

## Configuration of Sub-Projects in the Research Group Needs-Based Justice and Distribution Procedures

### Block 1:

Identification, Rationality, A1: Framing, A2: Coherence

### Block 2:

Acceptance, Legitimacy, B1: Networks, B2: Expertise

### Block 3:

Dynamic, Stability, C1: Limits, C2: Dissent

### Block 4:

Effects, Sustainability, D1: Incentives, D2: Contracts

### Block A: Identification

How do individuals identify needs and how do they accept certain distributions to be sufficient for the satisfaction of given needs? In block A, the focus is on the process of needs identification. In terms of consistency, how persistent are individual judgments on the legitimacy of needs and needs-based justice? In two sub-projects, we focus on two aspects: "Framing in the Determination of Needs: Data and Models" (A1) and "Measurable Dimensions of Needs-Based Justice, Expertise, and Coherence" (A2).

As customary in decision making theory, identification can be investigated using positive and normative approaches. Positive theory describes how individuals identify needs and make judgments regarding justice, whereas normative theory prescribes the way individuals identify needs and make judgments regarding justice. An informed normative

theory of needs-based justice, as we pursue it, has to deal with the challenge that, without any ill intent or strategic interest, facts that apparently are identical from a logical/mathematical perspective can be perceived as being totally different and that people make mistakes and are subject to distorted perceptions. If, however, individuals' identifications of needs lead to inconsistencies, how can the collective acceptance of the satisfaction of specific needs be socially and factually objectivized following the principle of needs-based justice? What would be the value of a prescriptive theory of needs-based justice that forgoes the rationality of judgments and decisions, e. g. when it comes to policy advice? A pragmatic approach to weaken this dilemma between factual and desirable behavior thoroughly analyses the strengths and weaknesses of individuals' judgments and, based on this analysis, offers support for making decisions.

Extensionality is one of the basic axioms of rational decision-making (Arrow, 1982). Choosing a specific alternative can only depend on the available alternatives, not on the description of alternatives. As cognitive psychologists have comprehensively documented, violations of the principle of extensionality, so-called framing effects, appear systematically and cannot be discounted as decision making anomalies that vanish with sufficient training and high incentives (e. g. Kahnemann and Tversky, 2000; for a literature review on framing effects in economic contexts, see Traub, 1999). Is it feasible to create a canonical presentation of distributional problems in which there is general agreement regarding the issue at hand? Can this be achieved through indices of needs-based justice? According to our two main hypotheses, transparency and the utilization of expertise should contribute to defusing the problem of the unanimous identification of needs.

In sub-project A, Prof. Diederich, Prof. Nullmeier, and Prof. Siebel investigate the identification of needs from the perspective of our transparency hypothesis. The sub-project develops a dual model of individual information processing (Diederich, 1997) and, specifically considering needs, tests this model experimentally. A dual process model is understood as a formal model which assumes that there are (at least) two systems that

form the basis of higher cognitive processes, such as reasoning, judging, and problem-solving (see Evans, 2008, for an overview; see also Kahnemann and Frederick, 2002; Kahnemann, 2011). While system 1 consists of processes that happen automatically, fast, and subconsciously, system 2 consists of controlled, slow, and conscious processes that involve laborious effort. Both processes are active simultaneously and compete for control over the answer. The first system is seen as responsible for judgment errors, such as reversals or shifts in preference. The dual process model will be based on the multi-attribute Decision-Field-Theory (Busemeyer und Diederich, 2002). This theory, in contrast to decision-making models in economics, assumes that preferences are being generated dynamically over time. Decisions are triggered as soon as an exogenous time restriction or a certain threshold is exceeded. As the way towards a decision is a stochastic process, identical decision-making situations can lead to different decisions, e. g. depending on the individual weighting of attributes relevant for the decision.

In sub-project A 1, we formulate and test the process model referring to the assessment of individual needs in four areas: the provision of health care services, a guaranteed minimum income, the provision of energy, and the disposal of waste water. Using a psycho-physical approach, we investigate how the framing of alternatives affects binary choices. Our assumptions include that (i) framings in which something is taken away cause longer reaction times and the resulting alternatives show a low level of acceptance, (ii) identified persons are conceded a higher need than abstract persons, and (iii) framing effects increase with time pressure and emotional involvement.

