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*Social Justice in the Context of Redistribution**

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1. Introduction and Research Question

The discussion about a basic income "has gradually become the subject of an unprecedented and fast expanding public discussion throughout the European Union. Some people view it as crucial remedy for many social ills, including unemployment and poverty. Others denounce it as a crazy, economically flawed, ethically objectionable proposal, to be forgotten as soon as possible, to be dumped once and for all into the dustbin of the history of ideas." (van Parijs 2004, p. 8)

Especially in Switzerland an ambitious effort to establish a basic income scheme was made. Under this initiative each adult would have received an unconditional and equal payment each month. However, Swiss voters rejected the plan to introduce a guaranteed income for all. According to the BBC, the main reason for voting against the basic income was the threat of a high redistribution caused by the tax payments (BBC 2016). The Swiss government also opposed the idea because it estimated the basic income to cost "three times as much as current annual federal government spending" (Ralph and Tetlow 2016).

Analysing this debate, it appears that the perception of fairness prevailing in the Swiss population does not meet the normative conception of an unconditional basic income as proposed by the Swiss government.

We take the results as well as the arguments of the referendum as an occasion, to address two basic questions in the debate on social justice in the Federal Republic of Germany: In the first place, within the framework of a redistribution policy, which of the basic income schemes are preferred by the German society from a normative *and* positive point of view? In more detail, this paper explores which social security system should be introduced in order to be perceived as just. After such a system has been implemented, do the individuals still decide on the same normative concept if they approach reality? Another aspect which is worth being investigated is the line of arguments made in the debate on basic incomes.

We approach these specific questions by experimental research. More precisely, by designing simple decision-making situations in a laboratory environment in order to gain insight into normative as well as positive social preferences on different principles of economic justice and the basic income schemes they are assigned to.

Our laboratory experiment involves the choice of three different distributional income schemes which are financed by a linear tax differing in height. Within this experiment, participants are asked to choose between a conditional income scheme and an unconditional basic income scheme either involving a participation or subsistence level. Hereby only the participation level of basic income enables individuals to participate in society whereas the subsistence level of

basic income as well as the conditional welfare system only guarantee survival of individuals. In the experiment the participants have to make choices on two stages. At the first stage, a unanimous agreement has to be reached under the so-called veil of ignorance. By this we mean that the subjects have to mutually agree on the distributional system without knowing their future social position in society. The first voting stage is followed by a production game which gives the subjects moderate information about their possible social position in future society and about their income after redistribution. We assume that better the individual skills, the higher the productivity and the income respectively. However, through the production game, the participants do not gain full knowledge about their future social position. On the second voting stage they repeat making a choice for the given income schemes referring to the knowledge of the production game. On this stage the subjects must reach a simple majority. Both voting stages are supported with a chat. If there is no agreement achieved, the individuals go back to the chat. After the two votes, there is a second production game that yields the certain social position of each participant and the specific income after redistribution under the chosen income scheme.

Before we turn to the main body, we briefly sketch the organisation of this paper: Section 2 addresses the different components of different social security systems including the allocation of income, a minimum income as well as the respective financing mechanisms. Section 3 covers the description, purposes, hypotheses and results of our experimental design. Section 4 deals with concluding remarks on the empirical procedure including a prospect for further research.

2. Theoretical Foundation

Before deriving a theoretical justification of certain basic income conceptions which serve as starting point for our laboratory experiment, it is necessary to first define their characteristics. This procedure also facilitates to illustrate the principles of justice the conceptions are derived from. These principles are to justify the distributional systems from the normative point of view.

We start by distinguishing an unconditional basic income from present conditional distributive welfare systems with respect to their different distributional consequences.

"Basic income is an unconditional income paid at the same rate to all individuals by the state. 'Unconditional' means here, inter alia, that the level does not depend on family or household circumstances or on the income from other sources received by the recipient or anybody else (for example, a spouse)." (Barry, 1996, p. 242)

Compared to the negative income tax currently existing in many welfare states the crucial difference is that the unconditional basic income is paid to any individual on the same level. There is no work requirement and the basic income is paid out irrespectively of any income from other sources as a matter of personal right. In contrast to this, the benefit of a negative income tax system is paid only if the gross income is lower than a specific baseline of earned income. Therefore, the benefit of the negative income tax is conditioned in the sense that it is 'means-tested'. The size of the benefit is sensitive to an assessment of a person's income. For the negative income tax there are only one-way payments and benefits respectively. Individuals with an income higher than the baseline finance the benefits distributed to individuals with income lower than the threshold value by income tax. In our case, we assign the negative income tax to the conditional welfare system. Within the basic income scheme there are two-way payments so that everyone has to participate in financing the benefits paid out to every individual. The degree of redistribution increases for people yielding a high income (van Parijs 2004, pp. 10-14).

