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Experimental Evidence on Expressive Voting

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Abstract

Standard economic reasoning assumes that people vote instrumentally, i.e., that the sole motivation to vote is to influence the outcome of an election. In contrast, voting is expressive if voters derive utility from the very act of expressing support for one of the options by voting for it, and this utility is independent of whether the vote affects the outcome. This paper surveys experimental tests of expressive voting with a particular focus on the low-cost theory of expressive voting. The evidence for the low-cost theory of expressive voting is mixed.

1   Introduction

Standard economic reasoning is consequentialist which means that the motivation to choose x over y is that x has more favorable consequences than y in the eyes of the decision maker. Choices are *instrumental* in this view, meaning that they are made exclusively to induce particular consequences. According to rational choice theory, voting is no exception: the motive to vote for one option over another is to influence the outcome of an election.

The view that choices are instrumental has much appeal (among economists) in the market place but it may be problematic to extend this view to the context of voting. While choices in the market place usually directly map into consequences (you get what you choose and pay for), this is not the case in voting. The reason is that a single vote is normally not decisive for the outcome in a large election.[2] Given the extremely low probability of affecting the outcome in large elections, expected benefits of voting for one alternative over another are close to zero. Models considering the trade-off between the expected net instrumental benefits and the costs of voting therefore conclude that rational, self-interested voters abstain from voting (Downs 1957, Tullock 1968).

In reality, people of course regularly participate in large elections. To reconcile this fact with the theory of rational choice, the literature proposed that voters also harbor *expressive* motives. Such motives are conceptualized as a consumption utility derived from the mere act of voting (for one particular alternative). Importantly, this utility is independent of its impact on the outcome of an election.

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[2] Estimated probabilities of pivotality are extremely low in large elections. For example, Gelman et al. (2012) estimate for the 2008 US presidential election that the empirical probability with which a single vote is pivotal (i.e., changes the election outcome) is, on average, 1 in 60 million. The game-theoretic approach of Myerson (2000) implies even lower estimates of pivot probabilities in large elections (about 1 in 8 billion).

That is, the expressive utility is independent of the size of the electorate or how close an election is expected to be. In contrast, the instrumental utility falls with the probability to cast the decisive vote. Therefore, expressive motives may come to dominate instrumental motives in large elections.

Brennan and Buchanan (1984, p. 187) famously compared expressive voting to cheering for a sports team: the audience does not cheer to make the home team win but to express its loyalty. Analogously, voters do not cast their votes to make a party or a particular cause win, but to express their patriotism, solidarity or concern for the environment.

Buchanan (1954) seems to have been the first in the economics literature to propose the relevance of such "non-standard" motives, and the reasoning was further developed by Tullock (1971), Fiorina (1976) and Brennan and Buchanan (1984). Brennan and Lomasky (1993) is a landmark contribution to this literature and they describe the expressive aspect of voting as an "action that is undertaken for its own sake rather than to bring about particular consequences" (p. 25).[3]

Invoking expressive motives has been criticized as being *ad hoc*, and as a methodologically unsound practice of "immunizing" the rational choice theory from critique (e.g. Green and Shapiro 1992 for a discussion). However, one particular approach to expressive voting, the *low-cost theory of expressive voting*, is not empirically empty and can be tested by use of experimental techniques. Testing is possible when instrumental and expressive motives conflict, and this situation is

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[3] Brennan and Hamlin (1998, 2000), Brennan (2008), Hillman (2010) and Hamlin and Jennings (2011) further elaborate on the definition of expressive behavior. See Mackie (2011) for a critical review.

also the most relevant case.[4] The core of the low-cost theory of expressive voting (Brennan and Lomasky 1993) is that voters rationally trade off instrumental and expressive motives. Expressive motives will be largely irrelevant when the (expected) material costs of voting one way or the other are high, but may come to dominate when instrumental concerns are fading because of low pivotality, i.e., because of the low probability of a single vote to affect the outcome.

