

Voters, Dictators, and Peons: Expressive Voting and Pivotality

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Abstract

Why do the poor vote against redistribution? We experimentally examine one explanation, namely that individuals gain direct expressive utility from voting in accordance with their ideology and understand they are unlikely to be pivotal; hence, their expressive utility, even if arbitrarily small, determines their voting behavior. In contrast with a basic prediction of this model, we find that the probability of being pivotal does *not* affect the impact of monetary interest on whether a subject votes for redistribution.

Keywords: redistribution, ideology, expressive voting

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In democracies, a majority of individuals earn incomes well below the average and yet vote against redistributive measures. Why do the poor not expropriate the rich through redistribution? Given that across all countries the mean income is invariably above the median, the answer to this question is crucial for understanding the political economy of redistributive taxation.

There are several, not necessarily mutually exclusive, potential explanations of the fact that the poor often vote against redistribution. The poor might believe that redistributive policies are persistent and expect that in the future they, or their children, will earn more than the average income; they thus oppose redistribution because they expect it would hurt them in the future. Prevalence of such beliefs may be due to overoptimism, but as Bénabou and Ok (2001) show, is in principle also consistent with rational expectations. Or, the poor may believe that the economic activity by the wealthy, which would be diminished by taxation, imposes positive externalities on the poor. Or, the poor believe that the government only wastes rather than redistributes any taxes. Or, the political process bundles redistributive policies with other issues, such as religion, so that the poor have no means of voting solely on their redistributive preferences (Roemer 1998). This last explanation is hard to reconcile, however, with the broad popular support of isolated measures that aim to lower redistribution. A large majority of the United States population supports the repeal of the Federal Estate Tax even though this tax is levied on less than 1% of the population (Krupnikov *et al.* 2006). Similarly, in a 2000 referendum, over 80% of South Dakota voters supported the repeal of the state inheritance tax.

Another class of explanations is that the poor find redistribution unjust and hence vote against it even though this hurts them materially.¹ Such explanations come in two distinct varieties. In one class of models (e.g., Edlin *et al.* 2007), a voter has ideology-specific social preferences over the outcome of the election. The other class are expressive voting models (e.g., Tullock 1971, Brennan and Buchanan 1984, Brennan and Hamlin 1988, Brennan and Lomasky 1993) where voters obtain utility from casting a particular vote rather than only from the outcome of the election.

To clarify the difference between these two types of models, consider the following simple framework. A voter i has ideology $\theta_i \in \{-1, 1\}$, where -1 indicates an ideological preference for redistribution and 1 indicates an ideological preference for the status quo. Voter i 's wealth endow-

¹The possibility that individuals vote in accordance with their individual notion of justice would also account for the fact that some wealthy people vote for redistributive policies.

ment is $w_i \in \{-1, 1\}$, where -1 indicates she would materially benefit from redistribution. Each voter i takes an action $a_i \in \{-1, 1\}$, where -1 indicates voting for the redistributive policy. Let $y \in \{-1, 1\}$ denote the outcome of the election, where -1 indicates that the voters collectively chose the redistributive policy.

Now, suppose that voter i 's utility is

$$yw_i + \lambda_s y \theta_i + \lambda_e a_i \theta_i$$

where $\lambda_s \in \{0, 1\}$ and $\lambda_e \in \{0, \varepsilon\}$ for some small ε .

The first term, yw_i , captures the voter's material utility. When her wealth is low ($w_i = -1$), she is materially better off under redistribution ($y = -1$) than under status quo ($y = 1$). When her wealth is high ($w_i = 1$), she is materially better off under status quo ($y = 1$) than under redistribution ($y = -1$). The second term, $\lambda_s y \theta_i$, captures social preferences. If $\lambda_s = 1$, the voter cares about whether the outcome of the election (y) matches her ideological stance (θ_i) regardless of her own vote. The last term, $\lambda_e a_i \theta_i$, captures expressive utility. If $\lambda_e = \varepsilon$, the voter cares, at least a little bit, about whether her own vote (a_i) matches her ideological stance (θ_i) regardless of the actual outcome of the election.

While both social and expressive utility could account for why people often vote against their material self-interest, the two models have very different properties and implications. The expressive voting model is attractive as it can explain seemingly puzzling outcomes (the poor voting against redistribution) even when preferences are arbitrarily close to the standard selfish, material preferences: however small ε is, in a large enough election, the probability of being pivotal is sufficiently low so each voter's behavior is determined entirely by her ideology. For example, Gelman *et al.* (forthcoming) estimate that in the 2008 US presidential election, the probability of being pivotal was at most around 1 in 10 million in the most contested states. Hence, even if a voter were to gain \$100,000 in redistributive transfers from Obama's election, a mere 1¢ worth of expressive utility would suffice to induce a vote for McCain. In contrast, under the social preferences model, one must assume that voters' preferences substantially differ from standard ones in order to explain the lackluster support for redistributive measures by the poor.

The welfare implications of the two models also vary. The social preferences model implies that the poor are compensated for the lack of redistribution through the implementation of their ideological stance while an expressive voting model implies that the poor miss out on the redistributive transfers without a commensurate gain in their ideological welfare.

In this paper, we measure the relative importance of monetary interests and ideology, while simultaneously trying to distinguish between social preferences and expressive utility. We conduct a laboratory experiment where we elicit subjects' ideological preferences and then give them an opportunity to vote on whether to redistribute exogenously assigned income. We find that both material interest and ideology strongly impact the subjects' votes. The subjects who would materially benefit from redistribution are three times more likely to vote for it than those who would lose money from it. The subjects' indicated attitudes toward redistribution are also highly predictive of their choices. The subjects who express a strong belief that government should increase redistributive taxation are more than twice as likely to vote for redistribution than the subjects who express a strong belief that the government should lower redistributive taxes.

The findings above establish that both monetary interests and ideology affect behavior, but do not speak to the nature of ideological preferences. To identify the relative importance of social preferences (λ_s) and expressive utility (λ_e), we exogenously vary the probability that a subject will be pivotal. Specifically, we randomize the subjects into three conditions. *Voters* cast votes in 9-subject referenda and the majority rule is implemented. *Dictators* choose the outcome directly for their 9-subject group, while the other 8 subjects in those groups, the *peons*, are merely surveyed on what they would, hypothetically, choose if they were the dictator. Hence, dictators are pivotal with probability one, peons are pivotal with probability zero, and voters are pivotal with an ambiguous probability, which *ex post* turned out to be around 1/3.

If a vote is pivotal with probability p , an agent with the utility function above maximizes $p(a_i w_i + \lambda_s a_i \theta_i) + \lambda_e a_i \theta_i$. Hence, the social preferences model where $\lambda_e = 0$ and $\lambda_s = 1$ predicts that the relative importance of monetary interests and ideology is independent of p .² By contrast, under the expressive utility model where $\lambda_s = 0$ and $\lambda_e = \varepsilon$, ideology (θ_i) can have a substantial

²Parameter p still may influence behavior under the social preferences model, however, depending on how one models the noise in voters' behavior. For example, it could be that a higher p leads to fewer "errors" and thus makes behavior more sensitive to both ideology and monetary interests.

impact on behavior only when the probability of being pivotal is low; when this is not the case, i.e., when the voter’s action is likely to be consequential, monetary interests are the key driver of voter’s welfare. This is the central feature of expressive voting models – the idea that voters would cast different votes if they thought their votes would actually be implemented. Our experiment aims to test precisely this feature of expressive voting models: do voters indeed behave differently when their votes are certain to be implemented?

We find that the impact of monetary interests on voting behavior does *not* vary across voters, dictators, and peons. This finding suggests that expressive preferences do not play an important role in determining voting behavior. We do find that dictators’ choices are somewhat less sensitive to ideological preferences than for the other two groups, but this effect is statistically significant only for one of our measures of ideology. Overall, our findings cast doubt on the hypothesis that the observed patterns in voting behavior can be explained with a minimal departure from standard preferences.

