



Economic inequality and electoral accountability: inequality and differences in economic voting across Western democracies

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Published online: 28 April 2020
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Abstract

Theories on economic voting and democratic accountability are rooted in the reward–punishment hypothesis, stating that voters punish incumbent governments for economic decline and reward them for economic expansion. We argue that this accountability mechanism goes beyond economic performance indicators, as voters take into account a moral perspective about the economy as well. More specifically, we argue that when economic inequality is high, citizens’ social justice preferences are infringed upon, which could lower support for the incumbent. Moreover, as inequality leads to higher levels of conflict over economic resources, we should observe higher levels of economic voting in unequal contexts. Hence, we hypothesise that (1) economic inequality is negatively related to electoral support for the incumbent party (parties), and (2) the level of economic inequality moderates the effect of perceptions of economic performance on electoral support for the incumbent party (parties). We test our hypotheses using hierarchical models based on the Comparative Study of Electoral Systems and the European Social Survey. While we do not find support for a direct effect of inequality on electoral support, our findings strongly support the second hypothesis: incumbents are punished more strongly for a bad economic performance when economic inequality in the country is high.

Keywords Economic inequality · Economic voting · European social survey · Comparative study of electoral systems · Electoral accountability

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Introduction

Within advanced liberal democracies, there is a growing concern about rising levels of economic inequality and the consequences this trend might have for social cohesion and the quality of democracy (Piketty 2014). This debate has been fuelled by the concern that more inequality makes a growing proportion of the population feel deprived of an equitable access to economic resources (Kriesi and Pappas 2015). Moreover, socio-psychological research has related inequality to higher levels of status anxiety and anti-social behaviour, as inequality increases the distance between citizens in terms of living standards and, hence, fuels the competition over economic resources and status (Wilkinson and Pickett 2010). In political science research, inequality has therefore been hypothesised to lead to political polarisation, higher levels of protest behaviour, elite-challenging behaviour, and lower levels of support for democratic institutions and procedures (Kern et al. 2015; Kriesi and Pappas 2015).

Much less is known, however, about how inequality affects the standard electoral mechanisms to achieve political accountability. Simply put: do citizens care about the aggregate level of inequality in their society when casting a vote? In this paper, we investigate the claim that citizens will not just protest against economic deprivation, they will also use their vote to get their message of discontent across to political decision-makers by punishing incumbent parties.

There are three potential ways in which inequality might affect citizens' vote choices. The first way, which has received ample attention in the literature, is that inequality will lead voters to ask for more redistribution, progressive taxation, stricter rules against tax evasion, etc. Such positional preferences define citizens' party choice: voters who prefer more redistribution and social welfare typically vote for left-wing parties (Esping-Andersen 1990; Kumlin and Stadelmann-Steffen 2014; Schumacher et al. 2013). As this mechanism is quite straightforward and a recurrent finding in the literature, this will not be the main topic of this paper.

Our focus lies on the second way through which inequality might affect citizens' vote choice, i.e. as a valence issue (Dassonneville and Lewis-Beck 2019). A valence issue is an issue that is considered as positive or negative by most, if not all voters. A prosperous economy is a perfect example of a positive valence issue (Lewis-Beck and Nadeau 2011). Few are those who do not want economic growth or low unemployment rates. According to valence theory, incumbent governments with a good economic record will be supported in elections, and incumbent governments that show poor economic performance will be punished. The literature on economic voting assumes that voters will base their electoral preference at least partly on an assessment of the state of the economy, thus holding incumbents accountable for the way they have governed the country and the national economy (Han and Chang 2016; Lewis-Beck and Stegmaier 2000). In this manner, economic voting contributes to a process of democratic accountability: citizens use their vote to reward or punish political decision-makers for the consequences of the economic policy they have pursued (Przeworski et al.



1999). If economic voting really is a powerful tool to hold incumbent governments accountable, a straightforward assumption is that its scope also extends towards economic inequality. While citizens might disagree about the ideal extent of inequality that should exist within their country, the vast majority of citizens believe that the current level of inequality within their country is too high and at odds with their preferred level of inequality (Niehues 2014; Norton and Arieli 2011). If the consequences of inequality are indeed as destructive for society as is assumed (see Stiglitz 2012; Wilkinson and Pickett 2010), citizens should punish office holders for conditions of high inequality (Anderson and Beramendi 2012). This is an important addition to the standard literature on economic voting, that usually only considers the level of economic growth as a criterion to assess economic performance (see Dassonneville and Lewis-Beck 2019). Earlier findings have already shown that the electorate becomes more volatile in conditions of economic downturn (Dassonneville and Hooghe 2017). In the current paper, we go a step further by investigating whether voters are more likely to abandon governing parties when these are seen as responsible for economic inequality.

We also focus on a third way in which inequality might affect people's voting behaviour. Building on the economic voting argument, it can be argued that when economic inequality induces higher levels of conflict over economic resources, it could also render the state of the economy more salient for most voters, even when controlling for the level of economic performance itself. This effect should be present across society, as we assume that even those who are well-off will still be confronted with the larger social consequences of inequality, like a degradation of urban space, crime, and other correlates of economic exclusion. We can therefore assume that all citizens will rely more intensely on their perception of the current state of the economy in deciding whether or not to vote for the incumbent candidates or parties when inequality is high.

The main theoretical point we want to make in this paper is that economic voting should take into account that economic evaluations are contextually dependent: not just the level of economic prosperity is important in this regard, but also the way this wealth is distributed across society, as citizens will incorporate both considerations simultaneously in their decision whether or not to vote for the incumbent.

