Appendices for

A Simultaneous Analysis of Turnout and Voting under Proportional Representation: Theory and Experiments

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Appendix A: Additional analysis QRE

Computation of equilibrium for mandatory voting

As a point of departure we use that in the logit equilibrium the probability of voting for party *i* given a position x and costs of voting c is described by the following expression (eq 2 in the main text):

$$\Pr(\text{vote for party } i|x,c) = \frac{\exp(\lambda * EU(vote\ for\ party\ i|x,c))}{\sum_i \exp(\lambda * EU(vote\ for\ party\ i|x,c))} \quad (1)$$

This implies that the ex-ante probability of voting for a given party is given by:

$$\Pr(vote\ for\ party\ i) = \int_x \int_c Pr(vote\ for\ party\ i|x,c)\, f(x) g(c) dc dx \quad (2)$$

where f is the distribution of ideal points (a truncated t-distribution with 0.05 degrees of freedom) and g the distribution of voting costs (uniform on [-15:200]).

The expected utility of a vote is obtained by computing the payoff of this vote for all possible configurations of votes by the other four voters, weighted by the ex-ante probabilities. One can capture this in the following expression:

$$\sum_{a=0}^{4} \sum_{b=0}^{4-a} \frac{4!}{a!b!(4-a-b)!} P_L^a P_C^b P_R^{4-a-b} (-2 * [x^*(a,b,i) - x]^2),\ i=L,C,R \quad (3)$$

where *x* is the voter's position, P_j is the ex-ante probability of voting for party *j*, $a(b)$ is the number of other voters voting for party *L*(*C*) (leaving 4–*a*–b to vote for *R*) and $x^*(a,b,i)$ is the implemented policy given the other voters behavior and the voter voting for party *i*.

This yields three expressions (a voting probability for each party), which set-up a fixed point problem for the vector of probabilities. The set of equations was solved numerically and to account for the possibility of equilibrium multiplicity a wide range of initial conditions was checked (more details are available upon request). Because these all converge to the same equilibrium, we conclude that the results are very likely unique.

Computation of equilibrium for voluntary voting

The case of voluntary voting is slightly more involved. While eq. (1) remains the same (defining abstention as voting for party 0, for simplicity) (2) becomes more complex. The reason is that the distribution of positions and voting costs for the voters may be different from the ex-ante distribution of these quantities. For instance, extreme voters are more likely to vote and therefore the distribution of ideal points for those who vote has fatter tails that the ex-ante distribution of ideal points.

The ex-ante probability of voting for party *i* (conditional on voting) is given by the following expression:

$$\Pr(vote\ for\ party\ i) = \int_c \int_x \frac{P\,r(vote\ for\ party\ i|x,c)}{P\,r(vote\ for\ party > 0|x,c)} f(x)g(c)dxdc$$

To adjust the probability of voting for party *i* for abstention we thus normalize by the probability of turning out.

The expression for the expected utility of voting for a specific party (eq. 3) also becomes more involved since we now have to take abstentions into account and therefore do not know how many other votes will be cast. The expression used is as follows:

$$\left\{\sum_{n=0}^{4}\binom{4}{n}P_V^n(1-P_V)^{4-n}\sum_{a=0}^{n}\sum_{b=0}^{n-a}\frac{n!}{a!\,b!\,(n-a-b)!}P_L^a P_C^b P_R^{n-a-b}(-2*[x^*(a,b,i)-x]^2)\right\}- \\ i*c \qquad (4)$$

where the variables are defined as before, *n* is the number of votes cast by other voters and P_V is the probability of turning out. The negative term *i*c* appears since now voting costs matter because voting for party zero (i.e. abstention) avoids them.

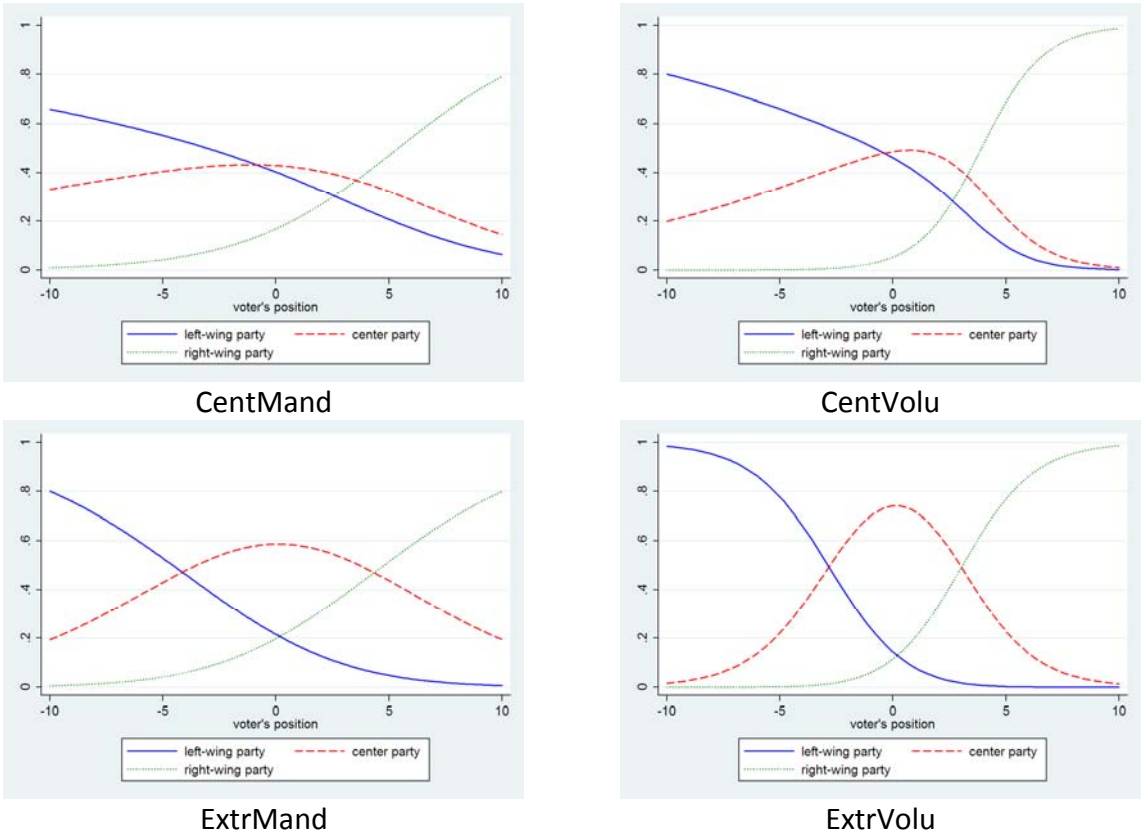
(4) again yields a fixed point problem that was solved numerically. Again a large range of different initial conditions what checked that all converged to the same equilibrium.

Detailed predictions for the four treatments

Using the method described, we obtained the logit equilibria for the various treatments of our experiment. Figure A1 shows these.

To investigate the interaction between the turnout regime and party choice we compare the predictions of the treatments with mandatory voting to those with voluntary. The results are shown in figure A2. These show that the probability of voting for an extreme party is higher when voting is voluntary than when it is mandatory. We have dubbed this effect the 'Polarization Effect'.

Figure A1: Predicted party choice

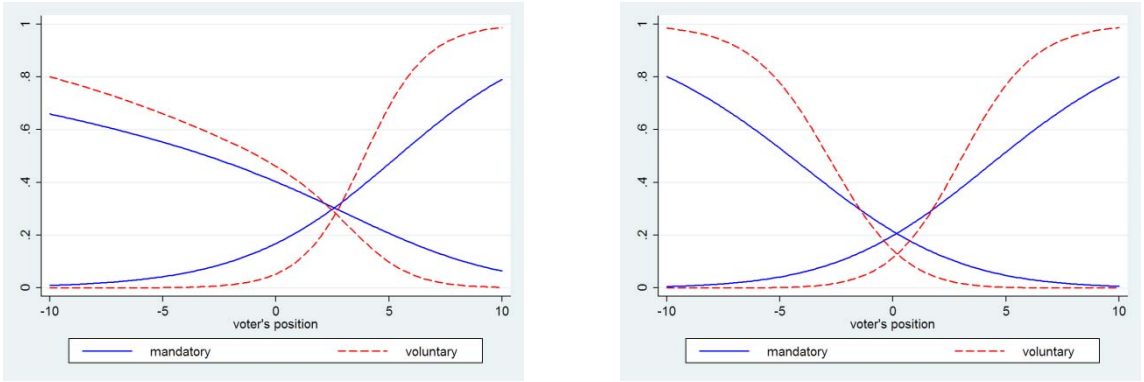


CentMand CentVolu

ExtrMand ExtrVolu

Notes. The figures show the predicted probability of voting for each of the three parties as the voter's position varies along the horizontal-axis. The predictions are based on the QRE model with λ=3.7.