Expressive voting can lead to substantive deviations from standard predictions, for good or for bad. One can easily imagine inefficient outcomes from expressive voting when many voters support causes they do not really wish to win, but if they do, voters are shooting themselves in the foot.[5] On the other hand, expressive voting may also give rise to prosocial outcomes that individuals would not have supported if they were concerned exclusively with the material outcome, in particular on issues involving positive emotions (e.g. environmental protection, support for the arts, or giving to those in need).[6]

Below, we survey evidence from the experimental laboratory on the low-cost theory of expressive voting and provide some directions for further research.

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[4] The distinction between instrumental and expressive motives would be largely irrelevant for the analysis of voting behavior if both types of motives were perfectly aligned. In this case, the analyst would not be off the mark with the standard approach of comparing expected (instrumental) benefits and costs even if expressive motives were prominent.

[5] A recent example is the referendum of the UK to leave the European Union which was called "Brexit" (a combination of Britain and Exit) in the media. Many observers (including the media and financial markets) expected that the referendum to leave the EU would not pass. However, after the vote, many voters who had cast a "leave" vote for patriotic reasons or in protest against excessive EU-regulations regretted it and claimed that they would have voted "remain" had they known that "Brexit" could be a reality. These voters seem to have underestimated the cost of voting expressively. The media used the neologism "Bregret" (a combination of Britain and regret) to describe the resulting emotion. The instrumental utility (i.e., the economic consequences) of the referendum are highly uncertain at the time of writing.

[6] For interesting illustrations of the possible consequences from expressive voting for a society, see Glazer (1992), Baron (2004), Caplan (2007) or Hillman (2010).

2 Experimental evidence

Experimental tests of the low-cost theory of expressive voting usually confront voters with a choice between two options in which instrumental and expressive motives conflict. That is, voters prefer one option to be the outcome but would support the other option if doing so had no consequences, i.e. came at no cost. The instrumental choice is often operationalized as a self-interested choice (e.g., subjects keep money given to them by experimenters) and the expressive choice as an "ethical" choice. Note, however, that ethical voting is not necessarily tied to expressive voting, nor is instrumental voting necessarily tied to self-interest. An instrumental altruist for instance may vote for donating money to the poor independent of the probability to be pivotal. We organize the discussion below according to the nature of the "ethical" choice. In Section 2.1 the ethical choice is a donation to a charity, in Section 2.2 it is redistributing (unearned) income to generate a more equal society by distribution.

2.1. Testing Tullock: The charity of the uncharitable

Tullock's (1971) thought experiment provides the starting point for the experimental tests of the low-cost theory discussed in this section. The thought experiment involves two scenarios. The first is to simply donate $100 to charity. The second is to vote in a group on taxing everyone and donating the money to charity. Suppose keeping the money is preferred according to the instrumental motive, and voting for the donation is preferred according to the expressive motive. The cost of voting for the tax would be $100 for the individual only if the voter was decisive, i.e. pivotal. The hypothesis is that voters are more likely to vote for the donation the lower the cost of doing so, i.e. the less likely they are pivotal. Hence, at low

pivotality, a majority of voters may vote for donating even though not a single voter would have donated \$100 individually.

Carter and Guerette (1992) provide the first experimental test of expressive voting. Perhaps surprisingly, these authors do not simply bring Tullock's (1971) thought experiment to the lab but they investigate the low-cost theory of expressive voting in the context of individual decision-making under uncertainty. They claim that the original thought experiment does not lend itself to direct testing. The authors argue that directly comparing the two scenarios would violate the ceteris paribus clause. Going from an individual decision to donate to the decision to vote in an election would involve externalities on voters who are in minority as well as on the charity (the amount of money donated is larger in a group). Such a comparison would also be problematic from the perspective of experimental control because the pivot probability would neither be known to the experimenter nor to subjects (the authors do not mention this limitation though). As a consequence, the authors run individual decision-making experiments in which each subject separately decides whether to donate part of his or her endowment (\$2), where the decision is binding with a high or low probability. The results of the study are somewhat inconclusive. Overall, Carter and Guerette (1992) find no clear support for the low-cost theory of expressive voting.