Our paper contributes to a large empirical literature on preferences over redistributive policies. Putterman (1997) surveys some of the potential explanations for why the poor do not expropriate the rich and assesses the ability of these explanations to account for observed empirical patterns. Durante and Putterman (2009) conduct a laboratory experiment that reveals the relative importance of ideology and material motivations in redistributive preferences. A number of previous papers tests the predictions of expressive voting models by examining the impact of pivotality on voting behavior.³ Sobel and Wagner (2004) report that the level of public welfare spending as a share of state expenditures decreases with the theoretical probability that a given voter in that state is pivotal.⁴ They interpret this as support for the expressive voting model, but given that their variation in pivotality comes solely from the variation in state population, this interpretation is questionable. Carter and Guerette (1992) conduct an experiment where a small number of subjects choose between \$6 (or in some conditions \$9) in cash and a \$2 donation to charity. Carter and Guerette vary the probability with which the subject’s choice is implemented and find

³There is also a small literature that examines correlations between voting and other expressive behaviors, finding that voters are not only more likely to wear political buttons and place political signs in front of their house (Copeland and Laband 2002), but also more likely to post signs supporting their local football team (Laband *et al.* 2008).

⁴Under a simple modification of a model from Mueller (1989), they derive this probability to be $\frac{3}{\sqrt{2(2\pi(n-1))}}$ where n is the number of voters.

mixed results on whether a higher probability of being pivotal increases the preference for cash over the donation. A similar, but within-subject, design was implemented by Fischer (1996); his analysis, however, excludes all subjects whose behavior was unaffected by pivotality, so the results are difficult to interpret.⁵ Cummmings *et al.* (1997) find that more subjects vote to donate \$10 to an environmental project in a hypothetical referendum than in a real one.⁶ Tyran (2004) examines the relationship between subjective expectations about the material consequences of votes and subjects' behavior and finds that the observed relationship does not conform to the predictions of expressive voting models. Dittmann *et al.* (2009) find that subjects' willingness to pay for a right to vote appears inconsistent with both instrumental and expressive motivations for voting.

Our paper is most closely related to Feddersen *et al.* (2009) and Shayo and Harel (2010). In both of those papers the authors conduct an experiment where subjects vote for either a selfish option or a more ethical option and the probability that a voter is pivotal is exogenously varied. As predicted by expressive voting models, both papers find that the fraction of votes that are selfish increases in the probability that a voter is pivotal.⁷ This finding stands in sharp contrast with our results. We find that probability of being pivotal does not affect the tendency to vote in one's material self-interest. The main difference between the designs is that in our experiment what the 'ethical' option is varies based on the political ideology of the subject. Given our interest in redistributive policies, this formulation more closely mimics the options voters face in the field. Another difference is that Feddersen *et al.* (2009) make voting costly and allow for abstentions. Under certain assumptions, costs of voting strengthen the impact of expressive preferences on outcomes. Given that we find that ideology strongly predicts choices even with costless voting, however, this aspect of our design cannot explain the differences in the results.

The remainder of the paper is structured as follows. The next section describes the experimental design. Section 2 reports the results. We conclude in Section 3.

⁵In addition, he incorrectly computes the probabilities of being pivotal; in the condition where a subject's name is drawn at random and then his or her decision is implemented for certain, his analysis codes the probability of being pivotal as equal to 1 even though subjects make their decisions *before* the name is drawn.

⁶Haab *et al.* (1999), however, argue that this result might reflect only a difference in the variance of responses across the conditions rather than a difference in the average willingness to give.

⁷Feddersen *et al.*'s results on turnout, i.e., on whether the subjects choose to abstain, are also consistent with expressive voting models.

1 The experiment

1.1 Experimental design

The experiment was conducted at Northwestern University. Subjects were recruited from the undergraduate subject pool.⁸ The subjects went through the protocol in groups of nine. At the outset of the experiment, subjects were given a survey which elicited whether they believe the death penalty is moral, whether they support gun laws, whether they believe the poor are unmotivated or unlucky, whether they believe the government should engage in more or less redistributive taxation, and whether they are pro-life or pro-choice. All questions were presented using a 7-point Likert item. Our primary interest is in the subjects' beliefs about whether the poor are unmotivated or unlucky and in their views on whether there should be more or less redistributive taxation. The other questions were primarily filler items. The facsimile of the survey is provided in the Appendix.

After the survey, the subjects played five rounds of rock-paper-scissors against the experimenter.⁹ A subject would score 3 points in each round for beating the experimenter, 1 point for a draw, and 0 points if the experimenter beat her. The experimenter uniformly randomized across the three actions in each round, independently of subjects' previous play.¹⁰ Hence, subjects' overall performance was randomly assigned.¹¹

The subjects were divided into three tiers based on the rank of their performance in the game. To determine rank the experimenter randomly broke any ties in performance. The subjects in the top tier (those ranked 1-3) earned \$15, those in the middle tier (ranked 4-6) earned \$10, and those in the bottom tier (ranked 7-9) earned \$5. The subjects were not physically given the money right after the game, but were told that these are their "earnings from the game."

Next, the subjects were presented with a question about whether the earnings from the game

⁸The recruiting ad said "Participate in an experiment; earn up to \$30 an hour," with a footnote that added "you will get between \$5 and \$15 for a half-hour experiment."

⁹Rock-paper-scissors is a game with two players. The players simultaneously choose one of three actions: rock (a clenched fist), paper (an open hand with all fingers extended) or scissors (a hand with index and middle fingers extended and separated). A rock beats scissors; scissors beat paper; paper beats rock. If both players choose the same action, the round is counted as a draw.

¹⁰In each of the five rounds, the experimenter played the same action against all 9 subjects. Consequently, subjects who played similar strategies had similar performance. Our statistical analyses are conducted under the assumption that any common component in subjects' strategies is orthogonal to their redistributive preferences.

¹¹Many subjects, however, especially those who had done well, said they believe that skill played a part in determining performance. We explain below how this belief was elicited.

should be redistributed so that every subject receives \$10. The decision-making procedure varied across the conditions.¹² In five of the groups, the decision on whether to redistribute the money was reached by a majority-vote referendum. We refer to the 45 the subjects in these groups as *voters*. They were given a slip of paper that said:

Each of the members of the whole group will now vote on whether to redistribute the money equally across all participants. The option the majority selects will be the final decision. You have the chance to vote to redistribute the money so that everyone receives an equal amount or to keep the payments the same. Votes remain anonymous. What do you choose?

In 46 other groups, the decision on whether to redistribute the money was made by a single subject, selected at random. We refer to these 46 subjects, whose decisions are implemented for certain, as *dictators*. The assignment to dictatorship was block-randomized so there are equally many dictators who earned \$5, \$10, and \$15 in the game. Dictators were given a slip of paper that said:

One among you is a dictator: s/he will decide whether to redistribute the money equally across all participants. You ARE the dictator. You have the chance to redistribute the money so that everyone receives an equal amount or keep the payments the same. The dictator remains anonymous. What do you choose?

Finally, the remaining 368 subjects in the 46 dictatorial groups were certain to have no impact on whether redistribution took place. We refer to these subjects as *peons*.¹³ They were simply asked what they would do, hypothetically, if they were the dictator:

One among you is a dictator: s/he will decide whether to redistribute the money equally across all participants. You are NOT the dictator. Imagine that you had the

¹²An alternative design that generates variation in pivotality is to fix a decision-making procedure, but vary the group size. A problem with such a design, however, is that if social preferences depend on the group size, the direct effect of pivotality cannot be established.

¹³Subjects signed up for particular time slots which were randomized to a referendum procedure or a dictatorship procedure. If there are subject characteristics that affect preferences for both time slots and for redistribution, this would lower the true precision of our estimates of the effect of being a voter. This issue does not affect our comparison of dictators and peons.

chance to redistribute the money so that everyone receives an equal amount or keep the payments the same. The dictator remains anonymous. What would you choose?