Taking both, opponents as well as supporters of a basic income into account, we notice that their positions are derived from different principles of justice. The course of academic debate on the justification and derivation of these economic fairness principles mainly covers two contrasting approaches:

An endogenous process involves negotiations and a mutual agreement on constitutional rules that define the preferred concept of redistribution. This approach refers to an endogenous justification of social states which is based on collective action either focusing on the preferences or ethical codes of the society under discussion or a unanimous agreement as a result of a process of voluntary social contracting. Thereby the process of social contracting entails a stage of rule formation named the constitutional stage where the individuals decide on outcomes or rules that are perceived as socially fair. Only if a society endogenously develops constitutional rules and comes to a unanimous agreement the rules are justified and thus are assumed to be socially fair. The following second stage is the post-constitutional stage or the in-period-choice where people are granted access to certain information under a simple majority vote. This stage serves to test whether the individuals comply with the rules which had been agreed upon on stage one. If they follow these rules, their behavior is considered just otherwise it is perceived as socially unjust.

The second approach to be mentioned is an exogenous, so-called top-down-approach. This process involves the application of fairness principles which are imposed from an external authority – thereby excluding the consideration of individual and social preferences. In contrast to the endogenous process, this approach does not contain a contractarian stage since it is the authority undertakes the task to choose a principle.

In this paper, we focus on the endogenous approach, particularly on John Rawls' contractarian approach on how to set up just rules for a distributive system. In his publication, *A Theory of Justice in 1971*, Rawls utilizes the social contract theory in combination with individuals designing basic rules for society under the crucial assumption that they do not know their social position but only the outcome of any set of rules. This can be seen as the first voting stage in our experiment. On this stage, no one is advantaged with information about their personal position in the society. Under the so-called veil of ignorance assumption, Rawls claims that rational and self-interested individuals agree unanimously upon rules which are impartial and independent from personal interest. Resulting from this, the basic rules which are agreed upon are justified according to the social contractarian approach and thus can be seen as socially fair. He further assumes that people choosing under the veil of ignorance are risk averse and thus maximize the utility of the individual finding him- or herself in the worst-off position in society (Rawls, 1971, pp. 17-22). Under such conditions, the established rules are to maximize equal political liberties for all. Rawls defines these liberties as primary consumption goods and democratic rights that are essential inputs for a certain life plan pursued by individuals in society. He argues that only if these primary goods are given without any notice for the social position equal standard liberties for any position in society can be reached. With regard to our experiment this can be seen as the normative justification for the introduction of the basic income. Only if any individual in society is in property of the basic income equal liberties for all will be reached (Tondani 2009, p. 251). Transferring the social contract theory to the structure of our experiment, we see that the first voting stage is the constitutional stage where the participants mutually agree on the preferred principle of justice under impartiality.

Phillipe van Parijs elaborates the concept of Rawls and further argues that equal liberties do not only contain the choice between different primary consumption goods but also the freedom of choice between various types of lives a person could live. In this context, he contributes to the term of real freedom which refers to the possibility to participate in society and to pursue the realisation of a good life (van Parijs 2000, p. 6). From Van Parijs' point of view only an unconditional basic income at the highest sustainable level leads to a situation in which any individual within a society has real freedom to pursue its own life goals. Furthermore, he states that the highest sustainable level of basic income is either an unconditional demand of justice or is something to which each citizen has an unconditional right. In short, social justice entails maximin real freedom and he draws the conclusion that this requires the maximum basic income (van Parijs 2004, p. 18).

In our experiment, we call the maximum level of basic income the participation income. Within this scheme all individuals are able to participate in society and can pursue their own life goals without any notice of their social position. The participation basic income involves the highest

degree of redistribution of income. We distinguish this from the subsistence level basic income in our experiment. This is a form of partial basic income that only guarantees survival of individuals. For the possibility to participate in society and for the pursuit of certain life goals the individuals have to work additionally.

