

Choosing an Electoral Rule

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Abstract

Citizens are increasingly involved in the design of democratic institutions, for instance via referendums. If they support the institution that best serves their self-interest, the outcome inevitably advantages the largest group and disadvantages minorities. In this paper, we challenge this pessimistic view with an original lab experiment in France and Great Britain. In the first phase, experimental subjects experience elections under plurality and approval voting. In the second phase, they decide which rule they want to use for extra elections. The treatment is whether they do or do not have information to determine where their self-interest lies before deciding. We find that self-interest shapes people's decision, but so do intrinsic egalitarian values that subjects have outside of the lab. The implications are: (1) people have consistent 'value-driven preferences' for electoral rules, and (2) putting them behind the veil of ignorance leads to an outcome that reflects these values.

Introduction

Electoral rules shape the way democracy works. Since they affect the structure of partisan competition (Farrell 2011), they have important consequences for people and societies. For example, some rules reduce electoral malpractice (Birch 2007), help fight corruption (Chang and Golden 2005), enhance the representation of women in politics (Thames and Williams 2010), or increase redistribution towards the poor (Iversen and Soskice 2006). However, a single rule cannot achieve all these goals at the same time. There are inextricable trade-offs, like the one between fair representation and accountability (Carey and Hix 2011). This makes the study of the choice of an electoral rule particularly important.

Historically, political elites have been in charge of the design of political institutions and electoral rules. However, the situation is rapidly evolving: citizens are increasingly involved in the choice of institutions, either indirectly because elites take public opinion into account when they decide, or directly via referendums, petitions and citizen assemblies (Renwick 2010). For example, in 2016 the citizens of the state of Maine voted ‘yes’ in a referendum to replace the plurality rule by a system of instant runoff for state and congressional elections, and when it looked like the political elites were taking too much time to implement the change, a group of citizens organised a petition to make sure the reform applies to the 2018 elections (The Atlantic 2018). In the last ten years, there have been dozens of referendums about electoral rules throughout the world in countries like Canada, Italy, Ireland, New Zealand, and Slovenia. Hence, ignoring people’s views about electoral rules can no longer hold. In a world where citizens’ trust and satisfaction with current democratic procedures is decreasing, public demand for participating in institutional reforms is growing (Bedock 2017; Dalton 2004). Given the wide variety of effects of electoral rules for the conduct of politics, citizens should be able to choose the rules that they consider best for society.

Starting from these premises, we propose a study of the factors driving people's preference for electoral rules. The literature on the topic argues that the main driver is self-interest. Since some electoral rules give an advantage to some parties, it is in the self-interest of all competitors to select the rule that maximises their chances of winning, or more generally that maximises their influence. Consequently, the electoral rule that is ultimately chosen is often in favour of the incumbent, or the group that has control over the reform process. This explains why historically electoral reforms only happened in situations where the position of the incumbent was threatened by another group (Boix 1999; Calvo 2008; Leeman and Mares 2014).

In this paper we challenge this pessimistic view and show that values shape people's preference for electoral rules. In an innovative lab experiment conducted in the United Kingdom and France, we organise elections under plurality and approval voting. Once subjects have seen and practised the functioning and consequences of these two rules, we ask them to choose the rule that they want to use for extra elections. We select plurality and approval voting because both rules apply to the same electoral context, i.e. the election of a single candidate, and lead to similar yet distinct results. Both favour the centrist candidate, but not to the same degree. The differences between the two are thus tendential rather than deterministic. The choice is therefore a choice between two electoral rules, and not a choice between two certain electoral outcomes.

The treatment is whether or not subjects know, at the moment of choosing the rule, their 'position on the political spectrum'. In the context of the experiment, this is the key variable that conveys information about which rule maximises their personal payoff in expectation. When they have this piece of information, their choice is mostly self-interested. However,

when they are behind the veil of ignorance *à la Rawls* (1971), they make a choice consistent with their intrinsic values. We show that subjects who believe in egalitarianism in society are more likely to choose approval voting because that is the rule that produces the more egalitarian distribution of payoffs in the lab. We believe our study has relevant real-world implications, as in reality people are often situations that resemble the veil of ignorance. Since 1990, there have been many proposals to change the way elections are organized in many countries, and in many cases which party or candidate will benefit from the proposed reform, especially in the long-run, has been at best unclear (Andrews and Jackman 2005).

Preference for electoral rule

In the literature

Most studies about the choice of electoral rules are focused on political elites. They show that politicians have self-interest preference, that is one for the rule that is believed to be best for their personal well-being. For example, many European democracies went from a majoritarian to a proportional system at the turn of the 19th century because the incumbent conservative or liberal party felt threatened by socialist parties that were gaining popularity after the extension of franchise (Boix 1999; Leeman and Mares 2014). Even in countries in which there was no strong socialist movement, the incumbent party only reformed the majority system when the distribution of their supporters was geographically scattered such that proportional representation was more advantageous to them (Calvo 2008).

More recently, in France, the ruling socialist party introduced a gender parity law in 2000 knowing that this reform would increase its chances of re-election over the conservative party that had less women representatives and candidates (Fréchette, Maniquet, and Morrelli 2008).

In Italy in 2005, Berlusconi replaced the mixed-member system by a proportional one to increase competition between its partners and preserve its domination within the centre-right coalition (Renwick, Hanretty, and Hine 2009). More generally in Europe, incumbent parties introduce rules such as electoral thresholds to make it harder for small parties to enter parliament when electoral volatility rises in favour of new parties (Nunez, Simon, and Pilet 2017).

By contrast, a few studies suggest that politicians also have values-driven preference, that is one for the rule that is believed to be best for society or the common good. The strategy that researchers use to show this is the following: they measure politicians' support for different rules, evaluate whether this support correlates with their personal values, and then they check in a regression whether this correlation holds after controlling for the personal benefits the politicians can expect out of the rules. If it does, they conclude that they have values-driven preference in the sense that they support a rule that is consistent with their values. Using on comparative data from established democracies, Bol (2016), for instance, finds that parties that are more favourable to the democratic inclusion of minorities and underrepresented social groups in their electoral manifesto are also more supportive of proportional rules. Bowler, Donovan, and Karp (2006), who analyse a survey with parliamentarians from a selected group of democracies, find that politicians who are the most left-wing are more supportive of reforms, regardless of their direction.

Recently, the focus of the literature on the choice of electoral rule has shifted. As citizens have a growing role in reforms via referendums, petitions, or deliberative assemblies, researchers have come to examine what shapes their preference for electoral rule (Renwick 2010). Echoing the literature on political elites, these studies find that citizens also have self-interest

preference. In recent referendums about electoral reform in New Zealand and the United Kingdom, voters overwhelmingly supported the rule that was beneficial to their favourite party, usually because they followed the line advocated by this party (Banducci and Karp 1999; Vowles 2013). Even in hypothetical survey questions, respondents say that they would rather use the rule that gives an advantage to their preferred party (Aldrich, Reiffel, and Munger 2014).

Nevertheless, a few studies that use the same strategy than the one for political elites show that citizens' preferences for electoral rule are also partly driven by values. Wenzel, Bowler and Lanoue (2000) conducted a survey in the United Kingdom in which they ask respondents their degree of support for proportional representation and other institutional attributes. They find that people who are more favourable to consensual forms of democracy are also more favourable to a hypothetical reform of the plurality system. Some years later, Curtice and Seyd (2011) fielded a similar survey among Scottish citizens, and they show that those who are unhappy with features of the plurality system (e.g., disproportion between seats and votes) are more favourable to the mixed proportional system used in the regional parliament. Blais et al (2015) conducted a survey experiment during the 2012 presidential election in France. After letting respondents experience different rules and their consequences, they ask them to indicate the one that they like the most. They find that left-leaning people are supportive of an electoral rule that favours the centrist candidate.

Other studies rely surveys conducted on the occasion of referendums on electoral reform. Banducci and Karp (1999) analyse survey data from the 1993 referendum in New Zealand for which citizens had to choose between keeping the plurality rule or switching to a mixed-member system to elect the national parliament. They find that people dissatisfied with the

political system and those with progressive values (rejecting death penalty, being open to immigration...) are more likely to support reform.

We need to make an observation about the studies discussed in this section about values-driven preference. In some of the studies, values explain support for a change in general (e.g., Bowler, Donovan, and Karp 2006). In others, they explain support for a reform in one specific direction (e.g., Blais et al 2015). These studies give a theoretical explanation for why certain values are associated with certain rules that relate to the consequences of these rules for society. For example, Bol (2016) says that parties that are favourable to the inclusion of minorities and underrepresented groups prefer a proportional representation system because it is the one that facilitates access to parliament for these groups. This is the approach that we take in our study as well. We show that egalitarianism leads to support for the electoral rule that leads to a more egalitarian distribution of payoffs for everybody.

In this paper

We adopt a strategy similar to the studies described above: we first measure support for different electoral rules, and then we check whether this support correlates with intrinsic values even after controlling for self-interest explanations. The key difference is that we use a lab experiment of the political economics type with controlled interactions between subjects and incentivised actions. In a first phase, we organise elections between experimental subjects under plurality and approval voting. In a second phase, we organise an extra election, but we ask subjects to choose the rule. The treatment is whether they do or do not have information about how much personal benefit they can expect out of the two rules before making their choice. When they are not behind the veil of ignorance, subjects can determine which rule is

best for them in terms of expected personal payoffs. Behind the veil of ignorance, they do not know where their self-interest lies.¹

The advantage of lab experiments over observational studies to study preference for electoral rules is fivefold. First, observational studies as described above do not rely on any counterfactual. They analyse the world as it is, where self-interests and values co-exist, and are sometimes associated. For example, as per Iversen and Soskice's theory (2006), socialist parties can decide to adopt a proportional representation rule to increase socio-economic redistribution (values-driven preference). However, this redistribution will also increase the share of citizens who benefit from state money, and then the share of socialist supporters. The adoption of proportional representation can thus also be seen as a self-interested strategy. In our study, we disentangle self-interest and values in making sure that the two are not correlated. On the one hand, we measure intrinsic values in asking subjects to report their personal views about the way society should be organised at the end of the experiment. On the other hand, we randomly assign them a position on the political spectrum, and thus how much personal benefit they can expect out of each rule, during the experiment. Hence, because self-interest is randomly manipulated, it is not correlated with the individual subject's values.