Each subject indicated his or her answer by circling the word REDISTRIBUTE or circling the words KEEP SAME. After the subjects made this choice, we administered one additional survey question, asking the subjects to what extent they “think that a participant’s performance in the rock-paper-scissors segment of the study is due to luck or skill,” using a 7-point Likert item.¹⁴ After this survey, the subjects were informed whether redistribution was implemented, were given their earnings in cash, and the experiment ended.

1.2 Discussion of the design

The key goal of the design is to elicit voting behavior in a setting where we can (i) observe a measure of voters’ ideological views, (ii) induce random variation in whether the ideological views align with material interests, and (iii) induce random variation in how likely it is that an individual’s vote will be pivotal.

One concern with our design is that the assignment to being a dictator, a voter, or a peer might influence behavior through a channel other than its impact on pivotality. For instance, it could be that the use of the word "dictator" brings up certain connotations that influence how a person wishes to behave. Or, asking peers what they would do *if* they were a dictator elicits a "hypothetical" response rather than behavior that reveals the subjects’ true underlying preferences. These concerns certainly somewhat affect the interpretation of our results, but they do not interfere with the key goal of our experiment: to test whether individuals making decisions about redistribution would behave differently if their votes were certain to be implemented. One interpretation of the main "point" of expressive voting models is that if an individual in a voting booth were unexpectedly told "You have been designated as the dictator for this election – whatever vote you cast will be implemented for certain," her behavior might change. Our experiment aims to determine whether, in an experimental setting, this is indeed the case.

¹⁴We did not ask this question of the first group of subjects. Hence, data on this question is missing for 9 out of the 459 subjects.

2 Results

We begin our analysis with balancing tests. As Table 1 indicates, voters, dictators, and peons gave similar answers to the questions about whether the poor are unlucky or unmotivated and about whether the government should engage in more or less redistribution. The mean answer to those two questions does not vary much across the three conditions and, as the Mann-Whitney tests indicate, neither does the overall distributions of answers. There were also no noticeable differences across the conditions in the answers to other survey questions; we do not report the details of those tests. The assignment to being a dictator was block-randomized by earnings, so voters, dictators, and peons are perfectly balanced on earnings. Finally, Table 1 shows that the randomization of earnings is well-balanced on ideology; the distribution of answers to the survey questions is not substantially different for those who earned \$5, \$10, and \$15. Hence, the randomization of both roles and earnings worked well.

2.1 Impact of material interest and ideology in the full sample

Table 1 also shows the summary statistics on redistribution choices. Of the 459 subjects, 49% voted for redistribution. The percentage of subjects who did so was not significantly different across the roles: 47% of voters, 54% of dictators, and 49% of peons voted for redistribution.

Does ideology, as measured by the subjects' answers to the survey, correlate with subjects' behavior? Figures 1 and 2 show the fraction of subjects who voted for redistribution for each answer to the questions about whether the poor are unmotivated or unlucky and whether there should be more or less redistributive taxation. Each of the questions strongly predicts subjects' behavior. Those who believe the poor are unmotivated and those who believe the government should lower taxes are far less likely to vote for redistribution than those who believe the poor are unlucky and those who believe the government should raise taxes. A linear probability model indicates that the relationship between the answer to each of the questions and the voting behavior is highly significant (both p-values < 0.001).¹⁵ As Figure 3 shows, answers to the less directly related ideological question about whether the death penalty is immoral also predict voting behavior.¹⁶

¹⁵The correlation between the answers to the two questions is also highly significant ($p < 0.001$). When answers to both questions are included in the same regression, each has a significant independent effect (both p-values < 0.02).

¹⁶This relationship is highly significant ($p < 0.001$). Once we control for views on the motivation of the poor and

The result in Figure 1 echoes Fong’s (2001) finding that belief that poverty is caused by bad luck correlates with stated preferences for redistribution. This result also suggests that those who (mistakenly) believe that performance in rock-paper-scissors is due to skill should be less likely to vote for redistribution. Figure 4 confirms this relationship. Those who performed better in the game, however, are more likely to think that their performance was due to skill. For example, as Table 1 shows, the subjects who earned \$15 believe that the role of skill is roughly half a standard deviation greater than the subjects who earned \$5 ($p < 0.001$). Hence, the relationship in Figure 4 could be simply due to the correlation between material interests and the belief about skill. As we can see in Table 2, however, even once we fully control for earnings, those subjects who think performance is more due to skill are less likely to redistribute ($p = 0.041$). The size of this effect, however, is somewhat small: a one standard deviation increase in the belief that skill matters reduces the likelihood of voting for redistribution by 4.43 percentage points. We do not find any significant interactions between beliefs about the role of skill and the impact of earnings or ideology on votes.

How does material interest affect subjects’ votes? As Table 1 shows, of those subjects who would gain from redistribution (those with \$5 earnings), 75% voted for it. Of the subjects whose material outcome would be unaffected by redistribution (those with \$10 earnings), 50% voted for it. Finally, of those who would lose from redistribution (those with \$15 earnings), 23% voted for it. In other words, for every dollar that a subject stands to gain from redistribution, his or her probability of voting for redistribution increases by roughly 5 percentage points. Figure 5 shows the fraction of the subjects who voted for redistribution by their performance rank. Recall that those with rank 1 through 3 earned \$15, those with rank 4 through 6 earned \$10, and those with rank 7 through 9 earned \$5. It is clear from Figure 5 that subjects’ performance affects their willingness to vote for redistribution only through its impact on their earnings.

2.2 Pivotality

The findings above suggest that subjects care both about their monetary interests and about their ideology. We next examine whether the ideology drives behavior through social preferences

views on redistributive taxation, however, the impact of the views on the death penalty becomes only marginally significant ($p = 0.07$).

or expressive utility. We compare the impact of ideology and material interest across voters, dictators, and peons. As we mentioned earlier, these groups vary greatly in the probability that their decision is pivotal. For voters, that probability is ambiguous but interior between zero and one. For peons, that probability is zero.¹⁷ For dictators, the probability of being pivotal is one: a dictator’s choice is always implemented. The expressive voting model suggests that ideology should have the greatest impact on peons and the smallest impact on dictators. The earnings from the game, on the other hand, should have the smallest impact on peons and the greatest impact on dictators.

We first look at the impact of ideology across the three roles. Figure 6 shows how the likelihood a subject votes for redistribution varies with the answer to the question about the motivation of the poor for each of the three roles. This scatter plot suggests a broadly similar effect of ideology across voters, dictators, and peons. The first three columns in Table 3 examine the impact of this measure of ideology within a linear probability model. The answer to the question about motivation seems to affect votes for the dictators somewhat less than for the other subjects, though these differences are not significant (voters vs. dictators: $p = 0.29$; peons vs. dictators: $p = 0.34$).

Figure 7 depicts the same relationships using the subjects’ views on taxation as the measure of ideology. As this scatter plot shows, there is a clear relationship between ideology and the likelihood of voting for redistribution among voters and peons, but not among dictators. Columns (4) through (6) of Table 3 demonstrate this in a linear probability model. While the answer to the question about taxation substantially affects votes for voters and peons, there is no significant effect for dictators. This difference in size of the effect across the roles is significant (voters vs. dictators: $p = 0.02$; peons vs. dictators: $p = 0.08$). Hence, as predicted by the expressive voting model, dictators are the least affected by their ideology (as measured by the question on taxation). On the other hand, voters, who are more likely to be pivotal than peons, are more affected by ideology than peons, whether ideology is measured by the motivation question or the taxation question; these differences, however, are not significant.

