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## The Value of the Right to Vote

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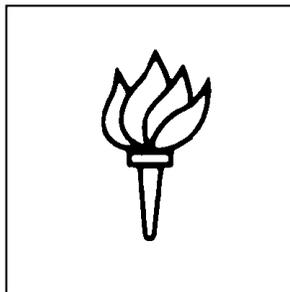
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The Value of the Right to Vote

*Stephan Tontrup and Rebecca Morton*

November 2015

# The Value of the Right to Vote<sup>1</sup>

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## **Abstract**

We conducted a mixed lab and field experiment during a naturally occurring election. We offered subjects the opportunity to relinquish their voting rights for money. Significantly more participants refused to sell their rights than later participated in the election. Subjects were more willing to accept money for abstention from voting, than for giving up the right to vote itself. In a second experiment we gave subjects an incentive to vote. Before and after the election we measured participants' knowledge about the parties' positions. Even though they would not have voted without the incentive, they improved their knowledge suggesting that the value the vote. Our findings show that people derive strong utility from their democratic rights and status as a voter independently of participation. Based on the results we develop a new concept of rights utility and conclude that low turnout does not translate into democratic apathy and should not be used to justify quorum rules and restrict direct participatory rights.

# I Introduction

As Pintor, Gratschew, and Sullivan (2002) report, turnout in elections worldwide has declined since 1945. In particular, they find that established democracies have experienced a steady decline in turnout since the 1970s. Most theories of democracy assume that the value individuals gain from the democratic process is attached to the act of their participation. Rational choice approaches typically assume that individuals receive investment or instrumental benefits which depend on the effect their votes might have on the outcome of the election and therefore the benefits they might derive from that outcome. Other theories suggest that beyond investment benefits individuals receive value from expressing their preferences or performing what they perceive as their civic duties. Since in established democracies voting costs are usually small, low participation seems to imply that humans then receive little value from democracy either in terms of investment, expressive, or civic duty benefits. That is, if the value citizens receive is tied to the act of their participation in that process, then it only seems reasonable that low turnout is an indicator of indifference to the democratic process, apathy, or disenchantment with politics. Low turnout is believed to suggest illegitimate government. As a consequence, turnout rates are typically subject to much analysis after each election and the decline in turnout in western democracies has received particular attention. The low turnout rates in established democracies have been used to justify restricting participatory democracy through quorums or, alternatively, the imposition of compulsory voting.<sup>1</sup>

In this study we argue that individuals in western democracies derive strong utility from their participatory rights suggesting to strengthen them rather than using low turnout as a justification to reduce them. We dispute the argument that low turnout

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<sup>1</sup>On quorums see Qvortrup (2002) and Lijphart (1997) on compulsory voting.

implies voter apathy in westernized countries. We show that beyond the investment, expressive, and civic duty benefits or utility which are attached to the act of participation individuals derive “rights utility” from being an entitled member of the electorate, entitled to a vote or some other participatory right in the democratic process. The central consequence of our concept of rights utility is that the value people derive from an established democracy can be independent of whether they actually participate in elections and exercise their rights and status: It distinguishes the effects democratic entitlements have on utility from the effects of actual participation. While the question of what motivates people to vote has received enormous theoretical and empirical attention, the concept of rights utility we propose is new to the literature.

Only one early survey study by Frey and Stutzer (2000) points to our understanding of rights utility. These authors find that the greater the number of democratic rights with which a community entitles their citizens the higher the life satisfaction the citizens reported in the survey. They argue that their finding provides evidence for process utility as opposed to the instrumental value a vote conveys.<sup>2</sup> We think that the term process utility is better viewed as limited to non-instrumental utility derived from the act of participating in the election, that is, part of consumption or expressive utility. While value derived from the mere entitlement with democratic rights seems more usefully described as rights utility.

We test our proposition in an experiment which mixes elements of laboratory and field studies. In our central treatment students can accept monetary compensation for surrendering their voting rights in a naturally occurring election at the University of Muenster (Westfaelische Wilhelms Universitaet). Only about 20% of the eligible students typically submit a vote in these elections for the student parliament. This election should

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<sup>2</sup>See also Lind and Tyler (1988).

thus be a strong example of voter apathy. If it is true that people derive value from the act of participation alone, then low turnout should mean that the vast majority of students will readily sell their voting rights. However, many refused to sell their rights when required to give up their status as eligible voters before the election. In an alternative treatment other students could claim the sales price by not submitting a vote during the election. Thus, choosing to sell their voting rights did not require these students to relinquish their rights before the election was over. The percentage of students who were willing to sell their voting rights but maintain their status as voters until the election is over was significantly higher than the percentage of students willing to relinquish their rights before the election. This treatment effect revealed that students valued their status in the democratic process independently of their investment and expressive or civic duty benefits tied to the act of participation. That is, the entitlement to the right to vote provided them with rights utility. From sell prices we estimate that the value of the right to vote independent of participation is substantial, almost equivalent to a monetary value of 7 euro. The treatment effect should not be influenced by moral objections against selling voting rights which should, if present, apply to both groups of students equally, given random assignment.

We check the robustness of our results by conducting a second online experiment during a subsequent election at the university. Yet in this experiment all subjects were given the option to reconsider their choice. As in the first study, in one treatment subjects can sell their voting rights and will be eliminated from the electoral list. In the second experiment they have the option to purchase back their right if desired. In the other treatment students could keep their legal status as voters but agree not to participate for a price, retaining the option to pay to participate if they wished. We find that the treatment difference had a significant effect on the prices subjects were willing to accept

and their likelihood of taking an offer.

We support our central finding that subjects experience strong utility from their legal status as voters in an additional treatment which provided subjects with incentives to submit a ballot. If the students, who were not likely to vote as they participated infrequently or not at all in past elections would indeed be indifferent about their democratic rights as standard theories claim, we would expect them to make random choices or cast blank ballots which would have earned them the same payment. Instead in line with our concept of rights utility they revealed concern about the meaning of their own vote and the election. They became more knowledgeable about the election before submitting their votes.

Our analysis points to a problem with standard theories of voting where individuals receive utility only from the act of participation. By overlooking rights utility these theories translate abstention into apathy and end up systematically underestimating the importance of democratic institutions to individuals. Our approach suggests that despite their abstention, people care about the political process and their status as entitled citizens in that process. For policy makers our findings imply that compulsory voting measures or quorum restrictions of direct democratic procedures, which are often suggested as appropriate responses to low turnout, may be attempting to cure a problem (voter apathy and indifference) that is far less severe than perceived through the lens of standard theories. Quorum restrictions are likely even counterproductive as they take away voters' legal status making whether their votes count conditional on whether a quorum is reached. Instead people can derive direct utility from strengthening their voting rights.

In the next section we present our experimental design. In Section III we analyze our results and Section IV discusses policy implications and concludes.

## II Design of Experiment 1

### II.1 Subjects and Venue

We conducted the experiments at the University of Muenster. The subjects were students eligible to vote in an up-coming student parliamentary election (a total target population of 38,986). The turnout in these elections is generally low; in the election we study the participation rate was 19.5%. Students were recruited via E-mail using the entire student listserv. The E-mails invited students to participate in a decision-making experiment and informed them that their participation would be paid based on their choices in the experiment and chance. Students were told the experiment would take place on two separate dates, two days before the election and the day after the election. They were also instructed that attendance on both dates was required for payment and that they would be paid on the second date. No other details of the experiment were revealed to subjects during recruitment.

Thus the experiment was conducted in three stages – Pre-Election, Election, and Post-Election. The Pre-Election and Post-Election stages were completed each in a single day. All sessions took place in a large room with 12-13 subjects. Two subjects were seated at each table. Large cardboard boxes were used to provide subjects with privacy; it was impossible for subjects to see each other once seated. In total, 298 subjects participated in the Pre-Election Stage and 159 of these participated in the Post-Election Stage (as described below, only 188 of the original 298 were invited for the Post-Election Stage of the experiment). Each subject was assigned an individual 4-digit ID code for the experiment. Subjects' names and other demographic information were not collected and all subjects' data was recorded using the codes.<sup>3</sup> We elicited information after the

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<sup>3</sup>Our agreement with the university precluded collection of demographic information to maintain anonymity.

experiment from an election official (described below) as to whether our subjects voted in the student parliamentary election. All subjects gave their permission for us to elicit the information. The information on voting was provided by the election official via ID-codes such that subjects' turnout decisions remained anonymous to the experimenters.

Prior to conducting the experiment, the experimenters obtained approval from university officials and student government leaders. The student government selected the election official, who also agreed to support the experiment. All subjects were given a statement by the experimenters containing a picture of the election official, which clearly explained that the election official was in agreement with the experiment and would implement the experimental protocol. Note that the exact details of the experiment were only provided to just a few student government leaders and university officials, so it is implausible that any subjects knew about the particulars of the experiment in advance. Furthermore, as discussed below, many subjects were surprised and angry that the experiment had been approved.<sup>4</sup> Our privacy protection agreement with the student government and the university prevented us from asking demographic questions such as age and gender. However, we ensured that both genders were equally represented in each session. Furthermore, since all subjects had to be students eligible to vote in the election we expect little variation in terms of age and educational backgrounds.<sup>5</sup>

## II.2 Treatments

The first experiment consisted of five different treatments: Baseline, No Right, No Use, Incentive, and Buy. We describe the treatments in detail below.

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<sup>4</sup>After the experiment was concluded and subjects were debriefed on the objectives of the study, the subjects welcomed the approval of the study.

<sup>5</sup>In order to maintain anonymity, subjects arrived for the experiment without pre-registering. Upon arrival, assignments to sessions were made such that gender was perfectly balanced.

## II.2.1 Schedule of Treatments

We combine a between and within-subjects design. Specifically, the Pre-Election Stage was comprised of three parts, Parts 1, 2, and 3. Parts 1 and 2 presented each one of the treatments, while part 3 contained a survey questionnaire. 219 subjects participated in Parts 1 and 2 of the Pre-Election Stage. Subjects were told that either Part 1 or 2 would be implemented and they would learn which part would be paid after both parts were completed. Participants received instructions sequentially. That is, only after completing one part of the study, they were given the new instructions for the next part. Since subjects did not know which of the two Parts (1 or 2) determined their payments, we presume that they invested the little effort needed to make a careful decision in both short studies. In Part 1, they were randomly assigned to either the No Right or No Use Treatment. After completing Part 1, the subjects were randomly assigned to either the Incentive or Buy Treatment in Part 2. The randomization was designed such that roughly equal numbers of subjects participated in each treatment combination. After completing either the Incentive or Buy Treatment the students were instructed that only Part 2 of the Pre-Election Stage would be implemented. In Part 3, all subjects completed the Survey. Subjects were then dismissed and told that they should come back after the election at which time they could pick up a sealed envelope marked with their ID codes containing their earnings.

An additional 79 subjects only completed the Survey but not the treatments of Parts 1 and 2.<sup>6</sup> We label these subjects our Baseline Group as we use them as a benchmark for some of our comparisons in the results section.

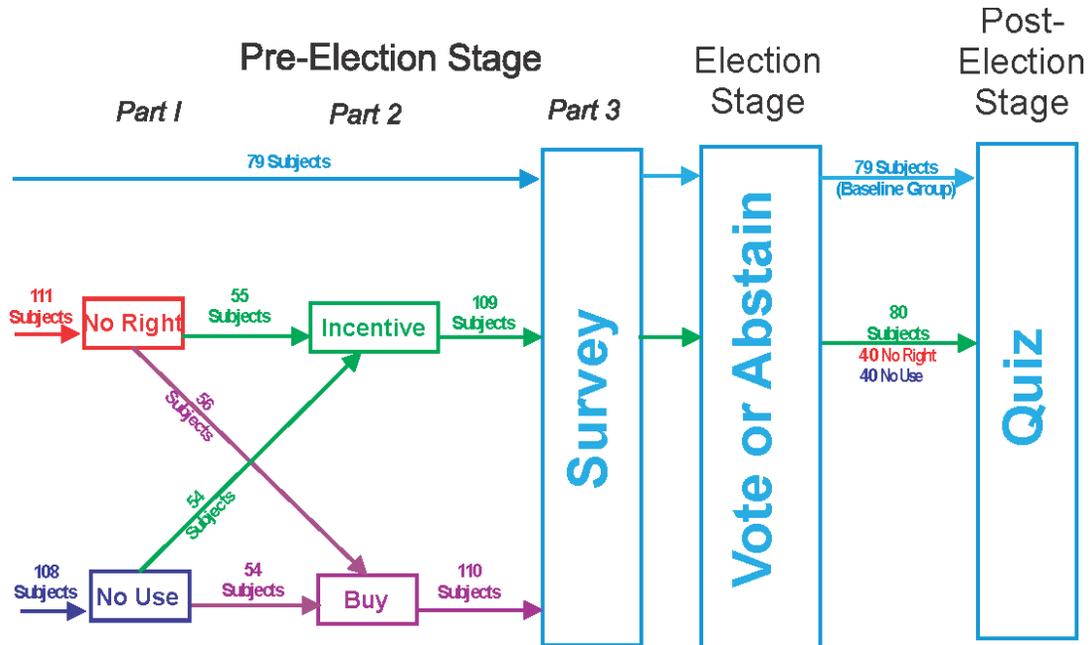
In the Post-Election Stage those subjects who had been assigned to either the In-

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<sup>6</sup>We recruited 80 subjects for the Baseline Group. Only one subject dropped out without completing the survey after learning that he or she would not be paid until after the election in the Post-Election Stage.

centive Treatment or Survey only (the Baseline Group) were invited to participate in a Quiz. 100% of the Baseline Group returned for the Quiz and a little over 73% of the Incentive Treatment subjects returned for the Quiz. Figure 1a summarizes the treatment combinations we implemented and numbers of subjects assigned to each combination.