Having explained Rawls' derivation of a just income distribution we also have to mention the criticism against his argumentation and assumptions. Predominantly, Harsanyi explains that the maximin principle of Rawls approach is paradox and leads to irrational choices. He argues that it is insufficient reasoning that individuals choose in a risk averse way under the veil of ignorance. If people do not know their social positions they cannot have any probability assumption for certain outcomes and thus are assumed to choose in a risk neutral way. Harsanyi's solution is to replace the decision rule used in the original position of the maximin principle with the expected-utility maximization principle under the equiprobability assumption. Any possible outcome under a given set of rules has the same probability. Therefore, an individual does not maximize the utility of the worst-off scenario but evaluates every possible social position in terms of the expected average utility. This criterion of evaluation is called the principle of average utility. Following this line of utilitarian argumentation he then derives the justification for the negative income tax as an optimal redistributive system since it maximizes the overall expected social welfare and average expected utility for each social position (Tondani 2009, p. 253).

After deriving the theoretical foundation for the basic income and the conditional redistributive system, we can now draw the distributional consequences that result from each of them. One of the major points of criticism against current conditional welfare systems is that it creates negative work incentives since people with an income at the baseline or slightly higher are indifferent between being employed or unemployed. The benefit out of the welfare system is the same as the disposable income out of work. With this regard, individuals with an income at the baseline are assumed to unlikely get into work but to rely only on the benefits. This is called the unemployment trap. Following this line of argumentation some people claim that a basic income is more efficient in terms of work incentives. Since any income from work leads to an increase of disposable income within the basic income scheme it immediately makes an individual better off. The disposable income of individuals only relying on the basic income is lower. Supporters claim that by this change of work incentives the unemployment trap can be solved (van Parijs 2000, p. 5). Furthermore, the introduction of an unconditional basic income leads to distributive effects that are claimed to be more efficient for realizing major social merits such as human dignity and liberty according to Rawls' argumentation.

The BIEN (Basic Income Earth Network Congress) also raises significant general, economic and political arguments in favor of the basic income that are related to central thoughts of social justice.

"A) General Reasons: Liberty and equality, autonomy from bosses, husbands and bureaucrats, community and common ownership of the Earth, health care and prevention, the promotion of (adult) education, and especially the dignity of the poor and of all human beings [freedom];

B) Economic Reasons: efficiency and equal sharing in the benefits of technical progress, the flexibility of the labour market and the fight against inhumane working conditions, the viability of cooperatives and the furthering of entrepreneurship [solidarity];

C) Political Reasons: against the desertification of the countryside and against interregional inequalities, for better relations between the state and the individual, for democratic participation and voluntary work etc. [equality]" (Hanel 2008, p.5).

The main counter argument against the introduction of a basic income that also came up during the Swiss initiative is that the taxes to finance the public funds are too high. The establishment of a basic income in favor of an equitable society is therefore criticized to distort an efficient income distribution. According to the opponents, the distortion results in negative work incentives and so the redistribution leads to significant welfare losses (Atkinson 1995, pp. 41-43).

However, we have to consider that the redistribution firstly depends on the certain distribution of income over society and secondly on the height of benefits that they are collected for. All in all, we cannot make a clear statement for how work incentives change in reality for a certain society if we do not investigate the specific economic framework and the redistributive preferences of individuals.

In addition to the distortion argument, there is the moral reproach that the basic income "conflicts with the fundamental principle of reciprocity: the idea that people who receive benefits should respond in kind by making contributions (van Parijs 2000, p. 11). This means that individuals not contributing anything socially useful to society should not receive any benefits. But if one asks how many individuals really choose to not contribute anything to society compared to those that do socially useful but unpaid work he likely arrives at the conclusion "that nearly all people seek to make some contribution." Taking into account that there are much more people contributing on voluntary basis than people not contributing at all the reciprocity reproach loses strength (van Parijs 2000, p. 11).

