Information, Social Networks and Interest-Based Voting: Consequences for Distributive Politics

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Abstract

While many people are rationally ignorant about politics, most political economy models of preferences and voting assume that people are well-informed about their interests. Here, we endogenize the individual incentive to acquire political information, with stark implications for understanding partisan politics. We argue that the incentive to acquire political knowledge is a byproduct of other incentives, both private and social, and that these incentives are unequally distributed across groups. For those who lack incentives to be informed the rational strategy is to vote centrist. We test the model on public opinion data from 16 advanced democracies and show that the coupling between economic interests and political choice depends on social networks that have weakened over time. Because those with low information vote centrist we can explain the decline in class voting as reflecting a decline in the social incentives to be politically informed, linked to declining union membership.
1. Introduction

It is a well-known fact that standard political economy models of voting and mass opinion fail to explain most of the observed variance in most advanced countries. This is true at the individual level where basic economic variables, such as income and education, are only weakly related to policy preferences or to voting. It is also true at the macro-level where high and rising inequality, contrary to expectations, has not increased support for redistribution or actual redistribution (Georgiadis and Manning 2012; Korpi & Palme 2005). In this paper we argue that an important element in the explanation of these puzzles is the (changing) incentives that different groups have to be informed about politics. We present a rational choice model of voting with two new features: endogenous information and voting with limited information. Jointly these features significantly improve our ability to explain individual voting behavior, and they have striking implications for partisan and distributive politics across countries.

The paucity of political information among ordinary voters has been thoroughly documented since the publication of The American Voter in 1960 (Campbell et al., 1960; Lewis-Beck et al. 2008). Yet the consequences for political economy models of voting are poorly understood, especially in the comparative literature. Widely ignoring evidence to the contrary, comparative political economy models assume that people are well-informed about their interests

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1 A good illustration is Bartels’ analysis of the Bush tax cuts (Bartels 2008, chs. 6-7). Bartels shows that a solid majority of Americans favored Bush’s tax cuts even though only the wealthiest Americans benefited, and even though the same majority believed that the government could and should reduce inequality. It is also well-documented that people who are informed about politics vote differently than people who are not (Gilens 2001; Alvarez and Brehm 2002).
and know how public policies affect them. Greatly facilitated by an explosion in comparative opinion survey data, these models have been applied to explain individual policy preferences across countries (see, for example, Iversen and Soskice 2001; Rueda 2005; Rehm 2011; Busemeyer 2012). But they ignore the process by which people infer preferences from their economic situation. This is not only an error of omission but of commission because Downs long ago argued that voters have an incentive to be “rationally ignorant” (Downs 1957).

In modeling endogenous information, we posit two rational motivations for acquiring costly political information. The first is the private economic incentive to seek information about public policies and regulations, and how governments may change these, because such information facilitates better financial and managerial decision-making. Private incentives tend to be concentrated among those with high incomes and wealth, or among those who are in managerial or supervisory positions where familiarity with public policies and how they may change is crucial for making sound management or investment decisions. An argument along these lines was originally developed by Valentino Larcinese (2005). It is almost certainly of very general significance.

The other, and equally general, motivation is social. Mounting evidence in social psychology shows that human behavior is strongly motivated by the desire to gain the recognition and respect of others (Baumeister and Leary, 1995), and this insight has gained influence in both political science (e.g., Abrams et al. 2011) and in economics (e.g., Brennan and Pettit 2004). The desire for approval, we argue, has two effects: First, it motivates people to acquire knowledge about politics when politics is a recurrent topic of discussion in the groups and networks people belong to. Second, because knowledge is relative, the more people in the group know about politics the greater the incentive for each member to be knowledgeable. It is
social approval, then, which provides a rational basis for the acquisition of political knowledge among people who have no private incentives.

The role of discussion of politics has a long pedigree in sociology, beginning with the pioneering work of Lazarsfeld and Berelson and their associates (Lazarsfeld et al 1944; Berelson et al 1954) and echoed more recently in the highly influential study by Huckfeld and Sprague (1991, 1995) and an insightful recent book by Walsh (2004). But this work is disconnected from political economy and rational choice, and has largely been confined to the US. What we seek is a cross-disciplinary integration of these insights that sheds light on voting and partisan politics from a rational choice perspective.

Because rational incentives to be informed for most people are rooted in social networks, the composition of networks is a matter of great importance. The critical glue between economic and sociological analyses is what sociologists call homophily: Informal social networks tend to be structured on an economic basis, so that people from similar economic strata are more likely to associate with each other. People from the same class marry each other at higher rates; they tend to live in the same neighborhoods, they work in the same office or factory, and they send their kids to the same schools: “Birds of a feather flock together” (McPherson et al 2001).

Homophily is a critically important fact about social networks because it means that what people learn from political discussion with others in their networks tends to be close to their own interests. Political discussion therefore gives political economy models explanatory power, even if individual economic interests are completely irrelevant to behavior. Organized groups such as unions use social networks to their advantage, and by the pull of conformity they can help ensure that members adopt the group interest as their own. Building on a new study by Ahlquist and Levi (2012), we find strong indications in our data of such organizational effects in the case of
unions; these effects have traditionally served as counterweights to the concentration of private
incentives among right constituencies (Przeworski and Sprague 1982); and we show that the
decline of unions since 1980 has played a significant part in the decline of left voting since.

We also depart from a narrow focus on individual self-interest by allowing that some
voters may be altruistic (as is strongly suggested in our survey data). If the “mean” position of
the group or informal social network defines what is socially acceptable to its members, then
political discussion in networks which value altruism may lead their members to vote left.
There is much evidence that altruism towards the poor, what Fehr and Schmidt (2006) call
“inequality aversion”, matters for the political preferences of some, and as argued by Rueda
(2012) altruism has a differential effect on the poor and the rich. For the poor it reinforces their
material incentive to support redistribution, while for the rich moral imperatives and material
interests are competing concerns. For our purposes the net effect is likely to favor the left. As the
group social approval mechanism suggest, this is especially true at high levels of discussion.
Political discussion is therefore doubly important for the left: it reduces the right advantage due
to private incentives, and it pries away potential voters for the right.

The second new feature in this paper is the modeling of voter choice with limited
information. A striking empirical result is that those with low information have a strong tendency
to vote centrist (whatever their ‘true’ interest). We show analytically that this follows from a
generalization of the standard spatial voting model to cover limited information. If uninformed
voters simply committed random errors in political judgment they would cancel out through
aggregation (Feddersen and Pesendorfer 1999). But what our analytic model and our empirical
results show is that errors are not random: those with low information vote centrist. This also has
consequences for the left-right balance of power. Uninformed people may be more susceptible to
the siren songs of extreme right politics -- nationalism, racism, xenophobia -- but an even greater problem for the left is that their natural constituencies often lean towards the political center. Insofar as political discussion and group incentives are in decline, and in particular because this is associated with the decline of (left-leaning) unions (as we show empirically), this centrist bias is a greater liability on the left where private incentives are lacking.

Our model stands in contrast to framing models of biased information. Specifically, elite framing of issues has been argued to be a fountain of partisan bias with ill-informed voters voting against their own interests (eg., Kuklinski et al. 2000). Framed as a matter of race, for example, welfare may be opposed by whites even among those who stand to benefit (Gilens 1996; Alesina and Glaeser 2004). The limitation of this approach is what may be called the “competing frames” problem. Druckman (2004) has shown that when exposed to different frames, or when people exposed to different frames are allowed to first discuss the issues at hand, the effects of frames disappear. While it may be possible for elites to control information and limit the frames voters are exposed to some of the time and in some political systems, this is hardly true most of the time in most advanced democracies.² Our model instead assumes that information is unbiased. Still, like the framing literature, our model shows that information can have partisan effects.

The rest of the paper is divided into three sections. The first presents the model, the second tests the model on comparative survey data on voting, and the third summarizes the key results and discusses broader implications of the argument.

² This an assumption we share with models of political competence in which voters are imperfectly informed about candidate competence (see Dewan and Shepsle 2011 for a review). But our focus is on imperfect information about policy positions, not competence.
2. The Model

We present our argument in the form of a formal model that can be directly estimated using the data we have. We focus in this section on the basic assumptions and intuitions behind the model and relegate more complicated proofs to an appendix.

2.1. Information and voting

Take a very simple case of limited information from which we will derive some key intuitions. In this case there are three parties, left (L), center (C), and right (R), with policy positions uniformly distributed on a left-right scale with the range \([-a, a]\): \(C = 0, L = -b, R = b; a > b\).

We assume that voter \(i\) chooses L, C or R to minimize expected losses, where the ex-post loss to \(i\) from voting for party \(P\) is the distance between the party position and the voter position, \(y_i\):

\[
L_i = |P - y_i|.
\]

With complete information about \(y_i\) and \(P\), this reduces to a simple spatial voting model where \(i\) always chooses the party closest to her. Needless to say this assumes sincere voting.