In sub-project A2, Prof. Siebel and Prof. Traub investigate the identification of needs from the perspective of our expert hypothesis. The aim is to analyze whether the identification of needs and the acceptance of distributions follow rules that are determined based on need, that can be displayed through mathematical functions, and that are normatively convincing. A special focus is put on experimentally addressing the question whether decisions on distributions are supported by individual judgments on justice so that there is

a high coherence between the two elements. The formal analysis is based on the justice theory by Jasso (1999). Using a justice evaluation function - the natural logarithm of factually just and perceived just allocation - individuals assess the justice of specific allocations (which may be their own) in their roles as experts on knowledge and morality. Using a justice index - the average assessment of justice - individuals assess the aggregate justice of a distribution. Jasso provides both normative-theoretical (e. g. scale invariance) as well as empirical reasons for selecting these specifications. In a first step, our sub-project expands Jasso's approach by introducing the concept of needs-based justice and investigates alternative formal specifications of the justice evaluation function and the justice index with regard to their normative properties. In a second step, using the approach of Bayesian epistemology (see Fitelson, 2003), we examine the level of coherence of the individual judgments on justice.

In sub-project A2, we assume that the orientation towards needs-based justice as well as towards expertise regarding knowledge and morality increases the coherence of individual judgments and assessments of distributions.

## Block B: Acceptance

How are needs collectively accepted, how can the needs principle prevail against other societal principles of distribution, and how are societal decisions made about appropriate procedures of distribution focused on needs-based justice? Following the identification of needs and the necessary procedures to satisfy those needs on the individual level, the goal is to transform these individual judgments into collective principles of distribution within the processes of deliberation and political decision-making. Only through this step, needs are collectively accepted and can be allocated to scarce resources following an agreed-upon procedure of distribution. Thus, in column B of our research project, we also focus on the degree of legitimacy of decisions about the societal acceptance of needs and

distributions following the principle of needs-based justice. Two sub-projects investigate “Distribution Preferences and Needs in Networks” (B1) and “Needs-Based Justice, Uncertainty, And Expertise” (B2).

In sub-project B1, Prof. Kittel, Dr. Pritzlaff-Scheele, and Prof. Schnapp base their investigation on our transparency hypothesis and address the question how differences in communication opportunities of group members affect the distribution implemented in the group. What influence does the structure of the network formed by communication opportunities have on the distribution of resources in bilateral exchanges and are needs taken into account as criteria for a distribution? Are certain norms of justice addressed as general guiding principles or are those norms only created through the configuration of the network, as argued by Stolte (1987)? Specifically, a number of network experiments are conducted to investigate which structural preconditions based on power and information lead to a situation in which needs are articulated by individuals and accepted in exchange processes. In these experiments, test subjects are randomly allocated to four network structures. Within the network, there is a further random allocation to different “knots” that have different numbers of “edges” (paths of communication). In these networks, bipartite negotiations on the distribution of a collectively agreed-upon payout are initiated along those “edges”. Needs are induced through a minimal payout necessary to participate in a next step of the experiment.

In sub-project B1, we assume that the distribution in dyadic negotiations corresponds with the power differences resulting from the network structure. However, the result is moderated by the transparency of the network structure and by social preferences. The compensatory effect of these moderating factors has a stronger effect when argumentations are based on needs compared to other principles of justice.

In sub-project B2, Prof. Tepe and Prof. Borchers investigate how the procedure of acceptance and satisfaction of needs influences the legitimacy of the distribution results from the perspective of our expert hypothesis. In this sub-project, we design and

experimentally test a politico-economic distribution model based on the Meltzer-Richard-Model (Meltzer and Richard, 1981). Legitimacy is perceived as ex-post acceptance of the distribution result by maintaining the willingness to perform in a production task. Through a simple majority (median voter setting) or unanimously, collective decisions are made on how much and individual's income can deviate from the societal reference income in order to recognize that person as needy. Whenever, according to the negotiated threshold, an individual is accepted as needy, that person's needs will be satisfied using the scarce resources of the collective. Apart from the "classic" Meltzer-Richard-Model featuring a proportional redistribution that results in a progressive-linear tax, we also investigate a "needs-based" tax featuring a linear tax with a tax-free allowance. In the next step, we test our expert hypothesis. In a laboratory experiment, we induce individual needs. In order to objectivate these needs, we distinguish between two types of expertise: (i) expert knowledge and (ii) expert advice that combines factual expertise with moral judgment. Both kinds of expertise are compared to a control situation featuring uncertainty about the objective need.