Figure 1a: Timeline in Study 1



## II.2.2 Treatment Descriptions

### Part 1 of the Pre-Election Stage: The No Right and No Use Treatments

The No Right and No Use Treatments are the central focus of our study. In the two treatments we offered subjects the opportunity to either sell their voting rights or forgo participation in the election for a price using the Becker/Degroot/Marshak mechanism (hereafter BDM, see Becker, et al. 1964). BDM is a well-known procedure that under standard assumptions incentivizes participants to reveal their true willingness to accept valuations. Each subject was asked to name a price between 1 cent and 25 Euro at which they would be willing to sell either their right to vote in the No Right Treatment or their

option to participate in the No Use Treatment. If sold, the right ceased to exist and could not be used by anyone else. Similarly, if the option to participate was sold, it could not be used by someone else. Students could also decline to sell their rights or options to participate. Subjects were instructed that a random price would be drawn between 1 Cent and 25 Euro (hereafter BDM Price). If they sold right or participation option they would be paid the BDM price.

In the No Right Treatment (111 subjects), students were instructed that their names would be taken from the electoral list and they would thus lose their entitlement to vote should the price they named be below or equal to the BDM Price. By contrast, in the No Use Treatment (108 subjects), the students kept their status as eligible voters during the election. They were entitled to be paid, if they chose not to participate in the election and if the price they named was below or equal to the BDM Price. The treatment effect between the No Right and No Use Treatments measures whether the legal status of being an eligible voter in the election was valuable to students. We claim that individuals derive utility from the legal status they are entitled with in democratic processes and elections. We call that utility Rights Utility.

Our experimental design allows us to rule out potential confounds. One major aim of the design was to make sure that the results were not driven by participants who reject being paid for an action they believe might be perceived as unethical by University bodies or even illegal. We took several steps to rule out this potential confound. First, we made the legal approval and the University's explicit support of the study salient in the instructions in order to convince subjects that whatever decision they made when attending the experiment was neither illegal nor objected to by the University. Still, some subjects may have figured that refusing to sell their voting rights was the socially desirable choice. Their refusal to sell could then have been motivated by a willingness

to conform to the expected social norm rather than their true preferences. To mute this motivation we informed participants that their anonymity was strictly guaranteed by means of a double blind procedure. Experimenters did not know the names of participants, who were given anonymous ID's throughout the sessions. The same ID's were also used when the experimenters were notified by the election officials as to whether participants had submitted a vote in the election or not. Participants were told that only the head election official would learn their choices in the No Right Treatment in order to remove those who sold their votes from the electoral list. In the No Use Treatment we also instructed subjects that the election official would be told this information to hold any social desirability concerns constant across treatments. We informed subjects that the election official is obliged by electoral laws not to pass on any information about the decisions voters have made in the experiment and the election. Our results indeed suggest that social desirability did not distort our participants' behavior. In the Survey subjects reported a rate of participation in past elections that approximates actual turnout rates extremely well, even though the turn out rates are very low. If subjects would have cared about social desirability they could have exaggerated their past participation without a cost. Generally the low turn out rates in student elections make the existence of a social norm prescribing students to vote in these elections that could trigger social desirability motivations unlikely.

But even if we assume that this motivation exists in our experiment, it should have been equally present in both treatments: In the No Right Treatment as well as in the No Use Treatment subjects were given the opportunity to refuse to sell their voting rights and thus choose a socially desirable option, thus this potential confound should have been cancelled out between treatments. Similarly, moral convictions that voting rights should generally not be sold will be equally likely to influence choices in both treatments. Hence,

the treatment effect should be unaffected by such concerns.

The previous literature reports that subjects may have difficulties understanding the BDM procedure.<sup>7</sup> We therefore asked control questions before the vote-sell treatments which did not reveal systematic problems. Yet, if difficulties went undetected, they should have been as likely to affect either treatment given random assignment.

**Part 2 of the Pre-Election Stage: The Incentive and Buy Treatments** After completing Part 1, subjects were assigned to either the Incentive or Buy Treatment in Part 2. Recall that subjects were instructed that only one of the two Parts, 1 or 2, would be implemented. They learned only after finishing Part 2 that Part 2 was selected for payment. In the Incentive Treatment, we gave subjects the option to be paid for casting their vote using the same randomly drawn price (which had not yet been revealed) as in the No Right and No Use Treatments. They were asked to name a price between 1 Cent and 25 Euro. If their chosen price was below or equal to the BDM Price, then they would receive the BDM Price as a payment if they voted in the election. If their chosen price was above the BDM Price, they would not be paid. Subjects also had the option to reject any payment for voting, by either indicating a price higher than 25 Euro or by not indicating a price at all. The Incentive Treatment allows us to measure the value that voters place on actual participation and contrast it with the rights utility they derive. We assume that subjects value their voting rights independent of the act of participation. If that is true then we expect individuals to refuse to sell their rights or demand a high price for selling them, while they ask for a compensation to participate in the election. Standard theories by contrast would expect that subjects who refuse to sell their voting right, derive their valuation from the act of participation and thus should be willing to

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<sup>7</sup>See Plott and Zeiler (2005).

vote without demanding any payment for it.

Finally, in the Buy Treatment we measure, whether subjects are also willing to buy a participatory right. The laboratory setting allows us to strip the right from any instrumental impact on outcomes and measures the utility individuals derive from the bare legal status. Subjects were given an endowment of 100 points (10 points = 0.50 Euro) and the option to buy shares of a company. The company would invest all of its financial capital in one of two assets. The assets had some positive probability of increasing subjects' payoffs by a fixed percentage, but they differed in risk and return:

- Asset 1: 60% probability of the investment multiplied by 3, 40% probability of the investment multiplied by 0.
- Asset 2: 30% probability of the investment multiplied by 2, 70% probability of the investment multiplied by 1.2.

Subjects could choose to purchase shares with a vote or shares without a vote. Shares with a vote cost an extra 10% of the amount invested. Subjects received as payments the returns of the asset purchase plus any endowment not invested or used for paying for voting rights. The voting rights for choosing the asset were weighted. Subjects were assigned to 3 other partners whose votes each had a weight of  $2/7$  (for a total of  $6/7$ ) while their own vote had a weight of  $1/7$ . Subjects were given a control question to make sure that they realized the consequences of this particular distribution of voting weights. The subjects who were matched as partners were recruited in the same way as the other subjects but only participated in this one particular game. The same three subjects' choices were matched as partners to all the subjects in the Buy Treatment.

**Part 3 of the Pre-Election Stage: The Survey** In the Survey subjects completed a questionnaire as to whether they had participated in previous elections for the student parliament and the senate over the last four years indicating whether they had submitted a vote, did not submit a vote, or were not eligible because they were not yet enrolled at the university. Subjects also were asked to sign a statement allowing the election official to confirm whether they submitted a vote in the upcoming election or not (with the information reported by ID codes). All 298 subjects completed the Survey.

**Post-Election Stage: The Quiz** Finally, in the Post-Election Stage subjects in the Baseline Group and the Incentive Treatment were presented with the Quiz. They were asked questions about national policy and the election for the student parliament (a list of the questions asked is shown in the appendix). The questions were given in the form of a quiz which was incentivized. That is, participants received 1 Euro for each correct answer, 0.20 Cent in expectations as every fifth person was paid. Anonymous codes of the winners were drawn and published; participants could pick up their earnings in envelopes marked with their experimental ID's.

### **III Design of Experiment 2**

Experiment 2 was also conducted before and after an election for the student parliament at the University of Muenster, which took place in 2014. As experiment 1 it was approved and supported by the student government and the University. Experiment 2 was conducted online. The subject pool for the experiment were students at the university who had signed up for experiments. At the time of Experiment 2, the subject pool contained 1,450 active participants. Since some of the subjects in the pool had graduated, only those subjects who had active university E-mail addresses and stated that they were students

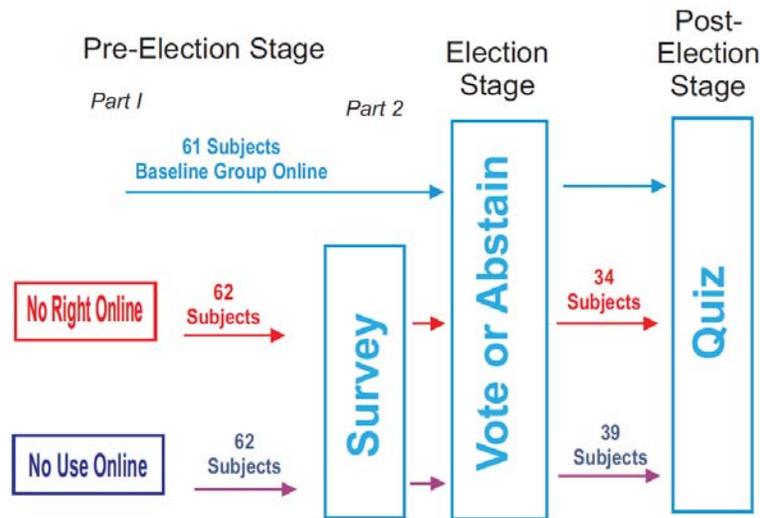
were allowed to participate in the study. 750 subjects were invited to participate via E-mail; 250 for each treatment group. Once 60 subjects had completed a treatment, no more subjects were allowed to participate (although subjects who had already begun the experiment were allowed to complete the session). In total 238 subjects began the experiment, with 186 completing their session. Of the subjects who did not complete the experiment, more than 60% indicated that they were not university students any longer and were thus not eligible to do the study.

In Experiment 2 we implemented two treatments and the Baseline Group: No Use Online and No Right Online. The No Use Online and No Right Online Treatments were conducted just prior to the election. After the election those who completed the No Use Online and No Right Online Treatments were invited to participate in a quiz. In the Baseline Group Online subjects only completed the quiz. They were recruited before the election just like the participants in the other two treatments, but the session started, when the election was over.

As in Experiment 1, the second experiment had the same three stages: Pre-Election, Election, and Post-Election. Subjects invited to the No Use Online and No Right Online Treatments were asked to participate in two studies, one in the Pre-Election Stage and the other in the Post-Election Stage. They were told that only one study would be paid, but that they must complete both studies to receive payment. The first study in the Pre-Election Stage had two parts: the first part was the treatment, either No Use or No Right. In Part 2 they were asked some survey questions. In the second study in the Post-Election Stage, they were given the incentivized quiz to test their knowledge about the election. Only at the conclusion of the second study, subjects learned that the second study was paid. Nevertheless there was a significant drop off between stages: Of the 62 subjects who completed the No Use Online Treatment, 39 participated in both stages.

Similarly, 62 completed the first study of the No Right Online Treatment and 34 completed both stages.<sup>8</sup> The Baseline Group Online comprised 61 subjects who were not invited to participate in the Pre-Election Stage; they completed the quiz in the Post-Election Stage. Figure 1b summarizes the timeline of Experiment 2.

**Figure 1b: Timeline in Study 2**



In the No Right Online Treatment subjects were told they would be selling their right to vote as in Experiment 1. In contrast to Experiment 1, however, we also informed them that they could purchase their voting right back for 25 Euro anytime before the election was over. In the No Use Online Treatment subjects were instructed that they were being paid not to participate in the election but that they retained their voting right. If they had accepted the offer to stay abstinent, they could use their voting right which they retained only, if they paid 25 Euro. Hence, the No Use and the No Right Online Treatments do not differ from experiment 1 in so far, as subjects in No Use retained their voting right, while they would lose it in No Right being eliminated from the electoral list.

<sup>8</sup>We assume the higher drop off rates compared to the laboratory setting of experiment 1 might be caused by the lower sunk costs that subjects have who participated in the pre-election stage and then decided not to participate in the second study.