The proximity result is simple and intuitive, and it has been widely used in the comparative voting literature, but it is fundamentally altered if voters have incomplete information.\(^3\) Voters may be uncertain about both their own policy preferences and those of

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\(^3\) In the spatial voting tradition it is sometimes recognized, going back to Downs, that voters are “information misers” who parties have to appeal to by assimilating a large number of issues that voters care about into a single ideological left-right dimension (Munger and Hinich 1994). The spatial analysis is then applied to this simpler world. But, of course, this does not explain how voters decide where they belong on the ideological left-right scale.
political parties. The latter arises simply from limited information about policy platforms, and the credibility and capacity of parties to implement these platforms. Voters may also be uncertain about their own policy preferences. Even if preferences were simply a function of current income, as in the well-known Meltzer-Richard model (Meltzer and Richard 1981), what is optimal depends on the progressivity of taxation, the efficiency costs of such taxation, and the composition of spending. When preferences are dependent on multiple factors in addition to income, as implied by most political economy models, the information problem is greater still. Even if voters knew the policy positions of parties, and could trust parties to implement these, they would not necessarily know which policies would best advance their own interests. So if there are costs to knowledge acquisition, it is not hard to see why people often make decisions that do not match standard model predictions.

Imagine now that a voter is completely uninformed about politics ("rationally ignorant"), yet still votes. Who should she vote for? If the parties are uniformly distributed, the temptation would be to say that she should vote for each party with equal probability. After all, each party is equally likely to best represent her preferences. But that intuition is wrong. In fact, with reasonable assumptions the voter would always vote for party C. The reason is that voters are trying to minimize losses (measured as spatial distances), and voting for C minimizes the expected loss. Note that this conclusion is an implication of the standard spatial voting model under uncertainty, not a deviation from it. The proximity result of spatial voting models used in most of the comparative literature is a special (full information) case.

To illustrate the logic, imagine that voter i is has no information and shares the positions of L, C, or R with equal probability. If i votes L the expected loss, \( \lambda_{L,i} \), is

\[
1/3 \cdot 0 + 1/3 \cdot (C - L) + 1/3 \cdot (R - L),
\]

where the first term is the (zero) loss if L turns out to be the
“correct” party (ie., the most representative), and the other two terms are the losses if either C or R is the correct party. Similarly, if i votes C the expected loss, \( \lambda_{C,i} \), is

\[
1/3 \cdot (C - L) + 1/3 \cdot 0 + 1/3 \cdot (R - C).
\]

It is easy to see that the only difference between the two expected losses is the last term, which is greater if i votes L than if i votes C. So \( \lambda_{L,i} > \lambda_{C,i} \). The same holds if we compare R to C since \( \lambda_{L,i} = \lambda_{R,i} \) (assuming symmetrical spacing). Voting C is therefore always the best choice for i.

This logic will prove important to our results, and it can be generalized to any distribution of subjective probabilities across the three parties. First consider the case where the voter is located at either L, C, or R with any distribution of subjective probabilities across these locations, \( \pi_{i,p} \). We now again ask when the voter would vote left. As before, the voter will compare the expected losses from voting for each party and then choose the party with the smallest expected loss:

The expected loss for i from voting L is

\[
E\lambda_{i,L} = \pi_{i,C}(C - L) + \pi_{i,R}(R - L)
\]

and from voting C and R

\[
E\lambda_{i,C} = \pi_{i,L}(C - L) + \pi_{i,R}(R - C)
\]

\[
E\lambda_{i,R} = \pi_{i,L}(R - L) + \pi_{i,C}(R - C)
\]

Hence, i votes L if

\[
E\lambda_{i,L} \leq \min [E\lambda_{i,C}, E\lambda_{i,R}]
\]

\[
E\lambda_{i,L} \leq E\lambda_{i,C} \rightarrow \pi_{i,C}(C - L) + \pi_{i,R}(R - L) \leq \pi_{i,L}(C - L) + \pi_{i,R}(R - C)
\]

\[
E\lambda_{i,L} \leq E\lambda_{i,R} \rightarrow \pi_{i,C}(C - L) + \pi_{i,R}(R - L) \leq \pi_{i,L}(R - L) + \pi_{i,C}(R - C)
\]

Since \( \pi_{i,R} = 1 - \pi_{i,C} - \pi_{i,L} \) we have
This very simple result says that $i$ votes left iff the probability that the left party is the best choice is greater than 0.5. We show in Appendix A that the result can be generalized to any continuous probability function $F$. Specifically, if $y_{LC}$ is the midpoint between $L$ and $C$, $i$ votes left when the portion of the distribution to the right of $y_{LC}$ is less than 0.5, or:

$$F(y_{LC}) > 0.5$$

An analogous result holds for voting right. The implications is that for $i$ to vote left or right there must be a greater than one half probability that $L$ or $R$ is the best party. If the choice between the three parties was symmetrical $\pi_{i,L} = \pi_{i,C} = \pi_{i,R} = 1/3$, so this condition would not hold. Again, there is a centrist bias in voting under uncertainty, and this bias has a very precise meaning.

An intuition behind this result, which to our knowledge has not been derived elsewhere in the literature, is that people who are uncertain about their policy preferences relative to those offered by parties try to insure themselves by voting for the centrist party rather than non-centrist parties. If the center party is close to the status quo, this will appear empirically as a status quo bias, but note that such a bias is a consequence of loss aversion in our model; it is not an assumption.

Note also that the centrist bias does not mean that voters tend to choose parties that are different from their own stated policy positions. Policy-preferences will mirror party preferences in the sense that uncertain voters who vote centrist are also likely to express centrist policy opinions. Our model is therefore fully consistent with mounting evidence that voters tend to
position themselves at the center of the political space compared to most political parties (see Macdonald, Listhaug and Rabinovitz 1991; Iversen 1994; Kedar 2005). Indeed, insofar as parties represent the preferences of informed voters (including, presumably, party elites themselves), our model explains this long-standing puzzle.4

The centrist bias is important for our broader argument because we will show that it can produce a partisan bias even in the absence of elite framing or biased information (say because of biased mass media). We share the assumption in efficiency models that information is politically unbiased, but the effect of information in our model is not. The only condition for a partisan bias in our model is that the level of information varies across the left-right spectrum, not that the content of information is skewed in one direction or another. This implication bears emphasis: *Without any elite manipulation, media bias, or voter irrationality, free and fair elections can produce partisan-biased outcomes.*

To derive this result we need to be explicit about the process by which people acquire information. Information could be about both the positions of political parties or voters’ own positions, but for simplicity we can fix either and vary the other without loss of generality. We assume here that party positions are given but that voters are uncertain about their own preferences relative to parties’.

Our starting point is a “rationally ignorant” voter who only knows that there is some probability distribution of his or her interests across the policy space. We assume that the

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4 There is also evidence that some voters vote for parties that are more extreme than themselves (see Kedar 2005 for a recent analysis). In our model this can happen if centrist voters know through their network which party to vote for, yet do not know what policies to support. In this case voters will express “uninformed” centrist positions, but vote non-centrist.
distribution is symmetric and centred at the mean of the space so that we do not prejudice the
results in one partisan direction or the other. Apart from this requirement, the distribution could
have any conceivable shape, including multi-peaked, polarized, and normal. As we showed
above the centrist bias is independent of the distribution. But in the following we assume a
normal distribution because it allows us to easily translate the model into probit, which can be
estimated directly. \(^5\) We can also justify this assumption on empirical grounds since the
distribution of voter preferences in most countries is approximately normal, and it would be
natural to think that the overall distribution is the starting point for most voters. But, again, none
of our substantive analytic results depend on assuming a normal distribution.

More precisely we assume that (uninformed) voter \(i\)'s prior is a normal distribution with
mean \(\bar{y}\) and a variance of \(\sigma^2\):

\[
y_i \sim N(\bar{y}, \sigma^2)
\]

It is natural to think that \(\bar{y}\) is close to, or identical to, the position of \(C\), but we can allow the data
to determine the exact location.

All people start out with this prior distribution, but they are likely over time to acquire at
least some information about their interests from newspapers and other media, from the formal
groups they belong to (such as unions and churches), and from the discussion of politics with
others in their informal networks of family, friends, neighbors, and co-workers. We assume that
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\(^5\) This is strictly speaking an approximation because the policy space is constrained to the range
\([-a, a]\), but since we can choose \(a\) to be arbitrarily large there are no practical consequences of
doings this. The uniform distribution we considered above is now approximated by a normal
distribution where \(\sigma^2 \rightarrow \infty\) for large enough \(a\).
voters use this kind of information to update their prior and arrive at a position that is closer to their “true” preferences. Specifically, the signal $i$ receives through $i$’s network or organizational affiliations is called $y_i^*$, and we assume that the signal is drawn from a normal distribution centered on $i$’s own interests, $y_i$:

$$y_i^* \sim N(y_i, \sigma_i^2).$$

Information is thus unbiased, and this assumption is likely to be a good approximation to reality as long as the network or group is small and homogeneous, consisting of people who are similar to $i$ in terms of relevant socioeconomic attributes -- what sociologists call homophily (see McPherson et al. 2001). We will discuss below what happens if the group is large and heterogeneous because then some members may have economic positions that are quite distinct from the center of the group-defined position.