Second, with a lab experiment, we are able to simulate a normatively-relevant counterfactual in putting people behind the veil of ignorance. Following the tradition of the 'impartial spectator' in political philosophy, Harsanyi (1955) or Rawls (1971) use the thought experiment

¹ Note that in principle subjects can also compute their expected utility behind the veil of ignorance in comparing the total gains given under both rules. However, we precisely designed the experiment so that there is little difference between rules in this respect. Note also that although our design is not a perfect replica of Rawls' original thought experiment in which the subjects do not know anything about their identity or position in society, it comes close to it. In a controlled setting like a lab experiment, subjects do not have any pieces of information other than those that the researcher gives them. In our study, they only know their position on the political spectrum, and this is what we hide 'behind the veil of ignorance'. Similar designs have been used in economics (e.g., Weber 2017).

of the veil of ignorance to reveal the rational source of moral reasoning that can ground a social contract. When people do not know which position they will have in the population after they choose an institution, they are behind the veil of ignorance, and need to think about the consequence of the institution for everyone. It then becomes in their self-interest to think in terms of the common good. Hence, the veil of ignorance can help design institutions that are ‘just’ in Rawls’ terms, in the sense that they maximise what people consider best for the society. In moral philosophy, the notion of a ‘veil of ignorance’ describes the ethical posture that Harsanyi (1955) defines as “those possibly rare moments when [the individual] forces a special, impartial, and impersonal attitudes upon himself” (p.315).²

Third, lab experiments allow to precisely calculate self-interest variables, and thus better estimate how they compare to values-driven ones. In the studies presented above, the authors reconstruct *a posteriori* what would have been the personal benefit of elites and citizens under the different rules. Usually, they measure it in terms of seats gain/loss. This strategy has two problems. On the one hand, it is not clear whether this is the way people define ‘personal benefit’. For example, Cox, Fiva, and Smith (2018) show that the decision of the Norwegian government to adopt a proportional system at the turn of the 19th century was self-interested, but not related to seat share. The leaders of the incumbent party wanted to take back power over their rank-and-file deputies in introducing a party-list system. On the other hand, it is not clear whether elites and citizens are aware of how much benefit they can expect out of a reform.

² Note that for a question of political institution design like the choice of an electoral rule, the veil of ignorance is also pertinent for practical matters. As the electoral rule is to be used systematically in the future, people need to anticipate that with any rule, they will sometimes win, sometimes lose. Note also that in Rawls’ original thought experiment, subjects, who must choose between a slavery and a non-slavery system, choose the non-slavery system because it is the one that minimises the risk of being an absolute loser, i.e. a slave. In our experiment as well, minimising risk might be the strategy adopted by those who prefer the rule that leads to the most egalitarian distribution of payoffs, i.e. approval voting. Yet it should be noted that (1) a substantial number of subjects do not make this choice in our experiment, and (2) even if risk aversion were driving people’s choice, it would not contradict our main finding, which is that behind the veil of ignorance subjects make a choice coherent with their intrinsic values outside of the lab.

Electoral rules have psychological effects, in the sense that some people vote differently when the system changes. Hence, it is sometimes hard to anticipate the exact effect of a change, even for party leaders (Andrews and Jackman 2005; Pilet and Bol 2011). With a lab experiment, we overcome these problems as we specify ourselves the payoff structure. We can thus precisely measure how much personal benefit they can expect out of each rule. Also, we make them experience two rules (plurality and approval voting) in the first phase, and give them the full details of the electoral results, so that everybody has the relevant information in order to choose an electoral rule in the second phase.

Fourth, another key advantage of lab experiment is that subjects' behaviour is incentivised. Depending on the decisions that they make during the study, they earn more or less money in the end. Unlike previous studies that rely on non-incentivised survey data (e.g., Blais et al 2015), we can be confident that they are focused when they participate in the study, and think carefully about their action. This also decreases the possibility that they give satisficing and socially desirable answers, which is a concern with survey questions.

Fifth, our lab experimental design is a difficult test for our hypothesis that values shape people's preference for electoral rule. A behavioural lab can be seen as a micro society populated of experimental subjects who interact with each other and who are induced to think about their personal interest, as the instructions are focused on the personal monetary payoffs associated with different outcomes. In this paper, we evaluate whether the personal views that these subjects have about society affect their support for an electoral rule in the lab. If we find an effect, this will mean that the link between intrinsic values and support for electoral rule is so strong that it emerges even in this peculiar context.

The experiment

Design

Between May and June 2018, we organised 12 experimental sessions, 6 in the United Kingdom and 6 in France³, with 21 experimental subjects each. The experiment is in two phases and lasts about one hour. In the first phase, we assign each subject to an ideal point on a scale going from 0 to 20 (one subject per position, uniformly distributed). There are five fictitious candidates (A, B, C, D, and E) that also each have an ideal point on this scale. Table 1 offers a visualisation. Although this is never mentioned to avoid ideological bias in behaviour, we can see the 0-20 scale as the spatial left-right space. There is a far-left (A, position 0), centre-left (B, position 5), centrist (C, position 10), centre-right (D, position 15), and far-right candidate (E, position 20).

Table 1. Positions on the 0-20 scale and payoff structure

Subjects	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Candidates	A					B					C					D					E	
Payoff if A	9	8	7	6	5	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Payoff if B	4	5	6	7	8	9	8	7	6	5	4	3	2	1	0	0	0	0	0	0	0	0
Payoff if C	0	0	1	2	3	4	5	6	7	8	9	8	7	6	5	4	3	2	1	0	0	0
Payoff if D	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	8	7	6	5	4	4
Payoff if E	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	4	5	6	7	8	9	9

In the first phase, the subjects experience two electoral rules.⁴ There is a series of four elections under plurality, and another one of four elections under approval voting (the order randomly varies from session to session). We randomly reshuffle the subjects' positions on the 0-20 scale at the beginning of each series, but the position of candidates remains constant. Under both

³ In the United Kingdom, we conducted the sessions in [redacted]. In France, we conducted the sessions in [redacted]. We follow the ethical requirements of both labs that include a clause of no deception. We received an IRB approval from the ethical committee of [redacted] prior to the experiment.

⁴ Before the first phase, we read the instructions to the subjects. The complete set of instructions in English can be found in appendix A1. Then, we ask them a few quiz questions (non-incentivised) to make sure that everybody understand the rule. The quiz questions can be found in appendix A2.

rules, subjects vote simultaneously, so that they do not know how others vote when they make their decision. Under plurality, they have one vote, and the candidate with most votes wins. Under approval voting, they approve or not each candidate, and the candidate with most approvals wins. In both instances, they cannot abstain.

After each election, there is a single winning candidate, which determines the payoff of subjects. The intuition is that, just like in real-life elections, the closer one is from this candidate on the scale, the greater the payoff. The formula is the following:

$$\text{Payoff} = 9 - (\text{Distance between subject and winning candidate on the 0-20 scale})$$

With the proviso that the payoff cannot be negative. In other words, for subjects with an extreme position, it does not matter whether it is the centrist candidate or one on the other side that wins, their payoff is 0. Table 1 also presents the payoff structure. We introduce this specificity in order to minimise the possibility that the centrist candidate always wins. When payoffs are purely degressive, in the sense that they do not have a lower bound at 0, the centrist candidate becomes a strong focal point, from which subjects have no incentives to deviate. This payoff structure is also realistic: voters whose preference does not resonate with any candidate because they are too far away from them ideologically speaking are indifferent to the candidate ultimately elected (Campbell et al 1960). Finally, note that another advantage of the linear payoff structure is that it is less sensitive to heterogeneity about risk aversion among subjects than a quadratic function.

It is important to note that subjects have perfect information. Before voting, they see the payoff associated with each candidate given their randomly-assigned position. After the election, they

see the number of votes for each candidate, and the payoff of each subject.⁵ Finally, at the end of the experiment, two elections are randomly selected one in the first and one in the second phase. The number of points obtained by each subject at these two elections are averaged, and monetary gains are then calculated such as 1 point = 1 euro (France) or 3 pounds (United Kingdom).

In the second phase, we organise two series of one election. We randomly reshuffle the positions of subjects on the 0-20 scale at the beginning of each of them. The elections are the same than in the first phase, except that before voting subjects must choose whether they want to use plurality or approval voting (they cannot abstain from choosing). Each subject chooses one of the two rules. Then, we randomly pick one subject, and organise the election with her favourite rule. The advantage of this randomisation is that there cannot be any strategic voting in the choice of electoral rule.

The treatment is whether subjects are behind the veil of ignorance when they choose the electoral rule or not. For the first series of the second phase, the subjects are informed about their position on the 0-20 scale *before* they make their choice. Hence, they can determine which rule will maximise their expected personal payoff in the second phase given the result of the first phase.⁶ These are simply expected payoffs as they do not know for sure what will be the results of the extra election. Just as in real-life electoral reforms, they have to rely on past electoral results to make their decision about an electoral rule with some uncertainty about what would be the resulting electoral outcome. In contrast, for the second series, we assign them a position *after* they make their choice. They are thus behind the veil of ignorance.