Yet in contrast to experiment 1 subjects in experiment 2 could buy back their option to participate in the No Use Online Treatment and they could purchase back their right being put back on the electoral list in the No Right Online Treatment in that they were retaining their right to vote if they took the payment since they could use the buyback option. But in the No Right Online Treatment they would sell their right to vote if they took the payment and that they would have to purchase that right back through the buyback option if they wished to vote. The design of experiment 2 allows us to hold the option value of the vote strictly constant between treatments. If subjects reconsider and want to submit a vote, they have to pay the same price in both treatments.

The instructions for the three treatments of experiment 2 can be found in the Supplemental Online Appendix. To protect the subjects privacy they could choose whether they wanted to be paid on campus, via anonymous codes, via PayPal or bank transfer.

## **IV Experimental Results**

### **IV.1 No Right & No Use Treatments: Measuring Rights Utility**

We turn first to our central No Right and No Use treatments in Experiment 1. The comparison of these two treatments is designed to isolate the effect of rights utility and to provide estimates of the size of this utility.

#### **IV.1.1 Refusals to Sell Voting Rights**

Figure 2a depicts the percent of subjects who refused to sell voting rights in both the No Right and No Use Treatments in Experiment 1. Refusal to sell is significantly more likely in the No Right Treatment (41.4%) than in the No Use Treatment (19.4%) where subjects could keep their status as voters during the election.<sup>9</sup> The strong treatment

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<sup>9</sup>The  $z$  statistic for the comparison of the Ex-Ante and Ex-Post Treatments = 3.53, Pr = 0.00.

effect suggests that subjects value their legal right in the election independent of the act of participation as our concept of rights utility suggests.

We replicate this significant effect when we compare the refusals to sell in the No Use Online and No Right Online Treatments where subjects can reconsider their choices in both treatments holding the optional value of their vote constant. We find that 27% refuse to sell in the No Use Online Treatment, while 48% do so in the No Right Online Treatment see Figure 2b.<sup>10</sup>

When we compare refusals to sell we find further support for our concept of right utility. Pooling the data of both conditions we find that a high percentage of subjects, that is, 30.59%, who did either not surrender their voting rights in the No Right Treatment or did not want to give up participation in the No Use Treatment. Since this rate is significantly larger than the 19.5% turnout in the student election.<sup>11</sup>, it is likely that some of our participants who refused to sell even though they had no intention to submit ballots in the election. Yet separating the data by treatment reveals that only in the No Right Treatment the difference between the rate of refusal with 41.4% and the general turnout is highly significant. In the No Use Treatment by contrast, in which subjects were able to maintain their status as entitled voters during the democratic election, only 19.4% of the subjects refused to sell, which is not significantly different and even matches closely the turnout percentage in the polls.<sup>12</sup>

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<sup>10</sup>The  $z$  statistic for the comparison is 2.41,  $\text{Pr} = 0.02$ .

<sup>11</sup>A test of equality of the total proportion who refuse to sell their voting rights in the experiment with the total proportion that turned out in the election yields a  $z$  statistic = 4.13,  $\text{Pr} = 0.00$ .

<sup>12</sup>The  $z$  statistic for the comparison of the No Right Treatment with turnout in the election is 5.82,  $\text{Pr} = 0.00$  and for the comparison of the No Use Treatment with turnout in the election is 0.02,  $\text{Pr} = 0.99$ .

Figure 2a: Percentage of Students Who Refused to Sell by Treatment in Experiment 1 Compared to Voter Turnout in the Election

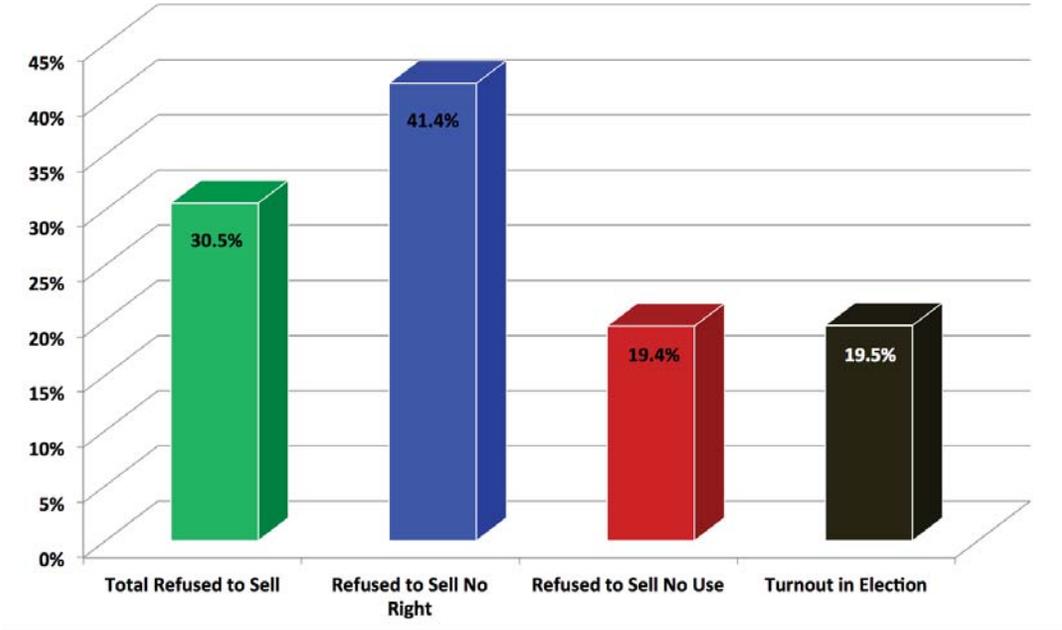
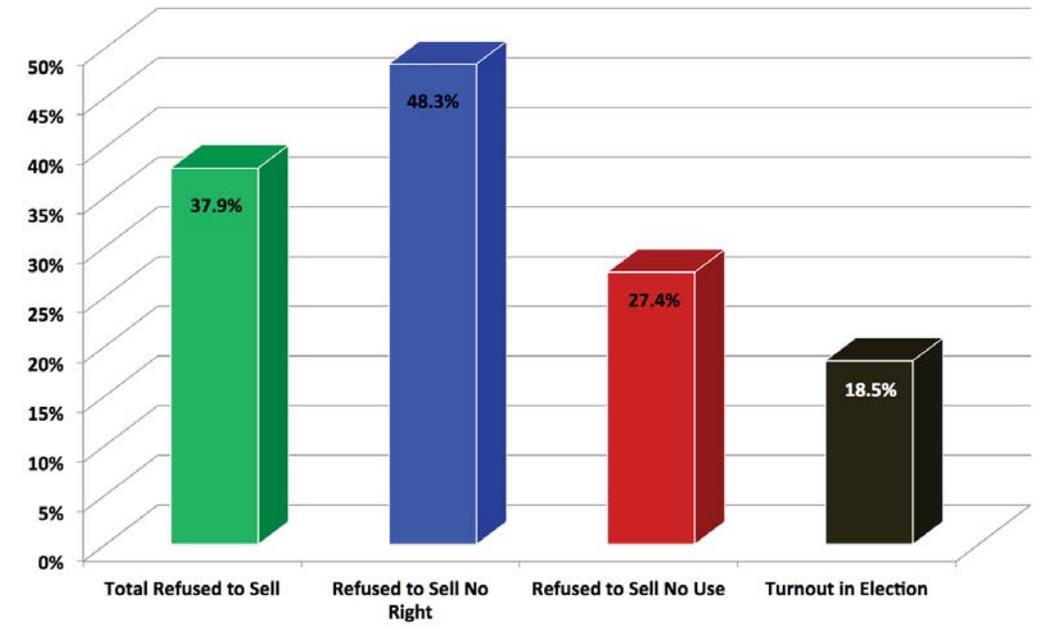


Figure 2b: Percentage of Students Who Refused to Sell by Treatment in Experiment 2 Compared to Voter Turnout in the Election



### IV.1.2 Actual Voting Behavior

Since the election official reported to us which of our participants actually submitted votes, we can examine the actual voting behavior of those students who refused to sell their voting rights in the No Right Treatment, maintaining their electoral status, and compare their behavior with those participants who preferred to accept compensation in return for giving up their voting right. Recall that even though these subjects were willing to sell their rights, the transaction was not implemented, so they were able to turnout in the election if they chose. We perform the same analysis for the No Use Treatment distinguishing between subjects who refused to give up participation and those who did.

Note that participants assigned to the Incentive Treatment were offered a monetary benefit for submitting a vote, which distorts their natural voting behavior. But for our analysis we can rely on the subjects assigned to the Buy Treatment. As we have assigned half of the subjects to the Incentive and half to the Buy treatment that leaves us with 54 subjects of the No Use and 56 subjects of the No Right treatment for our analysis. We find that these subjects' voting behavior indeed seems to be unaffected by the experiment, as their turnout of 18.18% closely approximates the rate of participation in the general electorate.<sup>13</sup>

As shown in Figure 3a, 29% of the students of the No Use Treatment who refused to give up their participation did not vote in the election, while a majority of 71% decided to submit a vote. By contrast, of those students who were willing to give up participation, 91% did not submit a vote while only 9% participated, a strongly significant difference.<sup>14</sup> The close match of refusals and voter turnout in the No Use Treatment suggests that the decision not to participate is strongly driven by the utility students expected from

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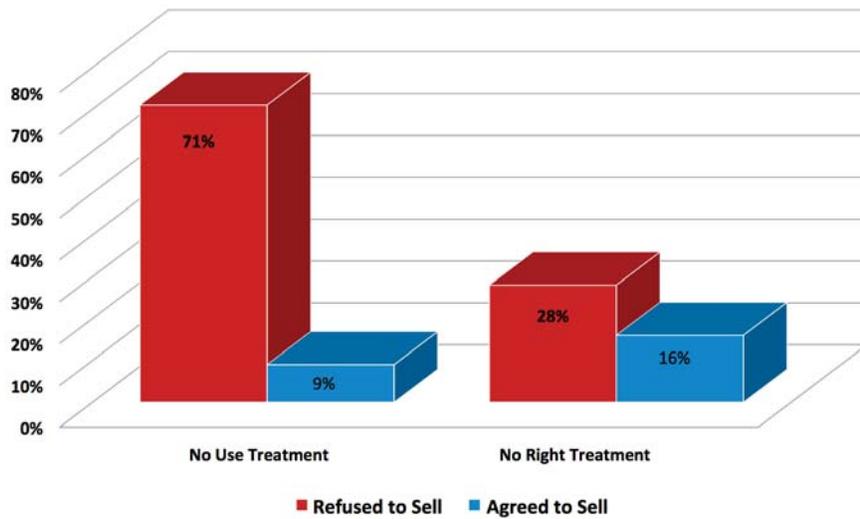
<sup>13</sup>The  $z$  statistic for the comparison = 0.35, Pr = 0.73.

<sup>14</sup>The  $z$  statistic for the test of equality of proportions = 4.17, Pr = 0.00.

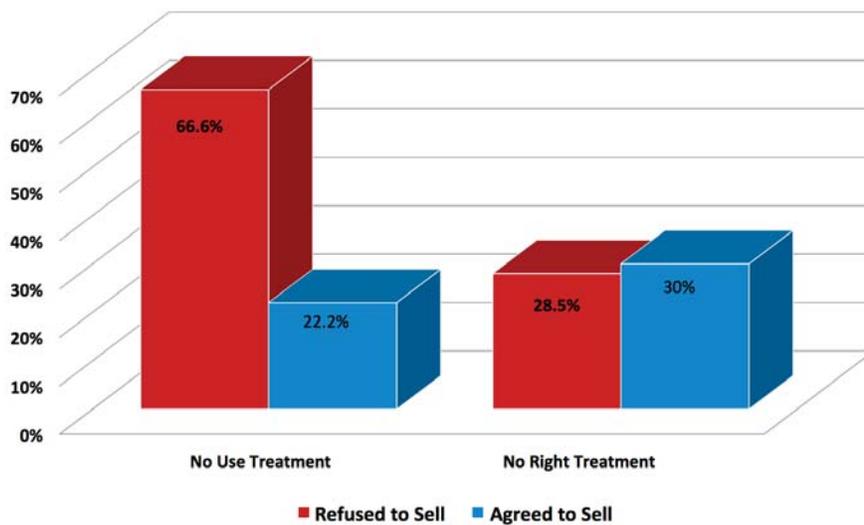
participation in the election.

**Figure 3a: Turnout in the Election by Treatment and Sell Decision in Experiment 1**

(Only Subjects Who Did Not Receive an Incentive to Vote as They Participated in the Buy Treatment)



**Figure 3b: Turnout in the Election by Treatment and Sell Decision in Experiment 2**



The picture almost flips for the 56 subjects of the No Right Treatment. 72% of those students who refused to sell their vote did not participate in the election, while only 28% submitted a vote. Of those who were willing to sell their vote 84% did not participate and only 16% voted. The difference is highly insignificant.<sup>15</sup> The fact that the vast majority of those students who refused to sell did not submit a vote shows that the utility they expected from participation does explain their refusal to sell their voting rights, while the finding is in line with our concept of rights utility. When we directly compare the voting behavior of subjects who rejected to surrender their voting right in the No Right Treatment with the voting behavior of subjects who did not want to give up participation in the No Use Treatment the difference is highly significant as reported above.

