck Institute for Research on Collective Goods, Bonn

“Uncertainty, Legal Form & Compliance”

11 July 2011 (Ratio Seminar)

**Christoph Engel**

Max Planck Institute for Research on Collective Goods, Bonn

“The People’s Hired Guns? Experimentally Testing the Inclination of Prosecutors to Abuse the Vague Definition of Crimes”

14 July 2011 (Sunder Workshop)

**Stephan Dickert**

Max Planck Institute for Research on Collective Goods, Bonn

“The Psychological Costs of Inequity?”

14 July 2011 (Sunder Workshop)

**Lilia Zhurakhovska**

Max Planck Institute for Research on Collective Goods, Bonn

“Oligopoly as a Socially Embedded Dilemma?”

14 July 2011 (Sunder Workshop)

**Michael Kurschilgen**

Max Planck Institute for Research on Collective Goods, Bonn

“The Jurisdiction of the Man Within – Intrinsic Norms in a Public Goods Experiment?”

14 July 2011 (Sunder Workshop)

**Aniol Llorente-Saguer**

Max Planck Institute for Research on Collective Goods, Bonn

"The Power of Sunspots: An Experimental Analysis"

14 July 2011 (Sunder Workshop)



## **G. Visiting Scholars**



## **G. Visiting Scholars**

Reinhold	Schnabel	31 October 2005	31 December 2011
Carsten	Burhop	01 March 2007	31 December 2011
Anne	van Aaken	01 July 2007	31 December 2011
Frank	Maier-Rigaud	01 July 2007	31 December 2011
Felix	Höffler	01 October 2007	31 December 2011
Isabel	Schnabel	01 October 2007	31 December 2011
Philip	Leifeld	01 August 2008	30 November 2011
Bernd	Irlenbusch	01 October 2008	31 December 2011
Hans-Theo	Normann	01 September 2008	31 December 2011
Stefan	Bechtold	01 January 2009	31 December 2011
Hendrik	Hakenes	01 January 2009	31 December 2011
Indra	Spieker gen. Döhmann	01 January 2009	31 December 2011
Stephan	Tontrup	01 January 2009	31 December 2009
Victoria	Gilliland	03 August 2009	21 August 2009
Nadine	Bläser	01 September 2009	31 December 2011
Matthias	Lang	01 October 2009	31 December 2010
Pierre	Boyer	11 December 2009	22 December 2009
Benjamin	Hilbig	01 January 2010	31 December 2011
Bettina	Rockenbach	01 January 2010	31 December 2011
Sanja	Bogojevic	01 March 2010	31 March 2010
Alicija	Pluta	01 March 2010	12 May 2010
Bernd	Hartmann	22 March 2010	01 April 2010
Johannes	Buggele	17 May 2010	30 July 2010
Arndt	Bröder	01 August 2010	31 December 2010
Susanne	Prantl	01 September 2010	31 December 2011
Rafael	Aigner	01 October 2010	31 December 2011
Stefan	Magen	01 October 2010	31 December 2011
Andreas	Nicklisch	01 October 2010	31 December 2011
Gregor	Schwerhoff	01 October 2010	30 September 2011
Bastian	Henze	04 October 2010	17 December 2010
Mark	Schweizer	11 October 2010	31 December 2012

Michael	Storck	11 October 2010	31 July 2011
Andrea	Ahlgrimm	01 January 2011	31 December 2011
Stefanie	Egidy	01 January 2011	31 December 2011
Monia	Manaa	01 January 2011	31 December 2011
Davide	Cantoni	10 January 2011	31 March 2011
Felix	Bierbrauer	01 April 2011	31 December 2011
Thomas	Böckenförde	18 April 2011	31 May 2011
Martin	Freres	06 June 2011	12 August 2011
Nina	Horstmann	01 July 2011	31 December 2011
Rebecca	Morton	04 July 2011	08 July 2011
Shyman	Sunder	05 July 2011	31 August 2011
Emanuel	Hansen	01 August 2011	31 December 2011
Christian	Traxler	01 September 2011	31 December 2011
Zahra	Rahmani	05 September 2011	14 October 2011

## **H. Outreach**



## **H. Outreach**

### **H.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, since 2004

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

**European Science Foundation Research Network "Public Projects, Public Goods, and Externalities (PPPGE)"**, joint with researchers from Austria, Belgium, Cyprus, France, Turkey, 2006 – 2010.

Martin Hellwig was a member of the Steering Committee.

**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.

Kristoffel Grechenig, Christian Traxler and Niels Petersen 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.II.3)**

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 Research on Collective Goods, Bonn  
Max Planck Institute of Economics, Jena  
Max Planck Institute for Human Development, Berlin

Friedrich-Schiller-University Jena – Department of Social Psychology

Friedrich-Schiller-University Jena – School of Economics and Business Administration

Indiana University, Bloomington – Program in Cognitive Science, and Workshop in Political Science and Policy Analysis

The Hebrew University of Jerusalem – Center for the Study of Rationality

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.

The school has been very successfully evaluated in November 2011, and will be prolonged by another 6 years. In the future, the school will be jointly headed by Christoph Engel and Prof. Oliver Kirchkamp, Jena University.

In the second funding period, Bonn University Law School will become a new partner, with Prof. Daniel Zimmer as new managing partner. This extension will make it possible to set up a more extended graduate program specifically targeted at the needs of lawyers turning to interdisciplinary research.

## **H.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 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 will select candidates. The Law School creates a selection committee. The plan is to send one senior lawyer per year to Virginia, for the duration of a term. The program will be financed from Max Planck funds. Currently, the first two candidates

are being presented, and the candidate selected should spend part of the academic year 2012/13 at Virginia Law School.

## **H.III Diploma Theses, Dissertations and Habilitations**

### **Christoph Engel**

#### **Dissertations**

July 2010                    Markus Englerth, University of Bonn  
Der beschränkt rationale Verbrecher – Behavioral Economics als kriminologisches Instrument  
[The Criminal's Limited Rationality – Behavioral Economics as a Criminological Instrument]

October 2010                Alexander Morell, University of Bonn  
(Behavioral) Law and Economics im europäischen Wettbewerbsrecht: Missbrauchsaufsicht über Schwellenrabatte  
[(Behavioral) Law and Economics in European Competition Law: when are Target Rebates Abusive?]

May 2011                    Charlotte Klempt, University of Jena  
The Role of Intentional Motives for Reciprocal Actions in Economic Decisions

June 2011                    Lauri Sääksvuori, University of Jena  
On Human Nature and the Empirics of Collective Action

July 2011                    Eckart Bueren, University of Bonn  
Verständigungen – Settlements im Kartellbußgeldverfahren  
[Settlements in Cartel-related Fine Proceedings]

November 2011              Jia Yuan, University of Bonn  
Gemeinschaftsunternehmen im europäischen, amerikanischen und chinesischen Kartellrecht  
[Joint Enterprises under European, U.S. and Chinese Antitrust Law]

#### **Habilitations**

February 2010              Stephan Magen, University of Bonn  
Gerechtigkeit als Proprium des Rechts – Eine deskriptive Theorie auf empirischer Grundlage  
[Justice and the Specific of Law – A Descriptive Theory on an Empirical Basis]

## **Martin Hellwig**

### **Diploma Theses**

fall 2009                    Paul Schempp  
                                  Job Market Signaling and Employer Learning

fall 2009                    Timo Gnida  
                                  The Behaviour of Euro Money Markets during the Financial Crisis in 2007 – 2009

spring 2011                Daniel Bembennek  
                                  Kommunaler Wettbewerb bei der Gewerbesteuer –  
                                  Eine empirische Analyse für Nordrhein-Westfalen  
                                  [Local Business Tax Competition – An Empirical Analysis for North Rhine-Westphalia]

summer 2011                Michael Hildebrand  
                                  Optimal Income Taxation and Debt Policy

### **Masters Theses**

fall 2011                    Rafael Aigner  
                                  On the Impact of Redistribution Concerns on Optimal Environmental Taxation

fall 2011                    María Consuelo Palacios Lafuente  
                                  Media Effects in Public Spending