Are the dictators, who have to put their money where their vote is, more likely to vote for

¹⁷Some readers might object that, since peons were asked what they would do if they were a dictator, they might behave *as if* they were indeed pivotal. We interpret our results under the assumption that only actual pivotality matters, but readers who disagree are invited to disregard the data on peons; excluding peons from the empirical analysis does not substantively change the conclusions of the paper.

redistribution when it profits them, and less likely to do so when it costs them, compared to voters and peons? Table 4 reports the outcome of the linear probability model regressing the vote on the monetary gain from redistribution separately for voters, dictators, and peons. As the table shows, the impact of the gain from redistribution is quite similar across the three roles; an additional dollar of gain from redistribution increases the likelihood of voting for it by 0.067, 0.048, and 0.050 percentage points for voters, dictators, and peons, respectively. These differences are not significant, and the small differences that are present do not line up with the predictions of the expressive voting model.¹⁸

The linear probability model, however, belies some differences in the impact of monetary interest across the roles. Figure 8 shows the fraction of subjects who voted for redistribution for each level of earnings and each role. It is clear from the figure that even though with a linear specification the impact of earnings on the choices of voters is similar as for the other two roles, voters who earn \$5 and \$10 do behave differently from peons and dictators with those earnings. Specifically, voters who strictly gain from redistribution are somewhat more likely to vote for it than peons or dictators ($p = 0.079$), and voters whose material interest is unaffected by redistribution are far less likely to vote for it than peons or dictators ($p = 0.015$). Figure 8 also reveals that dictators and peons, who are most dissimilar in their pivotality, behave very similarly at each level of earnings.

3 Discussion

Voting in elections seems like a form of cheap talk with one's conscience. The chance that any given voter is pivotal is typically so small that a vote is largely a declaration of one's views without material consequences. If voters get some expressive utility from this declaration, expressive preferences, rather than material interests, would drive voting behavior in equilibrium.

Our experiment created an environment where subjects' ideology has a strong impact on their willingness to vote for redistribution and their material interests were randomly assigned. We find that the subjects whose decisions are implemented for certain are no more sensitive to their material interest than the subjects whose decisions are certain not to affect the outcome.

¹⁸The 95% confidence interval excludes the possibility that the effect of monetary interest on dictators' choices is more than 3.2 percentage points greater than on peons' choices or more than 2.7 percentage points greater than on voters' choices.

Our results cannot be dismissed by concerns that \$5 might be an irrelevantly small amount of money or that our measures of ideology might be too rough, because both our monetary stakes and our measures of ideology have a very strong impact on subjects' behavior. For instance, when redistribution reduces a subject's income by \$5, he or she is three times less likely to vote for redistribution than when it increases his or her income by \$5. Hence, small stakes cannot account for our findings.

Another possibility is that individuals do not understand the notion that their decision is not always implemented and behave as if their probability of being pivotal were fixed. Previous work provides mixed evidence on this view. Levine and Palfrey (2007) find experimental support for several comparative statics predictions of the rational voter model. Duffy and Tavits (2008) find that subjects' subjective assessment of the probability they will be pivotal predicts whether they will vote. Blais *et al.* (2000), however, show that turnout levels are correlated with the expected closeness of the election only for those voters who have a relatively weak sense that voting is a duty. Similarly, using data on union representation elections, Farber (2009) reports that over 80% of individuals vote independently of the likelihood they will be pivotal, while only the remaining 20% respond to the election size and the expected closeness of the election outcome.¹⁹

The simplest way to explain our data is by assuming that ideology affects individual's social preferences over outcomes of the election, rather than their expressive utility from their own actions. In other words, those who ideologically oppose redistribution find it psychologically more costly to vote for it when they are more likely to be pivotal. This explanation requires preferences that depart in substantial ways from standard, selfish ones. While expressive voting models provide a clever way to explain observed voting patterns with nearly-standard, selfish preferences, those models have auxiliary implications that are not borne out in our data.

¹⁹All of the papers above focus on turnout. They are relevant to our setting under the assumption that voters are likely to condition *how* to vote on the probability they are pivotal if they condition *whether* to vote on the probability they are pivotal.

4 Appendix

4.1 The survey

Participant #____

Please circle a number to indicate your position on the following issues.

1. You believe that the death penalty

1	2	3	4	5	6	7
Is immoral						Is moral

2. You view laws that regulate access to guns

1	2	3	4	5	6	7
Extremely negatively						Extremely positively

3. You believe that most poor people are poor because

1	2	3	4	5	6	7
They are not motivated						They are unlucky

4. You think the government should

1	2	3	4	5	6	7
Raise taxes on the rich to help the poor						Lower taxes for everyone and reduce handouts to the poor

5. You are

1	2	3	4	5	6	7
Pro-life in all cases						Pro-choice in all cases

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Table 1: Summary statistics and balancing tests

	full sample	referendum	dictatorship		earnings		
		voters	dictators	peons	\$5	\$10	\$15
Number of subjects	459	45	46	368	153	153	153
Believes poor are 1=not motivated; 7=unlucky	4.30 (1.28)	4.42 [0.44]	4.37 [0.72]	4.27 [0.40]	4.28 [1.00]	4.34 [0.65]	4.26 [0.65]
Thinks government should 1=redistribute more; 7=less	3.35 (1.58)	3.27 [0.76]	2.98 [0.16]	3.40 [0.20]	3.23 [0.22]	3.35 [0.92]	3.47 [0.19]
Thinks performance due to 1=luck; 7=skill	2.89 (1.43)	2.98 [0.93]	2.93 [0.64]	2.87 [0.77]	2.47 [0.00]	3.03 [0.08]	3.16 [0.01]
Chooses redistribution	0.49 (0.50)	0.47 [0.76]	0.54 [0.53]	0.49 [0.82]	0.75 [0.00]	0.50 [0.84]	0.23 [0.00]

Notes: Number of subjects in each group was determined by experimental design. Other rows report sample means. Numbers in parentheses indicate standard deviations. Numbers in brackets indicate p-values from the Mann-Whitney test or, in the last row, Fisher's exact test, comparing subjects in the designated condition to those in the other two conditions.

Table 2: The impact of belief about the role of skill on vote

Dependent variable: Voted for redistribution		
	(1)	(2)
Believes skill affects performance	-0.060** (0.016)	-0.031* (0.015)
Constant	0.661** (0.053)	0.830** (0.053)
Earnings fixed effects	No	Yes
Observations	450	450
R ²	0.03	0.20

Notes: Linear probability model. *significant at 5%; **significant at 1%. The independent variable is measured on a Likert scale, using the question: You think that a participant's performance in the rock-paper-scissors segment of the study is due to: (1) luck – (7) skill. Numbers in parenthesis indicate standard errors.

Table 3: Impact of ideology on vote by role

Dependent variable: Voted for redistribution						
Ideology Measure	Whether the poor are unmotivated or unlucky			Whether government should tax more or less		
	voters (1)	dictators (2)	peons (3)	voters (4)	dictators (5)	peons (6)
Ideology	0.110* (0.053)	0.030 (0.053)	0.084** (0.020)	-0.138** (0.047)	0.032 (0.057)	-0.068** (0.016)
Constant	-0.020 (0.247)	0.410 (0.245)	0.13 (0.091)	0.916** (0.168)	0.448* (0.186)	0.719** (0.059)
Observations	45	46	368	45	46	368
R ²	0.09	0.01	0.04	0.17	0.01	0.05
F-tests	voters vs. dictators: p = 0.29			voters vs. dictators: p = 0.02		
	voters vs. peons: p = 0.65			voters vs. peons: p = 0.18		
	dictators vs. peons: p = 0.34			dictators vs. peons: p = 0.08		