In sub-project B2, we expect that the legitimacy of a distribution, which means the decision on a distribution is met ex-post with a relative high willingness to perform, increases, if the redistribution regime prescribes unanimity, if the redistributive mechanism is based on satisfying needs, and if needs are objectivated through "expert knowledge" (and not through expert advice).

### Block C: Dynamic

In column B, we focused on the process of the collective acceptance of needs, especially on the effects of the asymmetrical distribution of information. In column C, however, the focus is set on the implementation of the respective distribution principles and the resulting societal dynamic. What happens after the principle of need, with all the resulting

procedures, has been institutionalized as the main principle of distribution? Is the result a stable political agreement on accepted needs or the continuous emergence of new conflicts? Is there a convergent process of acceptance or are agreed-upon solutions subject to ex-post dissent? The block on dynamic, more than the block on acceptance, focuses on the procedural aspects of needs-based justice. Two sub-projects investigate "Limits of Proceduralism? Experimental Investigations on the Stability of Procedures of Needs Identification" (C1) and "Distribution Conflicts as Moral Dissent" (C2).

In sub-project C1, Prof. Nullmeier, Dr. Pritzlaff-Scheele, and Prof. Schramme investigate the problem that, on the one hand, when it comes to distribution conflicts, those involved criticize distribution procedures as not being able to deliver results based on needs-based justice. On the other hand, dissent about specific needs assessments leads to a cry for procedures that identify and assess needs fairly. This circle leading from distribution procedures to ways of identifying need and back is the subject of experimental investigation in the sub-project. We specifically address the question, whether a purely proceduralistic identification of needs is possible and whether it can be sustained. Our sceptical theoretical expectation is that processes of the collective acceptance of needs based on pure procedural justice (Rawls) - even when procedural transparency is increased - will be challenged under the pressure of actual distributions using needs-based arguments. Thus, the subject of research in sub-project C1 is the dynamic of procedural conflicts about the identification of needs emerging between implemented distribution procedures and the respective resulting distributions. Using multi-stage procedural games and taking into account the interpretation of subject communication, we test whether successful proceduralization or resubstantialization, i. e. the recourse to subjective ideas of need, takes place. In our experiments, subjects are divided into two groups. Group A deliberates on a procedure for a distribution problem (allocation of living space / mandatory minimum income, with or without induced need). Group B can then either implement and accept the procedure or give it back to group A (Ultimatum Game /

Dictator Game). The contributions of the participants are recorded via computer chat and video and their content is later analyzed.

In sub-project C1, we assume that also the acceptance of needs-based distribution procedures is challenged by a recourse to substantial ideas of need. This leads to a reciprocal increase of references to procedures and needs, which in turn results in the increasing refinement, and transparency of procedures.

In sub-project C2 (associated to FOR 2104), Prof. Borchers, Prof. Diederich, and Jun.Prof. Nicklisch focus on dissent among experts. Due to their complexity, questions of distributional justice are often delegated to expert groups in order to achieve factual objectivation. In sub-project C2, we investigate what happens, when experts do not reach consensus because of differences in factual knowledge or because of diverging pertinent principles of justice. Through experiments, we gain insights about how such dissent develops among experts to understand the effects of diverging knowledge and different concepts of morality on the decision-making process about a proposal for a distribution following the principle of needs-based justice. Furthermore, we investigate how non-agreement among experts affects the collective acceptance of needs, i. e. how the group that asked the experts for help reacts to their dissent. The computer chats between the subjects who were assigned the role of experts as well as the discussions within the group of "lay people" are analyzed using qualitative and quantitative methods. The theoretical expectation of our sub-project is that especially moral dissent strongly limits the possibilities of factual objectivation of need described in the expert hypothesis. This could lead to a problematic trade-off between a multitude of opinions in an expert group, which pluralistic societies want, and the hoped-for stabilizing effects of expert judgments.