In line with standard Bayesian updating, the new information $i$ receives through $i$’s network is $y_i^*$ and $\sigma_i^2$, not $y_i$ itself. In other words, $i$ gets a noisy (if unbiased) signal about her own interests. The prior distribution (with center $\bar{y}$) is then combined with the new, updating distribution to yield a posterior distribution of $y_i$ given the signal $y_i$

$$y_i | y_i^* \sim N \left( \frac{y_i^* + \bar{y}}{\sigma_i^2 + \sigma^2}, \left( \frac{1}{\sigma^2} + \frac{1}{\sigma_i^2} \right)^{-1} \right).$$

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6 We do not have in mind “objective interests” in the Marxian sense, but simply the preferences we would observe if people were fully informed about politics. We are agnostic in this paper about the content of these preferences or what determines them.
The posterior distribution is also a normal distribution, and the mean is a weighted average of \( y_i^* \) and \( \bar{y} \) with weights \( \alpha \) and \( 1 - \alpha \):

\[
E_{y_i \mid y_i^*} = \frac{y_i^*}{\sigma_i^2} + \frac{\bar{y}}{\bar{\sigma}^2} = \alpha y_i^* + (1 - \alpha)\bar{y},
\]

where \( \alpha \equiv \frac{\sigma_i^2}{\sigma_i^2 + \bar{\sigma}^2} \) is the relative precision of \( y_i^* \), and determined by the variance of the prior and updating distributions. In other words, using Bayesian updating, how much weight \( i \) places on the new information depends on the uncertainty associated with this information compared to the uncertainty associated with the original information.

Using the loss function in (1) \( i \) will vote left (L) iff

\[
E_{y_i \mid y_i^*} = \alpha y_i^* + (1 - \alpha)\bar{y} < y_{LC}
\]

where \( y_{LC} \) is the midpoint between \( L \) and \( C \). This is because \( y_i \mid y_i^* \) is normally (hence symmetrically) distributed, so that \( E_{y_i \mid y_i^*} < y_{LC} \) implies \( F(y_{LC}) > 0.5 \), so \( i \) votes L by Appendix A. But compared to the example of complete uncertainty, the posterior distribution for a voter to the left of \( y_{LC} \) may satisfy this condition because the information received from \( i \)'s network is centered on \( y_i \). If there is complete information, a voter with \( y_i < y_{LC} \) will always vote left since the entire distribution will be to the left of \( y_{LC} \). This is equivalent to spatial voting under complete information.

### 2.2. Predicting the vote

Voting in our model is deterministic, even if there is incomplete information. This is because voter \( i \) knows the signal he or she receives and hence \( \alpha y_i^* + (1 - \alpha)\bar{y} \) exactly; this is \( E_{y_i \mid y_i^*} \), the
expected value of $y_i$ given the signal $y_i^*$. Since $y_{LC}$ is also known, whether the best choice is to vote $L$ follows from Equation (3). An analogous argument applies to $C$ and $R$.

But as analysts we do not see the signal, $y_i^*$, that each voter receives. Instead we have to rely on our knowledge of $y_i$, which the voter does not know, to predict $i$’s vote probabilistically. Essentially we use information about $y_i$ to predict the probability that $i$ received a particular signal, which then determines the vote. This section shows exactly how this is done.

From the updating distribution $y_i^* = y_i + u_i$ we have that

$$P(v_i = L) = P(Ey_i | y_i^* < y_{LC}) = P[\alpha y_i^* + (1-\alpha)\bar{y} < y_{LC}] = P[\alpha y_i + (1-\alpha)\bar{y} + \alpha u_i < y_{LC}]$$

$$= P[(y_{LC} - y_i) - (1-\alpha)\frac{\bar{y} - y_{LC}}{\alpha} > u_i]$$

Since $u_i \sim N(0, \sigma^2)$, it follows that $\sigma_i^{-1}u_i \sim N(0,1)$, (because $E\left(\sigma_i^{-1}u_i\right)^2 = \sigma_i^{-2}Eu_i^2 = \sigma_i^{-2}\sigma^2 = 1$).

Hence:

$$P(v_i = L) = P(Ey_i | y_i^* < y_{LC}) = \Phi\left[\sigma_i^{-1}\left((y_{LC} - y_i) - (1-\alpha)\frac{\bar{y} - y_{LC}}{\alpha}\right)\right]$$

Note that since $\frac{1-\alpha}{\alpha} = \frac{\sigma_i^2}{\sigma^2}$ we can write

$$P(v_i = L) = \Phi\left[\sigma_i^{-1}(y_{LC} - y_i) + \frac{\sigma_i}{\sigma^2}(y_{LC} - \bar{y})\right]$$

(4a)

Correspondingly, the probabilities of voting center and right are:

$$P(v_i = C) = P(y_{LC} < Ey_i | y_i^* < y_{CR})$$

$$= \Phi\left[\sigma_i^{-1}(y_{RC} - y_i) + \frac{\sigma_i}{\sigma^2}(y_{RC} - \bar{y})\right] - \Phi\left[\sigma_i^{-1}(y_{LC} - y_i) + \frac{\sigma_i}{\sigma^2}(y_{LC} - \bar{y})\right]$$

(4b)

$$P(v_i = R) = P(y_{CR} < Ey_i | y_i^*) = 1 - \Phi\left[\sigma_i^{-1}(y_{RC} - y_i) + \frac{\sigma_i}{\sigma^2}(y_{RC} - \bar{y})\right]$$
The centrist bias when \( i \) has low information is clear from (4a) and (4b) if \( y_{RC} > \bar{y} > y_{LC} \) since when \( \sigma_i \to \infty \) (i.e., when the signal is very noisy),

\[
P(v_i = R) = 1 - \Phi \left[ \sigma_i^{-1}(y_{RC} - y_i) + \frac{\sigma_i}{\sigma^2}(y_{RC} - \bar{y}) \right] \to 0
\]

and

\[
P(v_i = L) = \Phi \left[ \sigma_i^{-1}(y_{LC} - y_i) + \frac{\sigma_i}{\sigma^2}(y_{LC} - \bar{y}) \right] \to 0
\]

Hence, \( P(v_i = C) \to 1 \) when \( \sigma_i \to \infty \). If voters who have no prior information learn nothing from their network they will vote centrist. This corresponds to the simple example of complete uncertainty that we started out with.

2.3. Endogenizing information

Again, similar to efficiency models of information we assume that information is unbiased. In our model this means that individual uncertainty about \( y_i \) is an inverse function of political information or knowledge, \( K_i \). So assuming that \( \sigma_i^{-1} = \gamma + \beta K_i \) we can write (4a) as:

\[
(5) \quad P(v_i = L) = \Phi \left[ (\gamma + \delta K_i)(y_{LC} - y_i) - \frac{1}{(\gamma + \delta K_i)\sigma^2}(\bar{y} - y_{LC}) \right].
\]

As we would expect, more political knowledge makes voters to the left of \( y_{LC} \) more likely to vote left, with analogous results for the probabilities of voting center and right. The question is then what determines people’s level of political knowledge.

A central contention of the paper is that political knowledge depends on private and social incentives to be informed. Private incentives, \( k_{p,i} \), arise when information about politics enables people with substantial wealth to make better investment decisions, or people in
managerial or high administrative positions to make better business and organizational decisions. Any choices that have consequences beyond the next electoral period and that are affected by public policies can be improved with knowledge about how these policies may change. For example, long-term personnel decisions may be affected by expectations about employers’ healthcare obligations and how healthcare reform might change these. Likewise, investment in new inventory may be affected by projected changes to write-down rules or the tax code. For individuals, decisions about private pension plans or real estate investments are also affected by public policies that may change in the future. Clearly, private incentives are concentrated among the wealthy or those in higher-level positions; they are therefore likely to be positively correlated with $y_i$ — though we use a slightly different approach in the empirical section.  

*Social incentives* to be informed arise from engagement in political discussion, $D_i$, with people who can be assumed to share your interests. If politics is a recurrent topic of discussion in the groups or networks to which people belong, there is a social incentive to acquire information about the group interest in order to benefit from the social approval that comes from being knowledgeable. Mounting evidence in social psychology implies that people are powerfully incentivized to meet the expectations of others in their networks because of the social approval they receive.