Literature

A quintessential element of democratic political systems is that citizens' interests and opinions are the basis of policy-making (Powell 2000). Economic inequality has important consequences for the extent to which this ideal of democratic responsiveness and accountability can be achieved, because it has a strong effect on the "one person, one vote" principle. Those with more economic resources tend to be much more effective in having an impact on the political agenda and forcing political decision-makers to pay attention to their preferences and interests (Dahl 2000; Schlozman et al. 2012; Solt 2008). High or increasing levels of inequality dampen political participation across all economic strata (Filetti and Janmaat 2018; Goodin and Dryzek 1980; Solt 2010), decrease political trust (Anderson and Singer 2008; Zmerli



and Castillo 2015), undermine the political representation of the views of lower educated and less well-off citizens (Bovens and Wille 2017; Gilens 2012), and in the long-term even undermine the sustainability of democratic systems (Acemoglu and Robinson 2012). It is important to point out that the consequences of inequality do not remain limited to just those groups of the population that are most directly hit by exclusion, like the unemployed. Society as a whole is confronted with the negative consequences of inequality (Wilkinson and Pickett 2010, 2019).

The theories on the social consequences of inequality suggest that public opinion reacts forcefully to exclusion from political influence. For example, *grievance or conflict theory* suggests that economic inequality makes citizens more vocal about the unfair situation in which they live. The unequal distribution of economic resources and political power leads to higher levels of political protests and demonstrations as well as political alienation (Goodin and Dryzek 1980; Grasso and Giugni 2016; Meltzer and Richard 1981; Solt 2008).

From a democratic theory perspective, citizens also have other, more institutionalised means available to get their message across to political decision-makers. Elections serve as a privileged mechanism to enforce political accountability, as voters will use their vote to punish or reward their representatives for their performance (Stiers 2019). Thus far, this accountability mechanism has been mainly applied to the level of economic performance, which is a typical valence issue: it is assumed that when the economy is doing well, the incumbent party or parties will be rewarded for this state of affairs (Lewis-Beck and Stegmaier 2000). However, this vast literature has mainly focused on *economic progress* in general, and did not take into account *how this progress is distributed within society*. We argue that citizens do not just assess economic policy in an instrumental manner, but that they also apply a perspective of social justice. For at least a substantial proportion of public opinion, economic performance is not just being measured as a predominantly self-interest inspired macro-indicator, but also by applying a social justice frame (De Grauwe 2017). Citizens use moral principles, such as their redistributive preferences or fairness beliefs, as a yardstick to assess the merits of economic performance (Etzioni 1988). If voters solely reacted to the level of economic performance, as classic formulations of the economic voting theory assume (Lewis-Beck 1988), the distribution of the benefits of this economic growth would not really matter for public opinion. However, if citizens also care about the (re)distribution of these economic resources, and when they have the impression that the benefits of economic growth are distributed in an unfair manner, they do not have a reason to reward incumbents for the alleged economic prosperity of their country.

There is already some tentative evidence that not just economic performance, but also inequality might be a valence issue for voters. Dassonneville and Lewis-Beck (2019) find evidence that incumbent governments, regardless of their political orientation, are punished when inequality increases, at least when testing this using aggregate level data and analyses. In this article, we further build on these insights, by introducing an individual level perspective. While Dassonneville and Lewis-Beck (2019) used aggregate election results, we focus on the decision being made by individual voters. We assess whether individual voters take the question of the aggregate level of (in)equality in their country into account



when deciding whether to vote for or against an incumbent party. We focus on levels of inequality, rather than changes of inequality, because economic inequality does not change substantially on an annual basis in Western European countries (OECD 2015). Consequently we do not expect to find any potential effect of annual changes in inequality on vote choice in our sample. We do expect that those who are living in more unequal countries are more critical about the unequal distribution of economic resources within their country. Hence, they are more likely to vote for an opposition party in order to protest against the economic situation in which they currently live and which might be considered to be unfair (Linn and Nagler 2017):

Hypothesis 1 Economic inequality is negatively associated with electoral support for the incumbent party (parties).

In addition to this direct effect of inequality on the vote, we also expect that inequality moderates the impact of economic evaluations on the vote. This expectation is based on two considerations. First, while the economic voting literature has convincingly demonstrated that voters punish and reward incumbents for the state of the economy, it is reasonable to assume that this accountability mechanism strengthens under conditions of high inequality. When the economy goes bad, incumbents are punished. However, when this trend occurs in conditions of high inequality, it is likely that voters will punish incumbents even more strongly, as they are dissatisfied not just about the evolution of the economy, but also about the way in which benefits are distributed. If inequality is high, voters will punish incumbents harder for a bad economy, and this should result in a larger effect of economic evaluations on the vote.

Second, the way in which the economy is being managed could be more salient for voters in unequal societies. There is ample research suggesting a correlation between economic inequality and increased social conflict over scarce economic resources (Wilkinson and Pickett 2010, 2019). In more unequal contexts, the less well-off face steeper social gradients in a range of social, economic and health outcomes, and are more dependent on various forms of government intervention. Also the middle classes and the well-off face the consequences of more inequality, as they are confronted with poverty, declining standards in education and health care, an increased risk of corruption, violent crime, etc. (Rothstein and Uslaner 2005; Wilkinson and Pickett 2010, 2019). Economic inequality, in other words, induces societal polarisation. We expect in this regard that citizens who are dissatisfied with the current state of the economy and live in an unequal context will be especially prone to vote for an opposition party. This is in line with previous research that shows how volatility in voting increases when the economy is not doing well (Dassonneville and Hooghe 2017):

Hypothesis 2 The level of economic inequality moderates the impact of perceptions of the economy on electoral support for the incumbent party (parties), with greater inequality strengthening the effect of perceptions of the economy on vote choice.