⁵ We include shots of these screens as subjects see them during the experiment in appendix A3.

⁶ There is a summary of the results of the elections of the first phase on the screen when they select the rule for the second phase. We include a shot of this screen in appendix A3.

Subjects can compute what are their personal payoffs in expectation under both rules, but we design the experiment such as their expected utilities behind the veil are almost identical. The order of the two series of the second phase varies from session to session, so that half of the subjects starts choosing behind the veil of ignorance and then choosing in knowing their position on the 0-20 scale, and vice versa for the other half. It is then a within-subject design. The dependent variable is the choice of electoral rule. In total, we have 2 countries x 6 sessions x 21 subjects x 2 choices = 504 observations.

At the end of the experiment, we ask subjects to answer a short survey containing questions about their socio-demographic profile (age, gender) and their personal views about the way society should be organised. In particular, we ask a classic battery of questions eliciting their degree of egalitarianism (see below).

Expectations and hypotheses

Our study focuses on two electoral rules: plurality and approval voting. On the one hand, plurality is the probably the most studied of all electoral rules in political science and other sister disciplines like economics. It is the one that gave birth to the main theories regarding political competition (Downs 1957). Approval voting on the other hand is a rule that is less known. It was proposed by political scientist Steven Brams and mathematician Peter Fishburn (1978). It is used in internal elections by a few parties and by organizations such as the American Mathematical Association. It has never been used in a legislative or presidential election. However, it has attracted the attention of many researchers because it is often considered as producing outcomes closer to voters' preferences.

We select plurality and approval voting for three reasons. First, both rules apply to the same electoral context. Unlike proportional representation for instance, they serve at electing a single candidate in a district.

Second, they are straightforward and simple. This is an important criterion as they need to be fully understood by subjects during the first phase of the experiment. Other rules are more complex and sometimes hard to transpose in a lab setting. For example, proportional representation supposes a payoff structure that accounts for both parliamentary representation and coalition government. Simplicity is also the reason why our experiment does not include more than two rules.

Third, we select plurality and approval voting because we need, for the experiments, rules that are likely to lead to different yet similar results in terms of winning candidates. Both have centripetal incentives in the sense that they give a clear advantage to centrist candidates. People with extreme ideological positions should strategically vote for (or approve) them instead of (or on top of) the extreme candidate that is closer to them (Baujard et al 2014). Consequently, we expect, like in other lab experimental studies with similar designs, that these extreme candidates rarely win (Van der Straeten et al 2010). However, we also expect some variations regarding the centre candidate (C). Since the payoff structure is bounded at 0 (see above), extreme voters are likely to vote for (or approve) other candidates than C. Even those who have slightly more moderate positions will adopt this strategy to increase their payoff, especially under approval voting because they can approve several candidates. With our design, approval voting should thus lead to more variation in terms of winning candidates than plurality. In particular, candidates B and D should win more often under approval voting than under plurality. However, the differences are likely to be tendential rather than deterministic. This is

an important feature of our design. If the results were deterministic, for example one rule systematically leading to the election of the centrist candidate and the other one systematically leading to the election of a non-centrist candidate, the choice would have not been about an electoral rule, it would have been a certain electoral result. What is more, the very fact that the two rules lead to different yet similar results can be seen a strong test of our hypotheses. For example, we observe that when subjects are not behind the veil of ignorance they manage to understand which one favours their personal benefit despite the relative similarity of their results.

As mentioned above, the dependent variable is the choice of electoral rule by subjects in the second phase, and the treatment is whether they know their position before making this choice or are behind the veil of ignorance. The experiment is a within-subject design, which means that each subject faces both conditions one after the other (the order is random across experimental sessions). We do not have any hypothesis regarding the treatment effect *per se*, but we have hypotheses about the conditional impact of self-interest and values depending on this treatment.

First, we expect that when subjects know their position on the 0-20 scale, they self-interestedly select the electoral rule that gave the largest payoff to their position during the first phase. The assumption is that they learn the consequences of the two rules during the eight elections of first phase, in particular which one favours which candidate(s), and that they use this information to make a rational decision in the second one. As we show below, some candidates are advantaged by some rules. It is then in the subjects' self-interest to select the rule that favours the candidate closest to them on the 0-20 scale. Note that this scale is perfectly symmetric. Hence, if subjects are rational, they understand that a rule that favours a certain

candidate also favours the one that has a symmetric position. For example, if candidate B (position 5) wins often under a certain rule, candidate D (position 15) is as likely to win under this rule. We thus calculate a variable that we call 'Rational Benefit' such as:

$$\text{Rational Benefit}^7 = (\text{Points obtained by the subject's position (and its symmetric position) during the first phase under approval voting} - \text{Points obtained by the subject's position (and its symmetric position) during the first phase under plurality}) / 2$$

We expect this variable to be positively associated to choosing approval voting over plurality.

The first hypothesis is the following:

H1 (self-interest). When subjects know their position on the 0-20 scale, they are more likely to choose the electoral rule that gives the largest payoff to this position (and its symmetric position) in the first phase.

Second, we expect that when subjects are behind the veil of ignorance they choose an electoral rule that is consistent with their intrinsic values. Here as well, we assume that they learn the consequences of the two rules during the eight elections of the first phase and that they use this information to make a decision. However, since they do not know their position on the 0-20 scale, they need to consider the consequences for the entire experimental group. In a controlled setting like ours, the main consequence of the rules concerns the distribution of payoffs. Depending on which candidate wins, and how many times, the distribution can be more or less egalitarian. As discussed above, we expect approval voting to produce a greater variation in

⁷ Except for position 10 that is central, and hence does not have any symmetrical position. For position 10, we do not divide the difference by 2.

electoral outcomes and therefore a more egalitarian distribution of payoffs, and subjects to observe this pattern in the first phase of the experiment.

We then hypothesise that subjects who have intrinsic egalitarian values are more likely to choose approval voting in the second phase because it leads to a more egalitarian distribution of payoffs than plurality. To measure egalitarianism, we ask questions about the way society should be organised at the end of the experiment. These questions, standard in survey studies aiming at measuring egalitarian values (e.g, Feldman 1988) and included in the American National Election Studies since the mid-1980s for this purpose, are:

“To what extent do you agree with the following statements (strongly agree/agree/neither agree, nor disagree/disagree/strongly disagree):

- (1) If people were treated more equally in this country, we would have many fewer problems
- (2) We should give up on the goal of equality, since people are so different to begin with”

Subjects who strongly agree with item (1), and strongly disagree with item (2), are considered to be strongly egalitarian.⁸ In the literature, egalitarianism is often described as a ‘core value’. It is one that is deeply interiorised by individuals, as it appears to be remarkably stable throughout time. Also, it is only weakly correlated with the socio-economic status, and a strong predictor of political behaviours such as voting or becoming a partisan of a party (Ansolabehere, Rodden, and Snyder 2008; Evans and Neundorf 2018). We sum up the answers to these two items to construct an index that we call ‘Egalitarianism’. The second hypothesis is the following:

⁸ In our sample of experimental subjects (N = 252), the Cronbach Alpha for this index is 0.41. In the original questionnaire, there was two more items: “some people are better at running things and should be allowed to do so” and “one of the big problems in this country is that we don't give everyone an equal chance.” We do not include these two items because they diminish the Cronbach Alpha to 0.07 and 0.29 (respectively).

H2 (values). When subjects are behind the veil of ignorance, the more egalitarian they are the more likely they choose approval voting over plurality because it is the rule that leads to the most egalitarian distribution of payoffs.⁹

This second hypothesis is not trivial. It is clear that behind the veil of ignorance subjects cannot choose the rule that maximises their personal benefits because they do not know their position on the 0-20 scale. However, they can use other cues to make their decision like choosing the rule under which they got more points in the first phase, or simply choose randomly.

In a final stage of our analysis, we conduct a supplementary analysis to probe the mechanism behind the second hypothesis. In none of the elections of the first phase does approval voting produce a less egalitarian distribution of payoffs than plurality (see below). However, the difference between the two is not always the same. In some sessions, the distribution is (almost) as egalitarian under both rules, whereas in others approval voting leads to a more egalitarian outcome. Hence, we estimate whether, behind the veil of ignorance, the effect of egalitarianism on the probability to choose approval voting increases when the difference between plurality and approval voting in terms of egalitarian distribution of payoffs increases.

Results

⁹ Note that studies show that subjects behave the same way about inegalitarian payoffs in the lab than they do in reality. For example, people claim credits for personal gains, even when these gains are explicitly coming from random manipulation in the experimental design (Piff et al 2012). Note also that there is absolutely no correlation between the variable Egalitarianism and how 'rich' the subjects are in terms of payoffs (correlation=-0.002, $p=0.97$). The reason is that the final number of points that they get in the end is mainly a function of the position that they had during the experiment, which is randomly assigned.

First phase

The first step is to analyse the result of the elections in the first phase of the experiment. In Table 2, we report the aggregate proportion of victories of each candidate under both plurality and approval voting. In line with our expectation, the two rules have strong centripetal effects. The centrist candidate (C) is the one that wins the most (more than 60%). In contrast, the extreme candidates (A and E) never win. We also see a difference between the two rules regarding the centre candidates. C wins slightly more often under plurality (65%, compared 62% under approval voting) to the detriment of B and D. Importantly, C does not always win, as B and D have a substantial number of victories.