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7 Note that the private incentive for $X$ to acquire political knowledge arises when $X$ needs to know, in taking a decision *now* the return on which depends on *future* policies, how likely those policies are to change. Those on low incomes may be well-informed about rules governing, say, welfare and tax credits that affect them, but they only have an incentive to know about politics if they are taking decisions (for example investing in training) the return on which depends on future policies; by contrast to many professionals or high-income earners taking financial decisions, we assume (and show some evidence) that this is a relatively unusual situation.
that comes with such behavior (and disapproval otherwise) (see Baumeister and Leary 1995). Even those who refrain from participating directly in political discussion will learn from others in the group and network if these engage in political discussion. Passively accepting the information of others is also a way to fit in. Since most people do not have private incentives to be informed, social incentives are critical for a majority of voters to be politically informed.

The two incentives to acquire political knowledge are completely unrelated, and it may well be that the content of the knowledge varies with the type of incentive. Information attained for private purposes may not be suitable for political discussion, just as information acquired for social purposes may not be suitable for making private economic decisions. This suggests a simple additive utility function:

\[ U_i = aD_i \cdot \log K_{D,i} + bk_{p,i} \cdot \log K_{P,i} - c(K_{D,i} + K_{P,i}). \]

The first term is the social payoff from acquiring knowledge through discussion, the second term is the payoff from private knowledge, and the last term is a constant marginal cost of acquiring either type of knowledge, \( c \). The function has standard properties, rising and concave in the two different categories of knowledge.

But while the content of knowledge varies with the incentives, both types of knowledge can be used to choose political parties, and in that sense they are substitutes. If we call such knowledge “voting knowledge”, or \( K_{V,i} \), we can capture the substitutability in a simple function such as:

\[ K_{V,i} = K_{D,i} + K_{P,i} - K_{D,i}K_{P,i}. \]

We can now find the optimal level of voting knowledge by substituting in the optimal levels of discussion knowledge, \( K_{D,i}^* = \frac{aD_i}{c} \), and private knowledge, \( K_{P,i}^* = \frac{bk_{p,i}}{c} \):
Inserting the expression for $K_{v,i}^*$ into Equation (5), and setting $c=1$ without loss of generality, we have that

\[
K_{v,i}^* = \frac{aD_i + bk_{P,j} - \mu abD_{i,k_{P,j}}}{c}.
\]

The probabilities of voting center and right can be found in an analogous way.

The predictions of the model are illustrated in Figure 1. The figure assumes that $L$, $C$, and $R$ are located at -1, 0, and 1 in a space that ranges from -2 to +2. Panel a) shows the probability of voting for each party when we set $k_{P,j} = 0$, so that private knowledge plays no role. Note that when discussion is low – that is, when voters receive only very imprecise signals about their own interests and therefore lean heavily on the prior distribution – the support for the center party tends to be high across the left-right scale. The relationship between economic position and left and right voting is correspondingly weak. When discussion and information rise, the support for the center declines among those who are natural constituencies for the left and right. The strength of the relationship between left-right position and left or right voting correspondingly increases.

Panel b) shows what happens when we introduce private information (ignoring the center). If we assume that the private incentives to acquire information are rising in $y$ – say, a simple linear function such as $k_{P,j} = \alpha + \lambda y_i$ -- then we find that the effect of political discussion in the support for the right is smaller than for the left. This is because high-$y$ individuals, who are predisposed to vote for the right, have greater private incentives to be informed. They consequently have less reason to acquire additional information as discussion rises.

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8 This range includes approximately 95 percent of the fictional electorate.
Figure 1. The effects of left-right position and political discussion on voting

*Panel a) Without private information*

*Panel b) With private information*
This logic has important implications for the partisan balance of power because at low levels of political discussion the right has a political advantage. This advantage disappears as discussion rises because low-\(y\) voters now have a greater incentive to be informed and therefore “catch up” to the level of information in right constituencies. In the empirical analysis we test this effect and measure its magnitude in terms of vote shares.

Note that we have assumed that people vote, and in the empirical section we only include people who indicated a party preference. Yet, it is reasonable to expect that turnout is lower among the uninformed, in part because information makes it easier to choose a party, and in part because social incentives to be informed are also likely to affect the propensity to vote, as argued in Abrams et al. (2011). Insofar as this is the case, it reinforces our conclusions about the effect of political discussion on partisanship since voter non-turnout will be concentrated among the poor. But we do not attempt to test this implication here.

What about altruism? We have not directly modeled altruism, but it is not hard to conjecture its effects on the results. Building on Rueda (2012), altruism can only benefit the left, so as knowledge among altruists rises, we would expect a greater portion of the electorate to vote left. It is therefore sensible to surmise that political discussion by altruists will be a net benefit to the left, and this would reveal itself as a right shift of the intersection of the support curves for the left and right. As more people with a high sense of altruism and high \(y\)-values become politically aware, they vote left with a higher probability.

2.4. A note on preferences versus information

The model we have presented assumes that people are in groups with others who share their economic situation, and hence their underlying interests. This is reasonable because homophily is well-documented in the sociological literature. At the same time, the extent to which this is true
does vary over time, across countries, and across segments of the population. What happens when people are members of groups with significant heterogeneity in terms of socioeconomic situation?

An intriguing possibility raised by our argument is that if people assume that those around them have congruent interests, they will adopt the mean of the distribution of views in the group. It is also sensible to assume that what yields social approval in groups is to help identify the group interest, not their own individual interest. When all do the same, the signal people in heterogeneous groups receive is

$$ y_i^* \sim N(\bar{y}_i, \sigma_i^2) $$

where $\bar{y}_i$ is the center of the distribution of preferences in $i$’s group, or the “group interest” (as opposed to $y_{ii}$; the individual interest).

Being a member of heterogeneous groups where political discussion and social incentives matter will make people prone to adopt the group interest as their own, even if it is away from their individual interest as defined by the position they would adopt with complete information. This means that discussion could affect not only the level of information, but also preferences. Empirically, this will show up as an independent effect of group membership, shifting the probability of voting for particular parties to the left or to the right of the prediction using our best estimate of $y_i$. As we will discuss there is evidence of such effects in the case of union membership.

A related issue is that it may sometimes be possible to learn $\bar{y}_i$ (the group interest) by being a group member but without engaging in political discussion. This will be the case when it is very evident that the group is associated with a particular political party; the most obvious example of that is when one's work colleagues are all union members, and when it is widely
known that the union is associated with a particular (presumably left) political party. Even though the group may encourage discussion, and even though many will participate in such discussion, it is possible for those who are disinclined to discuss politics to learn about the group interest and still receive some social approval from simply displaying their shared political identification; say by wearing a campaign button, nodding when colleagues discuss politics, or voting. One of the consequences of the decline of formal groups, if we are right, is that political discussion becomes far more important for discovering the group interest, even as discussion is less likely to emerge when there are no organized groups to initiate it (such as shop stewards).

The result is a decline in class voting.

3. An empirical test

The empirical test of our model consists of directly estimating Equation (6) using nonlinear ordered probit. Because we do not have information on people’s private information we only consider the effects of political discussion, but with the implicit hypothesis that discussion will disproportionately affect the support for the left because of the concentration of private incentives among right constituents (as illustrated in Figure 1b). To simplify the estimation we use a linear first-order approximation for the coefficient on \( y_{LC} \) with a positive slope, 

\((\alpha + \beta D_i) y_{LC}\), while that on \( y \) is linear in \( D_i \) with a negative slope, \((\eta - \rho D_i) y\). These approximations imply the following estimating equations:

\[
\begin{align*}
P(v_i = L) &= \Phi[(\alpha + \beta D_i) y_{LC} - (\gamma + \delta D_i) y_i - (\eta - \rho D_i) y] \\
&= \Phi[\alpha y_{LC} + \beta D_i y_{LC} - \gamma y_i - \delta D_i y_i - \eta y + \rho D_i y] \\
&= \Phi[\alpha y_{RC} + \beta D_i y_{RC} - \gamma y_i - \delta D_i y_i - \eta y + \rho D_i y] \\
&= \Phi[\alpha y_{LC} + \beta D_i y_{LC} - \gamma y_i - \delta D_i y_i - \eta y + \rho D_i y]\end{align*}
\]

\[
\begin{align*}
P(v_i = C) &= \Phi[\alpha y_{RC} + \beta D_i y_{RC} - \gamma y_i - \delta D_i y_i - \eta y + \rho D_i y] \\
&= -\Phi[\alpha y_{LC} + \beta D_i y_{LC} - \gamma y_i - \delta D_i y_i - \eta y + \rho D_i y] \\
P(v_i = R) &= 1 - \Phi[\alpha y_{RC} + \beta D_i y_{RC} - \gamma y_i - \delta D_i y_i - \eta y + \rho D_i y]
\end{align*}
\]
Equation (7) is technically a nonlinear ordered probit, and since available statistical packages do not have this as a canned procedure, we wrote a program for Stata. The basic code for this program is provided in Appendix B. The model is estimated using maximum likelihood.