Figure A2: Predicted party choice (voluntary versus mandatory voting)

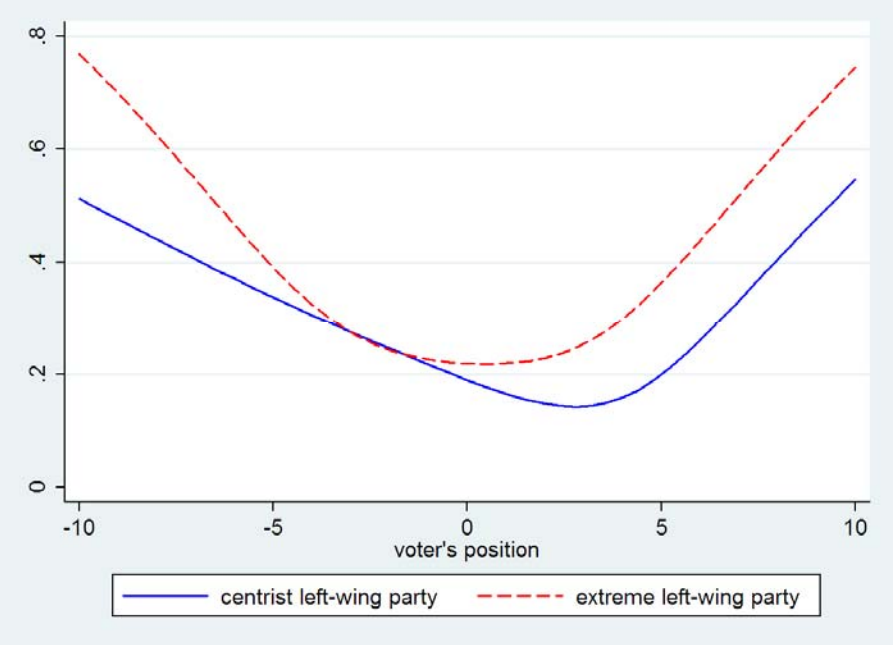


Centrist left-wing party Extreme left-wing party

Notes. The figures compare the predicted probability of voting for each of the extreme parties between compulsory and voluntary voting as the voter's position varies on the x-axis. The predictions are based on the QRE model with λ=3.7.

To analyze turnout behavior, figure A3 compares equilibrium turnout for the two levels of polarization used in the experiment. The horizontal axis shows the voter's position and the vertical axis measures the predicted turnout rates.

Figure A3: Predicted turnout rates



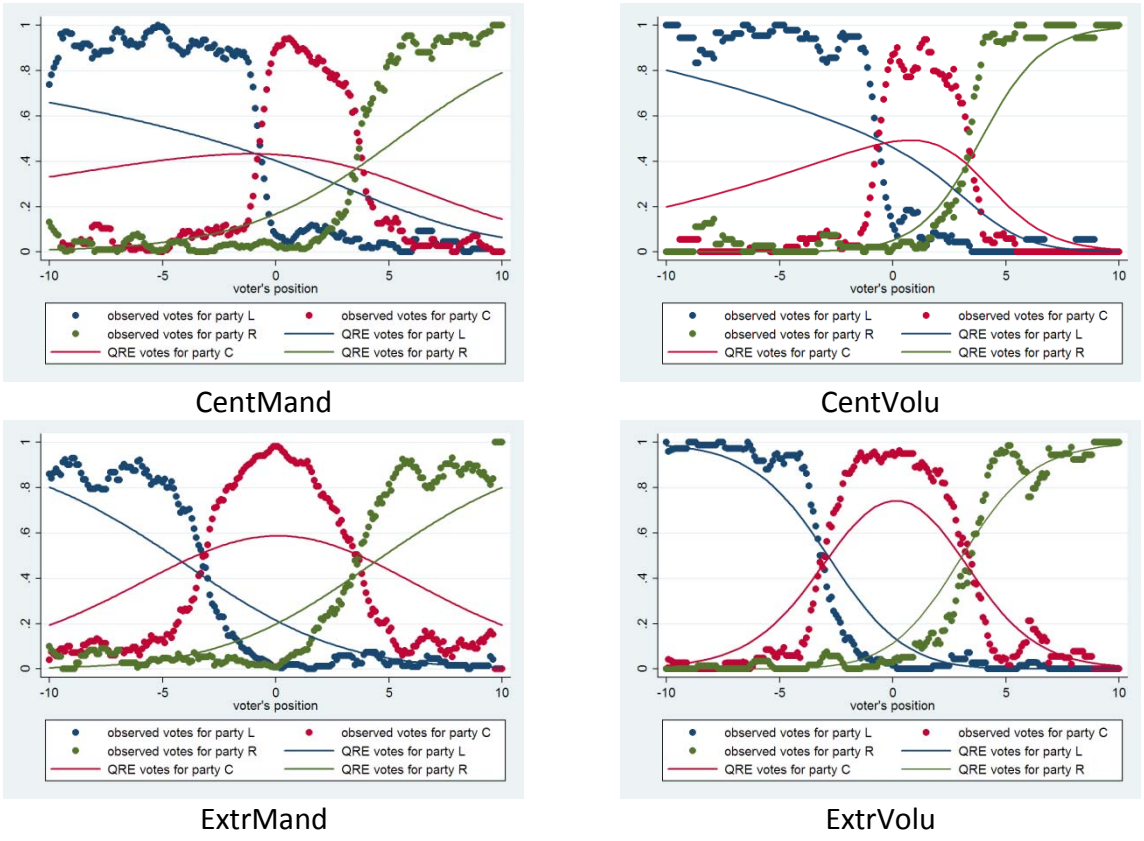
Notes. The figure shows the predicted turnout rates for CentVolu and ExtrVolu as the voter's position varies along the horizontal axis. The predictions are based on the QRE model with λ=3.7.

Two things become apparent from the graph. Firstly, turnout rates are higher when the left-wing party is extreme (i.e. the parties are more polarized) than in the case of a centrist left-wing party. This establishes the 'Turnout Effect'. Secondly, the graphs are u-shaped for both degrees of polarization since extreme voters are more likely to vote than centrist voters. This leads to the 'Extremist Effect'.

QRE predictions compared to observed behavior

Figure A4 compares the QRE predictions to observed party choice. Though it shows that voting follows the general equilibrium pattern, there are also substantial deviations from the QRE prediction. In particular, extreme voters deviate much less from the party that yields the highest expected utility (i.e., the extreme party on their side of the spectrum) than is predicted by the 'noisy' logit equilibrium. Moreover, the slopes of the observed party choice functions are much steeper than predicted. As indicated in the main text, one possible explanation for these deviations is that behavior is less noisy than in the pilot in Kamm (2012) that was used to obtain an out-of-sample estimate of λ. To investigate this possibility, we explore the parameters that we can estimate from the data from our experiment.

Figure A4: Predicted compared to observed party choice



Notes. Dots (Lines) show the observed (predicted) probability of voting for each of the three parties as the voter's position varies along the horizontal-axis. The predictions are based on the QRE model with λ=3.7. To improve readability the observed data are averaged over +/-0.2 the value on the horizontal-axis.