Fischer (1996) uses a large class with $n = 82$ students and let them repeatedly make voting choices without feedback in-between. Half of the voting mechanisms (rules 1-4) were concerned with public voting and the remaining ones (rules 5-8) with private voting. We discuss the latter here since social pressure is likely to play an important role with public voting (see Section 3 for a discussion of image concerns). In each decision situation, one of the subjects, called i below, is randomly

drawn and is given AUS$200. Whether the money is for i to keep or is donated to a charity, depends on the rule.

In rule 5, i's choice (made before the draw) counts. Given that i has been drawn, which happens with an ex-ante probability of 1/82, his or her choice counts with probability 1. In rule 6, all 82 subjects vote and the majority decides. Hence, the probability that i's vote determines whether the AUS$200 are donated or kept is less than 1, but it is essentially unknown. Using some rule of thumb calculation, the author estimates the pivot probability to be about 1%. Supposing that this estimate is accurate, the chance to be pivotal at the time of voting is almost identical between rule 5 and rule 6 (1.2% vs. 1%). A change in the propensity to donate to charity between these rules can therefore not be attributed to expressive motives according to the low-cost theory.[7] In rule 8, whether i keeps the money is determined by the majority of other voters in his group, meaning that i's vote has pivot probability = 0 for the outcome of his group. The comparison of all cases in which pivot prob. > 0 vs. prob. = 0 is not significant if all 82 subjects are considered (not reported in the paper), but it is significant if only the "swinging" voters (20 out of 82 do not make the same choice in all 8 rules) are considered. Overall, the evidence for the low-cost theory from this paper is weak.

Tyran (2004) also uses voting to determine whether money given to subjects is donated to a charity or kept, and his approach is thus similar to Fischer's rule 6 described above. However, one innovation by Tyran is to elicit expectations about whether voters believe to be pivotal. An instrumental voter's choice is independent of expectations since it is weakly dominant to vote for his or her preferred outcome.

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[7]   Results are difficult to interpret since changes in behavior across rule 5 and 6 may for instance reflect differences in the resolution of uncertainty about pivot probabilities (ex-ante versus ex-post).

However, expectations matter for expressive voters who tend to vote against material self-interest (i.e., for donating) when they think their vote is irrelevant (i.e., in a low-cost situation) but tend to vote in line with material self-interest in a high-cost situation.

Figure 1 illustrates the basic idea of the design. Each voter is endowed with about $10 by the experimenter and all simultaneously vote on a proposal to donate money to a charity. If less than $Q = 50\%$ of voters approve, the proposal fails and all voters keep their endowments. Treatments differ by the consequences when more than $Q\%$ approve, i.e., when the proposal passes. In treatment (T1), each voter donates the endowment independent of whether he or she approved the proposal or not. In treatment (T2), only those who voted in favor of charitable giving donate. Therefore, voting for the proposal is a high-cost choice in T2 but not in T1 when more than $Q\%$ approve. Higher approval rates in T1 than in T2 for a given approval rate above Q are therefore consistent with the low-cost theory. More generally, the low-cost theory predicts that voters are more likely to approve of donating the more certain they are not to take a high-cost decision. This is the case the larger the absolute distance between voter i's expectation about the voting choices of the other ($-i$) voters e_{-ij} from the quorum Q (see Figure 1).

Tyran also systematically varies the range where the low-cost theory makes interesting predictions by varying the quorum Q_j from 1% (i.e., all choices in T2 are in the high-cost domain) to 99% (i.e., none are). Since voting is simultaneous, the author elicits expectations about voting choices in the rest of the electorate (with 10 or 30 subjects).