Table 2. Results of the elections of the first phase

Victories (Proportions)	Cand. A	Cand. B	Cand. C	Cand. D	Cand. E
Plurality	0%	10%	65%	25%	0%
Approval	0%	19%	62%	19%	0%
Consequences (Means)	Approval	Plurality	Approval – Plurality (Within Sessions)		
Effective Number of Elected Candidates	1.77	1.32	0.40		
Standard Deviation of Payoff Distribution	9.82	11.25	-1.44		
Number of Subjects With At Least 1 Point	19.00	17.58	1.42		

N=48 elections under plurality, 48 elections under plurality in the first phase.

The aggregate proportion of victories is not the best indicator to understand the differences between the two rules. It hides the variations that can exist within sessions. In appendix A4, we report the electoral results of the first phase in each of the 12 sessions separately. To summarise these results, we calculate the ‘effective number of elected parties’ (or the ‘effective number of elected candidates’) over the four elections of the first phase using the Laakso and Taagepera’s index (1979).¹⁰ We use it to measure variations in the number of winning candidates in the first phase of each session. For example, when a single candidate wins all

¹⁰ In doing so, we consider the four elections of the first phase as elections of four different seats. We calculate the effective number of candidates such as: $1/\sum_{i=1}^N s_i^2$, where s is the seat share of each candidate i .

four elections under a certain rule the value of the index is 1, when two candidates win two elections each the value is 2. From Table 2, we observe that, on average, the effective number of elected candidates is substantially larger under approval voting (1.77, compared to 1.33 under plurality). Within sessions, approval voting has on average 0.40 more effective elected candidates than plurality. Actually, there is only one session (Session 12) for which the effective number of elected candidates is larger under plurality (2.00, compared to 1.60 under approval voting).

Why do we observe this pattern in the effective number of candidates? To answer this question, we look at the distribution of votes. In appendix A5, we report the results of conditional logit regressions (one for each electoral rule) predicting the subject's vote for (or approval of) a given candidate by her distance to this candidate, and candidate dummy variables. We observe that in both instances distance is an important predictor, and that subjects are more likely to support C than any other candidate. The main difference between the two rules is that the probability to vote for (or approve) B and D is substantially larger under approval voting than under plurality. Under approval voting, subjects with an extreme position approve more candidates than those with a non-extreme position. The average number of approvals of subjects located between positions 5 and 15 is 1.88, and 2.19 for other subjects. Consequently, the number of votes separating the top two candidates is smaller under approval voting (1.45 under approval voting, compared to 2.35 under plurality), and the elections are tighter.¹¹ Hence, a single vote is more likely to change the electoral result, typically in favour of candidate B and D. For this reason, we observe more variations in the number of winning candidates under

¹¹ Note that there is no evidence of coordination among voters, as the average margin of victory is almost the same in the first and last election of the first phase: from 1.33 to 2 under approval, and from 2 to 2.5 under plurality.

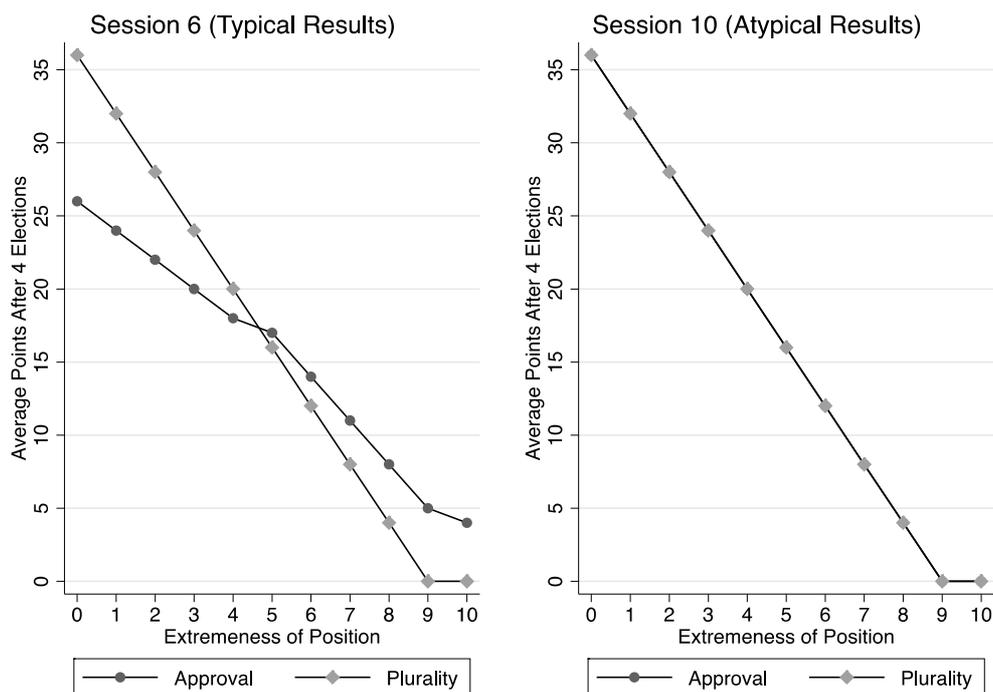
approval voting than under plurality. This confirms our expectation regarding the results of the first phase of the experiment.

What is the consequence of the difference in the effective number of elected candidates between plurality and approval voting for payoff distribution? Intuitively, it is obvious that when multiple candidates win, the distribution of points between subjects is more egalitarian (because the subjects keep their position during each series of four elections). To formally test this intuition, we use two indicators: the standard deviation of the payoff distribution of all 21 subjects over the four elections of the first phase, and the number of subjects that receive at least one point during this phase. Both are indicators of payoff equality, but the latter is a cruder measure, easier to compute for subjects. From Table 2, we observe that on average, the standard deviation is substantially smaller (9.82, compared to 11.25 under plurality), and the number of subjects with at least one point larger (19 compared, compared to 17.58 under plurality). What is more, we find that in all experimental sessions (except Session 12 when we use the standard deviation of payoff distribution) plurality produces a less egalitarian payoff distribution. In the most extreme case, both rules are equally egalitarian (sic). However, in others, the difference can go up to -1.51 in standard deviation and +5 in the number of subjects with at least one point. Subjects thus experience a more egalitarian distribution of payoffs under approval voting than under plurality but the size of the difference between the two rules varies across sessions.

What does this difference in payoff distribution mean concretely for subjects? Figure 1 reports the number of points obtained by the subjects as a function of their position on the 0-20 scale, from very extreme (0 or 20) to central (10), in two selected sessions. In Session 6, candidate C wins all four elections under plurality, and C and D each wins two elections under approval voting. This is a typical result given our expectations and results. In Session 10 candidate C

wins all four elections under both rules. This is an atypical session that occurred only once. From Figure 1 (atypical session, right panel), we observe that the number of points received by each subject is decreasing with the extremeness of their position. However, there is no difference between the two rules because the results are identical. From Figure 1 (typical session, left panel), we observe that subjects with the most extreme positions are better off under approval voting because they gain on average four points over four elections, compared to zero point under plurality. In contrast, the subject with the most central position is better off under plurality, as she gains on average 36 points instead of 26 under approval voting.

Figure 1. Number of points and position in the elections of the first phase



Note: Entries are predicted values of an OLS regression predicting the subject's points by the extremeness of her position (0 to 10, treated as a categorical variable) in Sessions 6 and 10. In Session 10 (right panel), the two lines are exactly overlapping. N=21 per session.

Yet, this line of reasoning assumes that subjects know their position before choosing the rule. Behind the veil of ignorance, they do not have this piece of information. They do not know where their self-interest lies. One could argue that they should then favour the rule that

maximises the overall benefit of all the subjects. However, in the aggregate, both rules are associated to similar total gains (on average 15 points, with a maximal difference of 0.02 within sessions, see Table 2). The only difference between the two is the payoff distribution, that is fairer under approval voting than under plurality. That said, we control for the total number of gains under both rules in the analysis below.

We also have evidence that the subjects perceive the difference in fairness between sessions. At the end of the experiment we ask them to evaluate how fair they think the two electoral rules are, from 0 not fair at all to 4 very fair. On average, we find that 46% think that approval voting is fairer than plurality, whereas 25% think the opposite (29% think they are equally fair). These proportions vary depending on the electoral results of the first phase. In Session 6 (typical results), 48% think approval voting is fairer, compared to 33% in Session 12 (atypical results).

Second phase

In the second phase, we ask all subjects to choose the rule for an extra election either knowing their position on the 0-20 scale or behind the veil of ignorance. In total, subjects choose approval voting 61% of the time. There is no difference across treatments (60% when they know their position, 62% behind the veil), nor across countries (62% in France, 60% in the United Kingdom).

To test our hypotheses, we run logistic regressions predicting the probability to choose approval voting (instead of plurality). The main independent variables are: ‘Rational Benefit’ and ‘Egalitarianism’ as defined above. Although we want to keep the model as parsimonious as possible, as standard in experimental analysis, we need to include several variables to control for potential confounding effects. First, we add a variable called ‘Psychological Benefit’, which

is simply the difference between the number of points obtained by the subject under approval voting and plurality in the first phase. This is different from ‘Rational Benefit’, as it does not consider the position of the subject in the second phase. It is not because a subject wins a lot in the first phase under one rule that she will also win a lot under this rule in the second phase. It all depends on her position. Second, we add a variable capturing the difference between the total gains of all 21 subjects in the first phase under approval voting and the total gains of subjects under plurality. This variable corresponds to the expected utility of subjects behind the veil of ignorance since they do not know their position. As mentioned above, the difference is very small. Third, we add dummy variables capturing the treatment (knowing their position or behind the veil of ignorance) and the country of the experiment (France or United Kingdom).