We replicate this finding in experiment 2 as illustrated in Figure 3b. In the No Use Online Treatment 66.6% of the subjects who refused to give up their participation, submitted a vote in the election, while only 22% of the subjects, who agreed to sell abstained. As in experiment 1 the decision whether to refuse or accept the selling offer seems to be largely driven by the utility subjects expect from the act of participation. By contrast behavior in the No Rights Treatment appears to be motivated by Rights Utility rather than by the value of participation. Only 28.5% of the subjects who refused to surrender their voting right, did in fact submit their vote in the election, while a large majority of 71.5% decided to abstain. They wanted to keep their status without using it. Of those subjects who sold their voting rights an almost identical 30% decided to vote, while 70% did not participate. The turnout difference between the subjects who surrendered their voting right and those who did not is highly insignificant<sup>16</sup>. When we directly compare the voting behavior of the subjects who refused to surrender their right

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<sup>15</sup>The  $z$  statistic for the comparison = 1.05, Pr = 0.29.

<sup>16</sup>Fisher Exact two-sided test  $p = 1$ .

in the No Right and those who did not want to give up participation in the No Use Treatment significantly more subjects of the No Use Treatment submitted a vote Fisher one tailed test.<sup>17</sup>

Our core result of analyzing the voting behavior that rejection in the No Right Treatment is motivated by Rights Utility while in No Use it is drive by the value subjects expect to derive from participation, is confirmed when we analyze the survey data. In the Survey we asked students whether they voted in the University elections of the last four years. We formed a measure ranging from 0-1 by dividing the occasions students submitted a vote by the number of elections in which they were eligible to vote (enrolled in the University), which we label *Participation Score*. Subjects who refused to sell in the No Right Treatment had an average participation score of 0.25, while the average participation score of those who refused to sell in the No Use Treatment was with 0.54 significantly and more than twice as larger.<sup>18</sup> The pattern suggests that many students in the No Right Treatment refused to sell even though they likely had no intention of submitting a vote in the current election since they rarely voted in the past. Hence, to maintain their legal status must have been a strong motivation for these students to refuse to sell their right, a motivation which participants in the No Use Treatment did not possess. Thus the results on actual voting behavior support our claim that people care about being entitled members of a democratic process independently of whether they have an intention of exercising this right.

### **IV.1.3 Sell Prices for Voting Rights**

We can measure the utility that democratic rights provide not only by focusing on those subjects who refused to sell, but we can also compare the Sell Prices of those participants

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<sup>17</sup>p = 0.06.

<sup>18</sup>The difference is significant for a one-tailed comparison: the *t* statistic = 1.75, Pr = 0.05.

who were prepared to sell and thus indicated a price at which they were willing to accept payment. Comparing the No Right and No Use Treatments in Experiment 1 we find that subjects who were willing to sell their votes in the No Right Treatment demanded a Sell Price of 16.56 Euro, while subjects in the No Use Treatment indicated a valuation of 12.84 Euro on average, a difference which is highly significant.<sup>19</sup> Most of the 30% of students across both treatments who refused to sell would likely have been willing to sell for some unknown price higher than 25 Euro. Thus while we find an average Sell Price of 14.43 Euro across both treatments for those subjects who agreed to sell, the true average price is likely much higher considering the subjects who refused to see for 25 Euro. We find a similar result when we compare the prices in Experiment 2. The Average Sell Price in the No Right Online Treatment is 14.56 Euro, while it is only 11.86 Euro in the No Use Online Treatment, which is significant using a one-tailed test.<sup>20</sup>

To account for censoring at 25 Euro (and at 1 Cent), we also estimate a Tobit regression of the effects of treatment on Sell Prices for both Experiments; the results are reported in Table 1.<sup>21</sup> The No Use Treatment is the null case and the *No Right Treatment Effect* measures the effect of maintaining voting rights in the No Right Treatment. Since more subjects refused to sell in the No Right Treatment the treatment effect comparing the No Right and No Use Treatments is 6.73 Euro in Experiment 1 and an almost identical 6.71 Euro in Experiment 2. Thus, students seem to place a value of almost 7 Euro on their status as entitled voters, a utility they receive from the democratic process independent of participation.

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<sup>19</sup>The  $t$  statistic = 5.48, Pr = 0.00; Mann-Whitney test = 5.25, Pr = 0.00.

<sup>20</sup>The  $t$  statistic = 1.80, Pr = 0.04 for a one-tailed test; Mann-Whitney test = 1.67, Pr = 0.10 for a two-tailed test.

<sup>21</sup>Censoring at 1 cent does not play a significant role in the regression, but reflects the idea that some students disapprove an (expensive) student government. They might have a positive willingness to pay for not participating because they do not want to express and signal their support for the student election by submitting a vote. In Experiment 1 we include as a control a measure of their participation in past elections from the survey.

<b>Table 2: Tobit Estimation of Sell Prices with left &amp; right censoring</b>				
Independent Variable	Coefficient	Robust Std. Error	<i>t</i>	<i>Pr &gt;  t </i>
Experiment 1				
<i>Participation Score</i>	4.50	1.67	2.79	0.01
<i>No Right Treatment Effect</i>	6.73	1.47	6.29	0.00
<i>Constant</i>	14.23	0.78	18.24	0.00
<i>Sigma</i>	7.58	0.52		
Observations	216			
Pseudo $R^2$	0.04			
Experiment 2				
<i>No Right Treatment Effect</i>	6.71	2.23	3.01	0.00
<i>Constant</i>	17.10	1.54	11.11	0.00
<i>Sigma</i>	11.57	1.04		
Observations	124			
Pseudo $R^2$	0.01			

#### IV.1.4 Disentangling Three Sources of Voting Utility: Instrumental, Consumption and Rights Utility

We argue that standard theory overlooks rights utility from the three and therefore systematically underestimates the value of democracy for humans. Our study allows us to calculate the separate sources of utility that people gain from the democratic process. By estimating the relative sizes of each we can show the strong impact of Rights Utility. Standard theories depict the value individuals derive from the democratic process as tied to the act of voting and given by the following simple equation:  $(\pi B + D) - C$ , where  $\pi$  is the probability that a vote or participatory act is pivotal,  $B$  is the utility gained from future outcomes an individual receives if his or her preferred policy is chosen over the alternatives,  $D$  is the consumption utility derived from the act of participation itself independent of future outcomes (either from complying with citizen duty norms or from expressive motivations for submitting a vote), and  $C$  is the opportunity cost of participation.

We first estimate the instrumental benefits from voting in our study. Given the electorate size of 38,986 in the first election and 42,971 in the second election the likelihood

that a single vote decides the election's outcome is no larger than 0.001.<sup>22</sup> We can calculate an estimate of individual benefit from the outcome of the first election of 51.42 Euro and 46.65 Euro for the second election (dividing the two million Euro budget by the number of students) the student government commands and assuming that resources are spent equally per capita and are entirely at stake in the election (in fact student parties do not differ that strongly in their plans how to distribute these resources).<sup>23</sup> This is a conservative estimate. Our survey in Experiment 2 reveals that subjects underestimate the student government's budget and assume that the budget is approximately 400,000 Euro. If we multiply the calculated benefit with the chance that a student's vote is pivotal and thus can effectively change the policy outcome for the voter, the instrumental value of a vote is approximately 5 Cent ( $0.001 * 51.42 / 46.65$ ). We also estimate the opportunity cost of the act of submitting a ballot by measuring the average time students had to invest when casting a vote at 5 different voting booths providing us with a total of 150 observations. We elicited an average time of 4.11 minutes or approximately 7% of an hour.<sup>24</sup> Assuming a typical wage earned by students in Muenster of 8 Euro per work hour, the opportunity cost of voting was approximately 59 Cent, which is 10 times the expected instrumental benefits. Thus, as for most other large elections, the instrumental utility of the vote is small and does not outweigh voting costs.<sup>25</sup> While the estimated

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<sup>22</sup>Calculating the probability of being pivotal in a large election is not simple, but many follow Tullock's (1967) classic reasoning and calculate the probability as roughly  $1/N$ , where  $N$  is the electorate size. Myatt (2012) points out that the assumption that voters know the exact size of the electorate is strong and that if voters are uncertain about the electorate size a more accurate rough calculation would be  $40/N$ . In our case this calculation yields a probability of being pivotal of 0.001.

<sup>23</sup>In our calculations we assume individuals are selfish instrumental, not ethical instrumental voters as analyzed by Myatt (2012). If voters care about the election's impact on others' welfare, the perceived expected benefits can be higher since nearly 40,000 other students will be affected. However, the exceedingly low turnout observed in the election suggests that even if such ethical instrumental motives exist, they are not large enough to induce high turnout.

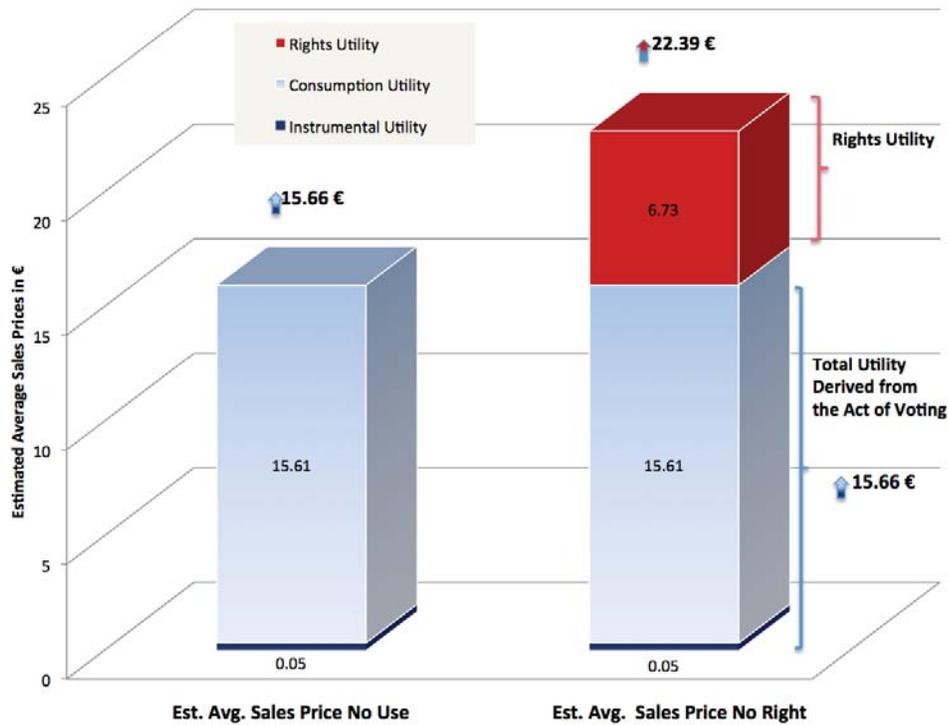
<sup>24</sup>The students had plenty of opportunity to vote as 36 voting booths were positioned in all cafeterias as well as many other locations across campus. Submitting a vote required a student only show his or her student identity card, read the ballot, and make one mark in the voting booth.

<sup>25</sup>Recall that only 9% of the individuals who were willing to sell their voting rights in the Ex-Post

consumption benefit is the strongest source of voting utility in our data with almost 16 Euro for experiment 1 and more than 17 Euro in experiment 2 (the average Sell Price in No Use Treatment), Rights Utility is a much stronger source than instrumental value and amounts to almost 7 Euro in both experiments.

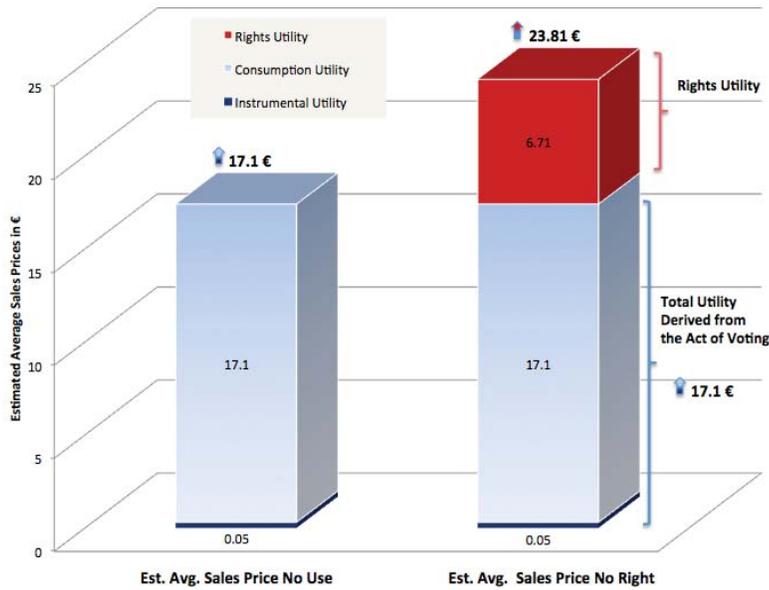
Figure 4 a, b illustrate our estimates of rights utility, the estimated instrumental and consumption benefits from the act of voting, and the estimated cost of voting for experiments 1 and 2.