Figure 1: Illustration of predicted approval rates according to the low-cost hypothesis as tested in Tyran (2004)
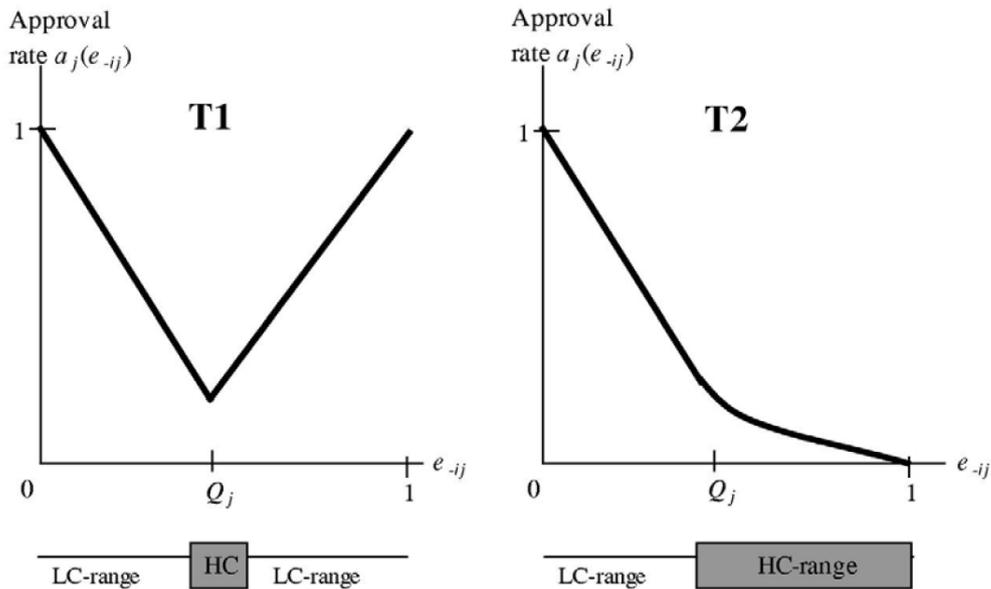
Results from classroom experiments with 220 subjects show no support for the low-cost hypothesis in overall voting. However, voting is not consistent with instrumental voting either. Instead, the author finds that approval rates tend to increase with expected approval by others. That is, the study finds support for bandwagon voting which can be considered as "expressive" insofar as voters do not care about the outcome of the election but care about being on the winning side.[8]

Bischoff and Egbert (2013) use the same baseline design as Tyran (2004), i.e., they implement regular majority voting (T1 and Q = 50%) on donating money to charities. Their twist is to provide subjects with varying information about average

[8] Morton et al. (2015) provide an intriguing example of how expressive voting, possibly in the guise of the duty to vote or bandwagon voting, can shape participation in large elections. They analyse voting behavior in the French presidential election and find that many voters in French overseas territories cast ballots despite the fact that exit poll information from mainland France has already been made public. Even though estimations show that exit poll information from the mainland decreased turnout in overseas territories by about 11%, the remaining votes can be deemed as purely expressive because of their *de facto* irrelevance (pivot probability = 0) for the outcome of the election.

approval rates in previous referenda. As they use 8 referenda and 418 subjects, they have a sufficiently large number of observations to conduct multivariate statistical analysis. The main result of this analysis is that voting for donations follows mixed motives. The authors find evidence for instrumental motives (i.e., subjects tend to vote more for charities they find important), for bandwagon voting (they tend to vote more for charities that are popular with others), and for the low-cost theory (subjects tend to vote more for donating the less likely they believe to be pivotal). Overall, the study finds strong support for expressive voting, as they do for other motives. Unfortunately, they do not quantify the relative strength of these motives.

2.2. Voting on (re-)distribution

The group of studies reported in this section use (re-)distribution choices within a group instead of donations to a charity to investigate the relevance of the low-cost theory of expressive voting.

Feddersen, Gailmard and Sandroni (2009) present voters with the choice between options A and B, and voters differ by the payoffs they receive when A or B is chosen, respectively. A-types are inactive and are better off when option A wins (their normalized payoff is $1 - c > 0$, see Table 1). B-types can choose whether they want to vote or not. B-types earn $1 + x$ when option B is implemented while they earn only 1 when A is implemented, but voting for either alternative comes at a private cost of $c > 0$ while abstention is costless ($c = 0$). Voting for option B is therefore consistent with instrumental selfish motives and voting for A expresses support for what they call the "ethical" alternative (option A is fair and efficient: it minimizes the inequality of payoffs among voters, and it also maximizes the sum and the minimum of monetary rewards).