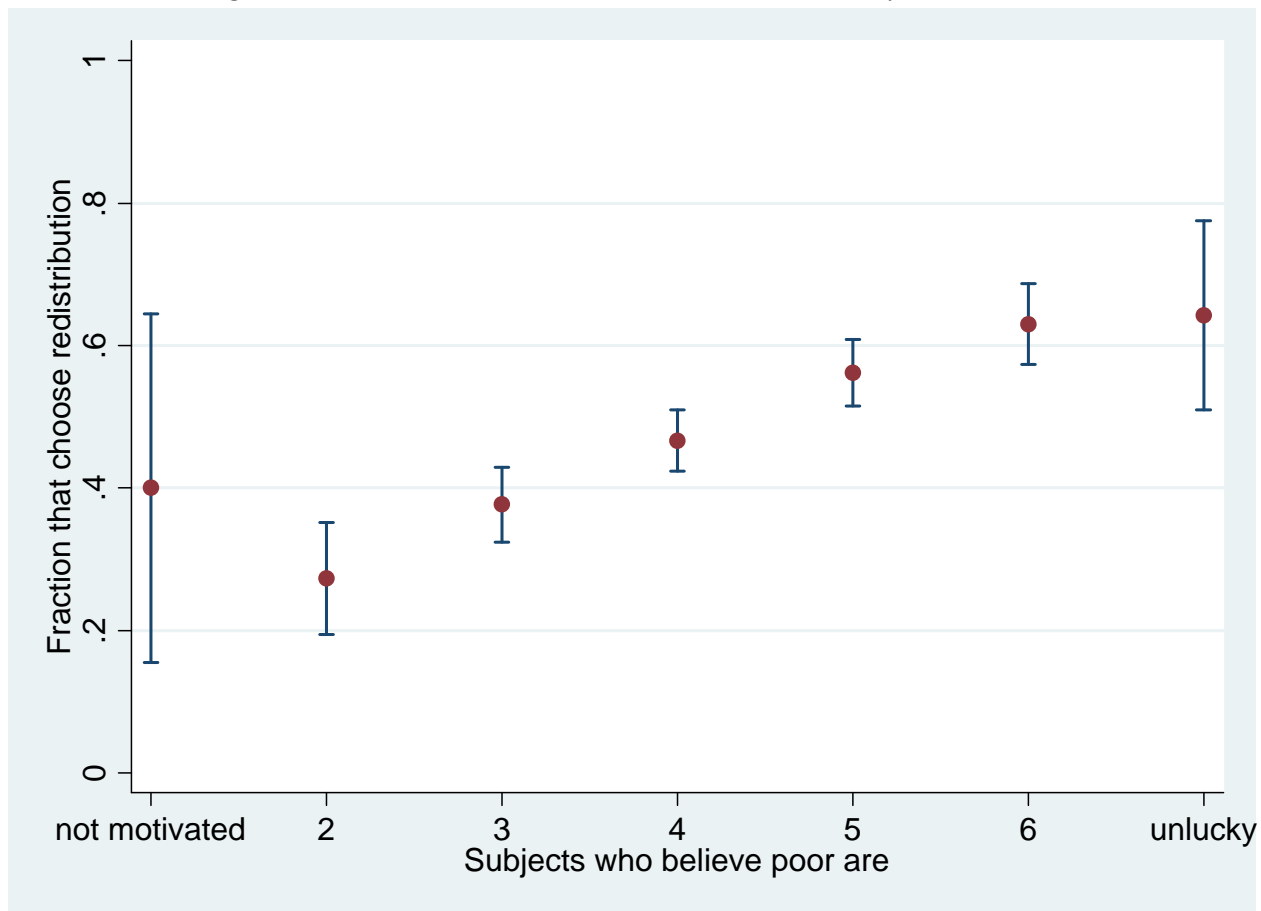
Notes: Linear probability model. *significant at 5%; **significant at 1%. F-tests compare the coefficients on Ideology across the samples. In columns (1) through (3), Ideology is measured on a Likert scale, using the question: You believe that most poor people are poor because: (1) they are not motivated – (7) they are unlucky. In columns (4) through (6), Ideology is measured on a Likert scale, using the question: You think the government should: (1) raise taxes on the rich to help the poor – (7) lower taxes for everyone and reduce handouts to the poor. Numbers in parenthesis indicate standard errors.

Table 4: The impact of earnings on vote by role

Dependent variable: Voted for redistribution			
Sample:	voters (1)	dictators (2)	peons (3)
Gain from Redistribution (\$)	0.067** (0.016)	0.048** (0.017)	0.050** (0.006)
Constant	0.467** (0.064)	0.538** (0.069)	0.487** (0.024)
Observations	45	46	368
R ²	0.30	0.16	0.17
	voters vs. dictators: p = 0.43		
F-tests	voters vs. peons: p = 0.35		
	dictators vs. peons: p = 0.91		

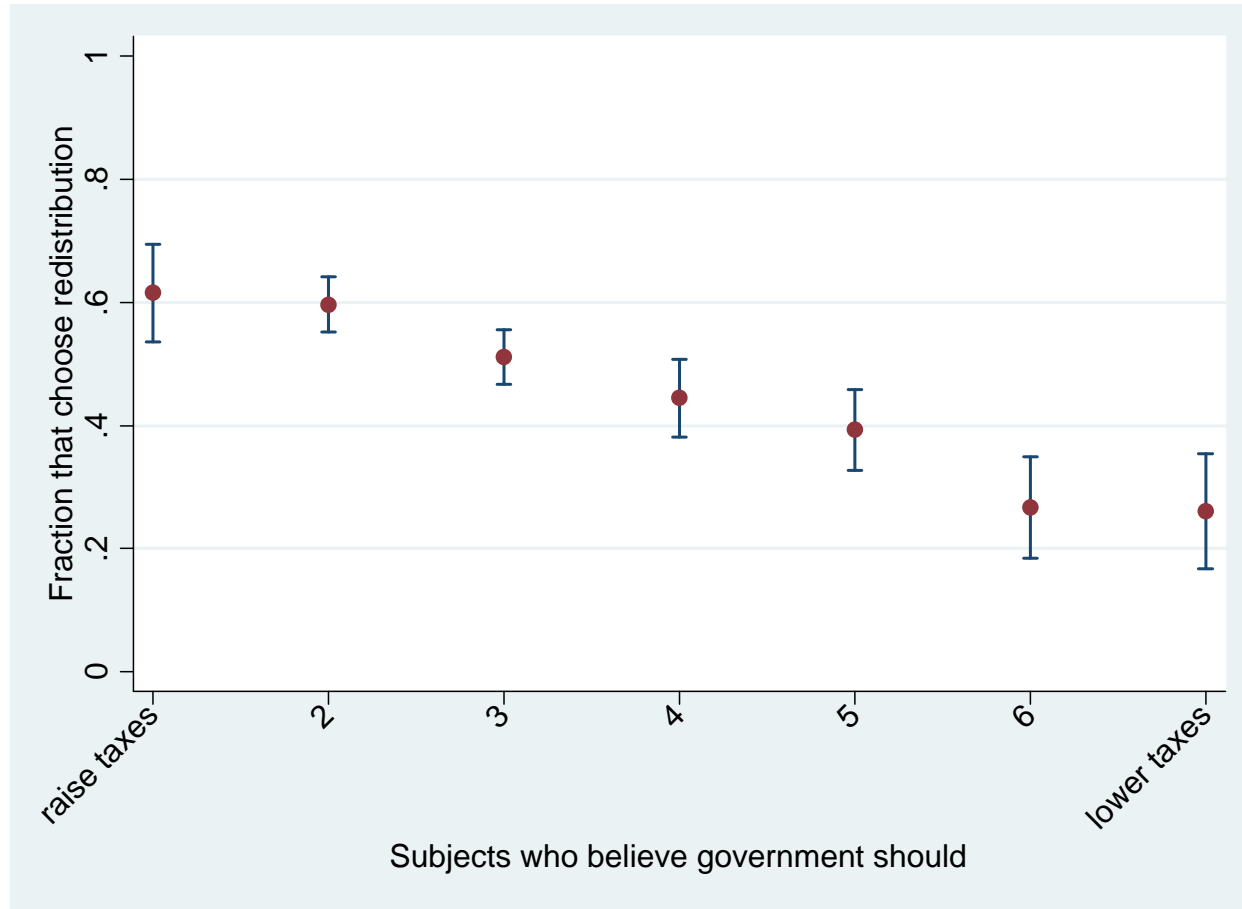
Notes: Linear probability model. **significant at 1%. F-tests compare the coefficients on Gain from Redistributions across the samples. Numbers in parenthesis indicate standard errors.