### 3.1. The data

We use data from the 2004 International Social Survey Program (ISSP) survey of citizenship, which is unique in asking respondents how often they engage in political discussion (as well as their sense of altruism). Our analysis covers 16 established democracies for which we have complete data on all the key variables.\(^9\) In total we have nearly 23,000 individual observations.

The dependent variable is based on a question about party preferences. In most cases the respondent was simply asked to indicate which party he or she voted for in the previous election, or would vote for in the next. In some cases respondents were asked more broadly about the party they supported or felt close to. In the case of the US, respondents were asked whether they think of themselves as Republican, Democrat, or Independent, and how strongly they felt about their allegiance. We treated those with a clear Democratic or Republican preference as left and right, respectively, and the rest (36 percent) as centrist. In all other cases we classified parties

---

\(^9\) The countries are: Australia, Austria, Britain, Canada, Denmark, Finland, France, Germany, the Netherlands, New Zealand, Portugal, Norway, Spain, Sweden, Switzerland, and the United States. We had to exclude Ireland and Japan because more than half of the respondents did not indicate their preferred party (64 and 56 percent, respectively). In addition these two party systems are also difficult to classify on a left-right dimension because of clientilism in the case of Japan and the historical division of Irish parties on the independence issue.
into left, center, and right, as detailed in Appendix C.\textsuperscript{10} Some small regionalist and single-issue parties were excluded from the analysis because they do not lend themselves easily to a left-right interpretation.\textsuperscript{11} On average the distribution of the electorate into the three groups is fairly even: 31 percent for the left, 39 percent for the center, and 30 percent for the right.

Our classification deviates somewhat from one devised by the ISSP’s survey, with a correlation of .91. As a robustness test we ran our regression on the ISSP party choice variable, and the substantive results are nearly identical (all regression results are in Appendix D).\textsuperscript{12} The results discussed in the body of the paper are based on the party classification in Appendix C.

The estimate of individuals’ left-right position, $y_i$, is arrived at through the following procedure. We first regressed party choice on a set of economic predictors for each country separately, using standard ordered probit.\textsuperscript{13} The full set of economic explanatory variables is:

\textsuperscript{10} Although our model assumes (at least) three parties, it can be used to predict voting in two-party systems. In this case uninformed people will place themselves in the center of the political space and be equally likely to vote left and right. As in the three-party case, information will lead to more interest-based voting.

\textsuperscript{11} A few large parties are also difficult to classify because they are really cross-class policies. The most notable example is the German Christian Democratic Union (CDU/CSU), which is classified as a center party (in line with Manow and Van Kersbergen 2009).

\textsuperscript{12} We collapsed the five categories on the ISSP scale into three, which yields fewer centrist votes and more left votes compared to our classification (25 and 38 percent, respectively). ISSP do not use party choice to classify Spain and New Zealand, where we retained our classification.

\textsuperscript{13} This procedure is in effect the first step in a 2-Step MLE procedure which implies consistency (Wooldridge 2002, 414).
family income (standardized into nine nationally-specific quantiles), education, supervisory position, self-employment, unemployment, occupational unemployment, part-time employment, public sector employment, skill-specificity, retirement status, gender, rural residence, and an indicator variable for not being in the labor market. These variables reflect a variety of standard political economy arguments that need not be recounted here. They encompass virtually all variables used in the existing political economy literature on policy preferences and vote choice.

In addition to these economic variables we included a measure of altruism, which is based on a survey question about the respondent’s views on what it takes to be a good citizen. One option is “to help people [in the respondent’s country] who are worse off than yourself”, with respondents being able to indicate one of seven degrees of importance, ranging from “not at all important” to “very important”. As one might expect, the measure is heavily left-skewed with about one third saying “very important”, 25 percent indicating the next highest level of importance, and only 1.3 percent saying “not at all important”. Answers undoubtedly reflect a healthy dose of “cheap talk”, but we find that they are in fact associated with distinct voting patterns (controlling for the economic variables above), so they are not meaningless.

Because there are missing observations on every variable, we dropped clearly insignificant predictors to maximize the number of observations. Specifically, we dropped regressors with p-values less than 0.2, starting with the least significant, then the next, until all retained variables were significant at a 0.2 level. Each national y-variable is calculated as a linear combination of altruism and the economic variables with weights determined by the regression coefficients.

Finally, we standardized each national measure by dividing the population into deciles where a value of 1 means that an individual is in the bottom decile of the y-distribution and a

14 The definitions are the same as in Cusack et al. (2006).
value of 10 means that he or she is in the top decile. This is to ensure that the left-right measure has the same meaning across countries. As we will see, it also makes it easy to translate predicted probabilities into shares of the population who support different types of parties.

Note also that our procedure for constructing the $y$–index allows for cross-national differences in the economic determinants of left-right voting. For example, Esping-Andersen (1990), Moene and Wallerstein (2001) and Beramendi and Rehm (2011) have argued that the targeting of benefits shapes policy cleavages, and the varieties of capitalism literature argues that the demand for social insurance varies with national skill regimes (Iversen and Soskice 2001). The nature of the left-right political space is also permitted to vary across countries in the sense that specific policies associated with the left in some countries, such as subsidization of higher education, may be associated with the right in other countries (see Busemeyer and Trampusch 2012).

The measure of political discussion is based on a survey question that specifically asks respondents to estimate the frequency of discussion in the informal groups that they belong to:

“When you get together with your friends, relatives or fellow workers how often do you discuss politics?”

The respondent could answer “never” (1), “rarely” (2), “sometimes” (3), or “often” (4). In our pooled sample the distribution of answers across the four categories is 14, 30, 43, and 13 percent, respectively.

3.2. Results

Figure 2 shows the predicted probability of supporting the left, center and right, solely as a function of people’s left-right position. The first thing to note is that standard political economy variables do a reasonably good job at predicting left and right voting, reflecting the findings in
Rehm (2011) and in Cusack et al (2006). For those in the lowest decile of the \( y \)-distribution the probability of supporting the left is almost 50 percent, while the probability of supporting the right is less than 20 percent. For those in the highest decile the pattern is reversed and of similar magnitude. Given that the support for the left and right is about even in our sample (31 versus 30 percent), this symmetry is not surprising. The overall support for different parties is of course endogenous to the exact strategic positioning of parties, and we only know their ranking.

A notable aspect of the pattern in Figure 2 is that voting for center parties is high throughout the left-right space, falling only slightly below 35 percent on the extremes. In our model the explanation is that even voters with “extreme” inferred left-right positions often vote center because they view centrist parties as “safe havens” when they are uncertain about how their welfare will be affected by different parties. Loss-averse individuals do not like to take chances with extreme parties unless they are confident that the policies are right for them.

The implication of this logic is that a large number of voters will shift their support away from centrist parties as their political information rises. This is not because informed voters are less loss-averse than uninformed voters, but because they have less reason to worry about non-centrist parties leading to failed policies. This expectation is powerfully confirmed in Figure 3. It shows the estimated probabilities of supporting different parties contingent on the level of political discussion.\(^{15}\) The drop in support for the center is remarkable, declining from nearly 50 percent across the \( y \)-scale when discussion is low to less than 30 percent when discussion is high.

Conversely, the relationship between \( y \) and left and right voting gets progressively stronger, resembling a pair of opening scissors. This polarizing effect of political discussion

\(^{15}\) Regression results are listed in Appendix D.
stands in sharp contrast to Habermas-inspired arguments about deliberation as a source of political moderation. In the real world, those who discuss politics tend to be strong partisans.\textsuperscript{16}

\textsuperscript{16} It is conceivable that people first become partisan and then begin to discuss politics. But this cannot explain why discussion has different effects on the left and right; a pattern we document next. Also, if discussion is caused by partisanship, party choice must be the result of something other than left-right position since we are comparing people with the same l-r position (but with different levels of discussion). This then has the strange implication that while people become partisan for reasons that are unrelated to their left-right position, discussion makes left-right
Figure 3. The probability of voting left, center, and right as a function of left-right position ($y$) and frequency of political discussion

Notes: Each graph corresponds to a declared level of political discussion. Probabilities are estimated from the nonlinear ordered probit results reported in Appendix D.

An equally clear result is that the effect of discussion is much higher on the left than on the right. For someone in the lowest decile of the distribution, going from never discussing politics to often discussing politics nearly doubles the probability of voting left from 32 to 61 percent, whereas the probability of voting right for someone in the top decile only increases from 41 to 51 percent. This differential effect of discussion is exactly as predicted by the model, if position an increasingly strong predictor of their party choice. The much simpler and plausible story is that discussion yields useful information about who to vote for.
private information is indeed rising in \( y \). At low levels of discussion many on the right have private incentives to be informed.