### **Dissertations**

July 2009                    Alia Gizatulina  
                                  Essays in Mechanism Design

November 2009              Philipp Weinschenk  
                                  Essays in Microeconomics

December 2009              Stefanie Brilon  
                                  Essays in Organization Theory and Personnel Economics

December 2011              Marco M. Sorge  
                                  Essays in Dynamic Macroeconomics and Political Economy

December 2011              Gregor Schwerhoff  
                                  Essays on Parental Leave, Global Disinflation and Non-Renewable Resources

## Isabel Schnabel

# Dissertation

June 2011 Katharina Marsch  
Real Effects of Banking Structure and Credit Supply – Evidence  
from Germany  
Johannes Gutenberg University Mainz

## Christian Traxler

# Diploma Thesis

winter term 2009/10 Stephan Kohzer  
Cheating on your TV? Socio-demographic Characteristics and  
the Impact of Auditing on TV License Fee Evasion  
University of Bonn

## **H.IV      Teaching**

### **Martin Beckenkamp**

summer term 2010	Personnel Selection (2 hrs., department of Prof. Bickle) Masters Seminar, University of Bonn
winter term 2010/11	“Organizational Psychology” and “Economic Psychology” (2 hrs., Bachelor and Master lecture respectively with 2 hrs each) University of Cologne
winter term 2010/11	Statistics I and Statistics II, Diagnostics I and Diagnostics II, Philosophy of Science (5 courses with 2 hrs respectively) Business School of Applied Sciences BITS Iserlohn
summer term 2011	“Social Dilemmas” and “Ecologic Economic Psychology” (Master Seminars with 2 hrs each) University of Cologne
summer term 2011	Statistics II, Statistics for Green Business Management, Diagnostics I and Diagnostics II, Philosophy of Science (5 courses with 2 hrs respectively) Business School of Applied Sciences BITS Iserlohn
winter term 2011/12	“Organizational Psychology” and “Economic Psychology” (2 hrs., Bachelor and Master lecture respectively with 2 hrs each) University of Cologne
	Statistics II, Diagnostics I and Diagnostics II (2 courses with Philosophy of Science) (5 courses with 2 hrs respectively) Business School of Applied Sciences BITS Iserlohn

## **Felix Bierbrauer**

winter term 2009/10	Public Economics (together with Christian Traxler) Seminar, University of Bonn
winter term 2010/11	Advanced Public Economics Lecture, University of Mannheim
winter term 2010/11	Economic Theory and the Current Financial Crisis (together with Alia Gizatulina and Martin Hellwig) Seminar, University of Bonn
summer term 2011	Theories of the Welfare State Seminar, University of Mannheim
summer term 2011	Finanzwissenschaft (Public Economics) Lecture, University of Mannheim

## **Carsten Burhop**

winter term 2008/09	Monetary and Fiscal Policy in Non-Ricardian Macroeconomic Models Master level seminar, University of Münster
summer term 2010	Economic History and History of Economic Thought Lecture, University of Cologne
	The Industrial Revolution Lecture, University of Cologne
	Colonies and Developing Countries in the World Economy Lecture, University of Cologne
	The 1931 Banking Crisis in Germany and the United States Seminar, University of Cologne
winter term 2010/11	The Economic History of Imperial Germany Lecture, University of Cologne
	Economic History and History of Economic Thought Lecture, University of Cologne
	The Economic History of the GDR Master level seminar, University of Cologne

summer term 2011

The Industrial Revolution  
Lecture, University of Cologne

Colonies and Developing Countries in the World  
Economy  
Lecture, University of Cologne

Corporate Governance in Historical Perspective  
Master level seminar, University of Cologne

winter term 2011/13

The Economic History of Imperial Germany  
Lecture, University of Cologne

Economic History and History of Economic Thought  
Lecture, University of Cologne

The History of the Trade Policy around the World  
Lecture, University of Cologne

## **Stephan Dickert**

winter term 2010/11

Sozialpsychologische Aspekte der Informations-  
verarbeitung bei pro-sozialem Verhalten  
[Social Psychological Aspects of Information Processing  
in Pro-social Behavior]  
University of Vienna, Austria

## **Christoph Engel**

winter term 2008/09

Ökonomische Analyse des Prozessrechts  
[Law and Economics of Civil Procedure)  
(together with Prof. Schweizer, Prof. Wagner  
and Dr. Stremitzer)  
University of Bonn

summer term 2009

Antitrust Law and Economics  
University of Bonn

summer term 2009

Law from a Functional Perspective  
International Max Planck Research School Jena

summer term 2010

Experimental Law and Economics  
International Max Planck Research School Jena

summer term 2011

Analysis of Experimental Data  
International Max Planck Research School Jena

## **Susann Fiedler**

winter term 2010/11

Grundlagen und Fehler des Entscheidens  
[Theoretical Concepts and Biases in Decision Making]  
University of Erfurt

winter term 2010/11

Personalentwicklung  
[Human Resources Development]  
(together with Andreas Glöckner)  
University of Erfurt

summer term 2011

Grundlagen und Fehler des Entscheidens  
[Theoretical Concepts and Biases in Decision Making]  
University of Erfurt

## **Sven Fischer**

summer term 2010

Advanced Econometrics – An Introduction  
(with Teresa Schlüter)  
MPI Collective Goods

winter term 2010/11

Econometrics: Analysis of Panel Data  
MPI Collective Goods

## **Alia Gizatulina**

winter term 2010/11

Economic Theory and the Current Financial Crisis  
(together with Felix Bierbrauer and Martin Hellwig)  
Seminar, University of Bonn

## **Andreas Glöckner**

summer term 2009

Intuitive and Deliberate Processes in Decision Making:  
Models, Metaphors, Methods und Findings  
Short Lecture, Center for Empirical Research in  
Economics and Behavioral Sciences, University of Erfurt

winter term 2009/2010	Personnel Development Seminar, University of Erfurt
winter term 2009/10	Decision Research and the Law Justizakademie NRW
summer term 2010	Decision Research and the Law Justizakademie NRW
winter term 2010/11	Personalentwicklung [Human Resources Development] (together with Susann Fiedler) University of Erfurt

### **Sebastian Goerg**

summer term 2009	Theories of Learning In the course: Experimental Economics (Prof. Dr. Sebastian Kube), University of Bonn
summer term 2009	Experiments and Culture In the course: Behavioral Economics (Prof. Bradley Ruffle, Ph.D.), Ben Gurion University, Israel
summer term 2009	Game Theory and Political Sciences Seminar, AlQuds University, Westbank

### **Kristoffel Grechenig**

2008/2009	Law and Economics of Intellectual Property University of St. Gallen
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### **Martin Hellwig**

winter term 2008/09	Financial Institutions and Financial Stability (3 hrs.), Ph.D. Course University of Bonn
winter 2010/11	Current Economic Theory and the Current Economic Crisis PhD Course with Felix Bierbrauer and Alia Gizatulina University of Bonn

## Benjamin Hilbig

spring 2009

Lab-tutorial and methods course "Personality and Economic Behavior", University of Mannheim

spring 2009

# Lab-tutorial and methods course “Processes of Truth Judgments”, University of Mannheim

## Jos Jansen

winter term 2009/2010

# Lectures PhD program

## Cologne Graduate School in Management, Economics, and Social Sciences, University of Cologne

winter term 2010/2011

# Industrial Organization

## Lectures (with Eugen Kovac). MSc program in Economics, University of Bonn

winter term 2010/2011

# Advanced Industrial Organization

## Lectures. Ph.D. program in Business and Economics, University of Cologne

May 2010

Competition Policy  
Guest lectures (with Francesca Barigozzi)  
MSc program in Business, University of Bologna

May 2011

Competition Policy  
Guest lectures (with Francesca Barigozzi)  
MSc program in Business, University of Bologna

winter term 2011/12

# Advanced Industrial Organization

## Lectures. Ph.D. program in Business and Economics, University of Cologne

winter term 2011/12

# Modern Concepts, Institutions, and Markets: Economics of Regulation and Competition

## Lectures. MSc. program in Business and Economics, University of Cologne

winter term 2011/12

# Hauptseminar Institutions and Markets III: Innovation in Markets and Firms: Theory and Evidence

## Reading Group. MSc. program in Business and Economics, University of Cologne

winter term 2011/12

Seminar Economic Theory II: Competition and Cooperation in Innovation.  
Reading Group. BSc. program in Business and Economics, University of Cologne