3. Laboratory Experiment

3.1. Experimental Design – Description & Purpose

Once the dominating theories on economic justice in the debate of justice and fairness have been illustrated, we now turn to a short description of our empirical approach. To gain insight into normative as well as positive social preferences on different principles of economic justice and on the basic income schemes they are associated with, we decided on designing several simple decision-making situations in a laboratory environment. These situations are based on the concept of impartiality as well as on decisions on just allocations after the “veil of ignorance” is lifted. It was Frohlich and Oppenheimer (1993) who developed a laboratory experiment in which individuals agree on one common principle of justice¹. We use their original experimental approach as a starting point for our experimental design aiming at testing social preferences on different types of social security systems. For this purpose, we created three different pay-off schemes representing three different social security systems. Each of them represents the characteristics of a theoretical concept of social justice according to Rawls, Harsanyi or Friedman as elaborated in section 2. Additionally, we developed a fourth distribution scheme displaying the starting point of the pay-offs, the gross incomes. This is supposed to introduce the funding mechanism resulting from each distribution scheme.

On the first and normative level participants had to agree on one of the three redistribution options unanimously. At this point, none of the participants had knowledge about their social position in the next stage, thus we were ensuring impartiality under the veil of ignorance. According to the theories of justice by Rawls and Harsanyi, a social system is just when individuals in a society agree impartially (under the veil of ignorance) on this system.

On the positive and second level, the participants gained more information about their final social position via a production game. They were asked to vote for one of the three options under majority voting. Thereby leaving the normative world and entering the positive world. Majority voting was chosen as an attempt to isolate an individual notion of justice. By withdrawing the requirements of impartiality and unanimity, the conditions under which participants make their decisions were modified. This allows us to infer a change in voting behavior to these modifications. At this point participants had an idea about the probability of their final social position. With this background the experimental research question translates into: How does the knowledge about social position affect the choice of a redistributive system?

¹ The construction of normative levels in experiments require impartiality and unanimity (Frohlich and Oppenheimer 1993, p. 33-34).

Do the participants change their behavior if they gain information on the probability of their future social position?

The experiment was conducted as a computerized laboratory experiment using the program Z-Tree/Z-Leaf with nine participants in one session.² The participants were chosen randomly at voting age to ensure a minimum understanding of income redistribution and voting mechanisms. An odd number of participants was chosen to facilitate majority voting. The participants were assigned into one group. Each individual was allocated in front of a computer which were placed on a conference table. To simplify the agreement a chat could be used during the whole experiment.³ After a short introduction to the experiment the participants had to vote for a redistributive system.

The three pay-off options displayed were reflecting different redistribution and basic income schemes: an unconditional basic income at participation level (Option A), and unconditional basic income at subsistence level (Option B) and an ordinary conditional income (Option C). It was outlined clearly, that all redistribution is financed by taxation, i.e. higher incomes pay higher absolute amount of taxes. To avoid deception the options were solely presented to the participants as Options A, B and C. The options are summarized in the table below.

Option A (UBI-Participation)	Option B (UBI-Subsistence Level)	Option C (Conditional Income)	Gross Income
2600	3250	3800	4000
2400	2900	3325	3500
2000	2200	2375	2500
1900	2025	2138	2250
1800	1850	1900	2000
1400	1150	950	1000
1300	975	713	750
1200	800	475	500
1000	450	450	0

Option A: This scheme represents an unconditional basic income at participation level. As presented in the theoretical part, a participation level is associated with positive freedom.

² This program allows researchers to facilitate the execution of laboratory experiments, particularly when several participants are involved.

³ We consider this especially important on the normative stage since unanimity is difficult (impossible) to reach without communication.

Consequently, this option entails the smallest range between position one and position nine and the highest amount of income redistribution as well as the highest tax rate of 60%.

Option B: This option represents an unconditional basic income ensuring subsistence level. The range between position one and position nine is bigger than under option A but smaller than under option C. The tax rate is at a medium level compared to option A and C. This option is associated with negative freedom and was calculated with a 30% tax rate.

Option C: This option represents a conditional redistributive system. The range between position one and position nine is higher than in options A and B. Consequently, this option has the lowest redistribution and tax rate. As option B this option is associated with negative freedom. The tax rate of this option is 10%⁴.

The following subsection briefly sketches the justification for the framework of this experiment. But first and foremost, this section will elaborate the rationale behind the most relevant instruments and treatments which are embedded in the different stages. It concludes with what we hypothesize for the two stages.

The general experimental setting is based on the assumption that preferences can be subtracted from observed decision-making behavior (Samuelson 1938, pp. 61-71). At this point, we assume that the participants' choices for a redistributive system reflect their preferences for the underlying theories on social justice which have been chosen carefully. The three main theories we have chosen to be elaborated are the most relevant normative concepts investigated in classical research on social justice in economics. Moreover, they are widely explored in terms of experimental research.