In Table 3, we report the results of three regressions. In the first, we pool the observations and use all the independent variables presented above. In the second, we reduce the sample to the choices made when subjects know their position on the 0-20 scale (no veil). In the third, we do the same in reducing the sample to the choices made when there are behind the veil.

Table 3. Main regressions for the second phase

	(Pooled)	(No Veil)	(Veil)
Rational Benefit (Approval – Plurality)	0.015** (0.007)	0.021* (0.011)	0.008 (0.011)
Egalitarianism	0.031** (0.014)	0.026 (0.017)	0.036** (0.016)
Psychological Benefit (Approval – Plurality)	0.007** (0.002)	0.008** (0.002)	0.006** (0.002)
Total Gains (Approval – Plurality)	-0.019 (0.079)	-0.038 (0.101)	0.001 (0.103)
Veil	0.019 (0.034)		
United Kingdom	-0.049 (0.052)	-0.136** (0.065)	0.039 (0.066)
N	504	252	252

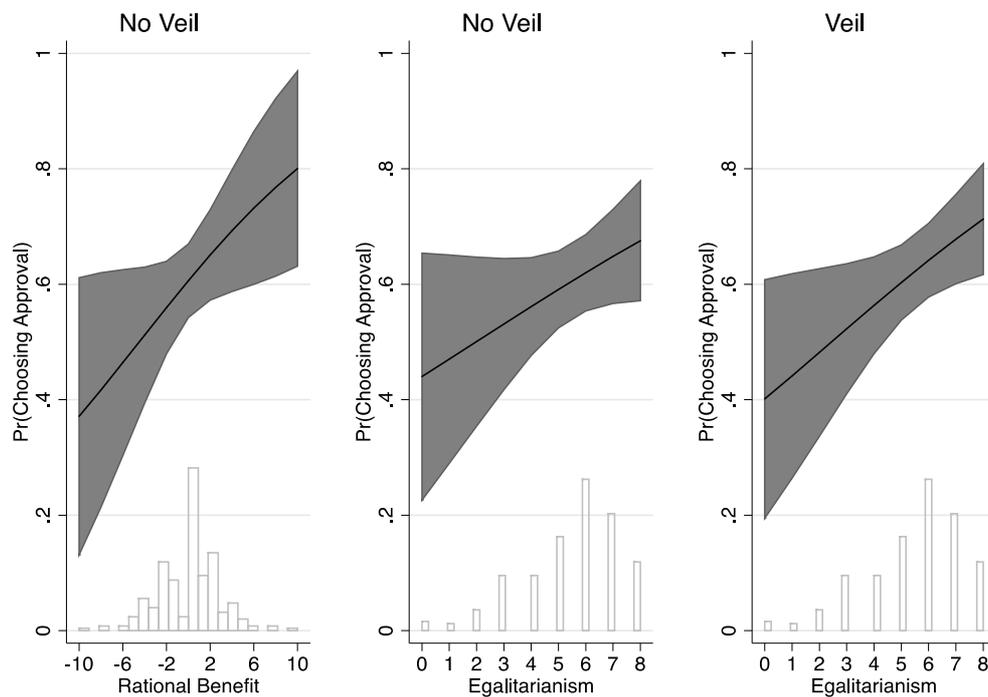
Note: Entries are marginal effects from logit regression predicting the probability of choosing approval over plurality. Standard errors, clustered by subject for the first column, are in parentheses. * $p < 0.1$, ** $p < 0.05$ (two-tailed).

From Table 3, we observe that both Rational Benefit and Egalitarianism increase the probability to choose approval voting over plurality when we pool the observations. The effects are statistically significant ($p < 0.05$). The effect of Rational Benefit becomes larger when subjects know their position on the 0-20 scale ($p < 0.1$), and smaller when they are behind the veil of ignorance, which is normal given that they do not know their position (we can see this as a placebo test). In contrast, the effect of Egalitarianism is larger behind the veil of ignorance ($p < 0.05$), but also substantial when subjects know their position ($p = 0.11$). P-values are higher in the last two regressions, but the number of observations is also rather low ($N = 252$).¹²

To assess the magnitude of these effects, we plot the predicted probabilities of the dependent variable using the estimates of the regressions of Table 3. Each time, we show the variation between the empirical minimum and maximum of the independent variable. Figure 2 (left panel) shows that, when subjects know their position on the 0-20 scale, their probability to choose approval voting increases from 40% when it is plurality that is expected to give them a much better personal payoff to 80% when it is approval voting. Figure 2 (right panel) also reveals that the probability of choosing approval voting goes from 40% for subjects who are not egalitarian at all to 71% for those who have strong egalitarian values. In the middle panel of Figure 2, we show the magnitude of the effect of Egalitarianism when subjects know their position on the 0-20 scale (from 44% to 68%) We thus find strong evidence for both H1 and H2: subjects are mostly self-interested when they know their position and mostly value-driven when they are behind the veil of ignorance, though values do matter in the absence of the veil.

¹² In appendix A6, we estimate a supplementary regression of Table 3, in which we pool all observations and add an interaction between the main independent variables and the treatment. Although the interactions are not statistically significant, they all go into the expected direction. We also conduct some robustness tests. In A7, we reproduce the regressions of Table 3 in adding some control variables: age, gender, and interest in politics (on a scale from 0 ‘not interested at all’ to 10 ‘very interested’). In A8, we reproduce the regressions with an OLS estimation. The results remain similar.

Figure 2. Magnitude of the effect of Rational Benefit and Egalitarianism



Note: Entries are predicted probabilities based on regressions of Table 3 (columns 2 and 3). Shaded areas are 95%-confidence intervals. White histograms are distribution of the independent variable (Rational Benefit and Egalitarianism).

Before showing the analysis aimed at probing the mechanism behind H2, we want to make a few remarks regarding the effect of other variables in Table 3. First, the psychological benefit seems to be a key variable under both treatment conditions (although its effect is small). Subjects who experience a greater payoff under a certain rule in the first phase are more likely to choose this rule in the second phase, regardless of their position. There are two explanations for this effect: either the subjects use this crude and non-sophisticated cue to evaluate what is the best electoral rule for them (a ‘feeling good under this rule’ effect) or they are not particularly focused during the experiment and do not always notice it when their position changes. Second, subjects in the United Kingdom are less likely to choose approval voting when they are behind the veil of ignorance. There seems to be a bias in favour of the electoral rule currently used in the country, but only if and when they are informed about where their

self-interest lies. Finally, the difference of total gains under approval voting and plurality has a positive effect on the probability to choose approval voting when subjects do NOT know their position on the 0-20 scale. This variable can be seen as the expected utility of subjects behind the veil. However, the effect is very small and not significant, perhaps because the total gains are almost identical between the two rules.

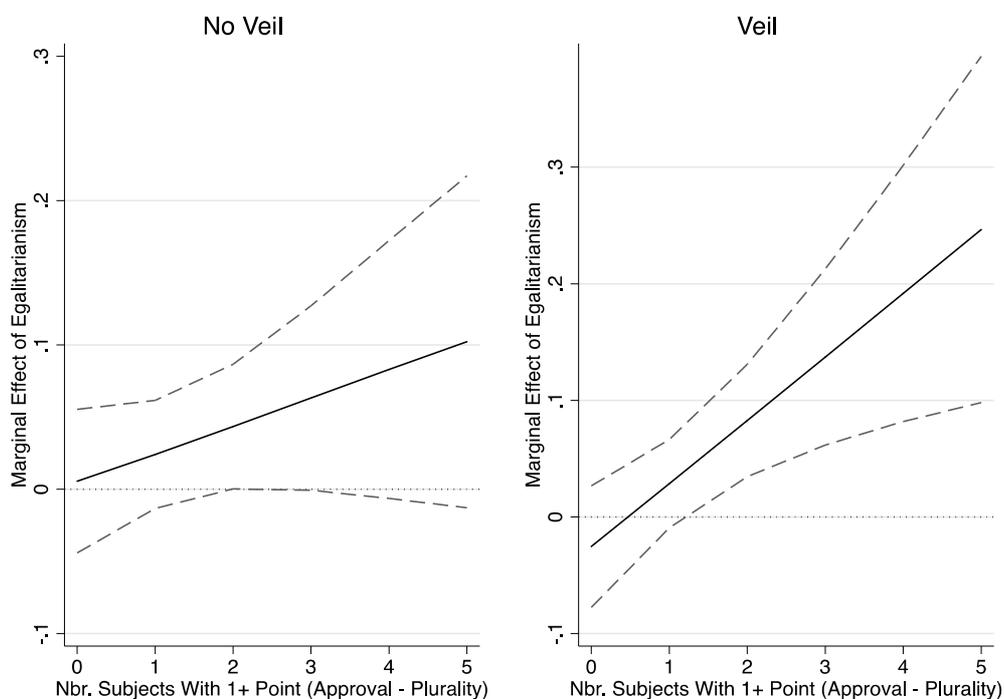
As a final step of the analysis, we probe the mechanism behind H2. As presented above, approval voting always leads to more egalitarian (or as egalitarian) payoff distributions during the first phase of our experiment. However, there is some variation: in some sessions, the difference between the two is small, in others it is larger. Hence, we can expect that egalitarianism has a stronger effect when approval voting produces a much more egalitarian outcome than plurality. To test this hypothesis, we replicate the regressions ‘No Veil’ and ‘Veil’ in Table 3 in adding a measure of payoff equality presented above as independent variables (the number of subjects with at least one point in the four elections of the first phase) and an interaction between this variable and Egalitarianism. The full results are presented in appendix A8.