In sub-project C2, we assume that knowledge-based conflicts between experts can be more easily resolved than those based on morality. When it comes to the stability of the process of the identification of needs, homogeneity among experts on ideas of morality is more important than the experts' judgment itself.

## D: Sustainability

The concept of sustainability emphasizes long-term reciprocal effects between distributions following the principle of needs-based justice and resource efficiency.

Triggered by distributional procedures, how strong are incentivizing and reciprocal effects of the collective on the individual level when it comes to a conflict of interests between needs-based justice and productive efficiency? Is a needs-based distribution also economically sustainable in the sense of an implicit social contract? Or, to put it polemically, does distribution necessarily lead to “servitude” (Hayek, 1944)? One way to approach these questions that touch the core of liberal societies and of democratic welfare states, is to look at the income elasticity of labor supply (cf. e. g. Heckman, 1993; Saez, 2002). The two sub-projects in column D deal with “Justice, Need, and Incentivizing Effects in Voting Processes” (D1) and “Redistribution Based on Needs-Based Justice as a Social Contract” (D2).

In sub-project D1, Jun.Prof. Nicklisch, Prof. Schnapp, and Prof. Schramme investigate which economic incentivizing effects trigger redistribution (following the principle of needs-based justice): How is the amount of goods that are produced in a society, and therefore subject to (re-)distribution, influenced? Is redistribution following the principle of needs-based justice sustainable? Textbook theories suggest that any form of redistribution leads to a decrease in performance incentives and consequently to a decrease of assets available for societal redistribution (e. g. Myles, 1995). Thus, redistribution entails implicit costs. In our sub-project, we analyze whether a redistribution following the principles of needs-based justice shows a higher societal acceptance than other distributional principles and thus entails lower implicit costs. One important aspect is how transparency in determining needs influences the implicit costs of a redistribution. We operationalize transparency looking at the predictability of the outcome of a vote on the tax rate necessary to satisfy a need. For instance, we compare a very fair but unpredictable voting procedure, such as the lottery, to a very unfair but

predictable dictatorial decision. Using a production-redistribution game, we theoretically analyze and experimentally test how transparency in redistributive procedures and the heterogeneity of needs interact with individual production decisions.

In sub-project D1 we follow two working hypotheses: On the one hand, we expect that distributions following the principle of needs-based justice are only then more sustainable than other distributive principles if the distribution of needs and productivities within a group is sufficiently homogeneous. On the other hand, we assume that a redistribution following the principle of needs-based justice through a transparent voting procedure per se lowers implicit costs when compared with non-transparent voting procedures.

In sub-project D2, Prof. Traub, Prof. Kittel, and Prof. Tepe address the question which economic incentivizing effects trigger redistributions that follow the principles of needs-based justice under conditions of uncertainty in decision-making situations. The majority of all measurable income inequalities are caused by exogenous coincidental influences and cannot be explained by different abilities and preferences. On the one hand, the redistributing welfare state acts like a social insurance that reduces income risks over a lifetime and incentivizes investments. On the other hand, like a private insurance, it incentivizes moral misbehavior (moral hazard), i. e. the neglect of self-insurance and self-protection (Ehrlich and Becker, 1972). In our sub-project, we interpret social insurance according to Harsanyi's utilitarian ethics as a social contract written by an impartially involved observer - a moral expert. However, this contract can only be sustainable if its negative incentives in the form of moral hazard do not supercede the positive incentives through the willingness to take higher risks. The fundamental empirical question is how strong the incentivizing effects are that are triggered by the application of different distributive principles. In sub-project D2, we investigate this question using data generated through experiments. The theoretical framework of our experimental design is based on Sinn's (1995, 1996) theory of the welfare state. In the experiment, subjects decide in different treatments about the proportion of their budget they want to put in a

risky investment and then determine to what extent they want to engage in self-insurance and self-protection.

In sub-project D2, we assume that the orientation towards needs-based justice leads to a lower discrepancy between the principles of justice applied by moral experts and strategically influenced preferences. As a result, we assume that (needs-oriented) social insurance, in net terms, generates more favorable incentivizing effects compared to other distributional principles, such as equality and performance-related justice.