Another notable aspect of Figure 3 is the shifting location of the point of intersection between the support curves for the left and right. To the left of this point the probability of supporting the left exceeds the probability of supporting the right, while the opposite is true to the right of this point. Because the \( y \)-variable is measured in deciles the projection of the point of intersection onto the x-axis (indicated with a vertical line) conveniently shows the share of the electorate whose probability of voting left is greater than the probability of voting right. At the lowest level of discussion this share is 40 percent. As discussion rises, the point moves to the right, and at the highest level of discussion the left disadvantage has turned into an advantage with more than 60 percent supporting the left. Political discussion benefits the left more than the right. This partly reflects the lack of private incentives for those on lower incomes. But we suggested in the theoretical section that part of the explanation may also be that those with a high sense of altruism are more likely to vote left when political discussion increases. We will test this possibility more directly below.

On average the two blocks end up with is about the same share of the total vote. Again, the aggregate shares of the vote depend on relative party positions, which we do not have data on. But the relationship between discussion and left and right advantage is precisely as expected from the model. At low levels of discussion the left is at a disadvantage because, unlike the right, few in their constituencies have private incentives to be informed.

Again, we do not have direct evidence that high-\( y \) voters have greater private incentives to be informed, but indirect evidence can be gleaned from ILO’s standard classification of occupations (ISCO-88). For some occupations we have strong priors that public policies would
affect the optimal decisions people make about the future. A manager making hiring decisions,
or investing in new equipment, would clearly benefit from information about potential changes
in job protection legislation, rules about tax depreciation, minimum wage regulations, and so on.
This is true for a range of occupations and industries, even though the exact reasons differ. A
company that relies on public procurement, for example, would want to know whether the policy
in the affected area is likely to continue. Surely legislators have private incentives to be
politically informed! We think it is uncontroversial to conjecture that they are particularly strong
in the following range of jobs:

<table>
<thead>
<tr>
<th>ISCO-88 class:</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Legislators and senior officials</td>
</tr>
<tr>
<td>12</td>
<td>Corporate managers</td>
</tr>
<tr>
<td>13</td>
<td>General managers</td>
</tr>
<tr>
<td>241</td>
<td>Business professionals (accountants, personnel and career professionals, others)</td>
</tr>
<tr>
<td>242</td>
<td>Legal professionals (lawyers, judges, others)</td>
</tr>
<tr>
<td>315</td>
<td>Safety and quality inspectors</td>
</tr>
<tr>
<td>3412</td>
<td>Insurance representatives</td>
</tr>
<tr>
<td>3414</td>
<td>Estate agents</td>
</tr>
<tr>
<td>3417</td>
<td>Appraisers</td>
</tr>
<tr>
<td>342</td>
<td>Business services agents and trade brokers</td>
</tr>
<tr>
<td>344</td>
<td>Customs, tax and related government associate professionals</td>
</tr>
</tbody>
</table>

If we assign these occupations a value of 1, and all others a value of 0, it is hardly surprising that
the variable exhibits a strong association with our left-right indicator (which does not include
direct information about occupation). Thus, whereas someone in the bottom decile of the $y$-
distribution has less than five percent probability of being in one of these occupations (based on
a simple probit regression), someone the top decile has a greater than 30 percent probability.

The likelihood of having a high level of education also rises notably from low to high $y$-
values, and while education itself is not a measure of private incentives, it almost certainly
reduces the costs of acting on private incentives to acquire information. For those at the low end of the y-distribution Martin Gilens also provided us with some telling, if ultimately inconclusive, evidence from the 2004 American National Election Study. Respondents were asked to place the two main political parties and their presidential candidates (Bush and Kerry) on a left-right scale. Assuming the Republican Party and Bush were to the right of the Democratic Party and Kerry, only slightly over half of those in the bottom quartile of income were able to rank them correctly (53 percent for parties and 56 percent for candidates). In the top quartile of income about three quarter of respondents were able to do so (77 percent for parties and 71 percent for candidates).\footnote{Gilens cautions that in some parts of the country it might be quite reasonable to place both parties on the same point on the left-right scale, and that more of the low income respondents are non-citizens. Also, we do not know the level of political discussion in these groups.} again, this does not imply that low income people are ill-informed about public policies that directly affect them, such as food stamps and housing subsidies, but they have no private incentives to link these policies to parties because such knowledge yields no private benefits.

All in all we think the assumption that political information due to private incentives rises in y is uncontroversial, and it is consistent with our evidence that political discussion changes the partisan distribution of voting.

The evidence for the importance of political discussion is to our knowledge novel. Yet, it highlights an age-old understanding of the different importance attached by left and right parties to the mobilization of voters. As realized long ago by Duverger (1951), the left was historically different than the right because the former depended more on activating the masses and breaking their traditional allegiance to economic patrons. With the event of democracy such mobilization required mass organizations that could reach constituencies and foster a sense of common cause.
In Przeworki and Sprague’s (1988) influential formulation, building a strong left necessitated the creation of a working class identity, distinct from the bland middle-of-the-road alternative of the center. And from the work of Huckfeld and Sprague (1991, 1995), and more recently Ahlquist and Levi (2012), we know that such identities are constructed in part through political discussion and network involvement.

Incentives for political mobilization are of course also present on the right, but to a lesser extent. As described by Duverger, the rise of class-mass parties produced a “contagion from the left” as right parties began to imitate the left and build stronger mass organizations to compete outside their original upper and upper middle class constituencies. But class-mass parties remained a predominantly left phenomenon with membership rates far outpacing those on the right (Mair 1998). From the perspective of our model, the greater importance of class mobilization to the left is explained by the different incentives to acquire political information.

3.3. The role of unions

Over the past four decades party membership has collapsed everywhere, and while new forms of mass-media communication and targeted campaigning have substituted for traditional membership organizations (see Epstein 1967; Dalton et al. 1984; Norris 2006), the decline of organizational life is a real concern for the left because it likely reduces engagement in social interaction that involves political discussion. We cannot here examine the role of party membership, in part because it is so low in our sample (less than four percent in average) and in part because membership is itself a function of partisanship. But we can explore the role of unions. Most workers join unions for economic reasons (more on this below), and membership in unions is still fairly common in our sample (22 percent in average).
Following the logic of the model, unions can exert an influence on voting in two main ways. First, they can influence the level and distribution of political discussion by engaging members in political discussion. Second, they can influence the content of political discussion by presenting focal points for collective interpretations of economic interests. Both logics are succinctly captured in a new study on unions by Ahlquist and Levi (2012). Reporting results from interviews with union leaders and members, they describe how unions can create a social foundation for the political beliefs of members. Specifically referring to the Longshore and Warehouse Union they observe that

“[The hiring hall] provided the rare place where [workers] could get warm, drink coffee, read the newspaper, and interact off the job with other workers and union officers. They could talk politics and raise questions about the union and their officers.” … “[The] clear sense of an occupational community was enhanced by the importance of family and neighborhood connections among workers, common social activities, debate and discussion ...”

To estimate the effect of unions on the level and distribution of political discussion we regressed political discussion on union membership (in addition to $y$, the private information dummy variable, and fixed effects). It turns out that the probability of frequent discussion (“sometimes” or “often”) is about 10 percent higher among union members (about 60 percent in average) than among non-union members (about 50 percent in average). This is a much stronger effect than that of $y$ on discussion, so unionization appears to be an effective way to overcome lack of political engagement among relatively low-income groups.

But an even more important role of unions is to cultivate a common understanding of the collective interest (also emphasized in Ahlquist and Levi). In our model, if individual members
assume that there is a correspondence between the group interest and the individual interest, and if the group interest is observable without engaging in discussion, unions can exert an effect even among those who do not discuss politics. As long as sharing the common identity with others is a source of social approval, following the political preferences of the union leadership is optimal (see section 2.4). Hence, unions can have a significant effect on the preferences of members whose underlying \( y \)-position is away from the median. We test this possibility by including union membership in our nonlinear model and exploring how it shapes voting preferences jointly with left-right position at different levels of discussion.

Figure 4 shows the estimated voting probabilities among members compared to non-members. Note that union membership notably increases the proportion of the electorate where the left is preferred to the right. Among those who do not discuss politics, the share of the electorate who are more likely to support the left than the right is 70 percent among members, while it is only 30 percent among non-members. With high discussion the figures are 80 and 55 percent, respectively.

The total effect of union membership and political discussion on the support of the left and right can be estimated simply by taking the integral of each support function. The results are reported in Table 1. Note first that members and non-members alike are much more likely to support the left if they discuss politics than if they do not. The average effect is to increase left support by about 15 percent compared to an increase of only about four percent for the right.\(^{18}\) At the same time, union membership increases left support by an average of 11 percent, while it decreases right support by roughly the same amount. If the two effects work together, the left is greatly advantaged; it receives close to an absolute majority among members with high levels of

\(^{18}\) Remember that it is possible for both sides to gain by taking away votes for the center.
political discussion (48 percent). In this sense our results are entirely in line with the emphasis on unions as a vehicle for political power in power resource theory (Korpi 1983; Stephens 1979).