**Figure 4a: Estimated Average Sell Prices by Treatment in Experiment 1**



Treatment and who did not receive an incentive for voting did in fact participate. Thus our estimate of consumption benefits of 15.66 euro in the Ex-Post Treatment seems surprising. If these individuals receive such consumption benefits from voting, why are they not participating at a higher rate given that the opportunity costs of voting are less than sixty cent? We suspect that individuals' cost of participation is higher than the mere opportunity cost of time needed for the physical act of submitting the ballot. That is, we argue that individuals care enough about the democratic process such that when they choose to vote, they wish to submit an informed vote. Therefore, the cost of voting implicitly includes for them the cost of becoming informed. For those who decide not to vote, the cost of becoming informed plus the cost for the physical act of voting exceeds the consumption benefits. The results of our Incentive and Quiz Treatments (as discussed below) support this supposition.

**Figure 4b: Estimated Average Sell Prices by Treatment in Experiment 1**



#### IV.1.5 Alternative Explanations: Moral Objections, Social Desirability, and Option Value

The fact that subjects were randomly assigned to either the No Right or the No Use Treatment implies that our results are not driven by possible confounding factors which would affect both treatments alike such as the effects of social desirability or moral objections to selling voting rights. If subjects wish to comply with assumed social expectations they should identify refusing to sell as the socially desirable action in both treatments. If subjects hold the view that they are obliged to use their voting rights, then these moral imperatives should affect results in both treatments. Also subjects are not only significantly more likely to reject the sale in the No Right treatment, but the effect remained if we only look at those subjects who make the socially undesirable choice and sell: they demand a higher amount than subjects in the No Use Treatment.

An alternative explanation for the treatment effect between the No Right and the No Use conditions in Experiment 1 might be that results are driven by the option value

of the voting right. Students may believe that new information before the election may change their minds about voting. This uncertainty could cause reluctance to surrender their voting rights, while in the No Use treatment subjects kept the option to change their mind and vote.

While we designed experiment 1 to minimize this possible confound by keeping the time period between experiment and election very short making it unlikely that students based their choice on the belief that new events might change their mind before the election, Experiment 2 explicitly rules out the confound: Both the No Use Online and the No Right Online Treatments gave subjects the same option to buy back their voting right or opportunity to participate in the No Use Treatment by paying 25 Euro. We replicate the significant treatment effects found in Experiment 1 as discussed above ruling out that the option value of the voting right confounds our finding of Rights Utility.

Also consider that any option value of the instrumental benefits from voting must be extremely small. We calculated above that at most the instrumental benefits amount to 5 Cent. Any option value, therefore, would be some fraction of these 5 Cent. Our Survey data shows that students do not dramatically err about the instrumental value of their vote. They even underestimate the true budget of the student government and have a good estimate of the electoral size. Yet students would have had to grossly overestimate that value to explain the large Sell Price difference between the treatments No Right and No Use which we interpret as Rights Utility (more than 6,7 Euro in experiments 1 and 2), which is approximately 130 times larger than the estimated instrumental utility.<sup>26</sup>

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<sup>26</sup>Actual voting behavior also renders the option value explanation unlikely. If option values were in fact driving the higher Sell Prices in the No Right Treatment then it should be more important to those students who are considering submitting a vote. Yet we find no relationship between the Sell Price asked and the probability of voting in past election. By contrast and in line with our theory the relationship is weaker for subjects in the No Right Treatment for which we assume Rights Utility is a substantial part of their Sell Price ( $z$  statistic for the sale price 0.76,  $Pr = 0.45$  while for No Use Treatment  $z$  statistic is 1.39,  $Pr = 0.17$ ).

## IV.2 The Incentive Treatment: Non-Voters derive Rights Utility

As reported above, in the Incentive Treatment, we gave students a monetary incentive for voting using the same BDM price mechanism as in the No Right and No Use Treatments. First the Incentive Treatment provides more evidence that individuals derive Rights Utility, but as we will discuss below it also allows us in combination with the quiz to explore further implications of Rights Utility on behavior.

### IV.2.1 Incentive Prices for Submitting a Vote

We have estimated that subjects demand on average a price larger than 16 Euro for selling their voting rights in the No Right Treatments of both experiments <sup>27</sup>. We argue that this valuation has three distinct sources: Instrumental and consumption utility tied to the act of participation and their legal right and status as voters. If standard theory is right then the Sell Price only reflects the utility students expect to derive from the act of voting itself. In that case we should expect students who demand any price larger than 1 Cent for selling their vote, to ask only for the minimum incentive to submit their vote: since they derive a net benefit from participation in the election as indicated by their sales price, they should participate in the election anyway independent of the size of the incentive paid, assuming that the Incentive and not the No Right Treatment is implemented. By demanding the smallest amount they maximize their payoff: They receive whatever BDM price is drawn as voting incentive on top of the utility they gain from voting.

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<sup>27</sup>A minority of subjects refused to accept a payment for voting (19%). Of these, 31% also refused to sell their voting rights in either the Ex-Ante Sell or Ex-Post Sell Treatments. Rejecting both the sell and the payment for voting is consistent with a moral objection of monetary payments in an election. Indeed by refusing both the sale of their voting rights as well as the payment for voting they left the session without expecting payment. The demonstration of moral indignation supports the presumption that participants were convinced that our experimental instructions would be implemented.

By contrast, if individuals receive utility from their status as voters independent of the act of voting, then subjects may rationally demand compensation for both giving up their status as voter and for casting a vote. If individuals derive utility from their rights, than a Sell Price that exceeds the minimum can reflect the utility loss when subjects surrender their right and does not necessarily indicate that a subject wants to participate in the election. The utility the subject expects from the act of participation may still fall short of voting costs, such that he or she wishes to be compensated for submitting their vote. We will later show that this scenario is not unlikely: For many subjects voting costs include information and therefore go well beyond the mere opportunity cost of time needed to submit a ballot. We thus expect that students who derive Rights Utility may demand compensation for both selling their voting rights and participation in the election.

The results support our hypothesis. The vast majority of our subjects (almost 90%) wanted compensation for both submitting a vote (Incentive Price) and selling their voting right greater indicating prices larger than 1 Cent. Thus while investment and consumption utility was insufficient to motivate these subjects to vote, they wanted to be compensated for their loss of Rights Utility when surrendering their voting rights.

Subjects demand a mean Incentive Price of 11.90 Euro. However, the actual Incentive Prices we observe are censored at 0 cents.<sup>28</sup> Students who valued participation beyond voting costs would have been willing to pay in order to participate in the election. We therefore estimate a Tobit regression with *Participation Score* and *No Right Treatment* as independent variables, reported on in Table 2 below.

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<sup>28</sup>They are also censored at 25 euros, but only 2 subjects chose that price. The Tobit estimation below controls for both left and right censoring.

Independent Variable	Coefficient	Robust Std. Error	$t$	$Pr >  t $
<i>Participation Score</i>	-0.46	2.55	-0.18	0.86
<i>No Right Treatment Effect</i>	-3.92	1.98	-1.98	0.05
<i>Constant</i>	10.18	1.61	6.31	0.00
<i>Sigma</i>	9.85	0.85		
Observations	107			
Pseudo $R^2$	0.01			

As assumed we find that the estimated mean Incentive Prices are lower when we control for censoring. Still the analysis provides us with an overall average estimated Incentive Price of 8.07 Euro. We find 10.18 Euro in the No Use Treatment and 6.26 Euro in the No Right Treatment.<sup>29,30</sup>

We confirmed with control questions that subjects understood the implications of the BDM mechanism. First that they could not earn more by indicating a higher Incentive or Sells Price, since they would always receive the random price independently of how low the price was they had set, or they would get no compensation at all if their demand exceeded the BDM Price. We thus can rule out that subjects' choices were motivated by a desire to meet the monetary expectations they had for attending the experiment.

Obviously the incentive prices subjects demand largely exceed the opportunity cost of the mere act of voting, which we estimated to be around 59 Cent. We show in the next section that the concept of Rights Utility can explain this finding.

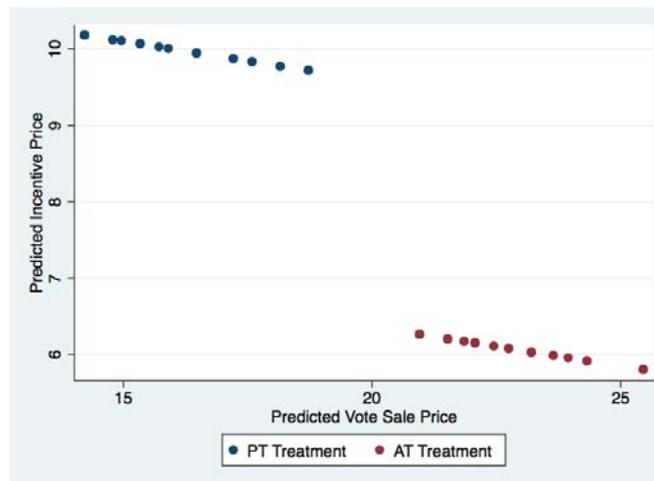
<sup>29</sup>Note that participation in the No Right Treatments had no influence on the *Participation Scores* in past election subjects indicated. . The average *Participation Score* of subjects in the No Right Treatment who completed the Incentive Treatment was 0.38 and in the No Use Treatment 0.40, with a t statistic = 0.23, Pr = 0.82. The *Participation Scores* of subjects in the No Right Treatment who participated in the Buy Treatment was lower, 0.24 and in the No Use Treatment 0.22, with a t statistic =0.36, Pr = 0.73.

<sup>30</sup>The average *Participation Score* of subjects in the No Right Treatment who completed the Incentive Treatment was 0.38 and in the Ex-Post Treatment 0.40, with a t statistic = 0.23, Pr = 0.82. The *Participation Scores* of subjects in the No Right Treatment who participated in the Buy Treatment was lower, 0.24 and in the No Use Treatment 0.22, with a t statistic =0.36, Pr = 0.73.

#### IV.2.2 Potential Objections: Robustness of Pricing Decisions

It was argued in the literature that subjects may have difficulty to understand the BDM mechanism (see above section xx) or that it is difficult for subjects to price an item, they are not used to evaluating monetarily like a democratic right and for which they do not have other financial reference points. Beyond the treatment effects we report, our design allows us in addition to analyze the coherence of the choices subjects made across treatments. The Sell Prices subjects indicated in the No Right and No Use treatments appear to be consistent with the Incentive Prices in direction. The data shows a negative relationship between Incentive and Sell Prices – subjects who demand comparatively low Incentive Prices ask for high Sell Prices, while in contrast students who demand high Incentive Prices ask for only low Sell Prices. Thus subjects who care more about their vote, ask for more for selling it and for less, for submitting it, showing a clear rationale and understanding in students' choices.

**Figure 5: Relationship Between Estimated Incentive Prices and Vote Sell Prices by Treatment. Estimates from Tobit Regressions Reported in Tables 1 and 2.**



### **IV.2.3 Incentives, Apathy, and Information Acquisition**

Students can hardly be mistaken about the burden of effort involved in participation; voting booths are visibly distributed across campus and can be seen by all students attending lectures. We estimated the opportunity cost of voting by measuring the earnings equivalent of the time required for the act of voting as approximately 59 Cent. Our post experimental survey in Experiment 2 also shows that subjects have a good estimation of the amount of time needed to submit a ballot; the average answer is 10.6 minutes yielding a voting cost of 1.52 Euro (as discussed above, the actual average time is 4.11 minutes). We argue that the high average Incentive Price of more than 8 Euro subjects demand, reveals a category of hidden perceived voting costs: information costs, subjects feel are necessary investments in order to participate in an election: Students want to be informed about the parties' political agendas and their candidates if they are going to participate.

This assumption is supported by the concept of Rights Utility. Standard theories assume that individuals derive utility only from the act of voting and thus conclude that voters who do not intend to participate in the election although voting costs are minimal are likely apathetic and indifferent about the democratic process. Offering students who are apathetic or indifferent about the University election payment to participate should not affect their motivation to become informed; they could easily submit a blank ballot or make an uninformed choice and still collect the voting incentive from the experimenter. If they do not care about the election, they should not invest in becoming knowledgeable. In our view, the evidence that individuals derive Rights Utility from their status as eligible voters, suggests that they care about the democratic process even if they have no intention of voting. By providing incentives to participate, we aim to reveal the interest the students have in the democratic process, even though they would not voted without the incentive.