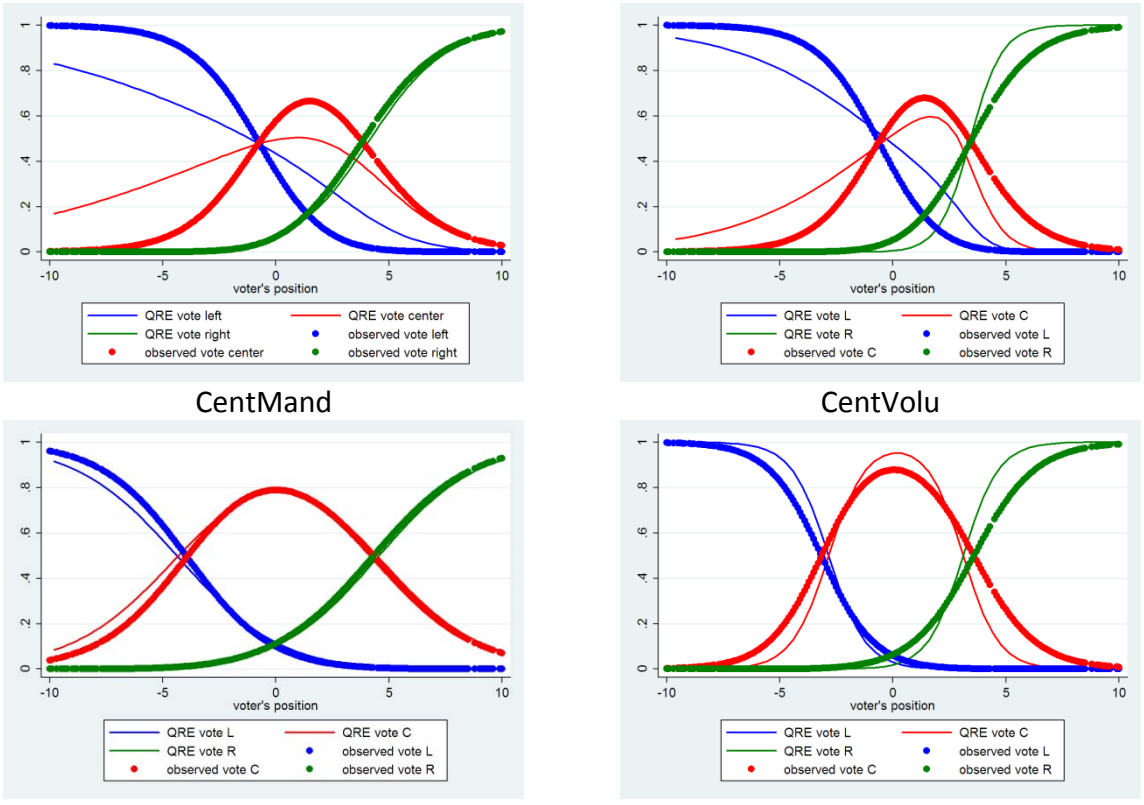
QRE estimated on observed behavior

Combining the data from the party choice and turnout decisions, we estimate the noise level that yields the quantal response equilibrium that best fits the observed data. We allow for different levels of noise in the party choice and turnout decisions. The reason for doing so is that given the relatively high rates of observed turnout, a model with a single noise parameter would not be able to explain party choice very well since the noise parameter needs to be very low (implying a lot of noise) to explain the turnout rates. This would conflict with our observation that party choice is not very noisy. Indeed, if we estimate a model with a single noise parameter we find an ML estimate of λ=3.3. This is very close to the noise level taken from Kamm (2012) with λ=3.7 that we used thus far. Splitting the noise levels, yields an estimate of the noise parameter in the turnout decision of λ_T=1.8. This is similar to the noise levels observed in other experiments on turnout where estimated noise levels vary between 1.25 and 2.5 depending on the subjects' experience (Goeree and Holt 2005; Grosser and Schram 2010). The ML parameter for party choice is estimated to be λ_P=8.2 in our data. Hence, we observe much more noise in the turnout decision than in the

party choice. A likelihood ratio test reveals that the model with two distinct noise parameters significantly improves the fit (p-value<0.01).

Figure A5 compares the new QRE predictions with the estimated party choice. The estimated party choice is obtained form a multinomial logit regression of party choice on voter position (cf. Appendix D). We find that with an extreme left-wing party the new predictions fit the observed party choice quite well. When the left-wing party is centrist we again find that quantal response underestimates the probability of voting sincerely for the left-wing party. As conjectured in the main text, this may be attributed to the powerful heuristic of voting sincerely.

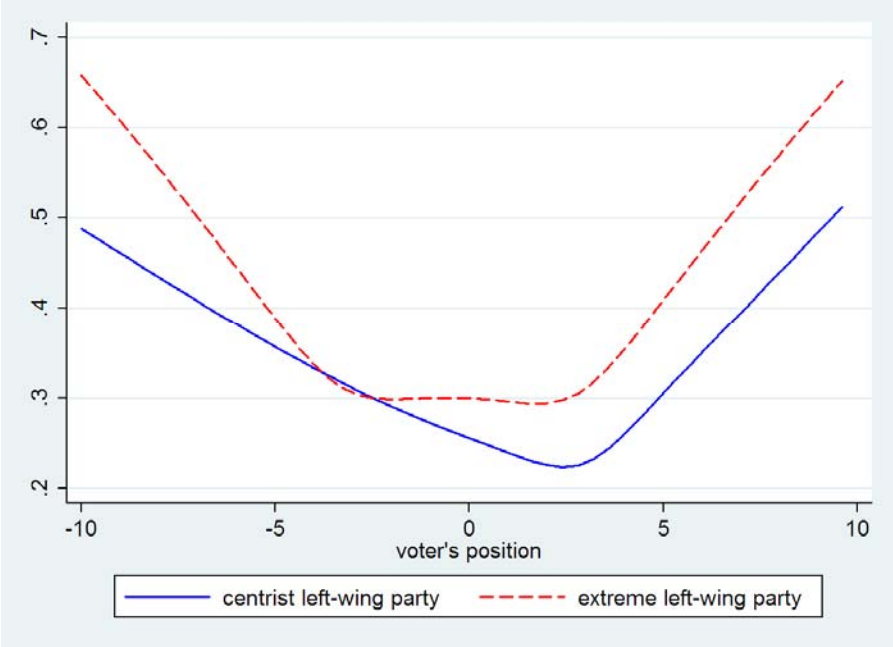
Figure A5: New predicted compared to observed party choice



Notes. The thick (thin) lines show the estimated (predicted) probability of voting for each of the three parties as the voter's position varies along the horizontal axis. The predictions are based on the two-parameter QRE model estimated on observed behavior.

Finally, figure A6 shows the revised QRE predictions for the turnout decision. While these new estimates naturally improve over the predictions using out-of-sample parameter estimates, it still is not able to capture the relatively moderate degree to which centrist voters vote less than extreme voters (cf. figure 7 in the main text).

Figure A6: Estimated turnout rates



Notes. The figure shows the predicted turnout rates for CentVolu and ExtrVolu as the voter's position varies along the horizontal axis. The predictions are based on the two-parameter QRE model estimated on observed behavior.

Appendix B: Nash Equilibria and Uniform Distribution

Nash equilibria for the four treatments

Mandatory voting

We solve for symmetric cut-point equilibria, which implies that voters with a position to the left of x_L vote for the left-wing party, voters between x_L and x_R vote for the central party and voters to the right of x_R vote for the right-wing party.

When voting is mandatory the equilibrium is therefore the solution to the following set of equations

(i) $EU(vote\ left|position\ is\ x_L) = EU(vote\ center|position\ is\ x_L)$
(ii) $EU(vote\ right|position\ is\ x_R) = EU(vote\ center|position\ is\ x_R)$
(iii) $P(vote\ left) = P(voters\ position\ to\ the\ left\ of\ x_L)$
(iv) $P(vote\ right) = P(voters\ position\ to\ the\ right\ of\ x_R)$
(v) $EU(vote\ left|position\ is\ x) = f_L(P(vote\ left), P(vote\ right))$
(vi) $EU(vote\ center|position\ is\ x) = f_C(P(vote\ left), P(vote\ right))$
(vii) $EU(vote\ right|position\ is\ x) = f_R(P(vote\ left), P(vote\ right))$

Here EU is the expected payoff from an action and *P* denotes the probability of a certain event. The functions f_L, f_C and f_R compute the expected payoffs by going through all possible election outcomes, computing the resulting payoffs for the voter and weighting them by their respective probabilities given the probability that a vote will be for a certain party.

Numerical solution yields the Nash equilibria depicted in Table B1.

Table B1: Nash Equilibria Mandatory Voting

	CentMand	ExtrMand
Equilibrium 1 (selected by QRE)	X_L=–0.65; X_R=3.65	X_L=–5.04; X_R=4.52
Equilibrium 2	X_L=–0.77; X_R=7.94	X_L=–4.07; X_R=6.01
Equilibrium 3	X_L=–3.56; X_R=3.63	

Notes. Cells give the Nash equilibrium cut points for party choice when voting is mandatory. Voters with an ideal point to the left of X_L vote for the left-wing party, voters to the right of X_R vote for the right-wing party and voters in between vote for the central party.