In Figure 3 we show the marginal effect of Egalitarianism as the payoff equality under approval voting compared to plurality changes from its empirical minimum to its empirical maximum.¹³ From the right panel, we observe that Egalitarianism has a strong and statistically significant effect ($p < 0.05$) behind the veil of ignorance, when approval voting produces a much more egalitarian outcome than plurality during the first phase (difference number of subjects with at least one points of +5). In contrast, the effect is null when the two rules lead to similarly (or

¹³ For Figure 3, we use the number of subjects with a least one point in the four elections of the first phase as measure of payoff equality. We suspect that subjects are more likely to rely on this measure because it is the simplest to compute. However, the results are similar with the other measure, see appendix A9.

almost similarly) egalitarian payoffs. This supports our interpretation that the reason why egalitarian subjects support approval voting is because the rule produces more egalitarian payoffs. From the left panel, we observe that the marginal effect of Egalitarianism also increases with the difference in payoff equality when subjects know their position on the 0-20 scale. The effect is null when there is no difference, but positive and substantial when this difference is larger.

Figure 2. Effect of Egalitarianism as payoffs becomes more egalitarian



Note: Entries are marginal effects of Egalitarianism as difference in payoff equality (approval voting compared to plurality) varies. Dotted lines are 95%-confidence intervals.

Conclusion

Electoral rules are key to democracy. They have important economic and social consequences for societies, and they underlie system legitimacy as a whole. According to both conventional wisdom and scientific literature on the topic, the political elites self-interestedly choose the rule

that maximises their power over the decision-making process. This creates a non-democratic distortion, as it means that the incumbent group is advantaged. Citizens are increasingly involved in the design of electoral rules. Over the last 20 years, they have been asked to vote in referendums on the question in the United Kingdom, New Zealand, Italy, Slovenia, Ireland, and Canada. Yet the situation is not necessarily better when elites give away their engineering power if citizens simply vote for the rule that benefit their favourite party.

In this study, we show that the situation is not that desperate, and that people choose the electoral rule that they they consider best for the society when they are put in the right conditions. In an original experiment conducted in the United Kingdom and France, we organise elections between small groups of individuals to elect fictitious candidates under plurality and approval voting. After experiencing the two rules and their consequences, we ask them to choose the rule that they want to use for an extra election. The treatment is whether they are behind a veil of ignorance *à la Rawls* at time of deciding. We show that self-interest matters most when they are informed about where their self-interest lies although values have some additional effect, and that these values strongly affect their choice when they are not informed about how much personal benefit they can expect out of the rule. In particular, people with intrinsic egalitarian values support electoral rules that lead to more egalitarian payoff distributions.

Our study has empirical, methodological, and normative implications. From an empirical point of view, we contribute to the growing literature on electoral reform in showing that, next to self-interest, values also affect people's preference for electoral rules in the sense that they consider their consequences of these rules for the whole society. Previous studies on citizens' voting behaviours in electoral reform's referendums are sceptical about the influence of values.

They show that citizens are guided by their self-interest (Banducci and Karp, 1999; Vowles, 2013). With this paper, we demonstrate that values are to be integrated in models of citizens' choice of electoral rule.

From a methodological point of view, we propose an innovative design to evaluate people's preference for institutions. In a lab experiment, researchers can put people behind a veil of ignorance and reveal their preference when they consider the best interest of the community.

From a normative point of view, we show that choosing an electoral rule that fits people's values is possible. Although abstract, the concept of veil of ignorance has some bite in reality: even if one can often identify who is likely to benefit from an electoral reform in the short term, the long-term consequences are much less predictable. In many situations, people are thus behind a veil of ignorance when it comes to evaluating the long-term effects of electoral institutions.

Furthermore, there are ways to induce people think carefully about the consequences of electoral rules for society, similar to a situation of veil of ignorance. For example, recently in Canada, Ireland or the Netherlands, the political elites have organised assemblies of ordinary citizens to discuss the necessity and desirability of electoral and institutional reforms in their country for several weeks, sometimes several months. These deliberative mini-publics are promising avenues to overcome the problem of entrenched interests in institutional design, as people have the time to think about the consequences of these institutions for society, and are encouraged to do so. A comprehensive analysis of how members of citizen decided which electoral system to recommend for elections in their country shows that their choices "were indeed anchored by general values" (Fournier et al 2011, p. 92), and, most importantly,

“assembly members appear to have been completely unmoved by their personal partisan inclinations” (ibid, p. 85). While there is no doubt that most of the time partisan preferences do shape people’s views about electoral systems, there are also contexts where broad values about society and polity come into play as well and sometime even trump partisan considerations.

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Choosing an electoral rule behind the veil of ignorance

Appendix

A1. Slides and instructions

A2. Quiz questions

A3. Screenshots

A4. Electoral results per session in the first phase

A5. Conditional logit regressions of voting behaviour in the first phase

A6. Main regressions with an interaction between treatment and main independent variables

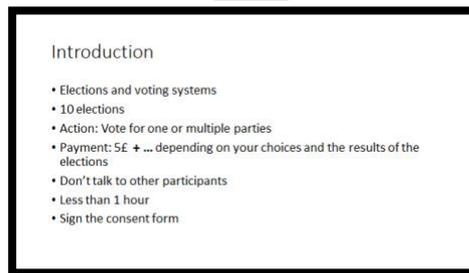
A7. Main regressions for the second phase with extra control variables

A8. Main regressions for the second phase estimated with OLS

A9. Full regression results for analysis aiming at probing the mechanism

A1. Slides and instructions

Slide 1



Introduction

- Elections and voting systems
- 10 elections
- Action: Vote for one or multiple parties
- Payment: 5£ + ... depending on your choices and the results of the elections
- Don't talk to other participants
- Less than 1 hour
- Sign the consent form

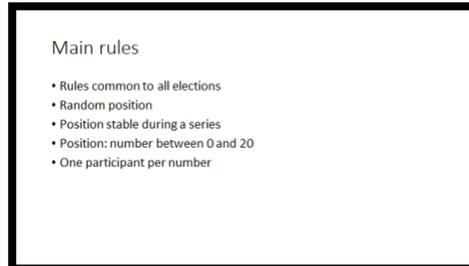
Thank you for agreeing to participate in this research experiment. This is an experiment about elections and voting systems.

You are going to participate in 10 elections. In each election, you have the option to vote for one or multiple parties. At the end of the experiment, you will get a 5£ for your participation, plus a sum which will depend on your choices and the results of the elections. The sum of money you will earn during the session will be given privately at the end.

From now until the end of the experiment you cannot talk to any other participant. If you have a question, please raise your hand and I will answer your questions privately.

This experiment should take about 1 hour. Before starting the experiment, I am asking to take a minute to read and sign the consent form.

Slide 2



Main rules

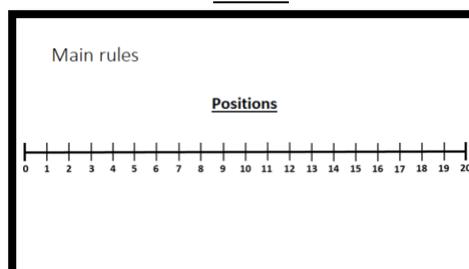
- Rules common to all elections
- Random position
- Position stable during a series
- Position: number between 0 and 20
- One participant per number

There will be 4 series of elections. I will explain the specific rules of these series later.

First, I will explain the main rules that are common to all elections. These rules apply to the entire experiment. At the beginning of each series of elections, you will be assigned a random position. This position is redefined at the beginning of each series and is stable for the elections of the series.

Your position is represented by a number between 0 and 20. There will be one participant per position. It is then impossible for two participants to have the same position.

Slide 3



Main rules

Positions

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

On the screen, you see a visual representation of the position of the participant. Each participant will be randomly assigned to a position on the 0-20 scale. This position will be stable for all the elections in a given series.

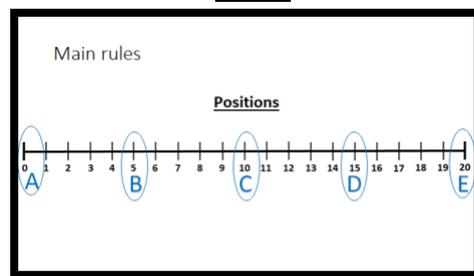
Slide 4

Main rules

- 5 parties
- Position on the 0-20 scale
- Positions of parties are fixed for the entire experiment

For each election, there are 5 parties. Parties also have a position on the 0-20 scale. The parties keep the same position for all the elections.

Slide 5



On the screen, you see a visual representation of the position of the parties. You see that party A is on the position 0, party B on the position 5, party C on the position 10, party D on the position 15, and party E on the position 20.

Slide 6

Main rules

- Elections: Vote for one or more parties
- The program counts the votes and determines which party wins
- Tie: the program will randomly choose a winner
- The winning party is based on the voting system (more later)
- Points: The closer your position is to the position of the winning party the more points you get.

At each election, you will have to vote for one or more parties. After you have voted, the program counts the votes and determines which party wins the election. If there is a tie between parties, the program will randomly choose a winner among the tied parties. The winning party is based on the voting system, which is different depending on the series. I will explain that later.

At each election, you have the opportunity to earn points. The number of points earned depends on your position and the position of the winning party.