For measuring whether students perceive the University election as an important institution, we implement a quiz before and after the election. We assume that students improve their knowledge about the election before participating ruling out that they are indifferent or apathetic, even if they would not have voted without being incentivized. If subjects feel they should become informed when planning to submit a vote, demanding a positive price both for selling their right to vote and for submitting their ballot is rational. Even though the costs of merely casting the vote are small, the information cost may be not. Shineman (2012; but see also Loewen et al. 2008) find evidence in a field experiment that individuals mobilized to participate in a local California election were significantly more informed about the election than a randomly selected Baseline Group.

Our Quiz is designed to determine whether subjects improved their knowledge about the University election. We constructed two knowledge scores, *Knowledge Election* and *General Politics*. Our observations for the first range from 1-28 and for the second 5-47. *Knowledge Election* was designed such that participation in the election alone would not increase performance in the Quiz, since answers could not be inferred from only reading the ballot. Our second score *General Politics* by contrast covers the knowledge subjects have about federal or state politics with no connection to the University election. To make sure that participants could not prepare and to avoid selection effects, they were not instructed when invited for the experiment that they would be presented with a quiz. To minimize any effects of communication between students, all quiz sessions were conducted within four hours. 73% of the Incentive Treatment subjects returned after the election to collect their payment and agreed to complete the quiz. The subjects who attended the quiz did not differ from the rest of the experimental population in parameters relevant for our study. Their participation in past elections and their actual voting behavior was the same

as in the full experimental sample<sup>31</sup>

We compared the knowledge level of subjects in the Incentive Treatment with a Baseline Group. The 79 subjects in the Baseline Group were assigned randomly to participate only in the Survey of the Pre-Election Stage and the quiz after the election. They were not assigned to any treatment. We find that subjects in the Incentive Treatment are significantly more knowledgeable about the election (average score *Knowledge Election*: 13.23) than those in the Baseline Group (average score of 11.65).<sup>32</sup> By contrast we did not find any significant difference in the *General Politics* score. This result is confirmed when we regress *Knowledge Election* on whether subjects participated in the Incentive Treatment including as a control whether students voted in previous elections (*Participation Score*). *Incentive Treatment* is significant at the 6% probability level as reported in Table 3 below. Note that the manipulation was likely weakened by the fact that subjects in the Baseline Group participated at a significantly higher rate than the average turnout in the election (49% vs. 19.5%). Recall that subjects in the Baseline Group also gave advance permission to the election official to access whether they voted; even though we did not inform subjects about the task they had to complete, it was likely connected to the election and they may have concluded that participating in the poll would give them an advantage and earn them a higher payoff in the experiment.<sup>33</sup> Indeed, when we compare the average *Knowledge Election* score of those who voted (13.82) with those who did not

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<sup>31</sup>The comparison of participation scores of those who attended the Quiz Treatment and who did not yields a  $t$  statistic = 0.86, Pr = 0.39 and the comparison of voter behavior in the actual election yields a  $z$  statistic = 1.43, Pr = 0.16.

<sup>32</sup>The  $t$  statistic for the comparison = 2.21, Pr = 0.03 and a Mann Whitney test yields a  $z$  statistic = 1.90, Pr = 0.06.

<sup>33</sup>We find that subjects in the Incentive Treatment submit a vote at significantly higher rates than those in the Baseline Group. Therefore, the effect of the Incentive Treatment on participation was greater than the effect of having been asked to return after the election and giving permission for turnout decisions to be revealed. The  $z$  statistic for the comparison = 6.31, Pr = 0.00. Note that 94% of the subjects who accepted incentives participated in the election.

(9.53), we find a significant difference<sup>34</sup> suggesting that our results likely understate the effects of the Incentive Treatment had on voter information.

**Table 3: OLS Estimation of *Knowledge Election* (Survey Only Null Case)**

Independent Variable	Coefficient	Robust Std. Error	$t$	$Pr >  t $
<i>Participation Score</i>	0.88	0.53	0.90	0.371
<i>Incentive Treatment Effect</i>	1.41	0.74	1.91	0.06
<i>Constant</i>	11.44	0.53	21.60	0.00
Observations	158			
Pseudo $R^2$	0.03			

The information difference between the Incentive and the Baseline Group suggests that the students made a deliberate effort to acquire information before they voted. Note we conducted the pre-election stage of the experiment on Friday before the election, to give subjects little opportunity to casually pick up knowledge about the election: The University was empty and all public hustings were over. Hence we conclude that instead of being apathetic about the election the students must have actively access resources to be able to cast an informed vote.

#### IV.2.4 Alternative Explanations: Distribution of Original Voters and Impact of Treatment on Voting Behavior

The knowledge improvement effect we report should not be influenced by the portion of voters who would have voted in the election without incentives. They may differ from non-voters having an original interest in the election and may thus be better informed. Yet recall that we assigned students randomly to the conditions; original voters should thus be equally distributed across treatments and should not affect the treatment difference. We have two indicators that this random assignment was effective: First, the rate of voters in the Buy treatment is equally to the rate in the whole student population. Since we randomly assigned our subjects either to the Incentive or the Buy treatment, we can expect the same proportion of original voters in both treatments. Second our score for

<sup>34</sup>The  $t$  statistic = 5.60, Pr = 0.00.

measuring past participation in elections does not yield different results in all three groups: Incentive, Buy and Baseline Group.

Another potential confound is that the participation in the No Right and No Use Treatments might have sensitized subjects for the importance of the election. Thus participation in the pre-election stage of the experiment may have confounded our finding that non-voters care about the election and demonstrate the importance by preparing for their vote. Experiment 2 is designed to rule this potential confound out. Subjects in the No Right and the No Use treatment did not receive an incentive to vote; they were reinvited for the post-election stage but were not informed that they had to complete a quiz. Since subjects did not receive an incentive to vote, we expected them not to change their voting behavior. Non voters should stay abstinent and not improve their knowledge about the election. We therefore should not find a difference in the Knowledge score between the Treatment Groups and the Baseline Group ruling out the confound that the No Right and No Use treatments sensitize the subjects for the importance of the election. Subjects in the Baseline Group were invited together with the other subjects, but did not complete a treatment or survey in the pre-election stage. We do not find evidence that the subjects of the No Right and No Use treatments increased their knowledge of the election compared to the Baseline Group: The score for the treatment Groups' subjects was with 5.41, almost identical with the score for the Baseline Group 5.78.<sup>35</sup> The score in the No Right treatment was slightly higher but far from being significantly different from both the Baseline Group and the No Use treatment.<sup>36</sup> We can thus confirm the result of experiment 1: People derive Rights Utility from their status in the election. The general importance they assign to the democratic process is revealed, when they improve their

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<sup>35</sup>p = 0.56.

<sup>36</sup>For the comparison with the Baseline, p = 0.5 and for the comparison with the No Use Treatment, p = 0.45.

knowledge about an election, they are incentivized to vote in and they otherwise would have abstained from.

### **IV.3 The Buy Treatment: Paying for Voting Rights**

In the Buy Treatment we turn our design upside down: Rather than letting subjects sell their voting rights to reveal whether they care about their status in an election, we provide them with the opportunity to buy voting privileges. We aim at confirming our core findings in a fully controlled laboratory setting. As reported above, the votes of the subjects who purchase such rights had no effect on the election's outcome, thus they had zero investment value. Subjects were paid their part of the chosen assets' return, plus the remainder of their endowment. Subjects were instructed about the voting process. They also were asked control questions which confirmed that they understood that the voting rights offered to them would not be pivotal. Thus if subjects decided to buy shares with voting privileges, their decisions were not motivated by investment utility. We implemented a neutral business decision stripped of political or social context in order to minimize the potential consumption utility from voting. A civic duty norm that obliges investors to exercise rights in a companies' asset decisions is unlikely. The assets are neutrally defined by an abstract payoff function. Thus even though individuals may derive utility from following their convictions and ideology when they vote in a political election, the decision between the neutral economic assets hardly provides such benefits. Hence, we predict that participants buy the voting privileges not for experiencing consumption or investment value but to gain Rights Utility: They are willing to pay to be entitled to a vote and to be a part of the decision-making process. In line with our theory of rights utility we find that nearly half of our subjects (48%) purchased shares with voting rights.

Additionally subjects' choices in the Buy Treatment are largely consistent with the No Right and No Use Treatments' pricing decisions supporting our theory of rights utility. We find that, of those students who refused to sell their voting rights in either the No Right or No Use Treatment, the vast majority (76%) also preferred to purchase shares with voting privileges; in contrast only 40% of those who were willing to sell their voting rights in either the No Right or No Use Treatment preferred to purchase shares with voting privileges. The difference is strongly significant.<sup>37</sup> Moreover, the average Sell Price in the No Right Treatment of those who purchased shares with voting rights was higher than the average Sell Price of those who did not purchase shares with voting rights, (17.80 compared to 14.12), although there is no significant difference in the No Use Treatment.<sup>38</sup> These results demonstrate that subjects are not only unwilling to sell away their rights as voters even when they are unlikely to utilize those rights, they are also willing to purchase such rights in a context in which the rights are clearly not consequential.

The consistency of behavior in a naturally occurring election and in our neutral laboratory setting suggests that rights utility may be a general human disposition. That is, individuals wish to have the right to participate in decision-making processes independently of the social context and of whether they intend to use those rights.

#### **IV.4 Main Conclusions and Policy Implications**

Our field experiment provides strong evidence for a new concept we present in this article and which we call Rights Utility. We show that subjects receive Rights Utility from being entitled to democratic voting rights and are willing to make financial sacrifices to maintain that utility. Rights Utility is derived independently from the act of participation. So even individuals who do not have the intention of taking part in a particular democratic

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<sup>37</sup>The  $z$  statistic = 3.17, Pr = 0.00; Mann-Whitney  $p < 0.01$ .

<sup>38</sup>The  $t$  statistic = 3.01, Pr 0.01; Mann-Whitney  $z = 2.74$ , Pr = 0.01.

process, derive Rights Utility from being eligible to vote in that process. For the majority of students consumption and investment utility are insufficient to motivate them to participate in the University election we analyze. Only 19.5% of students submitted a vote in the first election, 18.5% in the second. Our No Right treatment shows that a significantly larger number of our participants refused to sell their voting rights in both experiments 1 & 2, or demanded a price well beyond the estimated instrumental and consumption utility subjects derive from voting. The difference between our two main treatments No Right and No Use directly measures the valuation individuals place on their legal status in the election. We find that if participants were required to forfeit their status as entitled voters (No Right Treatment), then they are significantly more likely to refuse to sell or demand a significantly higher Sell Price than subjects who can keep their status and are only asked to surrender participation (No Use Treatment).

In Experiment 1, using the BDM procedure we also elicited the price subjects' requested in exchange for submitting a vote. We find that many demand a positive price, much higher than the estimated opportunity cost of submitting a ballot. If subjects indeed derive utility only from the act of participation rather than as we propose from rights utility, then those subjects who refused to sell their vote or demanded a Sell Price larger than the minimum should be willing to accept any Incentive Price, as they should be planning to participate in the election anyway. Yet supporting our theory a significant number of these participants asked for more than the minimum price suggesting that they did not intend to participate before being offered much larger compensation.

In the Quiz we show that subjects if offered a monetary incentive for participating in the University election, become significantly better informed about the poll, even if they would not have submitted a vote without the incentive. This result supports our claim that individuals and even non-voters derive utility from democracy beyond participation.

If they had been apathetic or indifferent about the electoral process they would not have been motivated to become more knowledgeable. Instead the effect reveals the importance democracy has for them. The finding also shows that the true opportunity cost of voting goes beyond the act of casting a vote and involves information acquisition, explaining why some individuals may choose to stay abstinent even though they are not apathetic about an election.

In the Buy Treatment we show that individuals are willing to buy voting privileges in a neutral investment process even though voting rights provide them with no instrumental value. Thus, the experiment reveals a willingness to pay for gaining rights utility, whereas the No Right and No Use Sell Treatments reveal a price subjects are willing to accept for giving up rights utility. As the Buy Treatment is stripped of all social and political context, the choices of subjects in that treatment suggest that the interest in rights utility is not limited to political processes but rather seems to characterize a general human disposition.

Our results are good news for democracy and call for strengthening individuals' entitlement with democratic rights. Standard theories focus on the act of participation as indicating interest in democracy. Therefore they tend to interpret the legitimacy of procedures as a function of voter turnout. With our concept of Rights Utility we claim that democracy has importance to individuals beyond its investment and consumption value tied to the act of participation. Subjects gain utility from their status as entitled voters independently of whether they exercise their rights. Our theory of Rights Utility is consistent with a rational interpretation of abstinence as a response to the minimal investment value voters often derive from established mass democracies. But while standard theories conclude that non-voters may be apathetic or indifferent towards the democratic process, we provide strong evidence of their unwillingness to give up their democratic rights and status from which they derive utility.