The table shows multiple equilibria. One way to refine these is to solve for the quantal response equilibrium letting λ go to infinity along the principle branch of the Multinomial Logit Correspondence (McKelvey and Palfrey 1995). This selects the Nash equilibria shown in the top row.

Voluntary Voting

We again solve for symmetric cut-point equilibria with cut points x_L and x_R. Note that these cut-points are independent of the costs of voting since such costs only influence whether a voter abstains or not but not for which party she will vote given that she turns out. The turnout decision is also described by a cut-point where a voter with position x votes if her voting costs are below a threshold $\bar{c}(x)$.

With voluntary voting the equilibrium is therefore the solution to the following set of equations

$$\textit{(i)}\ EU(vote\ left|position\ is\ x_L) = EU(vote\ center|position\ is\ x_L)$$
$$\textit{(ii)}\ EU(vote\ right|position\ is\ x_R) = EU(vote\ center|position\ is\ x_R)$$
$$\textit{(iii)}\ P(vote\ left) =$$
$$P(voters\ position\ to\ the\ right\ of\ x_L) * \frac{P(a\ voter\ to\ the\ right\ of\ x_L\ votes)}{P(a\ random\ voter\ votes)}$$
$$\textit{(iv)}\ P(vote\ right) =$$
$$P(voters\ position\ to\ the\ right\ of\ x_R) * \frac{P(a\ voter\ to\ the\ right\ of\ x_R\ votes)}{P(a\ random\ voter\ votes)}$$
$$\textit{(v)}\ EU(vote\ left|position\ is\ x) = f_L(P(vote\ left), P(vote\ right))$$
$$\text{(vi)}\ EU(vote\ center|position\ is\ x) = f_C(P(vote\ left), P(vote\ right))$$
$$\textit{(vii)}\ EU(vote\ right|position\ is\ x) = f_R(P(vote\ left), P(vote\ right))$$
$$\textit{(viii)}\ P(a\ voter\ with\ position\ x\ votes) =$$
$$P(costs\ are\ below\ max[EU\ (vote\ for\ party\ i) - EU(abstain)]$$

Compared to the situation with mandatory voting we now have to take into account that voters have different turnout rates depending on their position. Therefore the probability of, for instance, a left-wing vote is not simply the probability that a voter is to the left of x_L, it also has to be weighted by the relative turnout rate of a left-wing voter compared to the average turnout rate in the population.

Solving this set of equations leads to unique equilibria for both specifications of left-wing party positions (table B2).

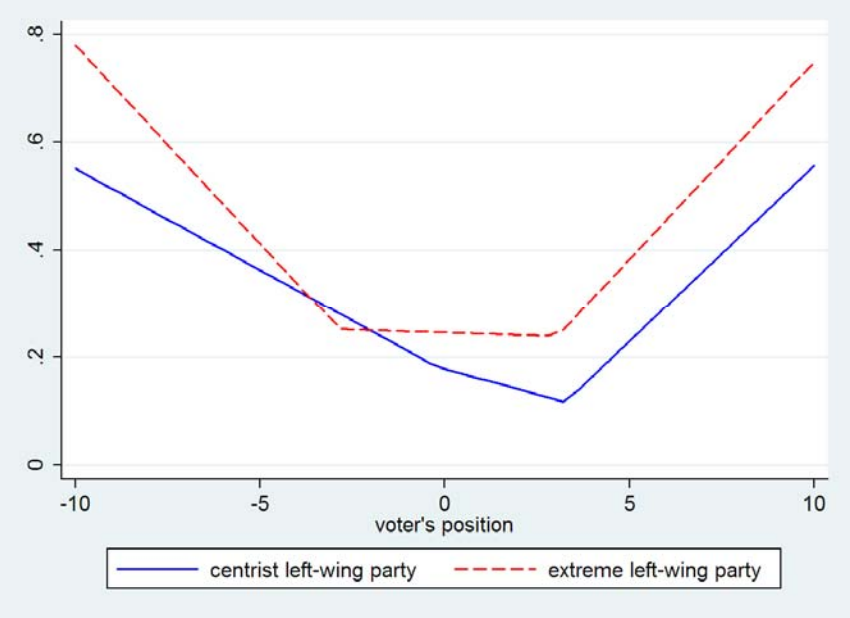
Table B2: Nash Equilibria Voluntary Voting

CentVolu	ExtrVolu
X_L=–0.74; X_R=3.69	X_L=–3.41; X_R=3.65

Notes. Cells give the Nash equilibrium cut points for party choice when voting is voluntary. If they vote, voters with an ideal point to the left of X_L vote for the left-wing party, voters to the right of X_R vote for the right-wing party and voters in between vote for the central party.

The equilibrium for the turnout decision is characterized by a function that assigns to each voter position a critical cost for which a voter is indifferent between abstaining and voting. Figure B1 plots these for our two treatments.

Figure B1: Predicted turnout rates (Nash)



Notes. The figure shows the predicted Nash turnout rates for CentVolu and ExtrVolu as the voter's position varies along the horizontal axis.

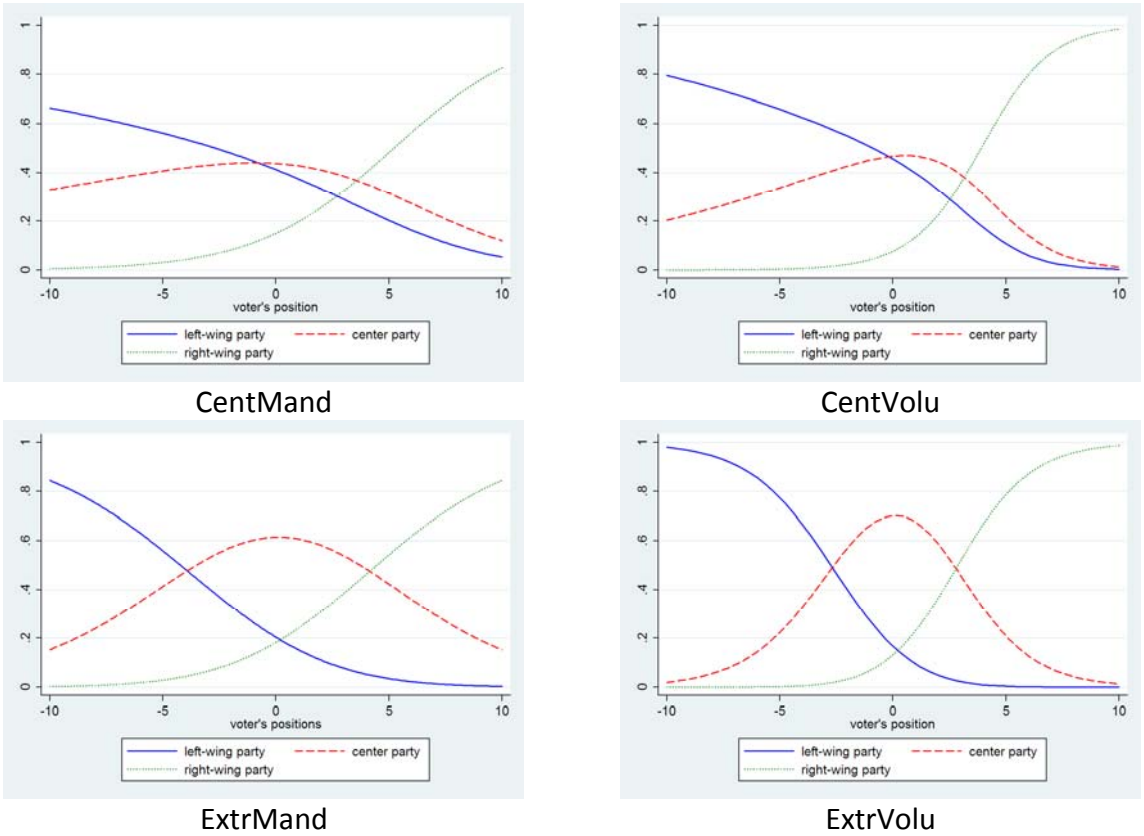
Figure B1 illustrates both the Extremist Effect and the Turnout Effect. The former follows from the observation that the threshold (and therefore expected turnout) is higher at the extremes than in the middle of the policy space. The minimum of expected turnout is observed at position 0.25 for the polarized case of an extreme left-wing party and at position 3 for the case with a centrist left-wing party.

Equilibria with a uniform specification

As a robustness check we analyze the model assuming that the voters' positions are distributed uniformly along the policy space.