Slide 7

Main rules: Gain system

Distance	Gain
0	9
1	8
2	7
3	6
4	5
5	4
6	3
7	2
8	1
9 or more	0

Rule : 9 points - distance

If the distance from the winning party is higher than 9, you will have 0 point (no negative point)

The number of points earned is 9 minus the distance between your position and the position of the winning party. For example, if the distance between you and the winning party is 1, you will earn 8 points. If the distance is 5, you will earn 4 points.

Note that if the distance is higher than 9, you will receive 0 point. There is no negative point.

Slide 8

Main rules

Rule : 9 points - distance
Distance = 2
Points : 9 - 2 = 7 points

Positions

A 20-unit number line with tick marks every 1 unit. Points A, B, C, D, and E are marked at positions 0, 5, 10, 15, and 20 respectively. A blue arrow points to D (15) labeled 'winning party'. A red arrow points to 17 labeled 'you'. A blue oval circles D and a red oval circles 17. The distance between them is 2.

On the screen, you see a visual example of the distribution of points. Imagine that the program gives you the position 17 and that party D wins. Party D is located at the position 15. Your distance to the winning party is 2 then. You earn 9 minus 2, that is 7 points.

Slide 9

Main rules

Rule : 9 points - distance
Distance = 7
Points : 9 - 7 = 2 points

Positions

A 20-unit number line with tick marks every 1 unit. Points A, B, C, D, and E are marked at positions 0, 5, 10, 15, and 20 respectively. A blue arrow points to C (10) labeled 'winning party'. A red arrow points to 17 labeled 'you'. A blue oval circles C and a red oval circles 17. The distance between them is 7.

Now imagine that party C wins. Party C is located at the position 10. Your distance to the winning party is 7 then. You earn 9 minus 7, that is 2 points.

Slide 10

Main rules

Rule : 9 points - distance
Distance = 12
Points : 9 - 12 = 0 (no negative points)

Positions

A 20-unit number line with tick marks every 1 unit. Points A, B, C, D, and E are marked at positions 0, 5, 10, 15, and 20 respectively. A blue arrow points to B (5) labeled 'winning party'. A red arrow points to 17 labeled 'you'. A blue oval circles B and a red oval circles 17. The distance between them is 12.

Finally imagine that party B wins. Party B is located at the position 5. Your distance to the winning party is 12 then. You earn 9 minus 12, that is 0 point.

Slide 11

Main rules

- At the end: 3 elections randomly selected by the program
- Payment: average number of the points in these 3 elections
- Conversion: 1 point = 3£

At the end of the experiment, 3 elections will be randomly selected by the program. The computer will calculate the average of the points you get in these elections, then round up the value. The computer will then convert the points into pounds. Each point is worth 3£. Depending on your decisions and the decisions of others, you can earn up to 32£.

Slide 12

Plurality system

This is all for the main rules. Now I will explain the rules specific to the first series of 4 elections. What is specific to this series is the voting system. For the first series, you will use the plurality system.

Slide 13

Plurality system

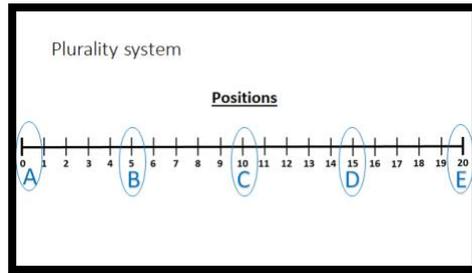
- Vote for one party
- Party with most votes wins
- Full results on your screen
- The closer the winning party, the more points you earn
- Quiz

With the plurality system, you must vote for one of the five parties. Then, the party with most votes wins the election. After each election, you will see the full results of the election on your screen. You will see the votes received by each party, and the number of points earned by each participant in the room.

Your position will appear at the top of your screen. Remember that the closer your position is to the position of the winning party, the more points you earn. The number of points earned is 9 minus the distance between you and the winning party.

You are now going to proceed with the first series of 4 elections with the plurality system. Before that, you will have to answer to a short quiz about the rules of the experiment that I just explained. There is no point associated to this quiz.

Slide 14



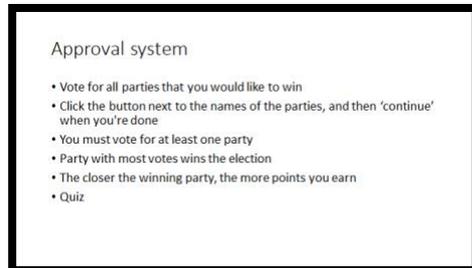
After that, there will be a series of 4 elections. During the 4 elections, you can check the screen to see the distribution of positions and the position of parties.

Slide 15



The first series is now over. Now, you are going to proceed with the second series of 4 elections. The main rules still apply for this series. What changes is the voting system. For this series, we will use the approval system.

Slide 16



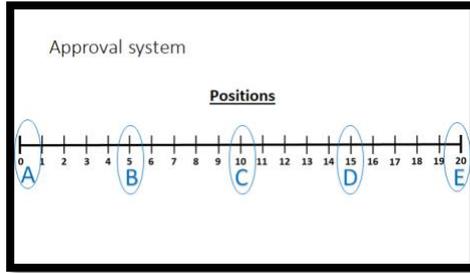
With the approval system, you can vote for as many parties as you want. You vote for all the parties that you would like to win. So, you can vote for up to five parties. Click the button next to the names of the parties you want to support and click 'continue' when you are done. You must vote at least one party. Then, the party that receives the most votes wins the election.

After each election, you will see the full results of the election on your screen. You will see the votes received by each party, and the number of points earned by each participant in the room.

Your position will appear at the top of your screen. Be careful, it may differ from the position you had during the previous series. Remember that the closer your position is to the position of the winning party, the more points you earn. The number of points earned is 9 minus the distance between you and the winning party.

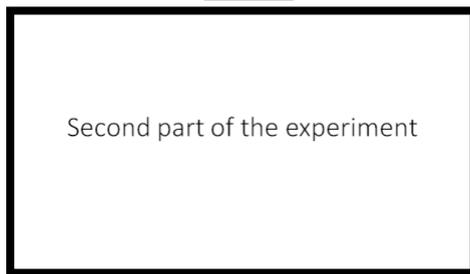
You are now going to proceed with the second series of 4 elections with the approval system. Before that, you will also have to answer to a short quiz the rules of the experiment that I just explained. There is no point associated to this quiz.

Slide 17



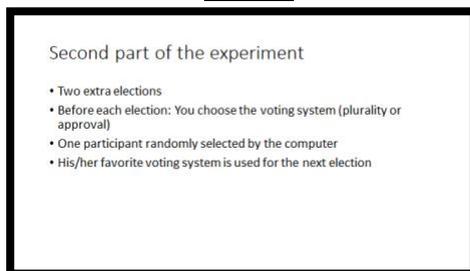
After that, there will be a series of 4 elections. During the 4 elections, you can check the screen to see the distribution of positions and the positions of parties.

Slide 18



This is now the second part of the experiment.

Slide 19

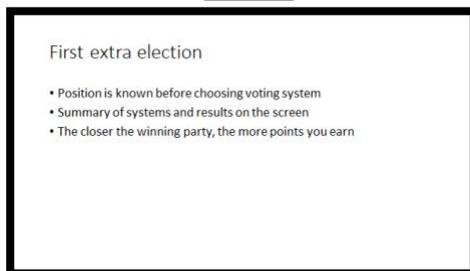


At this point, we have used two voting systems: the plurality system, and the approval system.

In the second part of the experiment, we will organize two extra elections. For these elections, you will choose the voting system that you want to use.

Before each of these last two elections, you will choose one of the two voting systems used in the first part. Then, the computer will randomly select one of participants in the room. The preferred voting system of this randomly selected participant will be used in the next election. This election will work exactly as elections worked in the first part of the experiment.

Slide 20

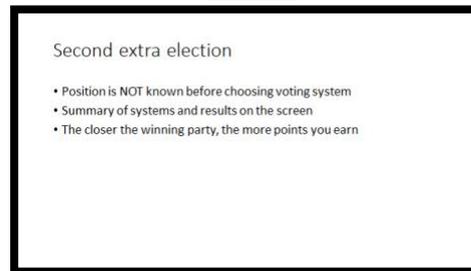


For this first extra election, you know your position on the 0-20 scale before choosing the voting system. It appears at the top of your screen. Be careful, it may differ from the position you had during the previous series.

You are now going to proceed with the choice of voting system and then the first extra election. To help you make a decision, a summary of the specific rules of each voting system will appear on your screen. We will also give you a summary of the results of the elections organized with each system during the first part.

Remember that the closer your position is from the position of the winning party, the more points you earn. The number of points earned is 9 minus the distance between you and the winning party.

Slide 21



You are now going to proceed with the choice of voting system and then the second extra election.

For this second extra election, you do NOT know your position on the 0-20 scale before choosing the voting system. This position will appear at the top of your screen after you choose the voting system. Be careful, it may differ from the one you had during the previous series. Remember that the closer your position is to the position of the winning party, the more points you earn. The number of points earned is 9 minus the distance between you and the winning party.

To help you make a decision, a summary of the rules of each voting system will appear on your screen. We will also give you a summary of the results of the elections organized with each system during the first part.

The experiment as such is over. Before proceeding with the payment, we will ask you to answer a short questionnaire about your socio-demographics characteristics and your opinion on some topics.

Thank you for participating in this experiment.

A2. Quiz questions

Quiz question 1 (plurality)

Imagine the following electoral results:

- Party A: 4 votes
- Party B: 7 votes
- Party C: 3 votes
- Party D: 6 votes
- Party E: 1 vote

Which party wins the election?

- Party A
- Party B
- Party C
- Party D
- Party E

Answers:

[If Party B] Yes, party B wins because it is the one with most votes.