We favored to run the experiment in laboratory over a field setting in order to rule out that the subjects' choices are driven by sympathy or antipathy towards other participants (Irlenbusch 2003, p. 354). Other factors such as being influenced by reputation possibly arising in field experiments should be excluded as well (Irlenbusch 2003, p. 354). Most significantly, the laboratory enables us to implement impartiality as a crucial concept to derive normative preferences. Besides that, there is a body of experimental studies conducted in the laboratory we could rely on. In general, laboratory experiments are a method to identify causal effects in a controlled environment. Often monetary incentives are included as motivation but most importantly economic experiments should be free of deception (Irlenbusch 2003, p. 354).

⁴ At this point, there is to say that in this experiment, the negative income tax system does not lead to an equitable society and an income distribution that contains real freedom for everyone. The benefits only guarantee survival of individuals. On the other hand, it contains the lowest tax rate and redistribution since benefits are paid only if the individuals generate an income below the baseline. The distortion of an efficient allocation is lower for the negative income tax than for the basic income in our experiment.

Participants have to make decisions under different conditions, known as treatments. If the treatment evokes a change in outcome, holding all other conditions constant, the differences in outcome can be interpreted as a causal effect of the treatment (Croson and Gächter 2010, p. 124). One disadvantage is that they often lack representativeness. Experimental economics is often used to investigate existing theories. In this case the theory highlights the dominant variables and the experiment tests the accuracy of those variables (Croson and Gächter 2010, p. 124).

We were eager to ensure an environment for fair agreements over the whole experiment. Part of this environment were to prohibit any exclusion of participants in the decision-making processes, any asymmetry in the distribution of knowledge and the assignment of different interpersonal weights.

In our experiment the first stage serves a control group. More accurately, the first stage forms the normative reference point. Any deviations from this reference point are due to different treatments that were included in the second stage and fully controlled over the whole experiment.

In the first, the contractarian stage, we made use of the condition of impartiality^{5,6} which is supposed to grant us insights into the normative preferences of the group on one of the proposed social security systems. First, the subjects are asked to decide among the three redistribution schemes. For this purpose, they are placed behind the veil of ignorance by intentionally being deprived of information that allow them to infer about the probability of their potential personal income position. The only information they receive is the downward ranked income distributions and the respective social security payments (Irlenbusch 2003, pp. 358–359). By providing minimum knowledge, the risk of the subjects being biased when they make their choices is minimized (Frohlich and Oppenheimer 1993, p. 46–47). For the same reason, the payment schemes were given neutral titling not permitting the subjects to decide solely based on the word framing “conditional” or “unconditional” income. Stage one, in addition, seeks the participants to not simply agree on certain redistribution schemes, but to consider their funding as well. The fourth column, named “Gross Income”, is introduced to illustrate the funding consequences of each option. We clearly announced that in this experiment the instrument used to conduct income redistribution is the taxation of personal earnings. Not only is the taxation mechanism created to serve as primary reference point enabling the subjects

⁵ According to the definition of Frohlich and Oppenheimer, impartial reasoning includes “setting aside one’s particular interests and perspectives and giving balanced weight to the interests of all”. (1993, p. 3)

⁶ A crucial aspect that one should bear in mind, is that Frohlich and Oppenheimer themselves annotated that it might be impossible to create such ideal conditions which can generate pure impartiality. It is more likely to achieve an approximation. (1993, p. 4)

to calculate the absolute tax payment for each income class. But also in order to introduce the opportunity for the subjects to list additional arguments in favor or against options A, B and C. We also make use of the last pay-off scheme "Gross Income" to invoke a slightly higher complexity in the decision-making process. The decision to include more information that have to be taken into consideration was made consciously, even though it is accompanied by giving up a certain degree of control.

After considering the four income schemes, the group is asked to participate in an active exchange of arguments in favor of or against the different redistribution schemes A, B or C. For this collective decision making process, they are provided with a chatroom that only permits them to discuss in writing. Thus, their reciprocal anonymity can be preserved. The main purpose of the chatting option was to facilitate and accelerate the process of reaching a unanimous consensus. The whole framework in stage one creates a hypothetical situation leading to a simple, hypothetical contract empowering an institution to distribute earnings according to their choices. This simple social contract contains the redistribution scheme and basic income level that are perceived as just.