Figure 1: The effect of belief about the motivation of the poor on votes



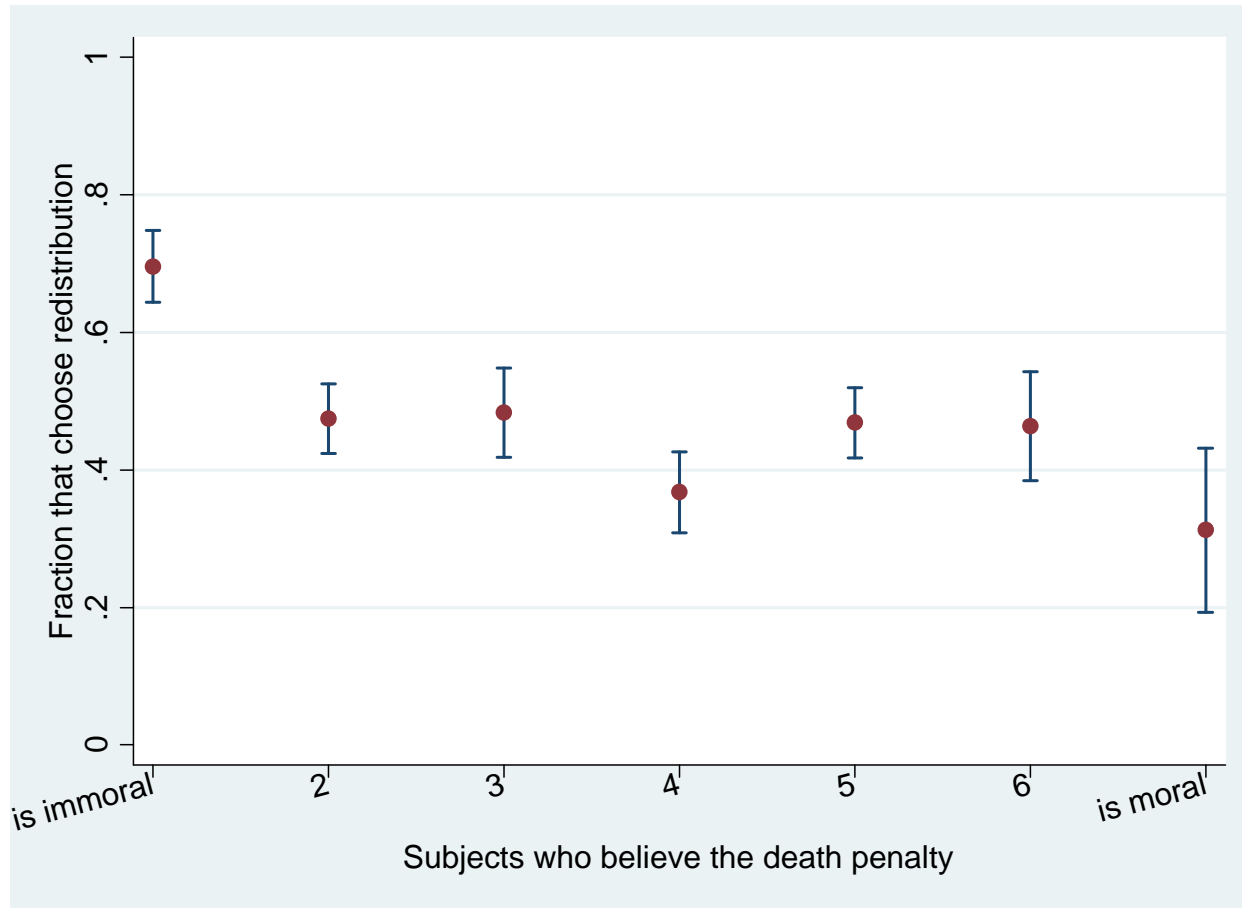
Notes: Whiskers indicate standard error of the mean.

Figure 2: The effect of attitude toward redistributive taxation on votes



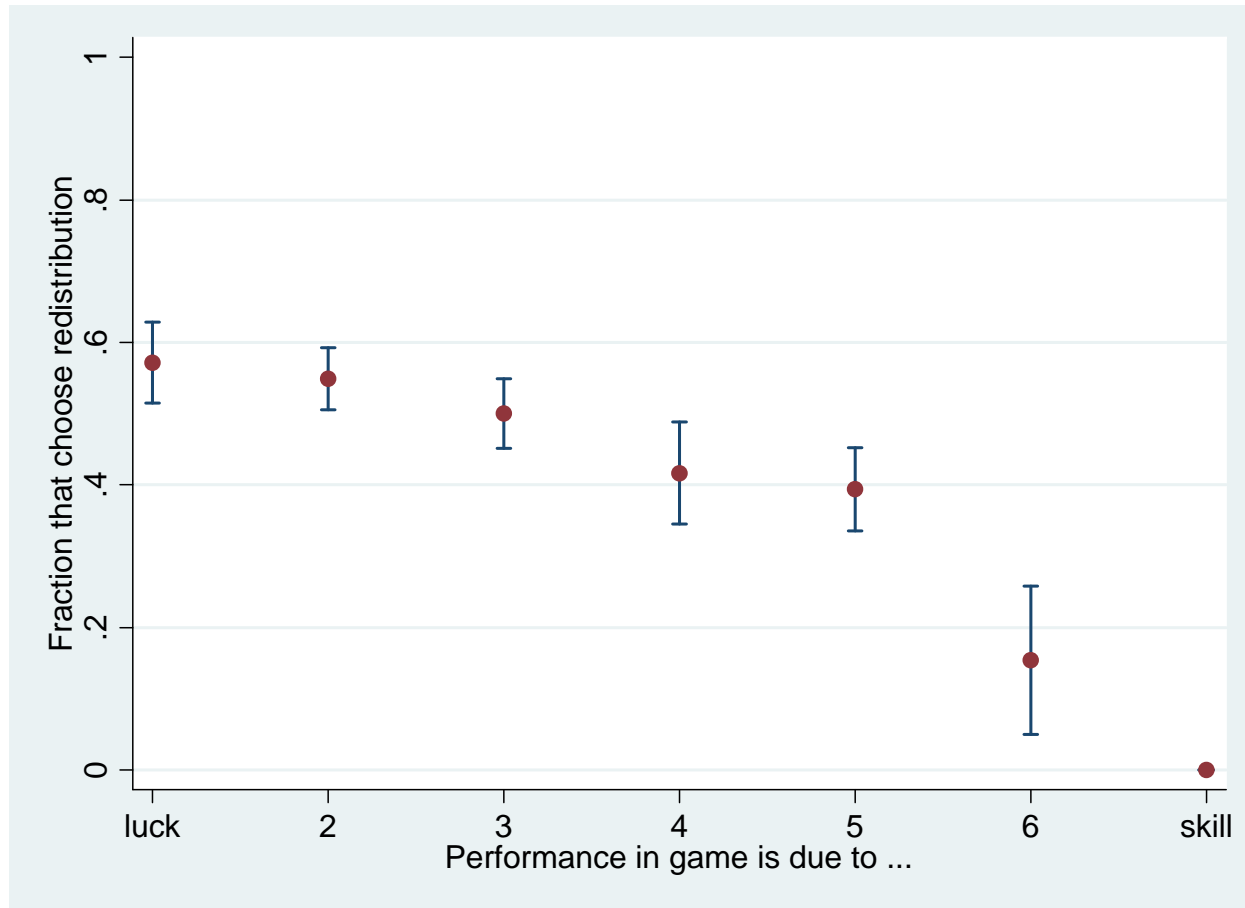
Notes: Whiskers indicate standard error of the mean.