While the legitimacy of (direct) democratic procedures such as referenda is often questioned when turnout is low, our results demonstrate that people directly benefit from their democratic rights even if they do not exercise them. Instead of enacting quorum restrictions that weaken the democratic status of voters and reduce their Rights Utility, their democratic rights and status in democratic processes should be strengthened. Advocating compulsory voting as a measure to overcome voter apathy seems unwarranted. Mobilization is not an instrument to fight apathy about politics as often suggested. Not voting does not equal apathy. While our results show that efforts to mobilize and/or even compel voters to participate in elections can induce voters to become better informed about elections, our concept of Rights Utility provides a new explanation for why this effect may occur: Voters respond to voting incentives because they already care about democracy.

Beyond conveying direct Rights Utility, democratic entitlements also may have an indirect effect beneficial for society. If people derive value from their status in a democratic process, then they might be more likely to accept and obey rules that follow from this democratic process. Therefore, a natural extension of the concept of Rights Utility is that society may gain from institutions that enhance rights utility; a subject for future research.

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## **Appendix: English Instructions For Publication Online Only**

### **Instructions for Study 1**

#### **Consent Form – Data Protection Clause**

With this statement I declare my agreement with the following procedure:

1. The election official [name] DP who is responsible for the upcoming election of the student parliament will receive this document and will thereby be informed that I participated in this experiment.
2. The election official DP will inform the experimenter, whether or not I participated in the election. The election official will not mention my name but only communicate my anonymous experimental ID to the experimenters.

Only the election official will have access to this document, experimenters will not. The election official will not be informed about my choices in the experiment. He will only know that I participated. Therefore my decisions remain completely anonymous.

**My Experiment ID**

**My Student ID**

## **Instructions**

### **Dear Participant!**

Welcome to our experiment and thank you for participating!

#### **1. General Rules**

##### **(a) Anonymity**

All participants remain fully anonymous. After the experiment is completed neither other participants nor the experimenter will be able to match your personal data with your choices in this experiment or in the election to the student parliament. You will be asked to sign a consent form allowing the election official to confirm whether you participated in the election and to pass this information on to the experimenters.

##### **(b) Payment**

In the course of this experiment you can earn a considerable amount of money depending on your decisions and chance. Therefore it is very important that you read the instructions carefully. When the experiment is over participants will be invited by mail using the anonymous experimental ID's to pick up their earnings in cash.

##### **(c) Procedure**

If you have questions, please raise your hand. The experimenter will come to your seat and personally answer your questions. There shall be absolutely

no communication during the experiment. Disobeying this rule will lead to exclusion from the experiment and payments.

Today's session consists of two parts, which you will be presented with consecutively. You will be paid only for one of the two parts according to the choices you made in this experiment. You will learn after the session which of the two parts will be relevant for your payment.

## 2. Experiment 1

Next week the election for the Student Parliament of the University of Muenster will take place. As an enrolled student you are eligible to vote in this election.

You are provided with the opportunity to give up your right to vote in the election in exchange for an amount of money. You can demand any amount within the range from 0-25 € in exchange for your voting right. A computer will draw a price between 0 and 25 €. If the amount you indicate does not exceed the price the computer draws, then you will give up your voting right for the drawn price.

### **Treatment Manipulation:**

**[No Right Treatment]** You have read the personal statement of the electoral official on your desk. He supports this study and will implement the instructions of this experiment. If you give up your voting right, he will eliminate you from the official electoral list after this session is over. Thus when the election begins next week you will not be able to submit a vote. Please note, your voting right cannot be used by someone else! It ceases to exist.

**[No Use Treatment]** You will keep your voting right and remain regularly registered in the electoral list until the election is over. Yet you will only receive the

payment if you did not use your voting right. You have read the personal statement of the electoral official on your desk. He supports this study and will implement the instructions of this experiment. He will confirm to us using your anonymous experimental ID whether you submitted a vote in the election or not.

If by contrast the amount you indicate is higher than the price the computer draws, then you keep your voting right, but will be paid the drawn price.

In order to indicate that you are not willing to give up your voting right for the student election you can either set a price higher than 25 € or you can simply write in words that you are not willing to sell. In that case you keep your voting right and do not receive a payment.

Please note that this mechanism guarantees that you will never sell your voting right for a price lower than what you asked for; on the other hand you will not be able to sell the right for more than the random offer price. Therefore it is always beneficial for you to indicate your true evaluation of your voting right.

**Here is an example:**

Assume that you want to sell your guitar. You demand 100 € for the guitar. If the computer draws a price of 89 €, then you would not trade your guitar, since you do not accept an offer below 100 €. But if the computer draws a price of 110 €, then you would sell the guitar and receive the drawn price in return, 110 €. Now imagine you indicate that you are not willing to sell the guitar for any price lower than 120 €, even though 100 € is your true preference. If the experimenter draws a price of 110 €, you keep the guitar, even though you would have preferred to get the 110 €. In contrast if you indicate an amount below your true valuation like 80 €, you might be forced to trade your guitar for a price lower than your true preference.

Let us assume the experimenter draws a price of 90 €. Now you have to transfer your guitar for only 90 €, even though for this price you would have preferred to keep the instrument.

**Control Questions: [separate sheet]**

1. The computer draws a price that is smaller than the price you are willing to accept. Will you give up your voting right or keep it?
2. Assume the price you demand and the drawn price are identical. Will you give up or keep your voting right?

**Procedure and Decision**

If you have no further questions, you can start now! Write your 4 digit experimental ID, which you have drawn at the beginning of the session, in the top box of this sheet. If you forget doing it, you cannot be paid, since you alone know what experimental ID you have.

At the bottom of the page you see the large box. Please write the amount of money that you demand for giving up your voting right for the student election in this box. Once you have made your choice then put this sheet in one of your envelopes and seal it. Please give the experimenter a sign, when you are done. Once all participants are finished the experimenter will come to your seat and you can drop the sealed envelope in an urn.

**3. Experiment 2 [Incentive Treatment]**

As you know from experiment 1 the election for the student parliament will take place on Monday. In this second experiment you can commit to participate in the upcoming election. We offer to compensate you for your participation. The election

official will confirm whether you submitted your vote in the election. Your personal data will not be communicated to the experimenters. The election official will only confirm whether a participant of this experiment with the anonymous experimental ID xxxx participated in the election.

You can decide how much compensation you want to get for your participation. You can set a price within a range of 0 up to 25 €. As described in part 1, the computer will determine a random price within this range. If the amount you ask for is not higher than the price the computer draws, then you will receive this drawn price as compensation if the election official confirms that you did in fact submit your vote. If by contrast the amount you demand for participation is larger than the drawn price then you will not receive any payment.

Here is again the example we presented to you in part1: Assume that you can sell your guitar. You demand 100 euro. If the computer draws a price of 89 euro, then you keep your guitar, since you do not accept any offers below 100 euro. By contrast if the computer draws a price of 110 euro, then you trade the guitar and receive the drawn price in return, 110 euro.

Please note the procedure guarantees that you cannot receive more than the random price hence you should not exaggerate your true valuation.

Please first insert your experimental ID on top of the sheet. Please indicate the price you ask for participating in the election for the student parliament in the box below. Recall that in order to receive a payment the price needs to be within a range from 0 to 25 €. If you do not want to receive a payment for voting in the election then you can indicate 0 as a price. You may also write in words that you do not want to be paid. If you think the offered compensation is not sufficient you may

indicate the price larger than 25 € which you would have accepted. After making your decision you shall put this sheet in an envelope. You can drop it in the urn when the experimenter comes to your seat.

As pointed out in part 1 you will be either paid for experimental part 1 or part 2. You will be informed after completing this session which of the two parts will be relevant for payment.

#### 4. **Experiment 2 [Buy Treatment]**

In the second part of our study you are matched with three other people to form a group. You are assigned an endowment of 100 Points. You can invest any amount of this endowment in the Assets 1 & 2. **Asset 1:** 60% probability the investment is multiplied by 3, 40% probability the investment is multiplied by 0. **Asset 2:** 30% probability the investment is multiplied by 2, 70% probability the investment is multiplied by 1.

The assets differ in risk and return. Yet, while you can determine by yourself what amount you want to invest in the assets, the majority vote of the group decides which of the two assets is selected for investment. The assets are offered with and without voting rights. Buying shares with a voting privilege will cost you 10% of whatever amount you decide to invest. The voting right you can buy has a weight of 1. The other group members have a voting privilege with a weight of 2 (they cannot split their vote). If you choose to buy shares with voting privilege then you can exercise your vote in the selection decision, but your vote will not be decisive.

#### **Control-Questions:**

You vote for Asset 1 together with one other group member; the other two vote for

Asset 2. Which asset will the company buy, asset 1 or 2? What is the result of the poll in this scenario?

### **Your Choices**

How much of your 100 Cent endowment do you want to invest in buying an asset?

Please indicate any number between 0-100 Cent.

Do you want to buy your shares with a voting privilege? Please answer “Yes” or “No”! Your returns from the assets and your remaining endowment are paid at an exchange rate of 1 point =  $\frac{1}{2}$  Cent.

## **Instructions for Study 2**

### **Pre-Election Session**

#### **Timing**

We are going to conduct one study each, today and in one week, respectively. The two studies do not build on each other. As has been made clear in the invitation E-mail, you have to participate in both studies in order to get paid. For the second part you will again receive an E-mail invitation.

If you have questions about the instructions, then please send an enquiry to: stontrup@gmail.com You'll need about 15 minutes to complete today's study, the second study in a week has the same length. Note that, as announced in the invitation E-mail, the total processing time must not exceed 25 minutes. If 25 minutes have been reached, the study will be automatically canceled and you will not receive a payment. Thus you have to complete the study in one session.

#### **Today's study**

This week the election of the Student Parliament at the University of Muenster will be held. Our present study deals with this election. The study consists of two parts:

To begin with, you can make a decision about your participation in this year's Student Parliament election. The decision you will have to make will be precisely explained to you in the following pages.

After you have made the decision, we are going to present you with a questionnaire that asks you mostly about your opinions on topics regarding the Parliament Election. Some questions can be answered as right or wrong. For each correct answer to these questions you will receive 20 Cents. To answer these questions, there is a time limit of 15 seconds for each. A countdown is displayed below the solution box. After the time limit has passed, no entry is possible.

### **Payment**

Only your choices for one of the two studies will be implemented and be relevant for your payment: either your payment is calculated according to your behavior in today's study, or according to the choices you make in the study that will take place in a week. Which study will be implemented will be told to you explicitly. You can only receive a payment if you complete both studies!

After completion of the present study, enter a five-figure code that you create. Only with this code, we can identify you and only with this code can you log in the second study. So, you remain anonymous. After completion of the second study and analysis of the data we will write to you when you can pick up your payment. Your earnings will be paid to you anonymously, after you provide your code.<sup>39</sup>

Good luck!

### **Instructions**

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<sup>39</sup>Subjects were given the option of being paid by bank transfer or PayPal instead of in person. Almost all the subjects chose the bank transfer option. If they did so, they provided their personal information for the bank transfer. Any connections between the choices made and the money transferred were destroyed after payments were made.

The study has been coordinated with the organizers of the elections to the student parliament. We thank the AStA (chairman XX) for their support in the implementation of the study.

**In No Use Treatment Only:**

You will be offered a sum of money to not participate in the election. If you accept the offer to not participate in the election, you will keep your voting right, so the entitlement or right to participate in the election is sustained. Furthermore, future elections are not affected.

You will be offered to give up your chance to participate in return for a sum of money which you can choose by yourself. If you accept the offer to give up your vote, the chief election officer will remove you from the election list, so you will not be able to participate in this election. Future elections are not affected.

Example: You ask for the amount  $x - 1$  and the amount  $x$  is randomly drawn. Since you have requested less than the amount drawn,  $(x - 1) < x$ , you have given up your participation in the election and you will be paid the amount  $x$ . After the election, you can you pick up the money at the university or receive a wire transfer.

Conversely, if you have demanded more than the randomly drawn amount, you can participate in the election but do not receive a payment.

Example: You ask for the sum  $x + 1$  and the randomly drawn amount is  $x$ . Since you requested more than the drawn amount  $(x + 1) > x$  you can participate in the election, but you will not be paid.

Even if you have agreed not to participate in the election, you still can decide to participate in the election afterall. You still have the right to vote and your name remains on the voters' list. If you nonetheless want to participate in the election, please write to the chief election officer. The chief election officer passes this information, anonymized

with your code, to the experimenters. You need to personally address the chief election officer via E-mail; just include the word “vote” into the subject line and your name in the text body.