Once a unanimous agreement is reached, the subjects enter the second stage, a post-constitutional and non-cooperative stage. The primary role of stage two is to test whether the choices of the redistribution schemes after they are implemented are diverging from the normative reference point or whether the normative preferences are affected by the prospect of monetary payoffs. With this in mind we relaxed the requirement of a unanimous agreement in order to enable the subjects to deviate from their normative and cooperative decision made in the previous stage. This is done by creating an experimental setting in which the subjects experience the consequences of their personal choices (Frohlich and Oppenheimer 1993, p. 50). For this purpose, the second stage includes two production games. Each of them will be referred to as Treatment A or Treatment B in the further course of this paper. Thereby, stage two provides answers to the question how the participants decide from a positive perspective.

The veil of ignorance is lifted by giving the participants the possibility to earn income according to their performance in production games involving simple mathematical subtraction and multiplication problems. The theory behind production games includes the assumption that individuals gain information about their future productivity allowing them to conclude about their potential to yield income. Presumably, higher productivity is associated with higher earnings. In turn, the level of earnings may convey an individual's position in society. All these connections are reflected in a production game. Applied to our empirical experiment, the paramount function of Treatment A is to mitigate the thickness of the veil by assigning a likelihood of a social position to the subjects according to the results of the production game.

Following this, the social position is reflected by the earnings which were ascribed to the income positions that came along with the basic income scheme chosen on stage one under unanimous voting. Reporting the earnings additionally serves as an incentive scheme for participants.⁷

After their social positions are revealed, the participants are asked to vote for one of the three basic income options again. The group can now come to a consensus by a simple majority voting. Relaxing the voting rules serves to test, whether the individuals comply with the rules in the contract they agreed on unanimously on stage one and whether they still accept them, if they gain knowledge on their possible pay-offs. This option implies that the participants can deviate from their collective choice made on stage one if it serves their benefits. It might possibly evoke the rationale to change their strategy hoping to be better-off if enough other agents think equivalently.

Treatment B follows immediately and involves the same productivity measurement process. Instead of assigning a probability, treatment B assigns a final pay-off position ranging from one to nine according to the results of the second production game. The participants virtually receive their final income based on the distribution they have chosen in the majority voting as well as on their performance in the second production game (= treatment B). Eventually, they give their final majority voting on the income schemes. Treatment B is supposed to provide information either fostering their decision-making according to their normative preferences or fostering their strategy change to leave the experiment with a different distributional scheme.

Our first hypothesis states that under impartiality the participants maximize the expected value of the individual in the worst economic position within the group. The income scheme, that is associated to this principle of justice, is expressed by voting for the unconditional basic income amounting to 1000 Euros for each member of the society according to option A. The group decision is based on the comparison of the original income schemes and the social security payments with each other.

Besides accommodating the findings of our experiment, we also intend to give adequate space to the reflection of what we could have improved. Therefore, we decided to describe the derivation of the hypotheses made in the context of this experiment very briefly.

The hypothesis assigned to the second stage is that under the knowledge of their potential position, the subjects decide more self-serving. More precisely, they either chose a conditional income scheme (option C) or an unconditional basic income pattern at the subsistence level

⁷ Due to financial restrictions of the experiment, we were solely able to display what they could have payed instead of paying them off.

(option B). The rationale behind this hypothesis is that, due to the high scaling of the tax rate of the conditional income (60%) the group might now opt for the less expensive social security system. Another more momentous decision-making factor could be the specific social positions and earnings that are assigned to the participants after the production games. These bear the potential to reduce their payments compared to the minimum income which could be generated in option A.

3.2. Experimental Results

The findings of the experiment yield a strong preference of the participants for scheme A. After 30 minutes of intense discussion during which the probands exchanged arguments in favor of scheme A and B, a unanimous decision for scheme A was reached. Though, in this case it is difficult to talk about unanimity since it seemed that the minority group was “forced” to vote against their will to come to a unanimous agreement. It will be discussed how such a situation can be avoided in the following section of this paper.

In stage one, a two-thirds majority of the subjects pleaded in favour of scheme A, right from the beginning. The other partition started with arguing for B. Option C was not worth being paid any attention to. This allows us to conclude that the income scheme conditioned on participation in the labor market, option C, did not meet the participants` normative notion of a just social security system. Hence, it did not cover their preferences on option C.