[If other party] No, party B wins because it is the one with most votes.

Quiz question 2 (plurality)

Is the following statement true or false?

“If my position on the 0-20 scale is 17, that I voted for party C (position 10), and that the winning party is party B (position 5), I earn 9 points minus the distance between my vote and the position of the winning party. It is $9 - 5 = 4$ points.”

- True
- False

Answers:

[If False] Yes, the statement is false. The number of points you earn is a function of the distance between the position of the party and your position, not your vote. If your position is 17 and the winning party is B (position 5), you earn $9 - 12 = 0$ point (points cannot be negative).

[if True] No, the statement is false. The number of points you earn is function of the distance between the position of the party and your position, not your vote. If your position is 17 and the winning party is B (position 5), you earn $9 - 12 = 0$ point (points cannot be negative).

Quiz question 1 (approval voting)

Imagine the following electoral results:

- Party A: 10 votes
- Party B: 3 votes
- Party C: 4 votes
- Party D: 15 votes
- Party E: 13 votes

Which party wins the election?

- Party A
- Party B
- Party C
- Party D
- Party E

Answers:

[If Party D] Yes, party D wins because it is the one with most votes. Note that since you have multiple votes, the total number of votes is larger than the total number of participants in the room

[If other party] No, party B wins because it is the one with most votes. Note that since you have multiple votes, the total number of votes is larger than the total number of participants in the room

Quiz question 2 (approval voting)

Is the following statement true or false?

“If my position on the 0-20 scale is 13, that I voted for party D (position 15) and party E (position 20), and that the winning party is party D (position 15), I earn 9 points minus the distance between my position and the one of the winning party. It is $9 - 2 = 7$ points.”

True

False

Answers:

[If False] No, the statement is true. The number of points you earn is function of the distance between the position of the party and your position. If your position is 13 and the winning party is D (position 15), you earn $9 - 2 = 7$ points.

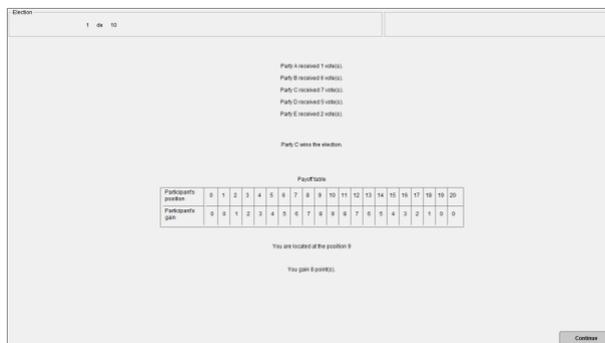
[If True] Yes, the statement is true. The number of points you earn is function of the distance between the position of the party and your position. If your position is 13 and the winning party is D (position 15), you earn $9 - 2 = 7$ points.

A3. Screenshots

Voting screen (plurality)



Result screen



Choosing electoral rule screen



A4. Electoral results per session in the first phase

		Candidate B	Candidate C	Candidate D
Session 1 (UK)	Plurality		100%	
	Approval	25%	75%	
Session 2 (UK)	Plurality		25%	75%
	Approval	75%	25%	
Session 3 (UK)	Plurality		100%	
	Approval	25%	75%	
Session 4 (UK)	Plurality			100%
	Approval		50%	50%
Session 5 (UK)	Plurality		100%	
	Approval		75%	25%
Session 6 (UK)	Plurality		100%	
	Approval		50%	50%
Session 7 (France)	Plurality	75%	25%	
	Approval	50%	50%	
Session 8 (France)	Plurality		25%	75%
	Approval		50%	50%
Session 9 (France)	Plurality	50%	50%	
	Approval	25%	50%	25%
Session 10 (France)	Plurality		100%	
	Approval		100%	
Session 11 (France)	Plurality		100%	
	Approval		75%	25%
Session 12 (France)	Plurality		50%	50%
	Approval	25%	75%	

Note: N = 4 elections per row.

A5. Conditional logit regressions of voting behaviour in the first phase

	Plurality	Approval Voting
Distance to Candidate	-0.003*** (0.001)	-0.005*** (0.001)
Candidate Dummies	(C as Reference)	(C as Reference)
Candidate A	-0.027*** (0.004)	-0.004** (0.002)
Candidate B	-0.019*** (0.002)	-0.002 (0.001)
Candidate D	-0.013*** (0.002)	-0.001 (0.002)
Candidate E	-0.027*** (0.004)	-0.005*** (0.001)
N	5,040	4,920

Note: Entries are marginal effects estimated from conditional logit regressions predicting the probability to vote for/approve a candidate. Standard errors clustered by subjects are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$ (two-tailed). The N is smaller under approval voting because observations for which a subject approves all five candidates cannot be included (no variation on the dependent variable). This happens in 24 out of 1,008 votes under approval voting.

A6. Main regression for the second phase with an interaction between treatment and main independent variables

	Pooled
Rational Benefit (Approval – Plurality)	0.021*
	(0.012)
Egalitarianism	0.020
	(0.017)
Psychological Benefit (Approval – Plurality)	0.007**
	(0.002)
Total Gains (Approval – Plurality)	-0.018
	(0.079)
Veil	-0.102
	(0.106)
United Kingdom	-0.049
	(0.052)
Rational Benefit (Approval – Plurality) x Veil	-0.013
	(0.018)
Egalitarianism x Veil	0.022
	(0.018)
N	504

Note: Entries are marginal effects estimated from logit regressions predicting the probability of choosing approval voting over plurality. Standard errors clustered by subject are in parentheses. * $p < 0.1$, ** $p < 0.05$, (two-tailed).

A7. Main regressions for the second phase with additional control variables

	(Pooled)	(No Veil)	(Veil)
Rational Benefit (Approval – Plurality)	0.015** (0.007)	0.020* (0.011)	0.009 (0.011)
Egalitarianism	0.029** (0.015)	0.022 (0.017)	0.038** (0.017)
Psychological Benefit (Approval – Plurality)	0.007** (0.002)	0.008** (0.002)	0.006** (0.002)
Total Gains (Approval – Plurality)	-0.026 (0.079)	-0.048 (0.101)	-0.002 (0.103)
Veil	0.019 (0.034)		
United Kingdom	-0.023 (0.056)	-0.117* (0.070)	0.070 (0.071)
Age	0.002 (0.003)	0.000 (0.003)	0.004 (0.003)
Gender (Male=1)	-0.058 (0.057)	-0.091 (0.069)	-0.018 (0.071)
Political Interest (0-10)	-0.004 (0.011)	-0.010 (0.013)	0.002 (0.014)
N	504	252	252

Note: Entries are marginal effects estimated from logit regressions predicting the probability of choosing approval voting over plurality. Standard errors, clustered by subject for the first column, are in parentheses. * $p < 0.1$, ** $p < 0.05$ (two-tailed).

A8. Main regressions for the second phase estimated with OLS

	(Pooled)	(No Veil)	(Veil)
Rational Benefit (Approval – Plurality)	0.015** (0.007)	0.021* (0.011)	0.009 (0.011)
Egalitarianism	0.031** (0.015)	0.026 (0.017)	0.037** (0.017)
Psychological Benefit (Approval – Plurality)	0.007*** (0.002)	0.008*** (0.002)	0.006*** (0.002)
Total Gains (Approval – Plurality)	-0.018 (0.078)	-0.038 (0.101)	0.001 (0.102)
Veil	0.020 (0.035)		
United Kingdom	-0.050 (0.052)	-0.139** (0.066)	0.039 (0.067)
Constant	0.447*** (0.086)	0.519*** (0.096)	0.390*** (0.097)
N	504	252	252

Note: Entries are marginal effects estimated from OLS regressions predicting the choice of approval voting over plurality. Standard errors, clustered by subject for the first column, are in parentheses. * $p < 0.1$, ** $p < 0.05$ (two-tailed).

A9. Full regression results for analysis aiming at probing the mechanism

	(No Veil)	(Veil)	(No Veil)	(Veil)
Rational Benefit (Approval – Plurality)	0.021*	0.007	0.021*	0.006
	(0.011)	(0.011)	(0.011)	(0.011)
Egalitarianism	0.017	-0.001	0.005	-0.023
	(0.030)	(0.029)	(0.024)	(0.023)
Psychological Benefit (Approval – Plurality)	0.008**	0.006**	0.008**	0.006**
	(0.002)	(0.002)	(0.002)	(0.002)
Total Gains (Approval – Plurality)	-0.041	-0.002	-0.081	0.000
	(0.101)	(0.103)	(0.110)	(0.110)
United Kingdom	-0.115	0.064	-0.113	0.027
	(0.070)	(0.071)	(0.070)	(0.069)
Difference in Payoffs Equality (1)	0.055	0.158*		
	(0.095)	(0.094)		
Difference in Payoffs Equality (2)			-0.119	-0.265**
			(0.082)	(0.084)
Egalitarianism x Diff. in Payoffs Equality (1)	-0.006	-0.024		
	(0.016)	(0.016)		
Egalitarianism x Diff. in Payoffs Equality (2)			0.017	0.048**
			(0.013)	(0.014)
N	252	252	252	252

Note: Entries are marginal effects estimated from logit regressions predicting the probability of choosing approval voting over plurality. Standard errors are in parentheses. * $p < 0.1$, ** $p < 0.05$ (two-tailed). Difference in Payoffs Equality (1) is ‘Standard deviation of payoff distribution (approval – plurality)’ and Difference in Payoffs Equality (2) is ‘Number of subjects with at least one point (approval – plurality)’.