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Table 1: Monetary Rewards and Options A and B (from Feddersen et al. 2009)

	A Type	Active B Type Who Vote	Other B Types
Option A	$1 - c$	$1 - c$	1
Option B	0	$1 + x - c$	$1 + x$

The authors use the random dictator (RD) procedure to determine the outcome A or B, i.e., one voter from the set of active B-types is randomly selected and his or her choice is implemented for the entire group. The RD procedure has the advantage that the pivot probability is known to the decision makers as it is induced through the number of active B-types in a group, which varies between 9% and 100% (the authors use groups of size 4 to 24 subjects). The drawback of the RD procedure is that the situation lacks the flavor of voting. Similar to Carter and Guerette (1992), the voting game is transformed into an individual decision-making task, but has, in contrast to the earlier paper, payoff externalities. The main hypothesis (and title) of the paper is that there is "a moral bias in large elections". This hypothesis is operationalized by testing whether voting for the ethical option A is (weakly) decreasing in the pivot probability, conditional on participation.

The results of Feddersen et al. (2009) with a total of 104 subjects support the low-cost theory of expressive voting. Because of the additional option to abstain, the authors observe that the decrease of voting for the expressive option A in pivot probabilities is less steep than the increase in voting for the selfish option B. Conditional on turnout, fewer than 50% vote for the ethical option A.

An interesting question for further research is to investigate whether the RD procedure used in Feddersen et al. (and others, see below) may bias choices towards ethical outcomes. The reason is that this procedure assigns the full responsibility for the collective outcome to the voter who is picked to be the dictator. In

contrast, some argue that there is a high degree of "responsibility diffusion" in naturally occurring voting contexts since none (or all) of the voters are pivotal in voting (see Falk and Szech 2014).

Shayo and Harel (2012) conduct an experiment with a total of 360 participants in which voters decide in groups of 6 on how to distribute a fixed amount of $50 among themselves. In each voting group, there are two types of voters, both of which have a positive probability to determine the outcome. The difference between types is that "observers" hold no material interests in the outcome while the material payoff of "regular" voters depends on the outcome.

The experiment uses random dictator voting as in Feddersen et al. (2009) but now voters have different weights. Exogenously chosen pivot probabilities range between 0.01% and 24% for regular voters. Each voting group consists of 4 regular voters and 2 observers, each choosing between an equal distribution of payoffs between regular voters (considered to be the ethical option) or an unequal one.

A particularly innovative aspect of the design is the introduction of a third alternative in which the decisive voter receives the same payoff but the remaining three regular voters a strictly lower payoff (i.e., a socially strictly inferior material outcome). The third alternative controls, by design, for the possible confound of decision errors in (expressive) voting choices. Doing so is necessary because as pivot probabilities fall, instrumental voters become indifferent between the options. If avoiding error is cognitively costly, instrumental voters make more mistakes and their choices will be wrongly interpreted as evidence for expressive preferences.[9]

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[9]   Confusion and mistakes among subjects are not unlikely. Dittmann et al. (2014) find that subjects' willingness to pay for the right to vote appears inconsistent with both instrumental and

The results of Shayo and Harel (2012) are in line with the low-cost theory of expressive voting. Regular voters tend to opt more for the equal distribution of payoffs when pivot probabilities are low, but the effects are only weakly significant. A share of 29% of regular members vote for equal distribution when the pivot probability is 24% compared with a share of 40% voting when it is 0.01%, with the difference being significant only at the 10%-level. Moreover, it is interesting to observe that the support for the equal distribution chosen by observers (whose choices are by definition not motivated instrumentally) does not change in pivot probabilities and remains at a much higher level (between 75%-100% for different pivot probabilities) than comparable choices of regular voters.[10]

Kamenica and Egan Brad (2014) also test the low-cost theory in a within-group redistribution context, and link behavior to various ideological attitudes. A total of 459 subjects are allocated to groups of 9, are endowed with money from the experimenters ($5, $10, or $15) and choose between fully equalizing endowments or keeping the initially allocated private endowments. The redistribution decision is made either by majority voting or by a random dictator procedure.

In the random dictator matching groups, not only dictators make a redistribution decision. The other participants take the role of observers and also decide hypothetically on redistribution, knowing that their choices are irrelevant for the outcome.