The scaling of the taxation rates was given less importance. 30% and 10% as assigned to option B and C were not worth being mentioned. This allows us to draw the conclusion that the only taxation rate which seems to be perceived as unfair is the one associated with the minimum income in option A (60%).

Some of the arguments listed referred to different kinds of incentives. Some pro arguments are based on the association with positive freedom, which would also lead to independence in choices on their professional future. According to the participants, the minimum income as appearing in option A, invokes positive incentives and therefore positive effects on the labor market: people would finally choose their professions according to their abilities and follow their desires instead of making their decision based on market potential. Creativity and even productivity could increase eventually. Due to the small spreads, option A displayed a rather equal income distribution. Additionally, the proponents listed that the poorest is not excluded from society. Another, smaller fraction, stated that exactly the opposite effect could be the case: the minimum income could bear negative work incentives so that the number of employed individuals could be too low to enable the financing of option A. This counter-

argument, resembles the argument that proved to be the driver in the Swiss referendum, was also the funding system accompanied by the different options.

After the first production game, the second voting round resulted in a majority decision for scheme A. Here, eight people voted for scheme A and one individual for scheme B. This allows us to draw the conclusion that no major change in the voting behavior of the participants occurred after they received more information about their social position within the society. Interestingly, however, one person changed their vote from scheme A to scheme B in the second voting. Hence, she or he deviated from his or her notion of a just social security system. The observation of the experimental findings uncovers that this person was positioned at rank 8 after the first production game and thus possibly switched his/her vote to improve his/her own payoff. We can also see that our experiment was not successful in fully supporting the second hypothesis that was explained in the previous chapter. In the following section, we will evaluate some aspects of the experimental setting that may be modified to improve the results of the experiment.

3.3. Discussion

The experimental design as well as the execution of the experiment show several aspects which leave room for further improvement. Considering that the experiment was only conducted once, this is no surprise. For the results to be replicable and valid, it is necessary to have access to a wider population before meaningful conclusions can be derived. Hence, a strong weakness of our results is the lack of representativeness. Firstly, only nine persons participated which is by far not enough to acquire results that can be generalized. Secondly, the major part of the participants were students of Economics. A more heterogeneous group would deliver better results as the Economics students do not represent the society in the real world.

Moreover, the spreads of the income distribution schemes in option A could possibly bias the individuals who follow the following rationale: 2600 is the highest possible income whereas the lowest is 1000. The respective gross income for earning 2600 was 4000, hence the total taxation amount would be 1400. The unconditional income this person would receive would amount to 1000. In fact, in sum the personal income would be 3600 which implies the personal loss due to the taxation would effectively be 400. This could then become the main reason to vote for scheme A. However, none of the subjects used this line of argumentation which might be due to the time pressure to come to their decisions.

Another problem of this experiment is the lack of a monetary incentive structure. As we could not implement a payoff in actual money terms, it is difficult to establish a “real world behavior”

of the probands. They still know that they do not gain real money and thus, are more likely not to behave as self-interested as they would if there were monetary incentives. Thus, in our case, we assume that people tend to vote more in favor of the equal distribution of scheme A.

One of the participants suggested to display the three different income distributions in a histogram to facilitate the comparison of the different schemes. We assume that this would improve the visualization of the (in)equality of the schemes which as a result would perhaps lead to a stronger preference for scheme A.

A further issue that leaves room for discussion is the display of the total sum of incomes for each of the schemes. It seems plausible that the sum of all incomes has some impact on people's choices, especially in the first voting round where the evaluation of the entire distribution and not only the income for the ranked position is taken into account. The total sum of incomes is relevant as it introduces efficiency considerations. Based on economic theory it can be assumed that the total sum of incomes is highest for scheme C and lowest for scheme A. This assumption is based on the theory that high tax rates reduce the incentive to work and thus reduce total productivity. According to this theory, if the sum of all incomes would be implemented in the experiment, it seems likely that people – for efficiency reasons – would divert their vote to scheme C⁸. This is more likely to happen in the first voting.