Data and methods

To investigate our hypotheses empirically, we combine various data sources. On the individual level, we rely on two main data sets: the Comparative Study of Electoral Systems (CSES) and the European Social Survey (ESS). There are two reasons to combine these data sets. First, we use the CSES because it constitutes a series of election studies, which means that the surveys are conducted shortly after the elections. As we need a measure of perceptions of the economy (see below), we are limited to using the data of the first module (conducted between 1996 and 2001) and the fourth module (conducted between 2011 and 2016). Our CSES data set includes 37 election surveys in total (for details, see “Appendix 2”).¹ This time limit is the main disadvantage of using the CSES data, because this partially leaves out the financial and economic crisis of the early twenty-first century. This period is important, as the crisis induced substantial changes in inequality across countries, thus adding another important robustness component to our test of the hypotheses (OECD 2015). To fill this potential lacuna, we employ ESS data, where questions about economic perceptions were asked every 2 years, starting with the first round in 2002 to the seventh round conducted in 2014, thus capturing the entire crisis period. Our ESS dataset includes 88 surveys and 28 countries in total. A disadvantage of the ESS data, however, is that they do not coincide with the electoral cycle. Therefore, we focus on the ESS waves that were conducted each time closest after an election in each respective country (for details, see “Appendix 3”). By testing the hypotheses with two different data sets, we aim to strengthen our findings and put our hypotheses to a more stringent test.

Following the economic voting literature, we use a binary dependent variable, indicating whether a voter voted for an incumbent party (code 1) or an opposition party (code 0) (see Lewis-Beck and Stegmaier 2013). If the government of a country consisted of a coalition of parties, a vote for any of these parties is coded as supporting the incumbent government. We use two datasets in order to code incumbent governing parties: the Parliaments and Governments database (ParlGov) (Döring and Manow 2016), and the database on “Who Governs in Europe and beyond” (PSGo) (Casal Bértoa 2016). Second, we also estimate models in which only a vote for the party of the prime minister is considered to be an incumbent vote. We do so because it is often argued in the economic voting literature that especially the party of the prime minister is singled out for being held responsible for the pursued policies (Anderson 2000).

In our analyses, we include two key independent variables of interest: individual perceptions of the state of the economy and the aggregate level of income inequality. First, in order to estimate a standard economic voting model, we use voters’ perceptions about the state of the economy. Following previous literature, we use retrospective sociotropic economic perceptions, which refer to individual satisfaction

¹ In deciding which countries to include, we chose to focus on OECD countries as “Western democracies”. Note, that we exclude Mexico (2000, 2012) as it is an outlier in terms of high levels of inequality and type of civic culture. However, including these two election studies does not alter our conclusions.



with the state of the economy in their country (Lewis-Beck and Stegmaier 2000). We know that while there is quite a high level of individual variation in respondents' views on the state of the economy, these perceptions correlate quite strongly with actual economic indicators (Becher and Donnelly 2013; De Vries et al. 2018). In the CSES questionnaire, respondents were asked: "Would you say that over the past 12 months, the state of the economy in [your country] has gotten better, stayed about the same, or gotten worse?", followed by the question "How much better/worse?". This leads to a 5-point scale ranging from "a lot worse", over "stayed about the same" to "a lot better". In the ESS, a sociotropic economic variable was included too, but the wording there was slightly different. Respondents were asked to indicate on an 11-point scale whether "On the whole how satisfied are you with the present state of the economy in [country]?". The lowest score (0) implied being extremely dissatisfied, and the highest score (10) implied being extremely satisfied.

Second, since our hypotheses deal with the level of economic inequality within a society, we include the Gini coefficient of income inequality, as an important independent variable. The Gini coefficient was taken from the Standardised World Income Inequality Dataset (Solt 2016). The Gini coefficient is a summary index on the basis of Lorentz curve estimations. A score of 0 means that all households within a country would have the same income (perfect equality). A score of 100 implies that one household would hold the entire national income (total inequality). High scores on this variable thus mean higher levels of inequality. It has to be noted that we cannot analyse individual perceptions and judgements on the state of inequality within the respondents' countries, as these questions were not included in either survey.

All our models include several individual and aggregate-level control variables. Our individual-level variables are divided in sociodemographic controls, such as age, gender, and political ideology, where we use a self-placement left-right scale.² We also add several aggregate level control variables, such as the proportionality of the electoral system, GDP per capita levels, and unemployment rates. We include the proportionality of the electoral system to account for differences in the level of political responsibility between countries in our analysis. This is based on Powell and Whitten's (1993) seminal study on economic voting, in which they argue that economic voting is most pronounced in countries with clear political responsibility, where voters can easily attribute responsibility to the incumbent party for the country's economic performance. The clarity of responsibility hypothesis is highly influenced by the type of electoral system, and thus we include three types of electoral systems in our analysis (majoritarian, proportional, and mixed). In order to label electoral systems, we use Bormann and Golder's (2013) classification. We include GDP per capita levels as a control variable in order to account for the overall economic development in our sample of countries. One might argue that citizens in economically developed countries are the least likely to emphasise the economic

² Within "Appendices 5 and 6", we also include household income as an additional covariate, to control for potential pocket book voting mechanisms. We do not include this variable in the main analyses given the high number of missing values on this variable.



development, and the most likely to cast a vote based on post-materialistic values (Inglehart 1997). Finally, we include the unemployment rate as a valuable economic variable (usually used in aggregate economic voting models) to ensure that the direction of our models is in correspondence with the regular finding of economic voting literature, i.e., that increasing unemployment reduces the vote choice for the incumbent government party (parties). We use the World Bank Indicators dataset for our measures of GDP per capita and unemployment (World Bank 2014). Further descriptive information on all individual and country level variables can be found in “Appendix 1”.