Results show that while many (49% of all choices) are in favor of redistribution, voting behavior is not in line with the low-cost theory of expressive voting. In

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expressive motivations for voting but seems to be consistent with instrumental voting plus error in the perception of pivotality.

[10] Shayo and Harel (2012) also investigate correlates of expressive voting. However, personal characteristics like age, gender, ethnicity, real-world political involvement turn out insignificant.

fact, the authors find that behavior is insensitive to changes in pivot probabilities across all voter groups. The authors show that voting for redistribution is to some extent correlated with measures of ideology (see Durante et al. 2014 for a laboratory experiment investigating the relative importance of ideology and material motivations in redistributive preferences). The impact of ideology on voting behavior does however not change significantly when pivot probabilities are varied, which speaks against the idea that ideology is driven by expressive preferences of voters.

Tyran and Sausgruber (2002) provide a simple test of the low-cost hypothesis in the context of a redistribution game and find no support for the claim that voters are less likely to vote against their material self-interest to redistribute money to the poor when voters think redistribution is more costly to them. Their basic design is that groups of 5 voters decide by simple majority vote whether to redistribute money from two rich voters to one poor voter (with the two middle-class voters remaining unaffected by redistribution). The main purpose of the experiment was to study how fairness preferences shape redistribution choices. However, the authors also tested for the low-cost theory as follows. They asked subjects to report the expected number of yes-votes in their committee when making their voting decision. Subjects had an incentive to correctly predict others' voting decisions since they received an extra payment if their expectation was correct. This design differs from Feddersen et al. (2009) and Kamenica and Egan Brad (2014) in that pivot probabilities are not exogenously imposed but arise endogenously and must be proxied by measures of expectations. The interesting group to study in Tyran and Sausgruber (2002) are rich voters because they potentially experience a trade-off between fairness (i.e., equalization of incomes) and self-interest. In contrast to

the low-cost hypothesis, the authors find that rich voters who think they are pivotal are not less likely to vote for redistribution than those who think they are not pivotal.[11]

In summary, it is fair to say that the evidence from the experimental laboratory on the low-cost theory of expressive voting is mixed. Among the studies surveyed here, 2 are clearly supportive of the low-cost theory (Feddersen et al. 2009, Bischoff and Egbert 2013), 3 provide some weak support (Fischer 1996, Shayo and Harel 2012, Höchtl et al. 2012), 4 find no support the low-cost theory (Carter and Guerette 1992, Tyran 2004, Kamenica and Egan Brad 2014, Tyran and Sausgruber 2002).

3 Concluding remarks

The discussion above has shown that the experimental evidence on the low-cost theory of expressive voting is mixed. We now address two questions.

First, why does the literature provide mixed results? We think the reasons are to be found in limitations of the experimental paradigms and techniques that have been used to identify expressive voting. Second, where is the literature heading? The low-cost theory of expressive voting was an important innovation that combined a non-standard preference with a relative price effect to explain voting behavior that the (purely instrumental) rational-choice approach failed to explain.

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[11] In a related experiment, Höchtl et al. (2012) study voting on redistribution. Based on stated beliefs about pivot probabilities, the authors find that voters who believe their voting choice to be pivotal tend to vote less for redistribution against their material self-interest than those who think their vote is unlikely to be pivotal. The difference is, however, not statistically significant. Eichenberger and Oberholzer-Gee (1998) also study voting on redistribution. Their evidence is inconclusive with respect to the low-cost hypothesis.

However, the low-cost theory is still firmly embedded in standard economic thinking, meaning that voters rationally trade-off instrumental and expressive motives. In most experiments, the "standard" instrumental motive is modeled as material self-interest and the "non-standard" expressive motive as a fair or Pareto efficient outcome. But this modeling choice is not the only possibility. For instance, voters may also vote to bring about an outcome that benefits others (as postulated by outcome-based fairness models in economic theory). We therefore think it would be valuable to study trade-offs that go beyond those of selfishness versus fairness and incorporate insights from psychological research on underlying expressive motives.

Challenges for experimental economists. Identification of an inherently unobservable "expressive" motive from observables is difficult even under the controlled conditions of the experimental laboratory, and seems hopeless in the wild. Experimental papers starting from Tullock's (1971) thought experiment face limitations both when they use majority voting or the random dictator approach as a test bed.