## **Marc Jekel**

winter term 2008/09

Einführung in das Studium der Psychologie  
[Introduction to Psychology]  
(together with A. Bröder & J. Schütz)  
University of Bonn, Germany

winter term 2008/09

Empirisch-experimentelles Praktikum  
[Empirical-experimental Practical]  
(together with J. Schütz)  
University of Bonn, Germany

winter term 2008/09

Einführung in R  
[Introduction to R]  
(together with J. Schütz)  
University of Bonn, Germany

summer term 2009

Computergestützte Datenanalyse  
[Computer-assisted Data Analysis]  
(together with Prof. G. Rudinger & Dipl.-Psych. A. Jöris)  
University of Bonn, Germany

winter term 2009/10

Empirisch-experimentelles Praktikum  
[Empirical-experimental Practical]  
University of Bonn, Germany

winter term 2009/10

Einführung in R  
[Introduction to R]  
University of Bonn, Germany

winter term 2009/10

Empirisch-experimentelles Praktikum  
[Empirical-experimental Practical]  
(together with Prof. Arndt Bröder)  
University of Bonn

winter term 2009/10	Einführung in R [Introduction to R] University of Bonn
January 2010 (2-days workshop)	Modellierung von kognitiven und sozialen Prozessen mit R [Modeling Cognitive and Social Processes in R] University of Landau, Germany
summer term 2010	Computergestützte Datenanalyse [Computer-assisted Data Analysis] (together with Prof. Georg Rudinger & Dipl.-Psych. Andreas Jöris) University of Bonn, Germany
December 2010 (2-days workshop)	Modellierung von kognitiven und sozialen Prozessen mit R [Modeling Cognitive and Social Processes in R] University of Marburg, Germany
February 2011 (3-days workshop)	Grundbefehle, Graphiken, Monte-Carlo Simulationen und Modellierung kognitiver Prozesse in R [Basic Commands, Graphics, Monte-Carlo Simulations and Cognitive Modeling in R] University of Mannheim, Germany

## **Sebastian Kube**

summer term 2009	Behavioral Public Choice Seminar, University of Bonn
summer term 2009	Experimental Economics Lecture, University of Bonn
summer term 2009	Topics in Management & Applied Microeconomics Topics Course, University of Bonn
summer term 2010	Seminar in Happiness and Economics [Happiness and Economics] University of Bonn
summer term 2010	Vorlesung Experimentelle Wirtschaftsforschung [Experimental Economics] University of Bonn

summer term 2010	Topics Course on Management and Applied Microeconomics [Management and Applied Microeconomics] University of Bonn
winter term 2010/2011	Vorlesung VWL A [Introductory Microeconomics] University of Bonn
winter term 2010/2011	Seminar in Management and Applied Microeconomics [Management and Applied Microeconomics] University of Bonn
winter term 2010/2011	Topics Course Management and Applied Microeconomics [Management and Applied Microeconomics] University of Bonn
summer term 2011	Seminar in Human Resource Management [Human Resource Management] University of Bonn
summer term 2011	Vorlesung Experimentelle Wirtschaftsforschung [Experimental Economics] University of Bonn
winter term 2011/2012	Vorlesung VWL A [Introductory Microeconomics] University of Bonn
winter term 2011/2012	Project Seminar on Cooperation [Cooperation] (together with Anja Schöttner and Eugen Kovac) University of Bonn

## **Wolfgang Kuhle**

spring 2010	Teaching Assistant: Macroeconomics A University of Mannheim
fall 2010	Teaching Assistant: Macroeconomics B University of Mannheim

## **Philip Leifeld**

winter term 2009/2010	Organization & Network Theory (with Stephan A. Jansen & Andreas Huchler) MA Corporate Management & Economics, Zeppelin University
summer term 2010	Organization & Network Theory (with Stephan A. Jansen & Andreas Huchler) BA Corporate Management & Economics, Zeppelin University
winter term 2010/2011	Organization & Network Theory (with Stephan A. Jansen & Andreas Huchler) MA Corporate Management & Economics, Zeppelin University
winter term 2011/2012	Political Parties and Public Choice BA Politics & Management, University of Konstanz
winter term 2011/2012	Rentenpolitik und Demografie [Pension Politics and Demography] BA Politics & Management, University of Konstanz
winter term 2011/2012	Introduction to Social Network Analysis BA Corporate Management & Economics, Zeppelin University

## **Jörn Lüdemann**

winter term 2008/2009	Medien- und Kommunikationsrecht [Media and Communications Law] Seminar, University of Osnabrück
winter term 2008/2009	Kommunalrecht [Municipal Law] State Exam Preparatory Course, University of Bonn
summer term 2009	Telekommunikationsrecht [Telecommunications Law] Lecture, University of Osnabrück
winter term 2009/2010	Medien- und Kommunikationsrecht [Media and Communications Law] Seminar, University of Osnabrück

winter term 2009/2010	Privatheit im Medien- und Kommunikationsrecht [Privacy in Media and Communications Law] Seminar (together with Prof. Dr. Norbert Wimmer) University of Osnabrück
summer term 2010	Übung im öffentlichen Recht für Anfänger II [Public Law] University of Freiburg
summer term 2010	Medienwirtschaftsrecht (Law and Economics of Media) University of Freiburg
summer term 2010	Daseinsvorsorge und öffentliche Unternehmen (Services of General Interest and Public Sector) University of Freiburg
summer term 2010	Recht der Wirtschaftswerbung (Advertising Law) Seminar University of Freiburg
winter term 2010/2011	Propädeutische Übung im öffentlichen Recht (Public Law) University of Bonn
winter term 2010/2011	Verantwortlichkeit im Internet [Accountability in the Internet] Seminar (together with Prof. Dr. Wimmer and Dr. Schirmer) University of Osnabrück
summer term 2011	Telekommunikationsrecht (Telecommunications Law) University of Osnabrück
summer term 2011	Recht und Ökonomik (Law and Economics) (together with Prof. Dr. Fuchs) University of Osnabrück

## **Stefan Magen**

winter term 2008/09	Allgemeines Verwaltungsrecht [Administration Law] Tutorial University of Bonn
summer term 2008/09	Öffentliches Recht [Public Law] Preparation for the Oral Part of the First State Examination, Tutorial University of Bonn
winter term 2009/10	Öffentliches Recht [Public Law] Preparation for the Oral Part of the First State Examination, Tutorial University of Bonn
winter term 2009/2010	Arbeitsgemeinschaft Kurzvortrag im 1. Staatsexamen [Tutorial: Oral Examination in Public Law] University of Bonn
summer term 2010	Vorlesung "Grundzüge des Europarechts" [Lecture: Foundations of European Law] University of Bonn
summer term 2010	Propädeutische Übung im Öffentlichen Recht [Propedeutical Exercise in Public Law] University of Bonn
summer term 2010	Vorlesung "Kirchen- und Staatskirchenrecht" [Lecture: Church Law] (Grundlagenveranstaltung) University of Bonn
summer term 2010	Vorlesung "Staatskirchenrecht" (Veranstaltung im Schwerpunktbereich) [Lecture: Law on State and Church] University of Bonn
winter term 2010/2011	Vorlesung: Rechtsphilosophie [Lecture: Legal Philosophy] University of Bochum
winter term 2010/2011	Prüfungssimulation im Öffentlichen Recht [Preparation for Oral Examination in Public Law] University of Bochum

winter term 2010/2011	Wiederholungskurs „Staatsorganisationsrecht mit Verfassungsprozessrecht“ [Repetition Course: Constitutional Law] University of Bochum
winter term 2010/2011	Seminar „Das Konzept des Wettbewerbs in Recht und Ökonomie“ [Seminar: The Concept of Competition in Law and in Economics] University of Bochum
winter term 2010/2011	Examensklausurenkurs im öffentlichen Recht [Preparation for Writtent Examination in Pubic Law] University of Bochum
summer term 2011	Vorlesung Rechtsökonomik [Lecture: Law and Economics] University of Bochum
summer term 2011	Vorlesung Staatsrecht II [Lecture: Constitutional Law] University of Bochum
summer term 2011	Exzellenzkurs im Öffentlichen Recht [Public Law Course for Exzellen Students] University of Bochum