The CSES and the ESS are typical examples of rolling cross-sectional surveys and feature information about the opinions of individuals residing in various Western democracies in different years. In other words, we face clustering over time and within countries. Hence, hierarchical modelling is the appropriate choice (Gelman and Hill 2007; Steenbergen and Jones 2002). Since our dependent variables are binary, we will estimate multilevel logit models.

In order to account for both types of clustering, we allow for random intercepts for every country-year combination in the main models. We only have limited variation over time (usually just two, or less, time points per country), which makes estimating full three-level models with a random component added for the time dimension relatively meaningless. Nevertheless, as a further robustness test, we check whether specifically modelling the time component (via a fixed effects design) alters the analyses. It can already be noted that these models delivered substantially similar results as the main models presented below.

Following Enders and Tofighi’s (2007) approach to correctly model explanatory variables in hierarchical models, we group-mean centre all individual level explanatory variables and grand-mean centre all country level variables.³ This ensures that we do not mix up within country variation with any between country variance. To facilitate the interpretation of the coefficients, we standardised all variables (by one standard deviation). Since we hypothesise that country-wide income inequality moderates the effect of individual economic satisfaction on support for the incumbent party (parties), we model a cross-level interaction effect. Hence, in our final models, we will allow the slope of the effect of economic satisfaction to vary between each country-year combination and include an interaction term with the Gini coefficient.

Empirical findings for the comparative study of electoral systems

In Table 1, we present our analyses on the basis of the CSES data. First, we estimate models with voting for an incumbent party as dependent variable (Models 1 and 2), and subsequently we conduct the same analysis for voting for the party of the prime minister (Models 3 and 4).

First, in Model 1, we confirm previous findings in the economic voting literature. Economic perceptions are strongly and positively associated with casting a

³ For every country-year combination.



Table 1 Multilevel logit models predicting incumbent and prime minister voting in the CSES

	(1)	(2)	(3)	(4)
	Incumbent vote	Incumbent vote	Vote Prime Minister	Vote Prime Minister
<i>Key variables</i>				
Economic perception	0.447*** (0.011)	0.472*** (0.050)	0.471*** (0.011)	0.483*** (0.051)
Gini coefficient	0.189 (0.122)	0.178 (0.122)	0.224* (0.113)	0.215 (0.115)
Economic perception * Gini coefficient		0.133** (0.047)		0.151** (0.047)
<i>Individual level</i>				
Female	0.102*** (0.021)	0.088*** (0.021)	0.119*** (0.021)	0.107*** (0.022)
Age	0.074*** (0.011)	0.078*** (0.011)	0.078*** (0.011)	0.081*** (0.011)
Education: low (ref.)				
Education: middle	-0.001 (0.032)	-0.015 (0.032)	-0.022 (0.033)	-0.039 (0.033)
Education: high	-0.138*** (0.027)	-0.151*** (0.027)	-0.121*** (0.028)	-0.137*** (0.028)
Ideological position	0.042*** (0.010)	0.022* (0.010)	-0.067*** (0.010)	-0.090*** (0.011)
<i>Aggregate level</i>				
GDP per capita	0.049 (0.121)	0.061 (0.122)	-0.072 (0.112)	-0.038 (0.114)
Unemployment level	-0.312** (0.105)	-0.298** (0.105)	-0.171 (0.097)	-0.157 (0.098)
Electoral system: majoritarian (ref.)				
Proportional	0.233 (0.314)	0.260 (0.316)	-0.324 (0.291)	-0.277 (0.295)
Mixed	0.387 (0.342)	0.403 (0.344)	0.171 (0.316)	0.180 (0.322)
Constant	-0.566* (0.261)	-0.577* (0.262)	-0.622** (0.241)	-0.640** (0.245)
Var(constant)	0.392*** (0.092)	0.394*** (0.093)	0.334*** (0.080)	0.345*** (0.083)
Var(economy)		0.086*** (0.022)		0.088*** (0.022)
N (individuals)	45,354	45,354	45,354	45,354
N (surveys)	37	37	37	37
AIC	55,650.417	54,925.492	52,600.895	51,906.336
BIC	55,763.806	55,056.326	52,714.284	52,037.169

Entries are log-odds coefficients, standard errors included in parentheses. Data: CSES Module 1, Module 4. Significance levels: * $p < 0.05$; ** $p < 0.01$, *** $p < 0.001$



vote for the incumbent party. The magnitude of the effect of the perceived economic performance on the vote for incumbent government is substantial, with the probability of voting for the incumbent governing party increasing about three times if the respondents believe that the economy is doing well compared to those respondents who see the economy as performing poorly. Model 1 tests our first hypothesis. Contrary to what we expected, the level of inequality within a society does not have a direct effect on the propensity to vote for an incumbent party. Incumbents are not losing elections more often in high inequality contexts; thus we do not find evidence to support hypothesis 1 in Model 1.