Figure 3: The effect of views on the death penalty on votes



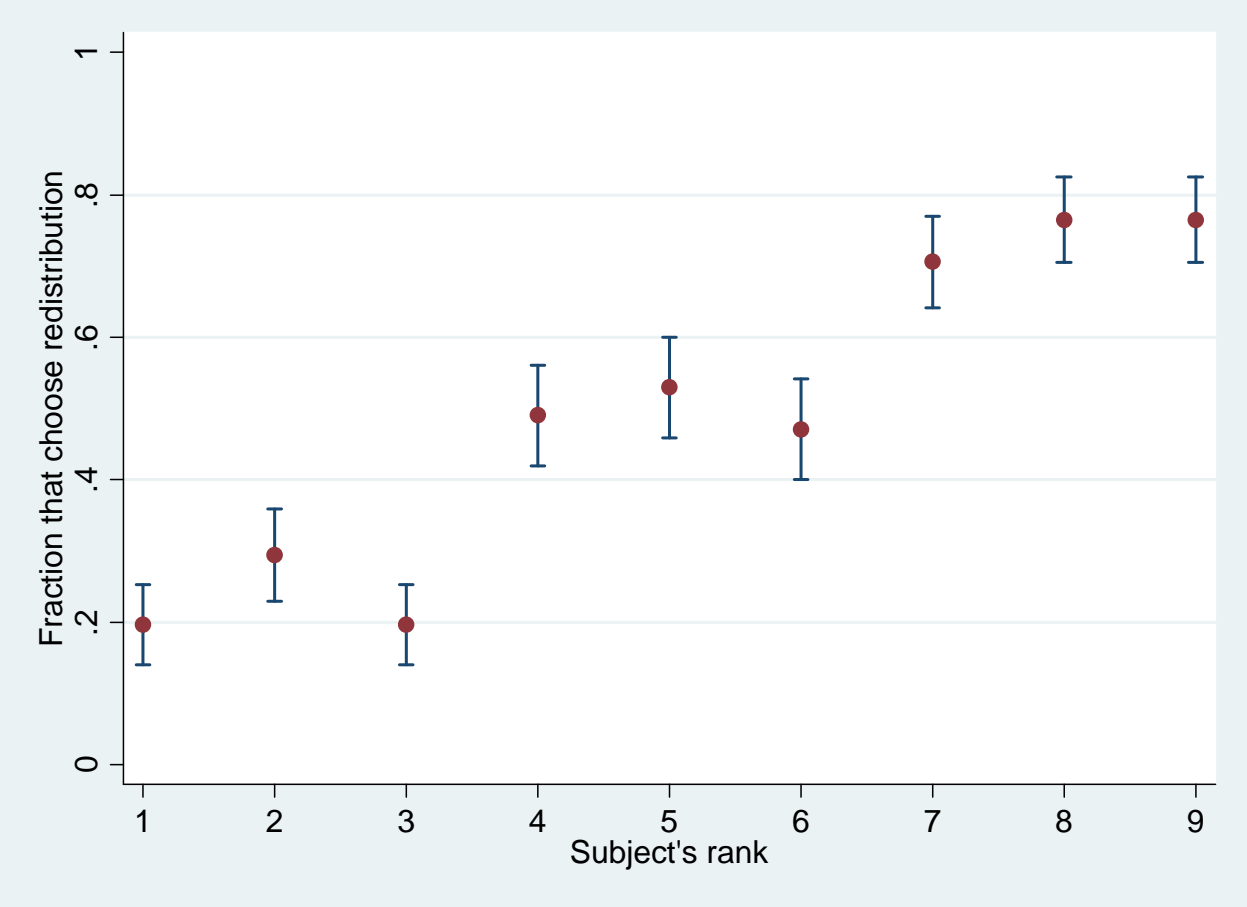
Notes: Whiskers indicate standard error of the mean.

Figure 4: The effect of views on role of luck in rock-paper-scissors on votes



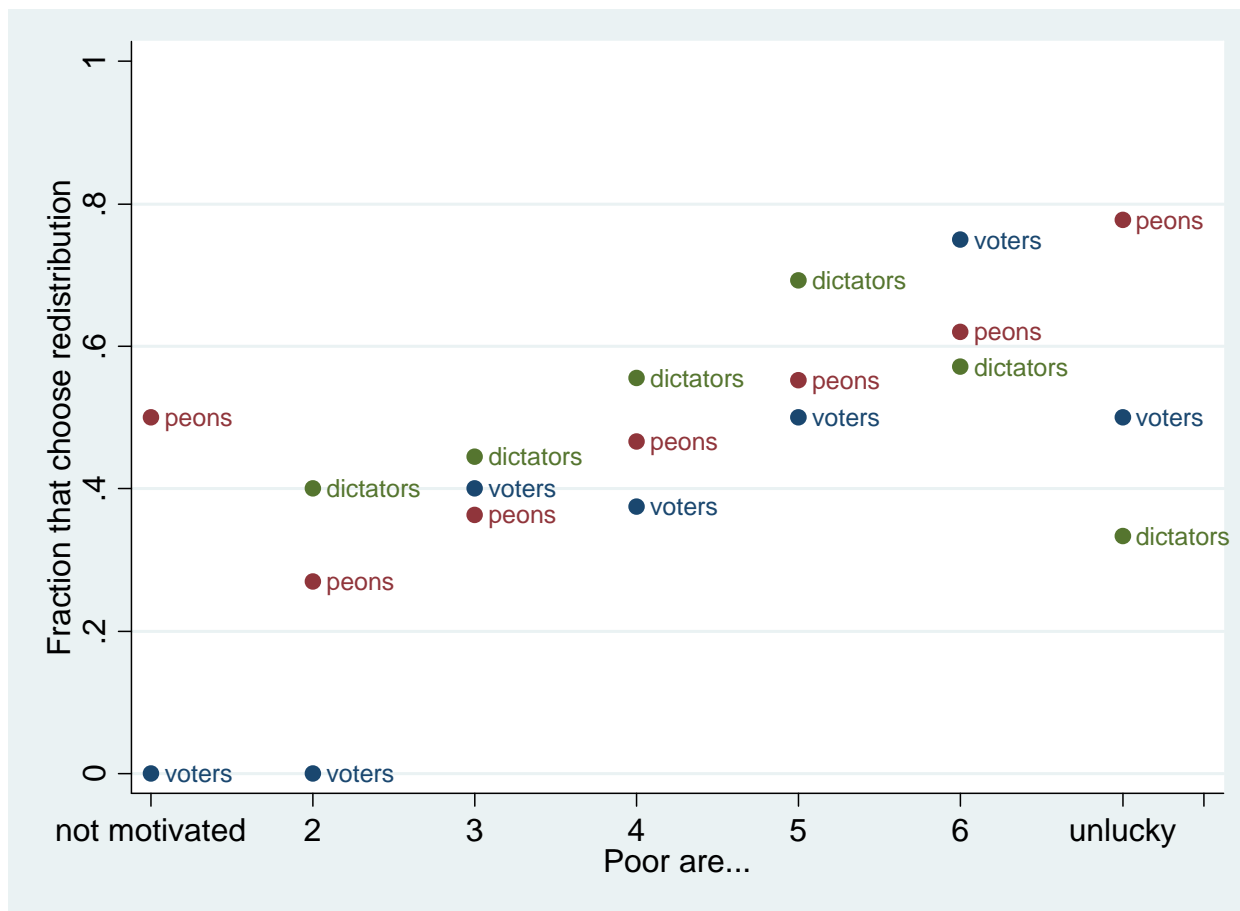
Notes: Whiskers indicate standard error of the mean.