## **Andreas Nicklisch**

winter term 2010	Theory of Behavioral Economics Bachelor Lecture University of Hamburg
summer term 2011	Labor Contract Theory Bachelor Lecture University of Hamburg
summer term 2011	Experimental Economics Bachelor Seminar University of Hamburg
winter term 2011	Theory of Behavioral Economics Bachelor Lecture University of Hamburg

winter term 2011

Introduction to Microeconomics  
Bachelor Lecture  
University of Hamburg

### **Niels Petersen**

summer term 2009

Fundamental Rights (Tutorials)  
University of Bonn

summer term 2009

Introduction to Legal Decision-Making  
International Max Planck Research School on Adapting  
Behavior in a Fundamentally Uncertain World (IMPRS)  
Summer School, Jena

winter term 2009/2010

New Issues Concerning Trade and the Environment  
Universidad de Chile, Santiago de Chile

September 2010

Lecture: New Issues Concerning Trade and the  
Environment, Master of Laws in International Law,  
Universidad de Chile, Santiago de Chile

summer term 2011

Lecture: Einführung ins Öffentliche Recht  
(with Emanuel Towfigh), University of Bonn

September 2010

Lecture: Introducción al derecho internacional  
económico, Maestría en derecho público, Universidad  
de Santo Tomás, Bogotá

July 2011

Lecture: Introduction to Legal Decision-making, Summer  
School of the International Max Planck Research School  
on Uncertainty, Jena

August 2011

Lecture: New Issues Concerning Trade and the  
Environment, Master of Laws in International Law,  
Universidad de Chile, Santiago de Chile

### **Susanne Prantl**

winter term 2008/09

Empirical Industrial Organization  
Lectures, Course for Master and Ph.D. Students  
(2hrs./week, joint with Thomaso Duso)  
Humboldt-University Berlin

winter term 2008/09	Empirical Industrial Organization Exercise Classes, Course for Master and Ph.D. Students (2hrs./week, joint with Thomaso Duso) Humboldt-University Berlin
winter term 2010/11	Empirical Innovation Economics: Ideas, Innovation and Economic Growth Lecture and Integrated Class, Course for Master and Ph.D. Students (4hrs./week), University of Cologne
winter term 2010/11	Topics in Applied Microeconomics and Industrial Economics Topics Course, Course for Diploma and Ph.D. Students (2hrs./week) University of Cologne
summer term 2011	Topics in Applied Microeconomics and Industrial Economics Topics Course, Course for Diploma and Ph.D. Students (2hrs./week) University of Cologne
summer term 2011	Empirical Economics Lecture and Integrated Class, Course for Master and Diploma Students (4hrs./week) University of Cologne
summer term 2011	International Economics Lecture, Course for Bachelor and Diploma Students (2hrs./week) University of Cologne
summer term 2011	International Economics Class, Course for Bachelor and Diploma Students (2hrs./week) University of Cologne

## **Isabel Schnabel**

summer term 2009, 2010, 2011	Bachelor: Empirical Economic Research, 2nd year University of Mainz
winter term 2009/10, 2010/11	Bachelor: Seminar in Empirical Economic Research, 3rd year University of Mainz

winter term 2009/10	Master/Diploma: The Economics of Banking, 4th year
summer term 2011	University of Mainz
summer term 2009, 2010	Master/Diploma: Empirical Banking and Finance, 4th year
	University of Mainz
summer term 2009, 2010, 2011	Master/Diploma: Empirical Economic Research, 3rd year
	University of Mainz
winter term 2010	Master/Diploma: The Economics of Information, 3rd year
	University of Mainz
winter term 2008/09	Master/Diploma: Seminar in Empirical Economic Research – Applications with Stata, 4th year
	University of Mainz
summer term 2011	Master/Diploma: Seminar in Financial Institutions: The Debaters – Current Issues in International Financial Regulation, 4th year, University of Mainz
summer term 2010	Diploma Seminar: Systemic Risk and Financial Regulation, 4th year, University of Mainz
summer term 2009	Diploma Seminar: The Subprime Crisis: Causes, Consequences, Solutions, 4th year, University of Mainz
winter term 2009/10, 2010/11	Ph.D.: Empirical Banking, field course Graduate School of Economics, Finance, and Management, Mainz/Frankfurt

## **Mark Schweizer**

winter term 2011/2012	Seminar Kennzeichenrecht [Seminar on the Law of Distinctive Signs] University of Lucerne, Switzerland
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## **Emanuel Vahid Towfigh**

summer term 2009	Public Administration and Decision Making (Compulsory lecture for law students focusing on State and Administration) University of Münster
summer term 2009	Legal Decision-Making Summer School Course (together with Niels Petersen) International Max Planck Research School on Adapting Behavior in a Fundamentally Uncertain World (IMPRS), Jena
summer term 2010	Vorlesung Verwaltungs- und Entscheidungswissenschaft [Lecture Public Administration and Decision Theory] University of Münster, Faculty of Law
summer term 2010	Summer Academy "Legal Information Order" (together with Indra Spiecker gen. Döhmann) German National Academic Foundation and Max-Weber-Program Flan, Switzerland August 2010
winter term 2010/11	Vorlesung Kommunalrecht [Lecture Municipal Law] University of Münster, Faculty of Law
summer term 2011	Vorlesung Verwaltungs- und Entscheidungswissenschaft [Lecture Public Administration and Decision Theory] University of Münster, Faculty of Law
summer term 2011	Vorlesung Einführung ins Öffentliche Recht [Lecture Introduction into Public Law] (together with Niels Petersen) University of Bonn, Faculty of Law

## **Christian Traxler**

winter term 2009/2010	Topics in Public Economic (joint with Felix Bierbrauer) University of Bonn
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summer Term 2010	Behavioral Public Economics, PhD Course (joint with Felix Bierbrauer) University of Bonn
summer Term 2011	Field Studies in Public Economics, Seminar, MSc level University of Marburg

### **Berenike Waubert de Puiseau**

summer term 2011	Übung zur Vorlesung Allgemeine Psychologie II: Lernen, Emotion und Motivation [Accompanying seminar to the lecture General Psychology II: Learning, Emotion, and Motivation] (together with PD Dr. Ursula Voss) University of Bonn, Germany
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### **Gaoneng Yu**

term 2007	Criminal law (special part) Law School of Northwest University (China)
autumn 2008	Criminal law (general part) Law School of Northwest University (China)
autumn 2008	Foreign criminal law Law School of Northwest University (China)

## **H.V      Public Service**

### **Christoph Engel**

Member, Academic Advisory Council to the German Minister of Economics and Labour.

### **Martin Hellwig**

Member, Scientific Advisory Committee, Federal Ministry of Economics and Technology, Berlin, since 1995

Member, Bellagio Group, since 2002

Member, Economic Advisory Group on Competition Policy, DG Competition, European Commission, since 2004

Chairman, Federal Government Advisory Committee on Government Loans and Loan Guarantees for Nonfinancial Companies in the Crisis (Lenkungsrat Wirtschaftsfonds Deutschland), 2009 – 2010

Member, Federal Government Advisory Committee on the Design of Exit Strategies for the Crisis-Induced Federal Participations in Banks, 2010

Member, External Advisory Group, Triennial Surveillance Review, International Monetary Fund

Chairman, Advisory Scientific Committee, European Systemic Risk Board, since 2010

### **Isabel Schnabel**

Member of the Advisory Board of BaFin (Bundesanstalt für Finanzdienstleistungsaufsicht), since january 2008.