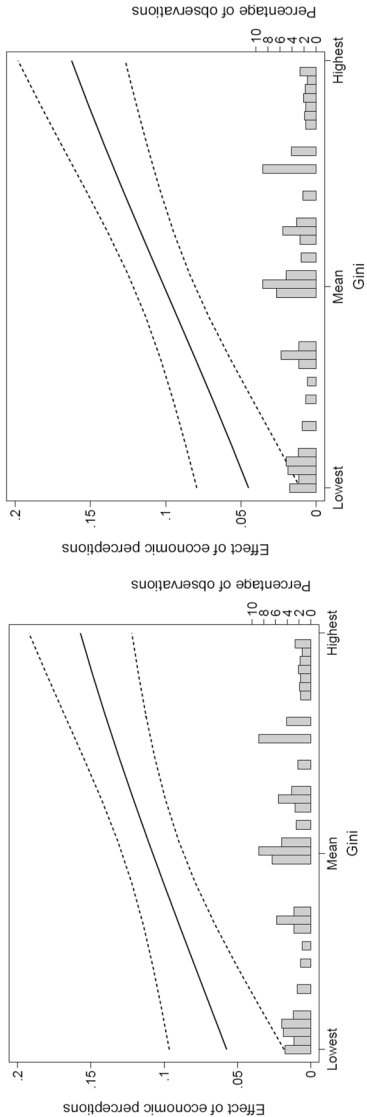
In order to test our main hypothesis 2, which states that the level of inequality moderates the impact of economic perceptions on electoral support for the incumbent party, we turn to Model 2, where we estimate a random slope for the effect of economic satisfaction and add an interaction term between satisfaction with the economy and the level of inequality to our baseline model. We find that this interaction effect is positive and statistically significant ($p < .01$). This shows that when inequality is high, voters are even more likely to reward or punish incumbent parties for the way they handled the economy.

As is customary in economic voting analysis, we ascertain whether the reward/punishment model is extended towards all incumbent political parties, or just to the party of the prime minister, which is often held personally responsible for the performance of the government (Anderson 2000). In Models 3 and 4, we repeat the same analyses as in the previous models, but this time, a vote for the party of the prime minister is the dependent variable. As can be observed, the coefficients are very similar. In Model 3, we see a strong direct effect of sociotropic economic evaluations, while there is no direct effect for the level of inequality. In Model 4, we observe the same significant interaction effect. So, no matter how we operationalise incumbent voting, the accountability mechanism clearly is stronger in countries with high levels of inequality. Hypothesis 2 is thus supported by the analyses.

Results for the other variables are largely in line with expectations: we observe a negative effect for the unemployment level in a country on incumbent support, while we do not find a significant effect for the electoral system. With regard to the individual control variables, we note that older and female respondents tend to be more supportive of the incumbent party (parties), and we find mixed results with regard to the effect of political orientation.

To further investigate the observed patterns, we plot interaction effects between income inequality and economic perceptions. Figure 1 shows the average marginal effect of economic perceptions on the vote for a governing party (left side plot) or the prime ministerial party (right side plot), respectively, at different levels of the Gini index. As can be observed in the left-hand side of Fig. 1, the average marginal effect of economic perceptions is almost three times higher at the highest observed levels of the Gini coefficient compared to the lowest inequality levels. Looking at the vote for the prime ministerial party only, the effect size increases almost with factor four.





Vote for party prime minister (Model 4)

Vote for incumbent party (Model 2)

Fig. 1 Average marginal effects at different levels of the Gini coefficient, based on Model 2 and Model 4 of Table 1. Data source: Module 1 and Module 4, CSES data



Table 2 Multilevel logit models predicting incumbent and prime minister voting in the ESS

	(1) Incumbent vote	(2) Incumbent Vote	(3) Vote Prime Minister	(4) Vote Prime Minister
<i>Key variables</i>				
Economic perception	0.254*** (0.007)	0.270*** (0.026)	0.266*** (0.008)	0.273*** (0.025)
Gini coefficient	−0.016 (0.064)	−0.017 (0.065)	0.100 (0.076)	0.100 (0.076)
Economic percep- tion * Gini coef- ficient		0.096*** (0.026)		0.096*** (0.025)
<i>Individual level</i>				
Female	0.094*** (0.014)	0.091*** (0.014)	0.095*** (0.014)	0.093*** (0.015)
Age	0.069*** (0.008)	0.066*** (0.008)	0.068*** (0.008)	0.066*** (0.008)
Educational level	0.006 (0.005)	0.009 (0.005)	−0.019*** (0.005)	−0.018*** (0.005)
Ideological position	0.169*** (0.007)	0.164*** (0.007)	0.155*** (0.007)	0.150*** (0.007)
<i>Aggregate level</i>				
GDP per capita	−0.045 (0.064)	−0.048 (0.064)	−0.197** (0.076)	−0.197** (0.076)
Unemployment level	−0.073 (0.063)	−0.075 (0.064)	−0.019 (0.075)	−0.022 (0.075)
<i>Electoral system: majoritarian (ref.)</i>				
Proportional	0.523* (0.211)	0.533* (0.213)	−0.084 (0.251)	−0.067 (0.252)
Mixed	0.357 (0.248)	0.361 (0.251)	0.013 (0.295)	0.020 (0.295)
Constant	−0.385 (0.202)	−0.398 (0.204)	−0.671** (0.240)	−0.686** (0.240)
Var(constant)	0.233*** (0.036)	0.238*** (0.037)	0.330*** (0.055)	0.332*** (0.056)
Var(economy)		0.052*** (0.009)		0.047*** (0.008)
N (individuals)	92,347	92,347	92,155	92,155
N (surveys)	88	88	88	88
AIC	121,254.780	120,353.354	112,091.777	111,367.472
BIC	121,367.980	120,485.420	112,204.951	111,499.509