Figure B2 shows the QRE predictions for party choice in this model. Note the close resemblance to the QRE predictions with a t-distribution of voter preferences (figure A1). A consequence of this resemblance is that both specifications predict the same interaction effects. For example, Figure B3 investigates the interaction between the turnout regime and party choice in the uniform distribution case by comparing the predictions of the treatment with mandatory voting to the predictions with voluntary voting. It shows that the probability of voting for an extreme party is higher when voting is voluntary than when it is mandatory. Therefore, the 'Polarization Effect' is also observed when we assume that voters' ideal points are uniformly distributed.

Figure B2: Predicted party choice

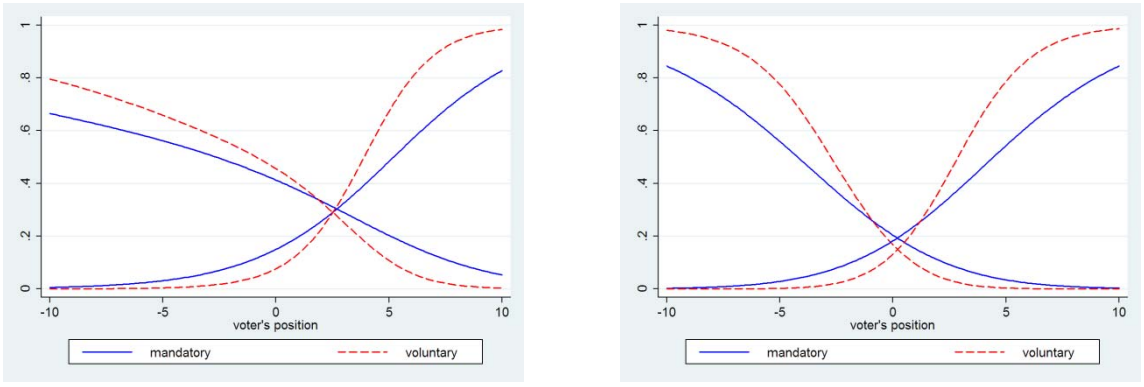


CentMand CentVolu

ExtrMand ExtrVolu

Notes. The figure shows the predicted probability of voting for each of the three parties as the voters position varies along the horizontal axis. The predictions are based on the QRE model with λ=3.7 and a uniform distribution of voter's positions.

Figure B3: Predicted party choice (voluntary versus mandatory voting)

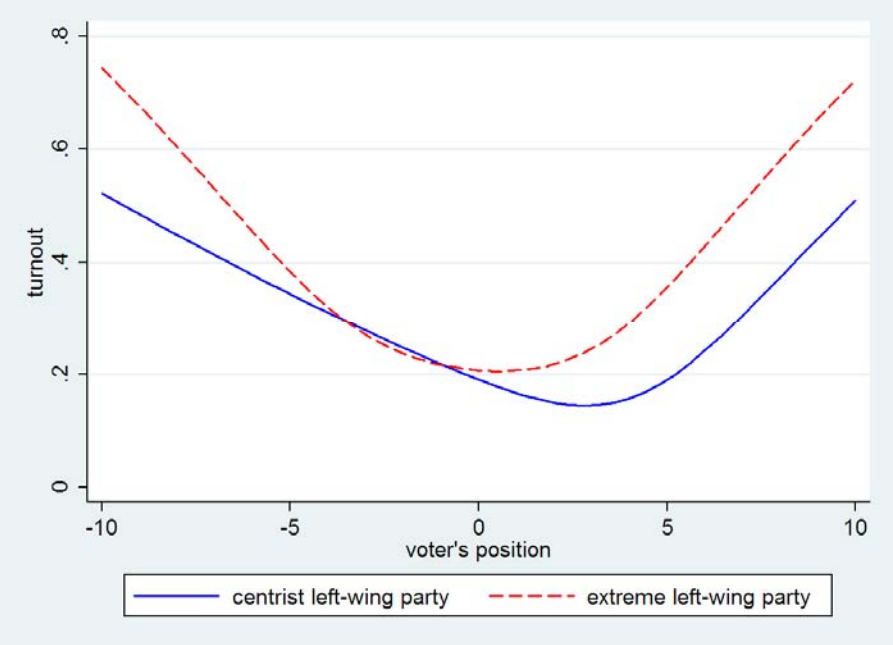


Centrist left-wing party Extreme left-wing party

Notes. The figure compares the predicted probability of voting for each of the extreme parties (conditional on voting) between compulsory and voluntary voting as the voter's position varies along the horizontal axis. The predictions are based on the QRE model with λ=3.7 and a uniform distribution of voter's positions.

To replicate the other effects, figure B4 compares the equilibrium turnout for the two levels of polarization used in the experiment. The horizontal axis shows the voter's positions and the vertical axis depicts the predicted turnout rates.

Figure B4: Predicted turnout rates



Notes. The figure shows the predicted turnout rates for CentVolu and ExtrVolu as the voter's position varies along the horizontal axis. The predictions are based on the QRE model with λ=3.7 and a uniform distribution of voter's positions.

This figure shows that the 'Turnout Effect' and the 'Extremist Effect' are also present when assuming a uniform distribution of policy positions.

Appendix C: Instructions and screenshots of the experiment

In this appendix, we provide the instructions that the subjects read on their monitors. We also give the summary of the instructions that was handed out to subjects after they had read these on-screen instructions. Finally, we provide screenshots of the user interface of the experiment.

Instructions[1]

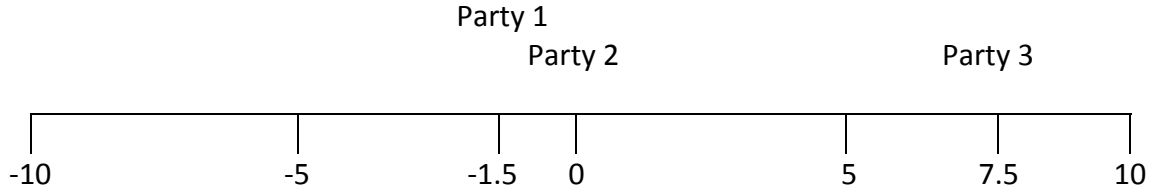
Welcome to this experiment on decision-making. Please carefully read the following instructions. If you have any questions, please raise your hand, and we will come to your table to answer your question in private.

In this experiment you will earn points. At the end of the experiment, your earnings in points will be exchanged for money at the rate 1 eurocent for each point. This means that for each 100 points you earn, you will receive 1 euro. Additionally, you will receive a show-up fee of 7 euros. Your earnings will be privately paid to you in cash at the end of the experiment.

This experiment will consist of 30 elections. In each election you will be one of five voters in the electorate that is electing a new government. Your earnings will be based on the outcome of these elections. The rest of these instructions will explain exactly how the experiment works.

Parties and Voters

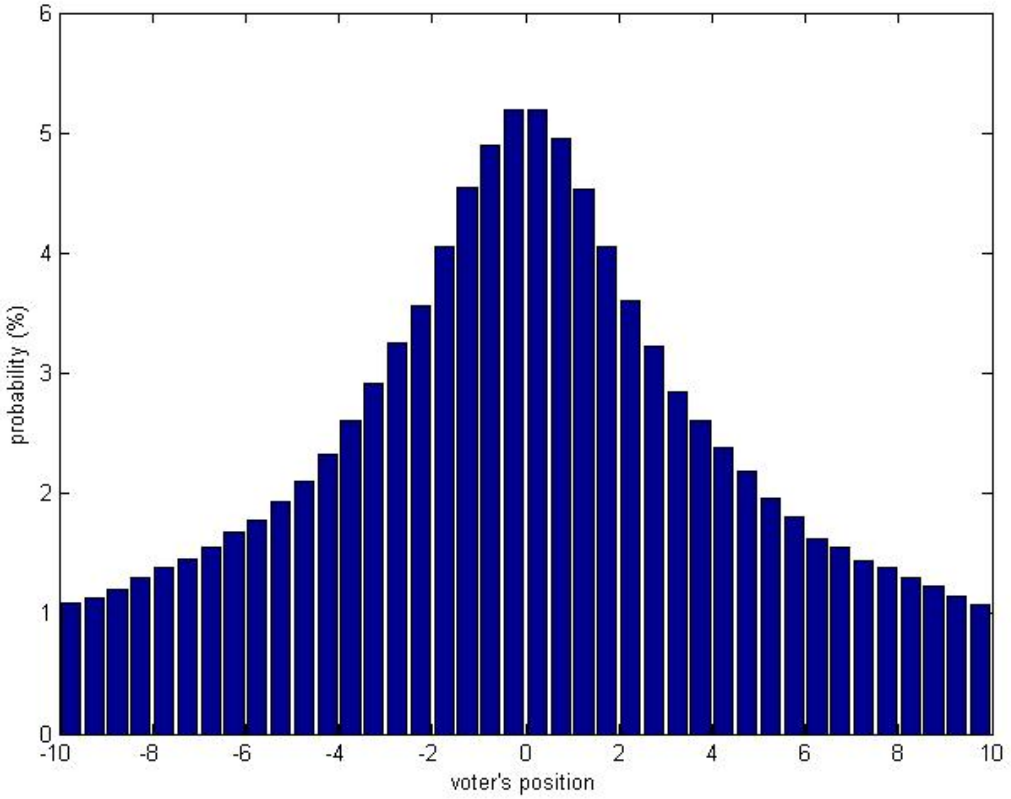
Three parties participate in the elections. Each party is described by a number between -10 and 10, which signifies their policy position. They will keep the same policy position throughout the experiment. You can see where they are located on the graph below (you will also find this graph on the handout) and on your monitor during the experiment.