Those using (majority) voting games typically vary the size of the electorate to manipulate pivot probabilities. But this procedure does not always allow the researcher to tightly control pivot probabilities, and as a partial remedy, researchers have resorted to eliciting expectations. In addition, it is difficult to implement true ceteris-paribus changes with this approach. For example, an increase in the size of the electorate will reduce pivot probabilities and increase externalities (imposed by the majority on the minority) and possibly induce other effects (e.g., increase total tax revenue). As a result, observed changes in voting, if any, cannot be cleanly attributed to the change in pivotality.

Research using the random dictator (RD) paradigm also faces limitations. First, it is not clear that translating a situation from a voting game into a RD setting without interaction adequately captures the essence of voting. Participants may not experience the "responsibility diffusion" that has been claimed to prevail with voting (Falk and Szech 2014). Second, the RD procedure makes pivot probabilities highly salient to subjects. Ordinary people often find the very concept of probability difficult to grasp and do not think of probabilities when voting. Third, while the RD paradigm facilitates experimental control over pivot probabilities, inference problems still loom. The reason is that voting expressively for the "ethical" alternative can be observationally equivalent to voting for the "wrong" alternative given the voter's preferences (e.g., a decision-error of a purely instrumental voter). Shayo and Harel (2012) present a clever solution to the problem of decision errors when pivot probabilities become very small.

Finally, experimental economists are well-advised to pay more attention to heterogeneity. Some evidence on its relevance is provided by Carlsson and Johansson-Stenman (2010) who report results from surveys in Sweden on why people vote and why they vote as they do. A main finding is that motives for voting are mixed, most people seem to be motivated by more than one reason for voting. Self-interest, social norms, and the desire to express an opinion or value all seem relevant.[12] Experimental research on the relative importance of these motives and on correlates of expressive voting would be welcome.

Where is the literature heading? We think an important open question for research is to investigate the source of expressive utility. One hindrance to making progress on that front has been conceptual vagueness. The literature subsumes

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[12] Baron (2010) for example presents evidence from survey based (non-incentivized) experiments against the idea that voting is expressive, even for voters who act upon moral or protected values.

behavior arising from quite distinct motivations under the term expressive voting.

Expressive voting as commonly understood in this literature means that a voter is expressing some value or identity to himself or herself, not to others. That is, expressive voting has so far implicitly been considering self-image concerns, not social-image concerns. It seems debatable that voting is the most natural way to express one's identity to oneself. In contrast, expressing values and identity to others seems like a highly relevant motive for voting and should be investigated more (see e.g. DellaVigna et al. 2016 and Rogers et al. 2016 for field studies). Experimental techniques could also be used to investigate under what conditions people cast votes not so much to express their own values (to themselves or to others), but to identify with people one agrees with (e.g. Rotemberg 2009, Brennan and Hamlin 1998). A possible solution to the conceptual vagueness of expressive motives in the case of image concerns, for instance, would lie in a sharper distinction between instrumental components and expressive components of image concerns (self- or social-image). Such a distinction might provide a useful basis for deriving testable experimental hypotheses about expressive behavior.

Issues of identity-driven expressive behavior can be studied in the experimental laboratory. Techniques to manipulate group identity have a long pedigree in social psychology, in particular the "minimal group paradigm" (Tajfel and Turner 1979). This paradigm has been fruitfully applied to a broad range of questions relevant to economics and political science and could also be applied to voting behavior (e.g. Shayo 2009).[13]

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[13] Many controlled laboratory experiments have investigated the effects of group identity using the minimal-group paradigm. Differences in behavior between ingroup and outgroup interactions have been observed, among others, with respect to altruistic behavior (Chen and Li, 2009), strategic sophistication (LeCoq, Tremewan, and Wagner, 2015), voting behavior (Bassi, Morton, and Williams 2011) and electoral accountability (Landa and Duell, 2015).

Overall, psychological insights embedded in formal economic theory can shed light on the foundations of expressive motives and can provide the basis for controlling and identifying expressive behavior in the laboratory. We think the theory of identity is a particularly promising option in this endeavor.

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