## **H.VI Professional Activities**

### **Nathan Ashby**

#### **Memberships**

Member of the Society for Judgement and Decision Making

Member of the European Association of Decision Making

### **Stefan Bechtold**

#### **Memberships**

Non-residential Fellow at the Center for Internet and Society at Stanford Law School, U.S.A., since 2002

Member of the expert committee on copyright and publishing law of the German Association for Intellectual Property Law ("Deutsche Vereinigung für gewerblichen Rechtsschutz und Urheberrecht"), since 2004

Member of the editorial board of the Communications of the Association for Computing Machinery, since 2008

Member of the board of the Professor Walther Hug Foundation for the Encouragement of Legal Research, Switzerland, since 2008

Academic advisor ("Vertrauensdozent"), German National Academic Foundation ("Studienstiftung des Deutschen Volkes"), since 2008

Member of the program committee, 2nd EPIP Workshop on Trademarks and Trademark Data, Paris, 2009

### **Felix Bierbrauer**

#### **Referee Service for**

American Economic Review, Review of Economic Studies, Journal of Economic Theory, Journal of the European Economic Association, Journal of Public Economic Theory, Review of Economic Design

## **Stephan Dickert**

### **Memberships**

Member, Society for Personality and Social Psychology

Member, European Association for Decision Making

Member, Society for Judgment and Decision Making

Member, International Association for Research in Economic Psychology

### **Reviewer for**

Organizational Behaviour and Human Decision Processes

Journal of Experimental Social Psychology

Emotion

Journal of Experimental Psychology: Applied Cognition & Emotion

Human Ecology Review

## **Christoph Engel**

### **Editorial Boards**

Christoph Engel is co-editor of a journal and of a book series:

Archiv für Presserecht

Law and Economics of International Telecommunications

### **Memberships**

Christoph Engel is a member of the *Scientific Council of the Centre for European Economic Research, Mannheim*. Apart from the regular meetings, he has been a member of the evaluation team for the labour markets unit.

He also is a member of the *Academic Advisory Council of the Institute for Public Administration, Speyer* and has participated in its regular meetings.

Furthermore, he is

Board Member of *Studienkreis für Presserecht und Pressefreiheit e.V.*, Stuttgart

Member of the Advisory Board of *SSRN Journal "Law, Cognition, and Decisionmaking"*

Member of the *Board (Hochschulrat)* of *Erfurt University* and

Chair of the *Advisory Board of the Amsterdam Center of Law and Economics*

### **Referee for**

American Economic Review (2 x), Journal of Economic Behavior and Organization, Journal of Socio-Economics, Southern Economic Journal, Socio-Economic Review, International Review of Law and Economics, Review of Law and Economics, Journal of Competition Law and Economics, National Science Foundation, Journal of Evolutionary Economics, Energy Economics, Rechtswissenschaft

### **Susann Fiedler**

#### **Memberships**

Member of the Economic Science Association

Member of the European Association of Decision Making

Member of the Society for Judgment and Decision Making

### **Andreas Glöckner**

#### **Editorial Boards**

Editorial Board Social Cognition (since 02/2011)

Consulting Editor Judgment and Decision Making (since 03/2010)

Review Editor Frontiers in Cognitive Science (since 01/2011)

Guest Editor Special Issue on "Methodology in judgment and decision making research" at Judgment and Decision Making. (2011)

#### **Reviewer for Peer-reviewed Journals**

Cognition, Cognitive Science, Journal of Experimental Psychology: General, Journal of Experimental Psychology: Learning, Memory, and Cognition, Psychonomic Bulletin & Review, Behavioral Research Methods, Journal of Cognitive Psychology, Experimental Psychology, Acta Psychologica, Journal of Cognitive Psychology, Judgment and Decision Making, Journal of Behavioral Decision Making, Personality and Social Psychology Bulletin, Social Cognition, Thinking and Reasoning, Learning and Individual Differences, Human Movement Science, Games, Medical Decision Making, European Journal of Psychology of Education, Psychologische Rundschau, InMind

## **Kristoffel Grechenig**

Co-organizer of the semi-monthly Bonn Law & Econ Workshop  
(<http://www.wipol.uni-bonn.de/lehrveranstaltungen-1/lawecon-workshop>)

Secretary of the Sonnenfels Center for Public Law & Economics  
(<http://www.univie.ac.at/sonnenfels>)

## **Hendrik Hakenes**

### **Referee for**

Review of Finance, Journal of Financial Intermediation, Journal of Banking and Finance, Kredit und Kapital, Finance Research Letters, Schmalenbach Business Review, Zeitschrift für Betriebswirtschaftslehre, Journal of the European Economic Association, Review of Economic Studies, Journal of the European Economic Association, European Economic Review, Rand Journal of Economics, Journal of Money, Credit and Banking, International Economic Review, Journal of Institutional and Theoretical Economics, CESifo Economic Studies, Finnish Economic Papers, Eastern Economic Journal, German Economic Review

### **Other Reviewing Activities**

German Science Foundation (Deutsche Forschungsgemeinschaft, DFG); European Finance Association, German Economic Association (VfS), German Finance Association (DGF), German Association for Business Administration (VHB), Symposium on Finance, Banking, and Insurance (SFBI)

## **Martin Hellwig**

### **Memberships**

Fellow of the Econometric Society, since 1981

Fellow (Past President) of the European Economic Association

Honorary Member, American Economic Association, since 1995

Council Member (Past President) of the Verein für Socialpolitik, since 2001

Member, Academia Europaea, 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

### **Editorial Activities**

Associate Editor, German Economic Review, since 2000

Member, Advisory Board, European Business Organization Review, since 2002

Member, Advisory Board, Journal of the European Economic Association, since 2003

Associate Editor, Journal of Public Economic Theory, since 2005

Associate Editor, Journal of Economics, since 2005

Associate Editor, Journal of Public Economics, since 2005

### **Advisory Committees etc. of Scholarly Institutions**

Member, Scientific Advisory Committee, Wissenschaftszentrum Berlin für Sozialforschung, (Social Science Research Centre, Berlin), 2002 – 2010

Member, Scientific Advisory Committee, Centre for Economic Policy Research, London, since 2003

Member of the Board of the Foundation for the Lindau Nobel Symposia, since 2004

Member of External Evaluation Panels for Economics Research Institutes ZEW Mannheim (2009), IWH Halle (2010), Netherlands Centraal Planbureau (2010), Tilburg University (2011)

Member of External Evaluation Panels for Economics Research Institutes ZEW Mannheim (2009), IWH Halle (2010), Netherlands Centraal Planbureau (2010), Tilburg Law & Economics Center (TILEC), Tilburg University (2011)

Member of the Board and Chairman of the Investment Advisory Committee, Volkswagen Foundation, Hannover, 2007 – 2012.

Chairman of the Scientific Council, Fondation Jean-Jacques Laffont, Toulouse, 2007 – 2009

Member, Selection Committee for the Leibniz Prize, Deutsche Forschungsgemeinschaft, since 2007

Member, University Council, University of Mannheim, since 2010

Member, Nominating Committee for the President of the ZEW Mannheim, 2011

Chairman, Committee on Professional Ethics in Economics, Verein für Socialpolitik 2011

## **Jos Jansen**

### **Referee for**

Frontiers in Finance and Economics, International Journal of Industrial Organization, Journal of Economics & Management Strategy (3x), Journal of the European Economic Association, RAND Journal of Economics

### **Memberships**

Member of Scientific Committee of 37th Annual Conference of EARIE: 2010.