Entries are log-odds coefficients, standard errors included in parentheses. Data: European Social Survey, round 1 to 7. Significance levels: * $p < 0.05$; ** $p < 0.01$, *** $p < 0.001$



Empirical findings for the European social survey

To ascertain that the effects we found when relying on the CSES are robust, we replicate the analyses on the basis of the ESS. The results of these analyses can be found in Table 2. In line with the previous analyses, we use two sets of dependent variables: voting for a governing party (Models 1 and 2) and voting for the prime minister's party (Models 3 and 4). Models 1 and 3 are our baseline models and follow the common economic voting expectations. The analyses confirm our previous findings: a negative perception of the state of the economy has a strong negative effect on the propensity to vote for any incumbent party or for the party of the ruling prime minister. Furthermore, we do not find a direct impact of inequality on the probability of voting for an incumbent party or the prime ministerial party.

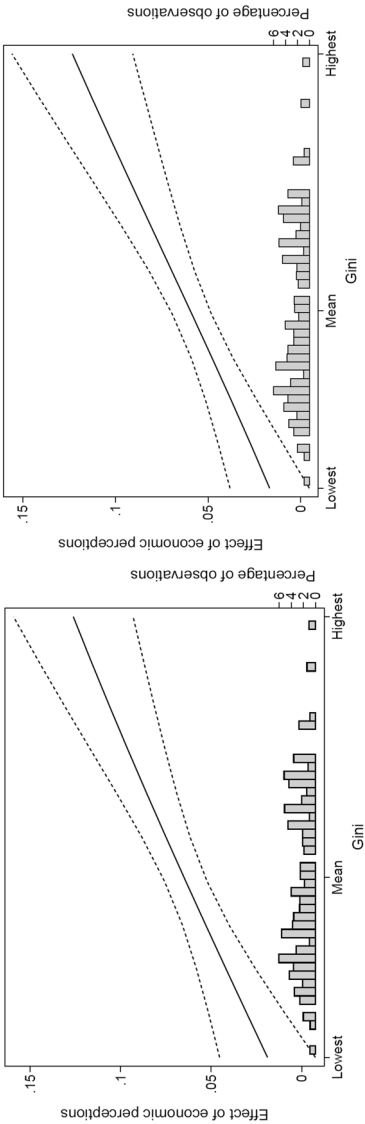
The results in Models 2 and 4 of Table 2, which include the interaction terms, are in line with our previous findings too. The interaction term between economic perceptions and inequality is positive and significant ($p < .001$). To obtain a better view of the interaction effect, we again plot the average marginal effect of satisfaction with the economy at different levels of the Gini coefficient in Fig. 2. In line with the results of the CSES, the figure shows a substantial increase in the effect of economic perceptions of the vote when inequality is higher. This strengthens our confidence in our previous findings, since it provides further support for the second hypothesis. We find a strong association between the level of inequality and economic voting, with countries that have higher levels of inequality experiencing stronger reward-punishment mechanisms. This finding clearly is also present across the entire 2002–2014 period, which covers the global financial crisis, a period where in various countries inequality levels rose sharply.

Robustness tests

As further robustness tests, we estimated various models with different specifications of clustering (as introduced in the data and methods section). The full results of these models can be found in “Appendices 4, 5 and 6”. We also accounted for potential omitted variable biases by including additional macro-level variables as further control variables.⁴ We tested a series of models where we each time included an additional variable, including economic growth, the inflation rate, electoral fractionalisation (Rae index), the proportionality of the electoral system (Gallagher index), or the social expenditure rate. Across all these analyses, we find support for the direct effect of economic satisfaction on incumbent support and the moderating effect of inequality (supporting hypothesis 2). However, we do not find evidence for a direct effect of economic inequality on incumbent support (which rejects hypothesis 1). We also tested models where we replaced the Gini coefficient with lagged Gini coefficients (with models including a Gini coefficient with a 1, 2 or 3 years

⁴ These data were retrieved from Armingeon et al. (2018)'s Comparative Political Data Set.





Vote for incumbent party (Model 2)

Vote for party prime minister (Model 4)

Fig. 2 Average marginal effects at different levels of the Gini coefficient, based on Model 2 and Model 4 of Table 2. Data Source: European Social Survey, round 1 to 7

time lag, respectively): the main results are robust, though the interaction effects become weaker, by increasing the time lag. We further tested whether a change of the Gini coefficient would matter to voters, rather than the level of inequality. First, we constructed change coefficients indicating the change in Gini since the last election to the election under investigation in the CSES. Second, we constructed a measure by distracting the Gini coefficient of the previous year from the current level of the Gini coefficient of each country, and repeated that calculation for a time span of 1, 2, 3, 4 and 5 years, respectively (for the CSES and the ESS). These change indicators are never significantly related to support for the incumbent government. We can be more confident, therefore, that the results are caused by the level of inequality, and not by the short-term changes in the level of inequality.

Next, we tested whether voters would punish left-wing governments more strongly in countries with higher levels of inequality. One might expect voters to be especially critical when left-wing platforms govern unequal societies. However, we did not find that having a left-wing government moderates the impact of inequality on incumbent support. Finally, we estimated whether economic satisfaction serves as a mediating variable in the relationship between income inequality and incumbent support. In other words, whether an indirect effect of inequality on incumbency support, via economic satisfaction, could be detected. This, however, was not the case: the effect of inequality on incumbent support is not mediated by economic satisfaction.