Every voter is also described by a position on the line from -10 to 10. This position corresponds to the policy that the voter would prefer to see implemented (this is her or his favorite policy). The five voters are randomly distributed over the policy space according to

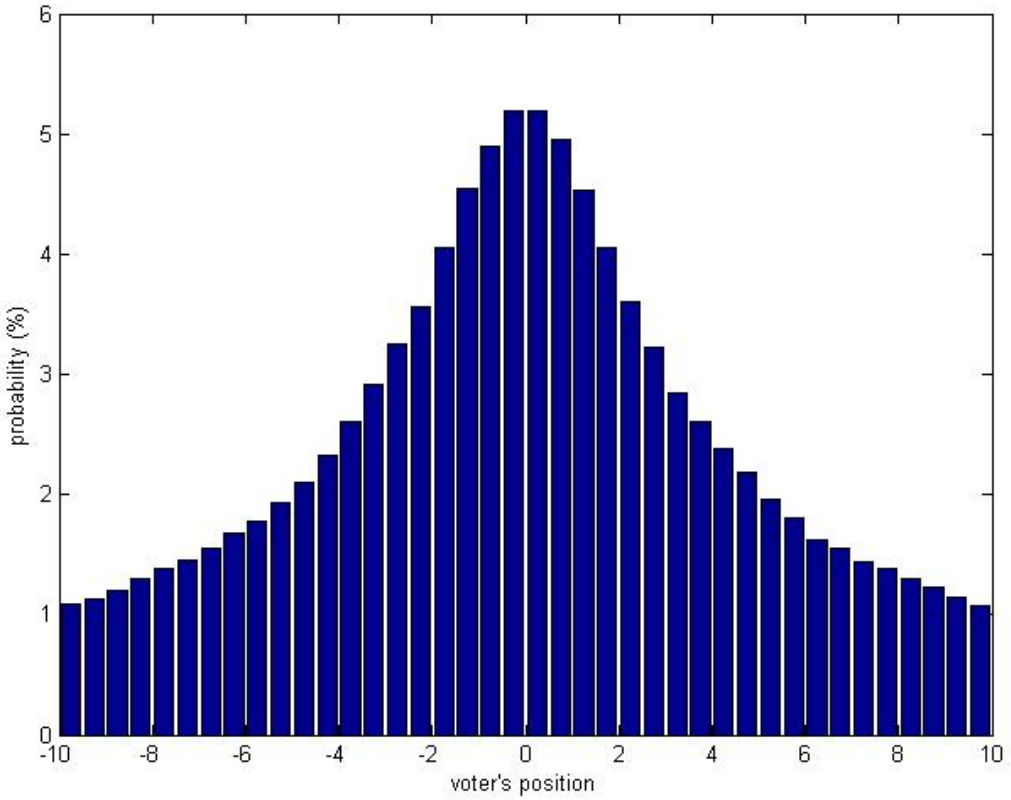
[1] We provide here the instructions used for the treatment centrist-voluntary. The instructions for other treatments are analogous and available upon request.

the distribution shown in the graph below. The height of a bar signifies how likely it is that a value occurs. In the experiment we will round the voter positions to one decimal point.



As you can see a position of 0 is most likely. The probability that the position is very close to zero (between -0.5 and 0.5) is 10%. This means that in (about) 10 of 100 cases the position will be in this interval.

Furthermore you can note that the distribution is symmetric around zero and therefore it is equally likely to be to the left and to the right of zero.



What follows are some further illustrating examples of the shape of the distribution

In about 45% of the cases (45 out of 100) a voter's position will be between -2.5 and 2.5.

In about 71% of the cases (71 out of 100) a voter's position will be between -5 and 5.

In about 96% of the cases (96 out of 100) a voter's position will be between -9 and 9.

In about 22% of the cases (22 out of 100) a voter's position will be between 2.5 and 7.5 and with the same probability s/he will be between -7.5 and -2.5.

In about 15% of the cases (15 out of 100) a voter's position will be between 5 and 10 and with the same probability s/he will be between -10 and -5.

If you want to know how likely it is that a voter's position is in a given interval you can use the tool below (you will also be able to use this tool during the experiment).

position is between **and** Submit

For each voter, a new position will be drawn after every period and your position in the next period is completely independent of your position in the current period. You will always know your own position before making a decision but not the position of the other voters in your electorate.

Government formation

In each electorate (i.e. group of voters that form an election) there will be five voters. You will be one of them and the other four voters are some of the other subjects in the lab. The identity of the four other subjects will be randomly determined in each of the 30 periods. Hence, you are in a new electorate in each of the thirty rounds.

In each period you will have to decide whether you want to vote, and if so, for which of the three parties you want to cast your vote. If you decide to vote you have to incur costs of voting which in every period are an integer randomly drawn from the interval -15 and 200. Every integer in this interval is equally likely to be drawn. You know your own costs of voting before making your decision, but only the distribution of the costs of voting for the other voters in your electorate. Note that there is a small chance that your costs are negative in a round. If this occurs, you will receive extra points if you vote.

The votes by the members of your electorate determine which government will be formed. When forming a government the following rules will be applied:

1. If a party receives an absolute majority (more than half) of the votes this party will form a single party government.

2. If no party receives an absolute majority, the party with the most votes forms a coalition with one of the other two parties. Which coalition will be formed for the different possible configurations of votes can be seen in the table below (you can also find this table on the handout). Coalitions are determined by assuming that the party that is forming the coalition tries to end up with a policy that is as close as possible to its own policy position.

3. If in 2. there are multiple parties with the most votes it is randomly determine which party forms the coalition.

Coalition Formation

Votes for party 1	Votes for party 2	Votes for party 3	Formed coalition	Implemented policy
2	2	1	parties 1 and 2	-0. 8
2	1	2	parties 1 and 2 OR (determined by coin toss) parties 2 and 3	-1.0 5.0
1	2	2	parties 1 and 2 OR (determined by coin toss) parties 1 and 3	-0.5 4.5
2	1	1	parties 1 and 2	-1.0
1	2	1	parties 1 and 2	-0.5
1	1	2	parties 2 and 3	5.0
2	2	0	parties 1 and 2	-0.8
2	0	2	parties 1 and 3	3.0
0	2	2	parties 2 and 3	3.8
1	1	1	parties 1 and 2 OR (determined by throwing a dice; if it shows a 5 or 6 parties 2 and 3 form the coalition) parties 2 and 3	-0.8 3.8
1	1	0	parties 1 and 2	-0.8
1	0	1	parties 1 and 3	3.0
0	1	1	parties 2 and 3	3.8
0	0	0	party 1 OR (all with equal probability) party 2 OR (all with equal probability) party 3	-1.5 0 7.5

Based on the government that is formed, a policy will be implemented. If there is a single party government the implemented policy is equal to this party's policy position. If there is a coalition the implemented policy is the weighted (by votes) average of the positions of the parties in the coalition. If for instance party 3 receives two votes and forms a coalition with party 2 which received one vote than the policy position of party 3 (7.5) receives weight 2/3 and the policy position of party 2 (0) receives weight 1/3. The implemented policy is then 5.0 (=1⁄3*0+2⁄3*7.5). See also the table on the handout for the policy implemented by any possible coalition.