June 2008 – September 2011: Member and Info. Agent of Sonderforschungsbereich/Transregio 15 “Governance and the Efficiency of Economic Systems”

## **Marc Jekel**

### **Memberships**

Associate member of the European Society for Cognitive Psychology  
Fulbright alumnus

## **Sebastian Kube**

### **Referee for**

American Economic Review, Journal of the European Economic Association, Journal of Economic Behavior and Organization, Games and Economic Behavior, Games, Economic Journal, Scandinavian Journal of Economics, Social Choice and Welfare, Experimental Economics, Journal of Economic Psychology, BuR Business Research;

## **Wolfgang Kuhle**

### **Referee for**

Economics Bulletin, Journal of Economic Dynamics and Control, Journal of Population Economics

## **Aniol Llorente-Saguer**

### **Reviewer for**

B.E. Journal of Theoretical Economics, Economic Journal, *Economica*, Experimental Economics, Games and Economic Behavior, International Journal of Game Theory

## **Stefan Magen**

Co-editor, German Law Journal

## **Andreas Nicklisch**

### **Referee for**

European Journal of Law and Economics, European Review of Agricultural Economics, International Journal of Game Theory, Journal of Economic Behavior and Organization, Journal of Political Economy, *Metroeconomica*, National Science Foundation, Review of Economic Studies

## **Niels Petersen**

### **Memberships**

Member of the Scientific Advisory Board of the Göttingen Journal of International Law (GoJIL)

Member of the Selection Committee for the Studienkolleg zu Berlin of the German National Academic Foundation

### **Referee for**

Journal of Empirical Legal Studies, Cambridge University Press, the Göttingen Journal of International Law, the Election Law Journal

## **Susanne Prantl**

### **Referee Service in 2009-2011**

American Economic Review, Deutsche Forschungsgemeinschaft, Economic Journal, Economics Letters, *Economics of Transition*, Empirical Economics, European Economic

Review, German Economic Review, Journal of Economics and Statistics, Journal of Economic Psychology, Journal of the European Economic Association, Journal of Industrial Economics, Review of Economics and Statistics, Research Policy, Small Business Economics

### **Editorial Activities**

Since 2011: Member of Scientific Board, Journal of Economics and Statistics

### **Advisory Committees etc.**

2011: Member of the External Evaluation Panel for the Economic Research Institute  
Rheinisch-Westfälisches Institut für Wirtschaftsforschung (RWI) Essen

### **Affiliations**

Since 2011: Member, Industrieökonomischer Ausschuss, Verein für Socialpolitik

Since 2010: Research Affiliate, Max-Planck Institute for Research on Collective Goods, Bonn

Since 2004: International Research Fellow, Institute for Fiscal Studies, London, UK

2006-2007: International Visiting Fellow, Advanced Institute of Management Research (AIM), London, UK

2007-2009: Faculty Member, Berlin Doctoral Program in Economics and Management Science (BDPEMS), Berlin

2004-2009: Member of the Collaborative Research Centre (Sonderforschungsbereich, SFB)/Transregio 15 "Governance and the Efficiency of Economic Systems", German Research Foundation (Deutsche Forschungsgemeinschaft, DFG)

2004-2009: Affiliated Lecturer, Dept. of Business and Economics, Humboldt University Berlin

## **Isabel Schnabel**

### **Memberships**

As of January 2012 : Panel Member of Economic Policy

Since December 2009: Member of Editorial Advisory Board, Financial History Review

2005 – 2009: Member of the Board of Trustees of the European Historical Economics Society

## **Editorial Activities**

Since March 2008: Editor, *The Economics of Transition*

## **Advisory Committees etc. of Scholarly Institutions**

Since March 2009: Deputy Dean of Graduate School of Economics, Finance, and Management (GSEFM), Goethe University Frankfurt, Technical University Darmstadt, and Johannes Gutenberg University Mainz

November 2009: Organization of workshop on Legal and economic problems in banking regulation (with Josef Ruthig), University of Mainz

May – September 2009: Research project at the European Bank for Reconstruction and Development (EBRD), London

## **Referee for**

*Economics of Transition*; *European Economic Review*; *European Review of Economic History*; *Financial History Review*; *International Monetary Fund Staff Papers*; *Journal of Banking and Finance*; *Journal of Economic History*; *Journal of Financial Intermediation*; *Journal of Institutional and Theoretical Economics*; *Journal of International Money and Finance*; *Journal of Money, Credit and Banking*; *Kredit und Kapital*; *Oxford Economic Papers*; *Review of Economics and Statistics*; *Schmalenbach Business Review*

## **Other reviewing activities**

German Science Foundation (Deutsche Forschungsgemeinschaft, DFG); German Scholarship Foundation (Studienstiftung des Deutschen Volkes), German Economic Association (Verein für Socialpolitik, Annual Meeting); German Finance Association (Annual Meeting), Symposium on Finance, Banking, and Insurance, Routledge

## **Emanuel Vahid Towfigh**

Selection Committee, German National Academic Foundation

Co-editor, *Zeitschrift für Bahá’í-Studien*

Member of the Board, *Stiftung für Bahá’í-Studien*

## **Christian Traxler**

### **Referee for Several Academic Journals, Including the**

*B.E. Journal of Economic Analysis & Policy*, *Economic Journal*, *European Economic Review*, *European Journal of Political Economy*, *European Review of Agricultural Economics*, *FinanzArchiv*, *Journal of Economics*, *Journal of Human Resources*, *Journal*

of Public Economics, Journal of Public Economic Theory, Oxford Bulletin of Economics and Statistics, Public Choice, Public Finance Review, and the Review of Economic Studies. In addition, I reviewed research projects for the Social Sciences and Humanities Research Council of Canada and was a member of the program committees for the 2010 Spring Meeting of Young Economists and the 2011 Congress of the International Institute of Public Finance.

## **Berenike Waubert de Puiseau**

### **Reviewer for**

Acta Psychologica (since 2011)

### **Memberships**

American Psychology-Law Society (AP-LS), student member

Australian and New Zealand Association of Psychiatry, Psychology, and Law (ANZAPPL), student member

Deutsche Gesellschaft für Psychologie (DGPS) [German Society of Psychology], associated member

European Association of Psychology and Law (EAPL), student member

Society of Applied Research in Memory and Cognition (SARMAC), student member

## **Gaoneng Yu**

Dickinson Dees Fellow and Visiting Scholar at the Centre for Criminal Law and Criminal Justice at the Law School, Durham University, UK, 2007-2008

Member of the Centre for Criminal Law and Criminal Justice at the Law School, Durham University, UK, since 2007

Member of the Shaanxi Law Society (China), Law of Hong Kong, Macao and Taiwan Division, since 2007

Member of the Shaanxi Law Society (China), Criminal Law Division, since 2005

Member of the Shaanxi Translation Association (China), Since 2005

Licensed lawyer in Shaanxi Xidu law firm, China, since 2004

## **I. Publications**



## **I. Publications**

### **I.I Book Series of the Institute**

#### **2009**

##### **Felix Höffler**

Engpassmanagement und Anreize zum Netzausbau im leitungsgebundenen Energiesektor. Wirtschaftstheoretische Analyse und -wirtschaftspolitische Handlungsempfehlungen

(Common Goods: Law, Politics and Economics – Gemeinschaftsgüter: Recht, Politik und Ökonomie, Bd. 20) Baden-Baden, Nomos, 98 p.

## I.II Preprint Series of the Institute

### 2009

2009/01: Beckenkamp M., Environmental dilemmas revisited: structural consequences from the angle of institutional ergonomics

2009/02: Herbig B., Glöckner A., Experts and Decision Making: First Steps Towards a Unifying Theory of Decision Making in Novices, Intermediates and Experts

2009/03: Traxler C., Winter J., Survey Evidence on Conditional Norm Enforcement

2009/04: Rincke J., Traxler C., Deterrence Through Word of Mouth  
forthcoming in: *Review of Economics and Statistics*, In Press.

2009/05: Petersen N., Abkehr von der internationalen Gemeinschaft? – Die aktuelle Rechtsprechung des US Supreme Court zur innerstaatlichen Wirkung von völkerrechtlichen Verträgen –  
published in: *Völkerrecht im innerstaatlichen Bereich*, vol. 13, Baden-Baden, Nomos, pp. 49-63, 2010.

2009/06: Jansen J., Strategic Information Disclosure and Competition for an Imperfectly Protected Innovation  
published in: *Journal of Industrial Economics*, vol. 58 , no. 2, pp. 349–372, 2010.

2009/07: von Weizsäcker C. C., Asymmetrie der Märkte und Wettbewerbsfreiheit

2009/08: Glöckner A., Irlenbusch B., Kube S., Nicklisch A., Normann H.-T., Leading with(out) Sacrifice? A Public-Goods Experiment with a Super-Additive Player  
published in: *Economic Inquiry*, vol. 49, pp. 591-597, 2011.