Conclusion

Standard approaches to the theory of economic voting start from a rather one-dimensional concept of what kind of economic performance is being sanctioned by voters. If the economy is growing, it is assumed that incumbents will be rewarded, while governing parties will be punished if GDP is declining or if no economic growth is achieved. From a theoretical perspective, this is a rather narrow operationalisation of economic performance. Even when a country succeeds in achieving economic growth, this growth could be distributed very unequally. Economic growth might even occur together with high unemployment levels. While these economic indicators will often be correlated, we should take the possibility into account that citizens will use different criteria to assess the state of the economy in their country.

In the current analysis, we supplement the standard approach to economic voting by including a different dimension of economic welfare: the level of economic inequality. Not only does inequality mean that the benefits of economic growth are not distributed in the same manner across all groups within society; high levels of inequality could also imply that feelings of social justice among the population are no longer respected. In line with some recent economic publications (De Grauwe 2017), we argued that citizens also apply moral norms when they assess the functioning of the economic system, and that they care about having a fair distribution of economic resources across the population. From that perspective, inequality should serve as a valence issue, which means that in countries where inequality is higher, voters are more sensitive to



their perceptions of the state of the economy when supporting or punishing the incumbent parties. We also hypothesised that inequality could not only serve as a valence issue, but could also lead to more social polarisation and conflict over scarce economic resources. From that perspective, the management of the economy should be particularly salient for voters in countries where inequality is high.

The results of the analyses suggest that economic inequality might not have a direct effect on incumbent support, at least as measured through an objective macro-level indicator. The lack of a direct effect of inequality seems to point to an adjustment mechanism (Esping-Andersen 1990), which suggests that citizens adapt to the level of inequality they experience within their country, and adjust their political expectations accordingly. In countries with an endemic high level of inequality, incumbents do not systematically lose elections. Further studies could in this light investigate whether the judgements of individual citizens about inequality might affect their vote choice.

Our analyses do point out that economic inequality does entail a price for the ruling political elite. Incumbent governments are more likely to be punished for bad management of the economy in countries where inequality is high, because voters' perceptions of the economy are more likely to shape vote choices in those societies. Hence, the accountability mechanism for high levels of inequality is transmitted through the economic voting theory.

These findings are important, both theoretically as from a policy perspective. Theoretically, it suggests that citizens include various dimensions when they assess the state of the economy in their country. Thus far, the literature on economic voting has relied on indicators of economic growth and the level of unemployment, or inflation rates. The results of the current analysis, however, suggest that citizens have a broader view on economic performance, also taking into account the way this wealth is distributed across society. As, apparently, this moral paradigm is an integral part of the way citizens assess the state of the economy, it is important for future studies on economic voting to include this dimension.

Our findings are also relevant from a policy perspective. The literature thus far has mainly focused on protest behaviour as a consequence of social and economic exclusion. The result of these studies has been that in the European context, protest remains limited and short-lived, and does not have profound political consequences. As such, the main message of these studies is that incumbents can get away quite easily with inequality. The current analysis, however, suggests that citizens do not just take to the streets to protest against levels of inequality, but that they also include these considerations when casting their vote. The political consequences of inequality therefore might be larger than what was initially assumed in this literature.

Acknowledgements The authors would like to thank the participants of the 2019 Leuven-Montréal Winter School and the 2019 European Social Survey Conference for their useful comments on previous versions of this manuscript.



Appendix

Appendix 1: Description of the variables used in this study

Sex (reference category male).

Age of respondent, calculated.

Educational level (CSES) low (reference category): none, incomplete primary, primary, or incomplete secondary education; middle: secondary education; high: post-secondary trade, university undergraduate incomplete, university graduate completed.

Educational level (ESS) 8-point scale denoting educational level from low to high.

Ideological position (CSES) In politics people sometimes talk of left and right. Where would you place yourself on this scale? Where 0 means the left and 10 means the right.

Ideological position (ESS) Placement on left right scale [In politics people sometimes talk of “left” and “right”. Using this card, where would you place yourself on this scale, where 0 means the left and 10 means the right?]

Economic perception (CSES) Would you say that over the past 12 months, the state of the economy in [COUNTRY] has gotten better, stayed about the same, or gotten worse?

Economic perception (ESS) How satisfied with present state of economy in country [On the whole how satisfied are you with the present state of the economy in [country]? Still use this card.] 0 extremely dissatisfied and 10 extremely satisfied.

GDP per capita (World Bank 2014) is the gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current U.S. dollars.

Unemployment rate (World Bank 2014) The unemployment rate, expressed as % of total labour force). Unemployment refers to the share of the labor force that is without work but available for and seeking employment.

Electoral system (Bormann and Golder 2013) This is a categorical variable that takes on one of three values indicating the basic type of electoral system used in the elections: (a) Majoritarian, (b) Proportional, (c) Mixed.

Gini coefficient (Solt 2016) the Gini index measures the extent to which the distribution of income among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality (Tables 3, 4).