Figure 5: The effect of subject's performance in rock-paper-scissors on votes



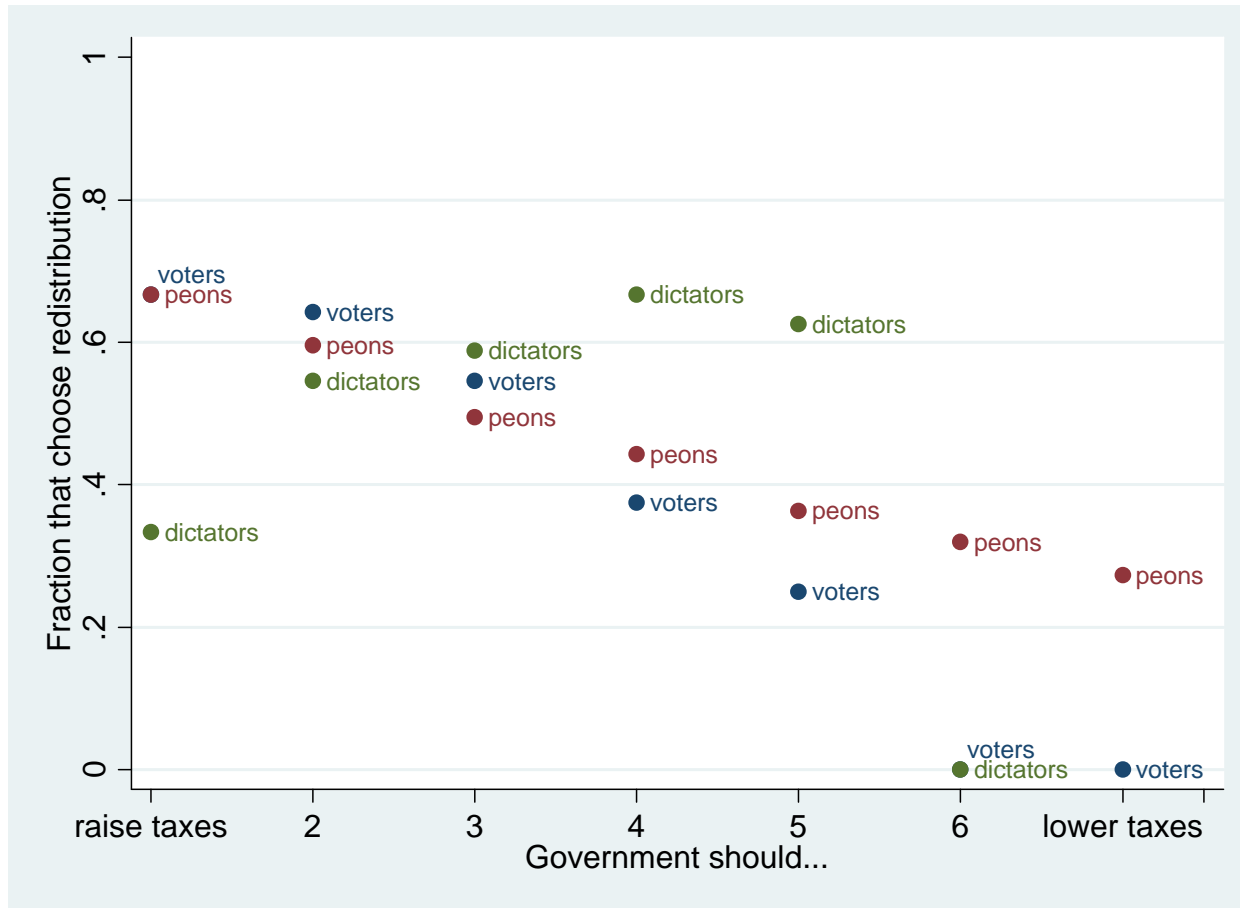
Notes: Whiskers indicate standard error of the mean. Subjects with rank 1-3 earned \$15; those with rank 4-6 earned \$10; those with rank 7-9 earned \$5.

Figure 6: Impact of ideology on vote by role: motivation measure



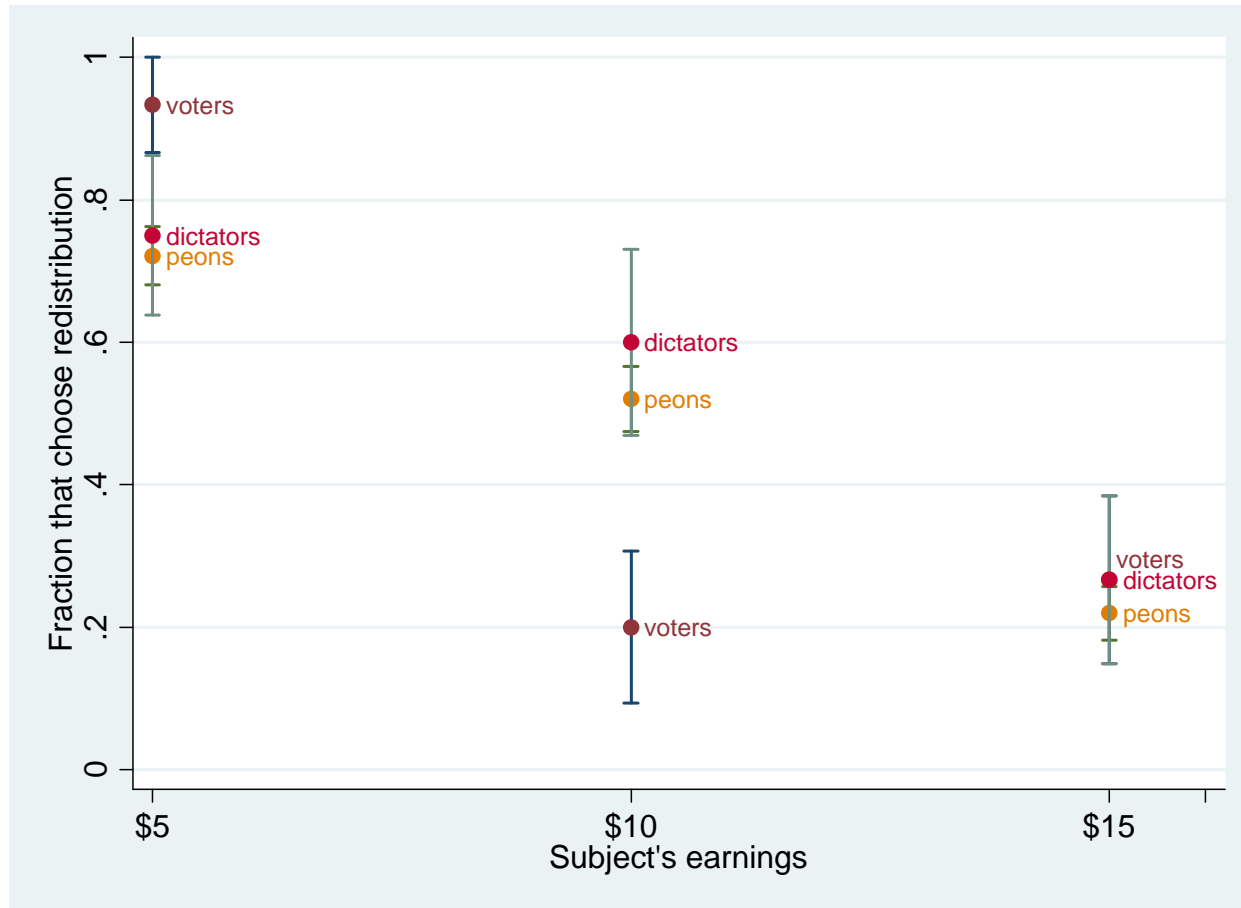
Notes: There were no dictators with the strongest belief that the poor are not motivated. We do not depict the standard errors in the interest of readability.

Figure 7: Impact of ideology on vote by role: taxation measure



Notes: There were no dictators with the strongest belief that the government should lower taxes. We do not depict the standard errors in the interest of readability.

Figure 8: Impact of earnings on vote by role



Notes: Whiskers indicate standard error of the mean.