2009/09: Lübbers T., Is Cartelisation Profitable? A Case Study of the Rhenish Westphalian Coal Syndicate, 1893-1913

2009/10: Horstmann N., Ahlgrimm A., Glöckner A., How Distinct are Intuition and Deliberation? An Eye-Tracking Analysis of Instruction-Induced Decision Modes  
published in: *Judgment and Decision Making*, vol. 4, pp. 335-354, 2009.

2009/11: Weinschenk P., Persistence of Monopoly and Research Specialization

2009/12: Hellwig M., Utilitarian Mechanism Design for an Excludable Public Good  
published in: *Economic Theory*, vol. 44, no. 3, pp. 361-397, 2010.

2009/13: Jansen J., On Competition and the Strategic Management of Intellectual Property in Oligopoly  
 published in: *Journal of Economics & Management Strategy*, vol. 20, no. 4, pp. 1043-1071, 2011.

2009/14: Feri F., Irlenbusch B., Sutter M., Efficiency Gains from Team-Based Coordination – Large-Scale Experimental Evidence

2009/15: Bierbrauer F., On the legitimacy of coercion for the financing of public goods

2009/16: Petersen N., Review Essay: How Rational is International Law?  
 published in: *European Journal of International Law*, vol. 20, pp. 1247-1262, 2009.

2009/17: Glöckner A., Hodges S. D., Parallel Constraint Satisfaction in Memory-Based Decisions  
 published in: *Experimental Psychology*, vol. 58, pp. 180-195, 2011.

2009/18: Broadberry S. N., Burhop C., Real Wages and Labour Productivity in Britain and Germany, 1871-1938: A Unified Approach to the International Comparison of Living Standards  
 forthcoming in: *Journal of Economic History*, In Press.

2009/19: Magen S., Rechtliche und ökonomische Rationalität im Emissionshandelsrecht  
 published in: *Recht und Markt. Wechselbeziehungen zweier Ordnungen*, Baden-Baden, Nomos, pp. 9-28, 2009.

2009/20: Nikiforakis N., Normann H.-T., Wallace B., Asymmetric Enforcement of Cooperation in a Social Dilemma  
 forthcoming in: *Southern Economic Review*, In Press.

2009/21: Beckenkamp M., Engel C., Glöckner A., Irlenbusch B., Hennig-Schmidt H., Kube S., Kurschilgen M., Morell A., Nicklisch A., Normann H.-T., Towfigh E. V., Beware of Broken Windows! First Impressions in Public-good Experiments

2009/22: Traxler C., Majority Voting and the Welfare Implications of Tax Avoidance  
 forthcoming in: *Journal of Public Economics*, In Press.

2009/23: Morell A., Glöckner A., Towfigh E. V., Sticky Rebates: Target Rebates Induce Non-Rational Loyalty in Consumers

2009/24: Engel C., Competition as a Socially Desirable Dilemma Theory vs. Experimental Evidence  
 published in: *Competition Policy and the Economics Approach*, Cheltenham, pp. 245-269, 2011.

2009/25: Burhop C., Lübbert T., The Historical Market for Technology Licenses: Chemicals, Pharmaceuticals, and Electrical Engineering in Imperial Germany [updated version MPI Preprint 2011/18]

2009/26: Burhop C., The Transfer of Patents in Imperial Germany

2009/27: Hahmeier M., Prices versus Quantities in Electricity Generation

2009/28: Gizatulina A., Hellwig M., Informational Smallness and the Scope for Limiting Information Rents  
 published in: *Journal of Economic Theory*, vol. 145, pp. 2260–2281, 2010.

2009/29: Engel C., Rockenbach B., We Are Not Alone: The Impact of Externalities on Public Good Provision

2009/30: Lüdemann J., Rechtsetzung und Interdisziplinarität in der Verwaltungsrechtswissenschaft  
 forthcoming in: *Öffentliches Recht und Wissenschaftstheorie*, Tübingen, Mohr Siebeck, pp. 125-150, In Press.

2009/31: Fellner G., Sausgruber R., Traxler C., Testing Enforcement Strategies in the Field: Legal Threat, Moral Appeal and Social Information  
 forthcoming in: *Journal of the European Economic Association*, In Press.

2009/32: Jansen J., Beyond the Need to Boast: Cost Concealment Incentives and Exit in Cournot Duopoly

2009/33: Hakenes H., Schnabel I., Credit Risk Transfer and Bank Competition  
 published in: *Journal of Financial Intermediation*, vol. 19, no. 3, pp. 308-332, 2010.

2009/34: Lehmann S., The German elections in the 1870s: why Germany turned from liberalism to protectionism  
 forthcoming in: *Journal of Economic History*, In Press.

2009/35: Glöckner A., Kleber J., Tontrup S., Bechtold S., The Endowment Effect in Groups with and without Strategic Incentives

2009/36: Jansen J., Share to Scare: Technology Sharing in the Absence of Intellectual Property Rights

2009/37: Engel C., Das schwindende Vertrauen in die Marktwirtschaft und die Folgen für das Recht  
published in: *Festschrift für Klaus J. Hopt*: De Gruyter, pp. 2733-2752, 2010.

2009/38: Engel C., Hennig-Schmidt H., Irlenbusch B., Kube S., On Probation. An Experimental Analysis

2009/39: Petersen N., The Reception of International Law by Constitutional Courts through the Prism of Legitimacy

## **2010**

2010/01: Bierbrauer F., An incomplete contracts perspective on the provision and pricing of excludable public goods

2010/02: Bierbrauer F., Hellwig M., Public-Good Provision in a Large Economy

2010/03: Baumann F., Friehe T., Grechenig K., Switching Consumers and Product Liability: On the Optimality of Incomplete Strict Liability

2010/04: Slemrod J., Traxler C., Optimal observability in a linear income tax  
published in: *Economics Letters*, vol. 108, no. 2, pp. 105-108, 2010.

2010/05: Groppe R., Hakenes H., Schnabel I., Competition, Risk-Shifting, and Public Bail-out Policies  
published in: *Review of Financial Studies*, vol. 24, no. 6, pp. 2084-2120, 2011.

2010/06: Engel C., Irlenbusch B., Turning the Lab into Jeremy Bentham's Panopticon. The Effect of Punishment on Offenders and Non-Offenders

2010/07: Engel C., Dictator Games: A Meta Study  
published in: *Experimental Economics*, vol. 14, pp. 583-610, 2011.

2010/08: Lehmann S., Volckart O., The Political Economy of Agricultural Protection: Sweden 1887

2010/09: Bade S., Ambiguous Act Equilibria  
published in: *Games and Economic Behavior*, vol. 71, no. 2, pp. 246-260, 03/2011.

2010/10: Petersen N., Braucht die Rechtswissenschaft eine empirische Wende?

2010/11: Grechenig K., Nicklisch A., Thöni C., Punishment despite Reasonable Doubt – A Public Goods Experiment with Uncertainty over Contributions  
 published in: *Journal of Empirical Legal Studies (JELS)*, vol. 7, pp. 847-867, 2010.

2010/12: Leifeld P., Schneider V., Institutional communication revisited: Preferences, opportunity structures and scientific expertise in policy networks

2010/13: Engel C., An Experimental Contribution to the Theory of Customary (International) Law  
 forthcoming in: *Review of Law & Economics*, In Press.

2010/14: Bierbrauer F., On the optimality of optimal income taxation

2010/15: Grechenig K., Sekyra M., No Derivative Shareholder Suits in Europe – A Model of Percentage Limits and Collusion  
 forthcoming in: *International Review of Law and Economics (IRLE)*, In Press.

2010/16: Bierbrauer F., Boyer P. C., The Pareto-Frontier in a simple Mirrleesian model of income taxation

2010/17: Weinschenk P., Entry and Incumbent Innovation

2010/18: Bierbrauer F., Optimal Income Taxation and Public-Goods Provision with Preference and Productivity Shocks

2010/19: Hellwig M., Finanzkrise und Reformbedarf [The Financial Crisis and Regulatory Reform]

2010/20: Burhop C., Gelman S., Transaction costs, liquidity and expected returns at the Berlin Stock Exchange, 1892-1913 [updated version: MPI Preprint 2011/19]

2010/21: Leifeld P., Haunss S., A Comparison between Political Claims Analysis and Discourse Network Analysis: The Case of Software Patents in the European Union

2010/22: Bade S., Electoral Competition with Uncertainty Averse Parties  
 published in: *Games and Economic Behavior*, vol. 72, no. 1, pp. 12-29, 05/2011.