Your earnings in points in a period are computed using the following formula:

160 - 2 * (implemented policy - favorite policy)^2 - costs of voting

As mentioned before, the costs of voting are an integer between -15 and 200. Every integer in this interval is equally likely to be drawn and you will have a new draw in every period. You only pay (or receive) the costs of voting if you decide to vote in a period. The second term in the formula shows that your earnings are decreasing in the squared difference between your favorite policy (i.e. position) and the implemented policy. As a consequence, your earnings are higher the smaller is the distance between the implemented policy and your favorite policy. Below you can test what your earnings are for different configurations of your own position, your costs of voting and the government elected.

Assume that the following government Forms

Position costs of voting

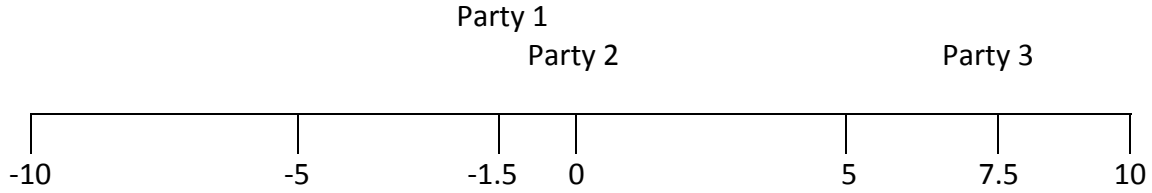
At the end of the experiment the earnings from all periods will be added up and per 100 points, you will receive 1 euro. These earnings will be paid to you privately and confidentially.

On the next screen you will be requested to answer some control questions to make sure that you have understood these instructions. Please answer these questions now.

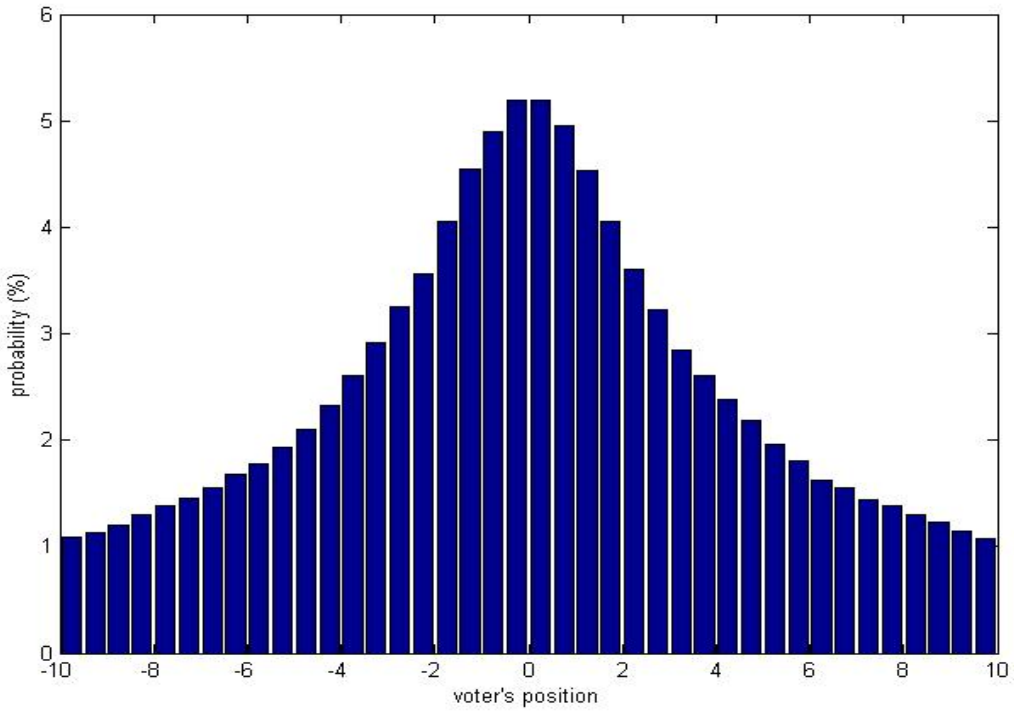
Printed summary of instructions

Summary Instructions

- Each electorate consists of five voters
- In each period you will be randomly rematched
- In each of the 30 periods you have to decide whether you want to vote and, if yes, for which party
- The three parties are described by policy positions as shown below



- every voter is described by a position on the line from -10 to 10. The voters are randomly distributed over the policy space according to the distribution shown in the graph below.



- In about 10% of the cases (10 out of 100) a voter's position will be between -0.5 and 0.5
- In about 45% of the cases (45 out of 100) a voter's position will be between -2.5 and 2.5
- In about 71% of the cases (71 out of 100) a voter's position will be between -5 and 5
- In about 96% of the cases (96 out of 100) a voter's position will be between -9 and 9

- Based on the votes a government will be formed
  - If a party receives an absolute majority of the votes this party will form a single party government.
  - Otherwise a coalition will be formed according to the table below
  - The implemented policy is the position of the party in government; if there is a coalition it is the vote weighted average of the positions of the members of this coalition

Votes for party 1	Votes for party 2	Votes for party 3	Formed coalition	Implemented policy
2	2	1	parties 1 and 2	-0. 8
2	1	2	parties 1 and 2 OR (determined by coin toss) parties 2 and 3	-1.0 5.0
1	2	2	parties 1 and 2 OR (determined by coin toss) parties 1 and 3	-0.5 4.5
2	1	1	parties 1 and 2	-1.0
1	2	1	parties 1 and 2	-0.5
1	1	2	parties 2 and 3	5.0
2	2	0	parties 1 and 2	-0.8
2	0	2	parties 1 and 3	3.0
0	2	2	parties 2 and 3	3.8
1	1	1	parties 1 and 2 OR (determined by throwing a dice; if it shows a 5 or 6 parties 2 and 3 form the coalition) parties 2 and 3	-0.8 3.8
1	1	0	parties 1 and 2	-0.8
1	0	1	parties 1 and 3	3.0
0	1	1	parties 2 and 3	3.8
0	0	0	party 1 OR (all with equal probability) party 2 OR (all with equal probability) party 3	-1.5 0 7.5