Of course, we cannot entirely rule out that those who are ideologically committed to the left self-select into unions. But it seems highly implausible that this could account for the strong associations we find in the data. Even among those who never discuss politics -- presumably not people who join unions for political reasons -- are much more likely to support the left if they are in unions, and most research on union membership suggests that workers join unions for economic, not political, reasons (Wallerstein 1989, Ebbinghaus and Visser 1999).
Table 1. The effect of political discussion and union membership on the support for the left (first entry) and the right (second entry)

<table>
<thead>
<tr>
<th>Union member?</th>
<th>Political discussion</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>21.1</td>
<td>31.6</td>
<td>34.7</td>
</tr>
<tr>
<td>Yes</td>
<td>31.1</td>
<td>21.1</td>
<td>47.9</td>
</tr>
</tbody>
</table>

Source: Calculated from non-linear ordered probit regression estimates (full results are available from authors)

If unions indeed have the effect on left support that our results suggest, and if we assume that these effects are the same across countries, what are the comparative implications for partisan politics? To take two extremes, 78 percent of workers were union members in Sweden in the year of the survey (2004), whereas only 12 percent were members in the US (Visser 2009). In the adult population as a whole about 60 percent were union members in Sweden and only 9 percent in the US. Our results suggest that the average effect of union membership is to increase the net support for the left by 24 percent (from 28 to 41 percent in terms of voting left and from 34 to 23 percent in terms of voting right). So the left in Sweden may have an advantage over the left in the US that is as large as 12 percent of the electorate (.6*24 - .09 *24). Again, these differences do not necessarily show up in election results because parties adjust their platforms to voter preferences, but they do give the left in Sweden a much greater scope for taking policy positions closer to their core constituents.

We can use this logic to simulate changes in the extent to which the left is advantaged or disadvantaged over time as a result of changing union membership rates (see Figure 5). Unionization rates have changed notably over time, and by multiplying the average population shares of unionized and non-unionized members in our 16 countries by the predicted gap in left
support between members and non-members we can a measure the left (dis-)advantage each year compared to the first data point (1960). The results, in percent of the electorate, are recorded on the right axis in Figure 5. We see that the trend towards higher unionization rates benefited the left in the 1970s, but that the left has been significantly disadvantaged since then by the sharp decline in unionization in some (though not all) countries. Compared to 1960, in 1980 the left had an almost one percent advantage over the right, but by 2000 this advantage had turned into an almost one percent disadvantage. This figure is much higher in some countries than in others, but even the magnitude of the average shift is enough to make or break many close elections.

Figure 5. The estimated left disadvantage over time and the average position of legislatures on an economic left-right scale, 16 OECD countries, 1949-2002

Notes: Left electoral disadvantage is the net left advantage from average union membership compared to 1960. The effects are measured as a percentage of the electorate and based on non-linear ordered probit results combined with data on unionization rates (from Visser 2009) and labor force participation rates (from the OECD). The legislative left-right position data are from Cusack and Fuchs (2002).
As we have emphasized repeatedly, however, parties move their policy platforms in response to changes in the distribution of voter preferences, so these shifts will not necessarily show up in lower vote shares, or lost elections, for the left. But they may show up as a right shift in platforms. To answer this question we make use of data from the Party Manifesto Project (Klingemann et al. 2006). Figure 5 shows averages of party positions on a composite economic left-right scale constructed by Cusack and Fuchs (2002) from these data. The averages are weighed by seat shares in national legislatures from the 1949 until the early 2000s (lower house only), and they include only our 16 countries.

We note that the political space has indeed shifted to the right in tandem with the growing electoral disadvantage of the left. Needless to say, there are many potential confounders for this relationship, including some that are important in our own theory, such as the degree of network homophily, level of political discussion, and turnout. We instead treat the correlation as illustrative of the potential of our model to explain significant changes in the partisan balance of power over time. Considering the strong effects of union-membership in our individual data we think it is highly likely that the decline of unions has played a role in the decline of the left.

### 3.4. The role of altruism

The left disadvantage due to a relative lack of private information among left constituencies, and the possible decline in social incentives due to weakening of unions and mass parties, may be mitigated by altruism. Following Rueda (2012), altruism can push some in the natural constituencies of the right towards the left or center, whereas among left constituencies altruism simply reinforces the incentive to vote left. This asymmetry is a net gain for the left, and we explained the right shift of the intersection of the support lines for the left and right as a result of
political discussion raising the probability of altruistic people voting left. But we can test this more directly using ISSP’s question about the importance of altruism.

To do that we included altruism as a separate variable in the regression and then measured the total effect – the direct effect and the indirect effect through our y-variable -- on the probability of voting left and right. The results are shown in Table 2. We distinguish here between people who say altruism is very important (34 percent of the respondents) and people who say it is unimportant or not so important (40 percent of the respondents).

Table 2. The effect of political discussion and altruism on the support for the left (first entry) and the right (second entry)

<table>
<thead>
<tr>
<th>Importance of altruism</th>
<th>Political discussion</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>23.1</td>
<td>30.3</td>
<td>35.3</td>
</tr>
<tr>
<td></td>
<td>36.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>24.2</td>
<td>29.2</td>
<td>28.9</td>
</tr>
<tr>
<td></td>
<td>43.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source:* Estimated from non-linear ordered probit regression (full results are available from authors)

Among those for whom altruism is not important, political discussion has the previously noted polarizing effect of notably increasing support for both left and right parties (at the expense of the center). But among those who think altruism towards the poor is important, the effect of discussion is to notably boost support for the left, and only for the left. So it would appear that those who are altruistic become more confident that the left is the best alternative as political discussion and information rise. This makes discussion doubly important for the left because it overcomes a disadvantage in private incentives, at the same time as it helps to recruit voters with high income, education, etc. who are averse to inequality. It is notable that among those who do not discuss politics, altruism hardly matters at all. Altruism is not sufficient to cause people to
vote left. People’s moral commitments must be “activated” through political discussion and social incentives.

4. Conclusion

Standard rational choice models of mass politics generally assume that voters have complete information about their interests. These models also generally predict a political shift leftwards in response to increased income inequality. Yet across advanced democracies the increase in income inequality of recent decades has been associated with a political shift to the right. This has been interpreted in part of the literature as a decline in interest-based voting, with cross-cutting cleavages (such as race and postmaterialism) reducing the importance of class. In this paper, by contrast, we explore the role of imperfect information by voters about their economic interest. This has not been done effectively before, we suggest, because analytically there is neither a well-developed rational choice model of investment in information by voters nor an associated rational choice model of how party choice is influenced by imperfect information.

We build an endogenous information model which posits two indirect – but highly consequential – types of incentives for people to acquire political information. One is ‘social’: participation in informal social networks in which politics is discussed provides an incentive to acquire enough political information to be ‘part of the group’. The other is ‘private’: political information enables a range of voters to make better financial or managerial decisions. In both cases we posit that such information makes voters more aware of the match between parties and self-interest. We develop an associated rational choice model of spatial voting with incomplete information, which robustly predicts that low information leads voters to vote centrist. Thus a major analytic result of the paper is that democratic outcomes are biased towards the center politically with low information, even in the absence of media-bias or elite framing. Because
social incentives are much more important on the left than on the right, an implication of the model is that the decline of social networks and class-based organizations has caused a net shift towards the political right.

Our econometric analysis strongly confirms, first, that low information generates centrist voting. Second, discussion increases the role of interest-based voting substantially more among low income groups than among high income groups, enabling us to confirm implicitly the strong role of private incentives for the acquisition of knowledge among high income groups. At the highest level of discussion about 65% of voters are more likely to vote left than right (and nearly 75% left than center); at the lowest level the figures are reversed. Third, treating altruism as an interest, we show that political discussion sharply pushes voters with altruistic values to vote left: with discussion, the left vote of altruists increases dramatically from 24% to 43%, while discussion has no effect on voting right. Finally, union members who discuss politics in their informal social networks are much more likely to vote left than non-members who do not discuss politics, raising the left vote from 21% to 48%, while reducing the right vote from 32% to only 25%;. These effects are important in light of the decline in unionization for the period 1980 to 2000. Indeed in using our results to construct hypothetically what would have happened to the left vote over the past 20 years from 1980 to 2000 if union membership had remained the same, there would have been an average 2% swing towards the left.
Appendix A: General proof for any distribution that $i$ should vote for $C$ if 
\[
\max[F(y_{LC}), F(y_{RC})] < 0.5
\]
Take any distribution $F$.
\[
\begin{align*}
E\lambda_{il} &= F(y_{LC})[L - Ey(y < y_{LC})] + (F(y_{RC}) - F(y_{LC}))(Ey(y_{RC} > y > y_{LC}) - L) \\
&\quad + (1 - F(y_{RC}))(Ey(1 > y > y_{RC}) - L) \\
E\lambda_{ic} &= F(y_{LC})[C - Ey(y < y_{LC})] + (F(y_{RC}) - F(y_{LC}))(Ey(y_{RC} > y > y_{LC}) - C) \\
&\quad + (1 - F(y_{RC}))(Ey(1 > y > y_{RC}) - C)
\end{align*}
\]
So the condition
\[
E\lambda_{ic} < E\lambda_{il}
\]
\[
\Leftrightarrow F(y_{LC})(C - L) - (F(y_{RC}) - F(y_{LC}))(C - L) - (1 - F(y_{RC}))(C - L) < 0
\]
\[
\Leftrightarrow (C - L)[F(y_{LC}) - F(y_{RC}) + F(y_{LC}) - 1 + F(y_{RC})] < 0
\]
\[
\Leftrightarrow 2F(y_{LC}) < 1
\]
\[
\Leftrightarrow F(y_{LC}) < 0.5
\]
Using a symmetric argument
\[
E\lambda_{ic} < E\lambda_{ir}
\]
\[
\Leftrightarrow 1 - F(y_{RC}) < 0.5
\]
Hence $i$ votes $C$ iff
\[
\max[F(y_{LC}), 1 - F(y_{RC})] < 0.5
\]