2010/23: Albanese G., Sorge M. M., The Role of the Judiciary in the Public Decision Making Process

2010/24: Lang M., Wambach A., The fog of fraud – mitigating fraud by strategic ambiguity

2010/25: Brilon S., Job Assignment with Multivariate Skills

2010/26: Weinschenk P., Skill Formation under Incomplete Information

2010/27: Chmura T., Engel C., Englerth M., Pitz T., At the Mercy of the Prisoner Next Door. Using an Experimental Measure of Selfishness as a Criminological Tool

2010/28: Goerg S. J., Walkowitz G., On the Prevalence of Framing Effects Across Subject-Pools in a Two- Person Cooperation Game  
published in: *Journal of Economic Psychology*, vol. 31, pp. 849-859, 2010.

2010/29: Engel C., Kurschilgen M., Fairness Ex Ante & Ex Post – An Experimental Test of the German “Bestseller Paragraph”  
published in: *Journal of Empirical Legal Studies*, vol. 8, no. 4, pp. 682–708, 2011.

2010/30: Prantl S., The Impact of Firm Entry Regulation on Long-living Entrants  
forthcoming in: *Small Business Economics*, In Press.

2010/31: Hellwig M., Capital Regulation after the Crisis: Business as Usual?  
published in: CESifo DICE Report, vol. 8, no. 2, pp. 40-46, 2010.

2010/32: Glöckner A., Towfigh E. V., Geschicktes Glücksspiel. Die Sportwette als Grenzfall des Glücksspielrechts [kein Download]  
published in: *JuristenZeitung*, vol. 21, pp. 1027-1035, 2010.

2010/33: Towfigh E. V., Glöckner A., Game Over: Empirical Support for Soccer Bets Regulation

2010/34: Dickert S., Herbig B., Glöckner A., Gansen C., Portack R., The More the Better? Effects of Training and Information Amount in Legal Judgments  
forthcoming in: *Applied Cognitive Psychology*, In Press.

2010/35: Traxler C., Burhop C., Poverty and crime in 19th century Germany: A reassessment

2010/36: Dang T. V., Hakenes H., Information Disclosure, Intertemporal Risk Sharing, and Asset Prices

2010/37: Glöckner A., Engel C., Role Induced Bias in Court: An Experimental Analysis

2010/38: Herweg F., Müller D., Weinschenk P., Binary Payment Schemes: Moral Hazard and Loss Aversion  
 published in: *American Economic Review*, vol. 100, pp. 2451-2477, 2010.

2010/39: Weinschenk P., Moral Hazard and Ambiguity

2010/40: Ganuza J. J., Jansen J., Too Much Information Sharing? Welfare Effects of Sharing Acquired Cost Information in Oligopoly

2010/41: Körner T., Schnabel I., Public Ownership of Banks and Economic Growth – The Role of Heterogeneity  
 published in: *Economics of Transition*, vol. 19, no. 3, pp. 407-441, 2011.

2010/42: Admati A. R., DeMarzo P. M., Hellwig M., Pfleiderer P., Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity is Not Expensive

2010/43: Weinschenk P., Increasing Workload in a Stochastic Environment

2010/44: Enders Z., Hakenes H., On the Existence and Prevention of Asset Price Bubbles

2010/45: Bierbrauer F., Boyer P. C., Political competition and Mirrleesian income taxation: A first pass

2010/46: Bade S., Matching Allocation Problems with Endogenous Information Acquisition

2010/47: Bade S., Pareto-Optimal Matching Allocation Mechanisms for Boundedly Rational Agents

2010/48: Engel C., An Experimental Contribution to the Revision of the Guidelines on Research and Development Agreements  
 published in: *Festschrift Möschel*, Baden-Baden, Nomos, pp. 227-240, 2011.

2011/01: Engel C., Zhurakhovska L., Oligopoly as a Socially Embedded Dilemma. An Experiment

2011/02: Engel C., Besonderes Verwaltungsrecht und ökonomische Theorie

2011/03: Petersen N., Antitrust Law and the Promotion of Democracy and Economic Growth

2011/04: Petersen N., The Role of Consent and Uncertainty in the Formation of Customary International Law  
 forthcoming in: *Reexamining Customary International Law*, Cambridge, Cambridge University Press, In Press.

2011/05: Engel C., Kube S., Kurschilgen M., Can we manage first impressions in cooperation problems? An experimental study on "Broken (and Fixed) Windows"

2011/06: Engel C., Law as a Precondition for Religious Freedom

2011/07: Hellwig M., From Posteriors to Priors via Cycles: An Addendum

2011/08: Hellwig M., Incomplete-Information Models of Large Economies with Anonymity: Existence and Uniqueness of Common Priors

2011/09: Höffler F., Kranz S., Using Forward Contracts to Reduce Regulatory Capture

2011/10: von Weizsäcker C. C., *Homo Oeconomicus Adaptivus – Die Logik des Handelns bei veränderlichen Präferenzen*  
 published in: *Wohin steuert die ökonomische Wissenschaft? Ein Methodenstreit in der Volkswirtschaftslehre*, vol. 3, Frankfurt/New York, pp. 221-222, 2011.

2011/11: Bade S., Pareto-Optimal Assignments by Hierarchical Exchange

2011/12: Hellwig M., Quo vadis, Euroland? European Monetary Union between Crisis and Reform  
 published in: *Life in the eurozone with or without sovereign default?* (European University Institute), Philadelphia, FIC Press Wharton Financial Institutions Center, pp. 59-76, 2011.

2011/13: Weinschenk P., Procrastination in Teams, Contract Design and Discrimination

2011/14: Engel C., Pluta A., The People's Hired Guns? Experimentally Testing the Inclination of Prosecutors to Abuse the Vague Definition of Crimes

2011/15: Burhop C., Chambers D., Cheffins B., Is Regulation Essential to Stock Market Development? Going Public in London and Berlin, 1900-1913

2011/16: Towfigh E. V., Old Weimar meets New Political Economy: Democratic Representation in the Party State

2011/17: Aigner R., Environmental Taxation and Redistribution Concerns

2011/18: Burhop C., Lüppers T., The design of licensing contracts: Chemicals, Pharmaceuticals, and Electrical Engineering in Imperial Germany

2011/19: Burhop C., Gelman S., Liquidity measures, liquidity drivers and expected returns on an early call auction market

2011/20: von Weizsäcker C. C., Public Debt Requirements in A Regime of Price Stability

2011/21: Betsch T., Lindow S., Engel C., Ulshöfer C., Kleber J., Has The World Changed? My Neighbor Might Know Effects of Social Context on Routine Deviation

2011/22: Petersen N., Avoiding the Common Wisdom Fallacy: The Role of Social Sciences in Constitutional Adjudication

2011/23: Ding J., What Numbers to Choose for My Lottery Ticket? Behavior Anomalies in the Chinese Online Lottery Market

2011/24: Grechenig K., Kolmar M., The State's Enforcement Monopoly and the Private Protection of Property

2011/25: Bade S., Divergent Platforms

2011/26: Chmura T., Goerg S. J., Selten R., Learning in experimental 2 x 2 games

2011/27: Gizatulina A., Hellwig M., On the Robustness of the BDP Property for Families of Incomplete-Information Models

2011/28: Gizatulina A., Hellwig M., Beliefs, Payoffs, Information: On the Robustness of the BDP Property in Models with Endogenous Beliefs

2011/29: Hellwig M., The Problem of Bank Resolution Remains Unsolved: A Critique of the German Bank Restructuring Law

2011/30: Glöckner A., Kube S., Nicklisch A., The Joint Benefits of Observed and Unobserved Punishment: Comment to Unobserved Punishment Supports Cooperation