In our experiment the chat that went ahead of the first voting round was very long and intense. The probands could not come to a unanimous agreement by simple discussion and exchange of arguments. Thus, for time reasons the majority was determined in the chat and the proponents of the minority were “forced” to vote accordingly for the sake of reaching unanimity. The result was scheme A. This is why one of the participants claimed this procedure “has nothing to do with unanimity”. It is essential to find a solution how unanimity can be provoked and enforced. A possible way may be to include a very unpleasant “fall back-option”. This means that a time for the chat is determined and if after the time is up, no agreement has been reached the society falls back in an unpleasant state of anarchy. The situation in this state is characterized by very low incomes for all individuals as no institutions exist in this society to protect property. This mechanism enforces a unanimous decision since all people in the society prefer all other schemes over the state of anarchy. Furthermore, this feature limits the discussion time which also helps to make the experiments comparable if they are run with many different groups.

⁸ We intentionally did not display the calculated sum from the beginning to counteract biases towards option C. This could especially be the case for economics students who are trained to base their decisions on maximizing expected values and expected utilities.

During the experiment we also observed other issues in the context of the chatting behavior and how the majority “forced” the minority group to come to a decision. Even though the chat is to facilitate an anonymous discussion, in such a small group of nine people it was not difficult to conclude from the probands’ body language which opinion they hold. This point shows that the anonymity of the chatroom discussion is restricted. This issue could be solved by using sight protection for instance.

The last aspect to be discussed, is a strong simplification of the experimental design. To support our research hypothesis, the experiment was expected to show that individuals, once they gain knowledge about their future position in the society, they change their attitude on the redistribution scheme and vote in a more self-interested way. In other words, in the first voting round they vote under the veil of ignorance and their voting is assumed to represent what people find just in general and it may also reflect people’s risk-averse attitude. In the second voting, when the veil of ignorance is lifted, individuals may rather vote for the scheme that is best for their social position. Hence, voting in the second round does no longer reflect what kind of social system people find socially just but what is best for them personally. In an experiment where only this assumption about the change in people’s voting behavior is to be proven, the initial design can be simplified. Then it is sufficient to randomly allocate a social position to every proband after the first voting and then proceed to the second voting. This procedure allows a normative-positive analysis of social justice decisions.

4. Concluding Remarks & Prospects

The experiment shows that individuals base their choice of a redistributive system on other values than pure individual maximization of (expected) utility. On the normative level, an unconditional basic income (Option A) was chosen. This result is in line with the Rawlsian theory of justice when individuals establish rules for a society in the “Original Position”. The participants in the experiment followed the maximin rule as their principal for evaluating the least advantaged position. This result supports the first hypothesis and is not surprising due to fulfilling the requirement of impartiality under the assumption of risk-aversion.

However, the findings do not provide clear evidence that individuals deviate from their choice on the positive level, once they are provided with more information about their future position. We expected the individuals to give higher weight to the probability of their future social position in their individual decision-making process. This was expected to evoke a change in their rationale – especially for the individuals who gained the impression that they would end up in a high income position. Hence, we expected them to favor an unconditional basic income at subsistence level (Option B) or a conditional income (Option C). Overall, the choice of the group did not respond to the treatments A and B. Thus the second hypothesis is rejected.

Apart from one case, a discrepancy did not occur between the normative and positive choices. This behavior only indicates a switch in social preferences which could lead to unjust behavior for one individual.

If the subject pool was enlarged massively, a potential policy implication could be that there exists a simple majority in favor of the introduction of an unconditional basic income amounting to 1000 Euros. Another weaker observation could be that at least a simple majority shows preferences for a social security system which involves a redistribution of income such that the needs of the worst-off individual are more than covered. Pay-off scheme A also expresses a more or less equal distribution of incomes. This might also appeal to individuals who prefer equal incomes over unequal incomes. Ensuring positive freedom was the main motive for the introduction of a social security system as constructed in option A. These are the claims that are associated with this type of unconditional incomes. For that purpose, the participants would accept a large tax rate in turn.

If the misgivings outlined in section 3.3 were ruled out these would be strong policy implications which could be regarded as advocating a shift towards a high minimum income and more equal distribution of incomes - including a high taxation mechanism.

Further research could include actual monetary pay-offs such that a loss in utility through taxation would increase. Moreover, other modifications as they are presented in the discussion section should be tested with regard to their potential impact on the results. We only tested three normative theories which might not represent some participants' preferences. These could differ from those we have chosen or they could include a mixture. We also suggest ruling out the misgivings by extending the number of participants which does not necessarily involve the group size but its socio-economic composition: Taking cross sections of age, gender and profession seems plausible.

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