Appendix B: Stata program for non-linear ordered probit

capture program drop mly_1
program define mly_1
args lnf y pdy k1 k2 pd1 pd2
tempvar p1 p2 p3
quietly gen `p1'=ln(normal (`k1' +`pd1' -`y' +`pdy' ))
quietly gen `p2'=ln(normal (`k2' +`pd2' -`y' +`pdy' ) - normal(`k1' +`pd1' - `y' +`pdy' ))
quietly gen `p3'=ln(1 - normal (`k2' +`pd2' -`y' +`pdy' ))
quietly replace `lnf' = (PartyChoice==0)*`p1' + (PartyChoice==1)*`p2' + (PartyChoice==2)*`p3'
end;
ml model lf mly_1 (PartyChoice = y, nocons) (pd_y, nocons) (k, nocons)(k, nocons) (pd, nocons) (pd, nocons), technique(bfgs)
ml maximize , difficult

Note: PartyChoice has tree values: left (1), center (2), and right (3). The variable “pd” is political discussion and “pd_y” is the interaction of political discussion and $y$.  

## Appendix C: Classification of parties into left, center, and right

<table>
<thead>
<tr>
<th>Country</th>
<th>Left and center-left</th>
<th>Center</th>
<th>Right and center-right</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>SPOE; Gruene</td>
<td>Democrats; Labour Party</td>
<td>O EVP, FPOE</td>
</tr>
<tr>
<td>Australia</td>
<td>Greens</td>
<td>Liberals</td>
<td>Liberal Party; National Party; One Nation; Family First</td>
</tr>
<tr>
<td>Britain</td>
<td>Labour</td>
<td>Liberal Democrats</td>
<td>Conservative</td>
</tr>
<tr>
<td>Canada</td>
<td>New Democrats; Bloc Quebecois</td>
<td>Liberals</td>
<td>Progressive Conservatives</td>
</tr>
<tr>
<td>Denmark</td>
<td>Social Democrats; Socialist Peoples’ Party; Leftwing Alliance</td>
<td>Radical Liberals; Center Democrats; Christian Peoples Party</td>
<td>Conservatives; Danish Peoples Party; Liberal; Progressive</td>
</tr>
<tr>
<td>Finland</td>
<td>Social Democratic Party; Left Alliance</td>
<td>Centre Party of Finland; Christian League</td>
<td>National Coalition Party; True Finns</td>
</tr>
<tr>
<td>France</td>
<td>Communists; Far left Socialists</td>
<td>UDF-Liberal</td>
<td>RPR-Conservative; National Front;</td>
</tr>
<tr>
<td>Germany</td>
<td>SPD; Buendnis 90/Gruene; PDS/Linke Liste</td>
<td>CDU/ CSU</td>
<td>FDP; Republikaner</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Labour; Greens; Socialist Party</td>
<td>Christian Democrats; Democrats 66</td>
<td>Liberals; Calvinist State Party; Calvinist Political Party; Centrum Democrats</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Labour; Alliance; Greens</td>
<td>New Zealand First</td>
<td>ACT; National Party; United Future</td>
</tr>
<tr>
<td>Norway</td>
<td>Red Electoral Alliance; Labour Party; Socialist Left</td>
<td>Christ Demcr Party; Center party; Liberal Party</td>
<td>Progress Party; Conservative Party</td>
</tr>
<tr>
<td>Portugal</td>
<td>Bloco de Esquerda; CDU-PCP; PSR; UDP</td>
<td>PS</td>
<td>CDS/PP; PPD/PSD</td>
</tr>
<tr>
<td>Spain</td>
<td>IU/ICV; ERC</td>
<td>PSOE</td>
<td>PP</td>
</tr>
<tr>
<td>Sweden</td>
<td>S (Social Democrats); V (Socialists)</td>
<td>C (Centre Party); KD (Christ Demcr); MP (Ecologists)</td>
<td>FP (Liberals); M (Conservatives)</td>
</tr>
<tr>
<td>Switzerland</td>
<td>Social Democratic Party; Labour Party; Green Party</td>
<td></td>
<td>Christian Democratic Party; Radical Party; Swiss Peoples Party; Liberal Party; Freedom Party</td>
</tr>
<tr>
<td>USA</td>
<td>Democrats</td>
<td>(Independent)</td>
<td>Republicans</td>
</tr>
</tbody>
</table>
Appendix D: Regression results

Simple ordered probit results (Figure 3):

<table>
<thead>
<tr>
<th></th>
<th>With our L-R classification (Appendix C)</th>
<th>With ISSP’s L-R classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-R position</td>
<td>0.101</td>
<td>0.106</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td>(0.004)</td>
</tr>
<tr>
<td>Center-Left cutoff</td>
<td>0.095</td>
<td>0.364</td>
</tr>
<tr>
<td></td>
<td>(0.022)</td>
<td>(0.023)</td>
</tr>
<tr>
<td>Center-Right cutoff</td>
<td>1.049</td>
<td>1.037</td>
</tr>
<tr>
<td></td>
<td>(0.022)</td>
<td>(0.024)</td>
</tr>
</tbody>
</table>

*Number of observations* 13110 12269

Non-linear ordered probit results (Figure 4):

<table>
<thead>
<tr>
<th></th>
<th>With our L-R classification (Appendix C)</th>
<th>With ISSP’s L-R classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-R position</td>
<td>0.055</td>
<td>0.053</td>
</tr>
<tr>
<td></td>
<td>(0.005)</td>
<td>(0.005)</td>
</tr>
<tr>
<td>Political discussion x L-R position</td>
<td>-0.018</td>
<td>-0.020</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Center-left cutoff</td>
<td>-0.581</td>
<td>-0.139</td>
</tr>
<tr>
<td></td>
<td>(0.026)</td>
<td>(0.018)</td>
</tr>
<tr>
<td>Center-right cutoff</td>
<td>0.805</td>
<td>0.822</td>
</tr>
<tr>
<td></td>
<td>(0.019)</td>
<td>(0.048)</td>
</tr>
<tr>
<td>Political discussion x C-L cutoff</td>
<td>0.256</td>
<td>0.189</td>
</tr>
<tr>
<td></td>
<td>(0.007)</td>
<td>(0.007)</td>
</tr>
<tr>
<td>Political discussion x C-R cutoff</td>
<td>0.094</td>
<td>0.081</td>
</tr>
<tr>
<td></td>
<td>(0.007)</td>
<td>(0.016)</td>
</tr>
</tbody>
</table>

*Number of observations* 13068 12224
Bibliography


Busemeyer, Marius and Christine Trampusch. 2012. The Political Economy of Collective Skill
Formation. Oxford University Press.


Fehr, Ernst, and Klaus M. Schmidt. 2006. “The Economics of Fairness, Reciprocity, and 
Altruism: Experimental Evidence and New Theories.” In Serge-Christophe Kolm and Jean

Georgiadis, Andreas, and Alan Manning. 2012. “Spend it like Beckham? Inequality and 

Gilens, Martin. 1996. “‘Race Coding' and White Opposition to Welfare.” *American Political
Science Review* 90 (3), 790-816.

Political Science Review* 95 (2), 379-96.


Information and Influence in an Election Campaign*. Cambridge University Press.

Effects,” *Comparative Political Studies*, 27 (July), 155-89.


Klingemann, Hans-Dieter, Andrea Volkens, Judith Bara, Ian Budge, Michael McDonald. 2006.

*Mapping Policy Preferences II. Estimates for Parties, Electors, and Governments in Eastern
Europe, the European Union and the OECD, 1990-2003*. Oxford University Press.


   *American Political Science Review* 83 (2), 481-501.


   Cambridge, Mass: MIT Press