If you want to participate in the election, after you have given up participating, you have to pay € 25 at the ballot station and prove that you have notified the chief election officer. The amount will be donated to a charity.

Note: With the exception of the chief election officer, no other person can attribute your experimental choices to you and your name. The chief election officer is officially obliged to not provide any information about your vote choices. For us, the data are anonymized. This program does not save the personalized access link we have sent you and with which you have logged into the study.

Note: You must remember your experimental code and use the same code again in the second study after the election!

Note: The study avoids any influence on the elections. The selection of participants in the study is carried out strictly by chance. Therefore, participants should represent the actual range of political positions in a balanced way. The political preferences of the participants are completely unknown to the experimenters and have played no role in the selection of subjects.

So, if someone decides to accept the offer to not participate in the election, he or she could belong to any political ideology. Because of random selection, it is to be expected that the foregoing [of participation] affects all parties equally without preferring or discriminating against someone.

Nobody can participate in the election in place of the Subject. Participation is tied to one’s personal identity, and the right to vote will continue to exist for the subject. Finally, the number of participants in this study is so small that a statistically-relevant

influence on the election result can be virtually ruled out.

As described, you can set a price for which you are willing to not participate in the election. If you want to give up your participation in the election, then the price requested by you must be between 1 cent and 25 € at maximum. You can ask for any amount in this range.

If you want to participate in the election, you have two options:

1. If you're not willing to abstain from the election [should be marked in original] for one of the prices ranging between 1 cent - € 25, you can submit a monetary amount [in the box] below which is higher than 25 € and for which you actually would be willing to not participate in the election. This way, you show the experimenters your preference, but can participate in the election in any case.
2. If you're not willing to give up your participation in the election, regardless of the amount that you would receive for the abstention, then please enter "0" in the box below. The "0" stands for "I do not accept payment of whatever amount."

### **Practice Questions**

Please assume, you have stated that you do not want to participate in the election for  $x$  €. The randomly drawn price is  $x + € 3.50$ . Are you still eligible to participate (without paying 25 €)? Please enter "YES" or "NO" in the box.

Please assume, you have stated that you do not want to participate in the election for  $x$  €. The randomly drawn price is  $x - € 3.50$ . Are you still eligible to participate (without paying 25 €)? Please enter "YES" or "NO" in the box.

### **Decision**

If you're willing to not participate in the election, then please select here the amount you want to receive for not participating in the election to for the Student Parliament.

The amount must be between 1 cent and 25 €. You have still the right to vote and are listed on the voters' list.

Despite your foregoing of the election participation, you still can participate in the election, if you change your decision before the end of the election. But you have to notify the chief election office of your decision and pay € 25 when voting.

If you are not prepared to forfeit your electoral participation for one of the amounts offered between 1 cent and 25 €, then enter here the amount, for which you would be willing to not participate in the election. The amount must be  $> 25$  €. If you would not give up participating for any amount, how large it may be, then enter "0".

Your Amount:

### **Questionnaire**

Now the second part of today's study begins with a questionnaire regarding the election of the student parliament. Note: for some of the following questions, you will receive 20 €-cents for a correct answer. If that's the case, "20 cents" is entered in the case solution

1. The AStA has a financial budget for every year, which it can use for its tasks. What do you think is the size of this yearly budget ? Please state the amount in EURO (a response , which deviates not more than 10% from the actual budget, is counted as correct). This question is worth 20 cents.
2. Please estimate how important you deem the election of the student parliament for you personally and your interests as a student. Please answer on a scale from 1 = completely unimportant to 10 = extremely important. This question is not paid.
3. Which party do you think is going to receive the most votes ? Please enter the name of the party in the solution box! This question is not paid.

4. What do you think is the importance of the elections for democracy in general?  
Please answer on a scale from 1 = completely unimportant to 10 = extremely important. This question is not paid.
5. How likely do you think it is that the party you expect to gain the most votes in the election, actually wins the election? Enter a percentage where 1% = the probability is extremely low, 100% = it is certain that the party named by me will win the election.
6. How many students are eligible to vote in the election for the Student Parliament?  
Please enter a number between 1 and 100,000. Your answer is counted as correct if it does not deviate from the correct number more than 10% above or below that value. This question is worth 20 cents.
7. What is the percentage of the students eligible to vote who will vote in the election?  
Please enter your response in percentages from 0 to 100%, where 0% = no one participates; 100% = all eligible voters cast their votes. Your answer will be counted as correct if it does not deviate from the correct number more than 10% above or below that value. This question is worth 20 cents.
8. How much time do you think you have to invest in casting your vote? Please enter your estimate in minutes. This question is not paid.
9. Please assume that you have decided to participate in the elections. Would you purposely inform yourself about the parties and the programs before you cast your vote? Yes or no. This question is not paid.
10. How much time would you invest in order to inform yourself about the election?  
Please enter your estimate in minutes. This question is not paid.

11. How large is the actual influence you can exert with your vote on the result of the election? That is, please enter your estimate as a probability that you can affect the outcome of the election between 0 and 1, 0 = I have no influence at all on the election result, 1 = only my vote will decide the election. Your answer is counted as correct, if the first three decimal digits of your estimation are correct. This question is worth 20 cents.
12. Are you planning on participating in the election? Please answer yes or no. This question is not paid.
13. Please enter on a scale between 0 and 1 your estimation of the likelihood that you will participate in the election, 0 = I won't participate in any case, 0.5 = it is equally likely for me either to participate or to not cast my vote, 1 = I will participate for sure. This question is not paid.

### **Conclusion of Experiment**

Please enter a five digit code, which we will use to assure your anonymous payment. The code must not contain the same number two times and no sequence of numbers (e.g. CORRECT: 143649, INCORRECT: 22233 or 12345). Enter this code also during the second study in a week.

Note: We can identify you and your payment only by using the code. If you lose the code, we cannot pay you!

### **Resolution of Which Study Will Be Paid**

Please note: Only one study of the two (today's and next week's) will be paid. Today's study is not going to be implemented. None of the participants of experiment will give up his chance to participate, everybody can vote.

Your payoff will therefore be based on your responses in the 2nd study, which will take place [xxxx]. You will be invited again via E-mail. Note: Only those who participate in the second study will be paid.

Thank you very much for your participation today! See you at the second study next week!

### **Instructions [No Right Treatment]**

The Instructions for the No Right Treatment are exactly the same as the No Use Treatment except for the language used to describe the actions taken by the subjects. That is, instead of telling subjects that we are paying them not to participate, the subjects are told that they are giving up their right to vote and that they are losing their entitlement to vote repeatedly. Subjects are told that once they accept the offer they are giving up their voting rights. Subjects still have the same option to change their minds and are told the following concerning that option:

“Even if you have given up your right to vote and were struck off the election list, you can decide to regain the right to vote and participate in the election. If you want to get back your right to vote and participate in the election, please write to the chief election officer. The chief election officer passes this information to the polling stations and, anonymized with your Code, to the experimenters. You need to personally address the chief election officer via E-mail; just include the word ‘voting right’ into the subject line and your name in the text body.

When you get back your suffrage right and want to participate in the election, after you have given up your voting right in the first place, you have to pay € 25 at the ballot station. The staff will then place you again as an eligible voter on the election list. The amount will be donated to a charity.”

Other than this framing difference, everything concerning the No Use Treatment fol-

lows for the No Right Treatment.

## **Instructions for Post Election Study**

### **Timing**

Please note the program will move automatically to the next screen after 2 minutes. Therefore, please read the instructions as soon as they appear. If you have questions, please send inquiries to: stontrup@gmail.com. You will need about 15 minutes to conclude the study. Please note that, as announced, the total time spent must not be longer than 25 minutes. The study will be automatically canceled if 25 minutes have been reached and you will not receive payment. So, you have to complete the study in one session.

### **The study**

Last week the election of the Student Parliament at the University of Muenster was held. In the following section we will present you with a questionnaire, which will concern mostly your opinions on the topics in the parliamentary election. Some questions can be answered by true or false, there is a single correct answer. For every correct answer of one of these questions, you will receive 20 cents.

Then, the main part of the study will begin. You are going to participate in a quiz on the election programs of the parties. Again, you can earn 20 cents for each correct answer.

Note: There is a time limit of 15 seconds for each question. A countdown is displayed below the solution box. You must have finished your entry before 0 seconds have been reached; after the time limit has passed, no entry is possible. The screen will automatically move to the next question for which you will have a new time limit.

### **Payment**

After completion of the present study, you will enter a five-figure code that you entered

previously in the first study.<sup>40</sup> Only with this code, we can identify you and only with this code you can log in the second study. So, you remain anonymous. After completion of the second study and analysis of the data we will contact you as to when you will be paid. Your earnings will be paid in the University, anonymously, under provision of your code.

Good luck!

### **General Questionnaire**

Note: for some of the following questions, you will receive 20 € cents for a correct answer. If that's the case, "20 cents" is entered in the solution box.

1. The AStA has a financial budget for every year, which it can use for its tasks. How large do you think is this yearly budget? Please state the amount in EURO (a response is counted as correct, which deviates not more than 10% from the actual budget). Correct answers are paid 20 cents.
2. How many students do you think are eligible for election to the Student Parliament? Please enter a number between 1-100,000. Your answer is counted as correct if it does not deviate from the correct number more than 10%, above or below that value. Correct answers are paid 20 cents.
3. Did you participate in the student parliamentary election? Please answer yes or no.
4. For only those who participated in the election: Did you become informed purposefully about parties and programs before you cast your vote. Please answer yes or no.

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<sup>40</sup>Subjects who did not participate in the first study were asked to create a code. All subjects were also given the option to give bank information for a bank transfer or use paypal. Almost all the subjects chose the second option for payment.

5. For only those who did not participate in the election: Suppose that you decided before the election to participate in the election. Would you have informed yourself purposely about parties and programs before the election? Please answer with yes or no.
6. How large do you think is the actual influence you can exert with your vote on the outcome of the election? Please enter your estimate as a probability on a scale between 0 and 1, with 0 = I have no influence at all on the election result; 1 = only my vote will decide the election outcome. Your answer is counted as correct if the first three decimal digits of your estimation are exactly correct. Correct answers are paid 20 cents.
7. For only those who participated in the election: What motivated you to cast your vote during the Student Parliamentary election? Please write down your reasons for participating in the election.
8. For only those who did not participate in the election: Please enter the things that would have most motivated you to vote in the student parliamentary election.

### **Questions on the Election Program**

You will receive 20 cents for each correct answer for the following questions regarding the election program. You will receive your payment at the end, after evaluation, via wire transfer or PayPal, depending on your preferences. Note: There is a time limit. You have only 15 seconds to answer each question. If it is asked which parties support or reject a specific position, then an answer is counted as correct if at least two parties are named, and none of the answers is wrong.

1. Please enter which parties APPROVE the following statement: "The Deutschlandstipendium [German national stipend] should be abolished.
2. Please enter which parties REJECT the following statement: "All autonome Referate ["autonomous" units of the AStA] should be abolished in its present form."
3. Which parties REJECT the following statement: "The university shall completely reveal third party funding at the beginning of a research project."
4. Which parties have a NEUTRAL stance on this statement: "Payment of BaföG [student aid] should be independent of parents' income."
5. Which parties APPROVE the following statement: The Westfaelische Wilhelms-Universitaet should be renamed."
6. Please enter which parties REJECT the following statement: "The university ought to completely reveal third party funding at the beginning of a research project."
7. Which parties take a NEUTRAL stance regarding this statement: "Keeping BaföG [student aid] should be tied, with exception of severe cases, to adherence to regular study times."
8. Which parties REJECT the following statement: "A Kultursemesterticket [student semester voucher for cultural events] should be introduced."
9. Which parties SUPPORT the following demand: "Semester fees for the duties of the constituted student body shall be lowered."
10. Which parties have a NEUTRAL stance regarding this demand: "The AStA shall fund presentation series that critically inquire into the existing societal order."

11. Which party SUPPORTS the following demand: “Delayed tuition payment plans shall be demanded in order to finance the Universities.”
12. Which parties REJECT this demand: “The percentage of vegan meals in dining halls shall be increased.”
13. Who REJECTS this demand: "50% of all AStA-units shall be occupied by female students."
14. Who SUPPORTS this demand: "AStA & StuPa shall use gendered language in their public relations publications."
15. Which parties REJECT this demand: “Universities shall be financed by the state [government] in total.”
16. Who REJECTS this demand: "The AStA shall be allowed to work on matters of general political interest.”
17. Who REJECTS this demand: “The NRW-Semester-Public-Transportation-Ticket shall be maintained.”
18. Who is NOT APPROVING this statement: “University Politics is important for the representation of student interests.”
19. Please name 5 parties who you know are running in the election for the student parliament.

## **Conclusion**

Please enter your five digit code.