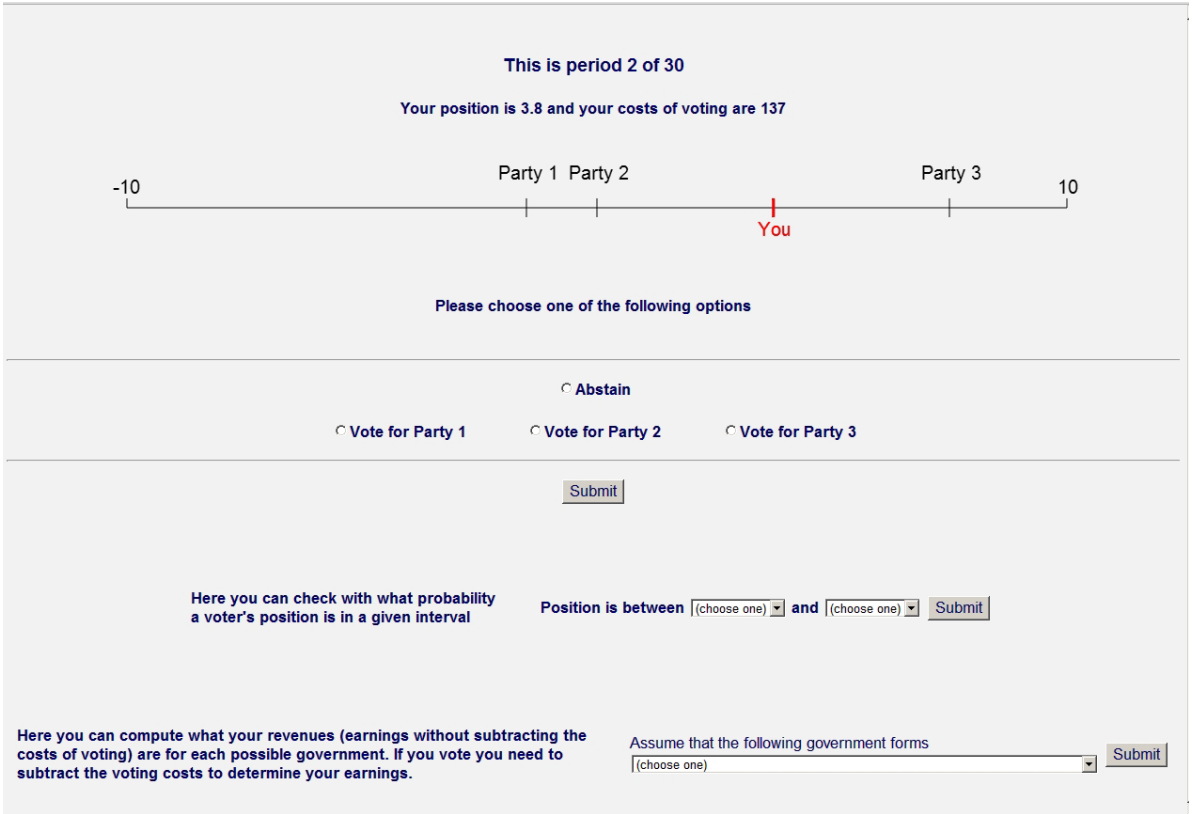
- Your payoff per round is

160 – 2*(implemented policy - favorite policy)^2 - costs of voting

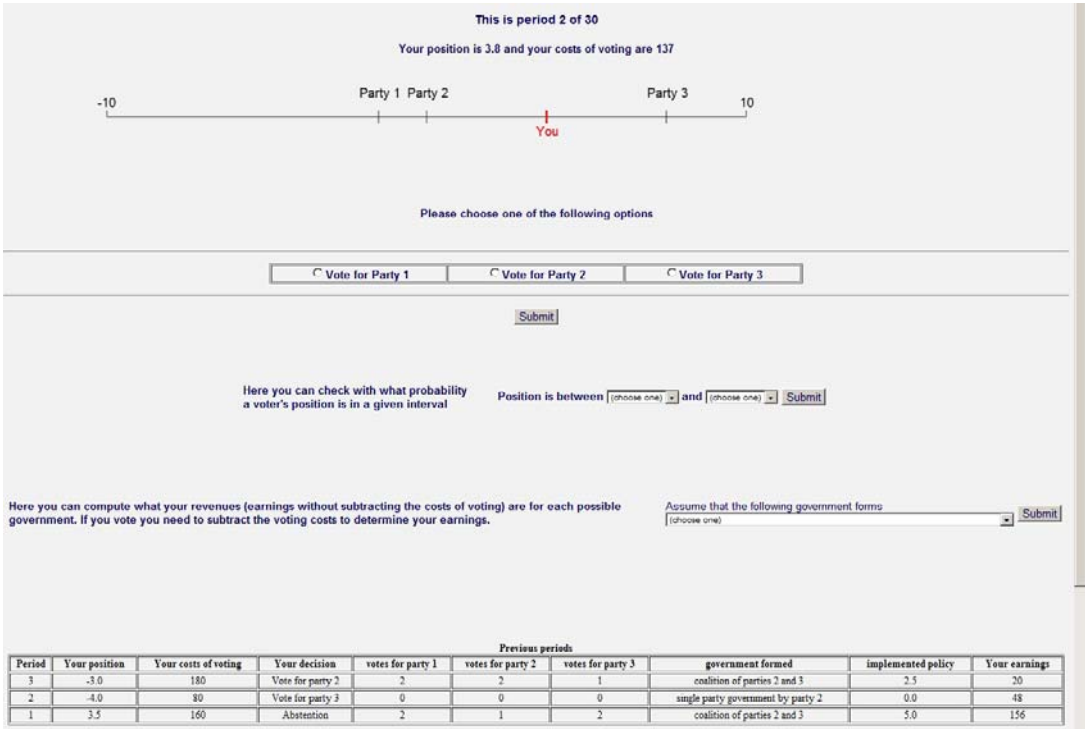
  - The cost of voting are an integer number in the interval between -15 and 200. Every integer in this interval is equally likely to be drawn.
  - You only have to pay the costs of voting in periods where you decide to vote

Your final payoff is 1 Euro for every 100 points plus a show-up fee of 7 Euros.

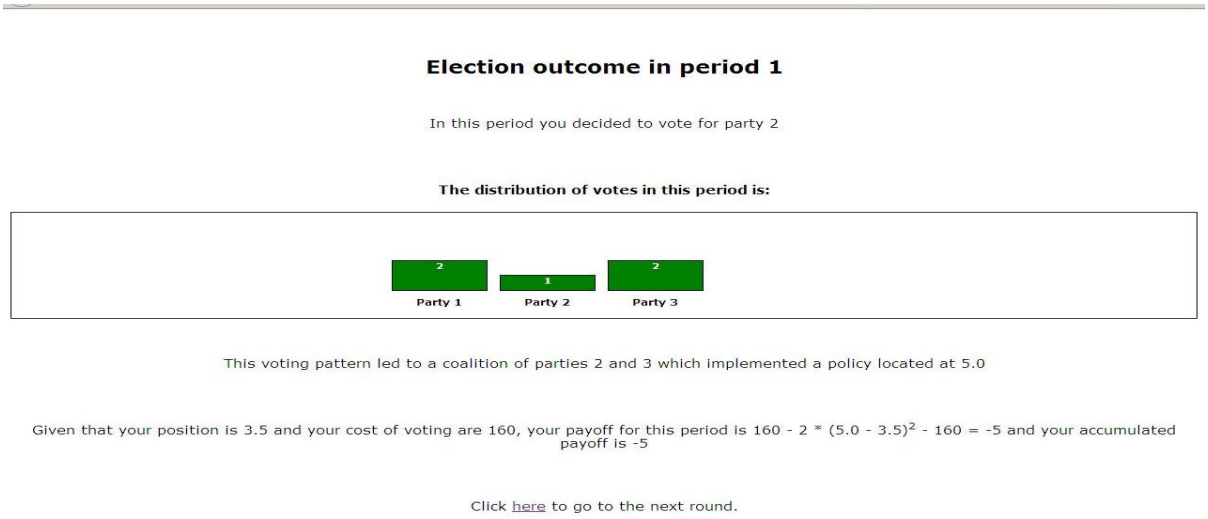
Screenshots of the interface



Notes. The screen subjects saw when making a decision in the centrist-voluntary treatment (in the mandatory treatment the button "abstain" is missing).



Notes. The screen subjects saw when making a decision in the mandatory treatment; the table at the bottom of the screen shows an example of the history box.



Notes. The screen subjects saw after an election was over.

Appendix D: Multinomial logit estimates

Below we report the estimation results underlying the logit choice functions for the party choice as depicted in Figure 4 of the main text. The variable "Voter's Position" measures a voter's position in the policy space. Standard errors are clustered at the matching group level.

Multinomial Logit Results, CentMand

Constant and Independent Variables	Coefficients		
	Vote for left-wing party	Vote for center party	Vote for right-wing party
Constant	–0.48***	Base outcome	–2.17***
	(0.131)		(0.541)
Voter's position	–0.64***		0.57***
	(0.183)		(0.139)

Notes. Multinomial logit estimates for the party choice decision in treatment CentMand. Standard errors are clustered at the matching group level. *(**; ***) indicates significance at the 10% (5%; 1%) level.

Multinomial Logit Results, ExtrMand

Constant and Independent Variables	Coefficients		
	Vote for left-wing party	Vote for center party	Vote for right-wing party
Constant	–2.07***	Base outcome	–1.95***
	(0.519)		(0.610)
Voter's position	–0.53***		0.45***
	(0.158)		(0.181)

Notes. Multinomial logit estimates for the party choice decision in treatment ExtrMand. Standard errors are clustered at the matching group level. *(**; ***) indicates significance at the 10% (5%; 1%) level.

Multinomial Logit Results, CentVolu

Constant and Independent Variables	Coefficients		
	Vote for left-wing party	Vote for center party	Vote for right-wing party
Constant	–0.45*	Base outcome	–2.40***
	(0.249)		(0.743)
Voter's position	–0.72***		0.70***
	(0.243)		(0.195)

Notes. Multinomial logit estimates for the party choice decision in treatment CentVolu. Standard errors are clustered at the matching group level. *(**; ***) indicates significance at the 10% (5%; 1%) level.

Multinomial Logit Results, ExtrVolu

Constant and Independent Variables	Coefficients		
	Vote for left-wing party	**Vote for center party**	**Vote for right-wing party**
Constant	–2.69***	Base outcome	–2.63***
	(0.610)		(0.689)
Voter's position	–0.85***		0.73***
	(0.223)		(0.183)

Notes. Multinomial logit estimates for the party choice decision in treatment ExtrVolu. Standard errors are clustered at the matching group level. *(**; ***) indicates significance at the 10% (5%; 1%) level.