Table 3 CSES data summary statistics

Name	N	Mean	SD	Min	Max
Vote for governing party	63,374	0.422	0.494	0	1
Vote for Prime Minister	62,863	0.333	0.471	0	1
Sex (ref. = male)	104,691	0.524	0.499	0	1
Age	101,745	47.212	17.229	18	103
Educational level	102,727	2.016	0.874	1	3
Ideological position	83,022	5.347	2.449	0	10
Economic perception	96,335	1.827	1.004	0	4
Gini coefficient	71,140	29.492	4.413	22.273	37.212
GDP per capita	83,795	32,995.65	23,263.8	1229.115	102,910.4
Unemployment rate	83,795	7.536	3.985	2.178	24.439
Electoral systems	82,828	2.024	0.654	1	3

Table 4 ESS data summary statistics

Name	N	Mean	SD	Min	Max
Vote for governing party	125,046	0.527	0.499	0	1
Vote for Prime Minister	124,839	0.355	0.479	0	1
Sex (ref. = male)	205,120	0.537	0.499	0	1
Age	204,425	47.663	18.534	13	114
Educational level	204,266	2.958	2.222	0	7
Ideological position	176,204	5.118	2.186	0	10
Economic perception	200,188	4.45	2.501	0	10
Gini coefficient	175,681	29.470	4.414	14.061	67.122
GDP per capita	205,354	32,787.81	19,532.77	4513.136	97,005.5
Unemployment rate	202,924	8.005	3.843	2.6	24.8
Electoral systems	195,491	2.083	0.472	1	3

Appendix 2: Countries and years for CSES

Our CSES dataset includes 37 election surveys in total. The countries and elections included in this study from CSES dataset: Australia 1996; Australia 2013; Austria 2013; Belgium 1999; Canada 1997; Switzerland 1999; Switzerland 2011; Czech Republic 1996; Czech Republic 2013; Germany 1998; Germany 2013; Denmark 1998; Spain 1996; Spain 2000; United Kingdom 1997; United Kingdom 2015; Greece 2012; Hungary 1998; Ireland 2011; Iceland 1999; Iceland 2013; Israel 2013; Netherlands 1998; Norway 1997; Norway 2013; New Zealand 1996; New Zealand 2011; New Zealand 2014; Poland 1997; Poland 2011; Portugal 2002; Romania 2012; Slovenia 1996; Slovenia 2011; Sweden 1998; United States 1996; United States 2012.



Appendix 3: Countries and years for ESS

Our ESS dataset includes 88 surveys in totals. Countries included in the ESS analysis are: Austria 2002; Austria 2006; Austria 2014; Belgium 2002; Belgium 2004; Belgium 2008; Belgium 2010; Bulgaria 2006; Bulgaria 2010; Switzerland 2002; Switzerland 2004; Switzerland 2008; Switzerland 2012; Cyprus 2006; Cyprus 2010; Cyprus 2012; Czechia 2002; Czechia 2008 Czechia 2010; Germany 2002; Germany 2006; Germany 2010; Denmark 2002; Denmark 2006; Denmark 2008; Denmark 2012; Estonia 2004; Estonia 2008; Estonia 2012; Spain 2002; Spain 2004; Spain 2008; Spain 2012; Finland 2002; Finland 2004; Finland 2008; Finland 2012; France 2002; France 2008; France 2012; United Kingdom 2002; United Kingdom 2006; United Kingdom 2010; Greece 2002; Greece 2004; Greece 2008; Greece 2010; Croatia 2008; Hungary 2002; Hungary 2006; Hungary 2010; Hungary 2014; Ireland 2002; Ireland 2008; Ireland 2010; Iceland 2004; Iceland 2012; Italy 2002; Italy 2012; Lithuania 2010; Lithuania 2012; Luxemburg 2002; Luxemburg 2004; Netherlands 2002; Netherlands 2004; Netherlands 2008; Netherlands 2010; Netherlands 2012; Norway 2002; Norway 2006; Norway 2010; Poland 2002; Poland 2006; Poland 2008; Poland 2012; Portugal 2002; Portugal 2006; Portugal 2010; Portugal 2012; Sweden 2002; Sweden 2006; Sweden 2012; Slovenia 2002; Slovenia 2004; Slovenia 2008; Slovenia 2012; Turkey 2004; Turkey 2008.

Appendix 4: ESS model with year fixed effects

See Table 5.

Table 5 Models using ESS data and country random intercepts with year fixed effects

	(1) Incumbent vote	(2) Incumbent Vote	(3) Vote Prime Minister	(4) Vote Prime Minister
<i>Key variables</i>				
Economic perception	0.254*** (0.007)	0.270*** (0.026)	0.266*** (0.008)	0.273*** (0.025)
Gini coefficient	−0.028 (0.065)	−0.028 (0.065)	0.076 (0.075)	0.076 (0.075)
Economic perception*		0.096***		0.096***
Gini coefficient		(0.026)		(0.025)
<i>Individual level</i>				
Female	0.094*** (0.014)	0.091*** (0.014)	0.095*** (0.014)	0.093*** (0.015)
Age	0.069*** (0.008)	0.066*** (0.008)	0.068*** (0.008)	0.066*** (0.008)
Educational level	0.006 (0.005)	0.009 (0.005)	−0.019*** (0.005)	−0.018*** (0.005)
Ideological position	0.169*** (0.007)	0.165*** (0.007)	0.155*** (0.007)	0.150*** (0.007)



Table 5 (continued)

	(1)	(2)	(3)	(4)
	Incumbent vote	Incumbent Vote	Vote Prime Minister	Vote Prime Minister
<i>Aggregate level</i>				
GDP per capita	−0.044 (0.070)	−0.045 (0.071)	−0.176* (0.082)	−0.174* (0.082)
Unemployment level	−0.054 (0.071)	−0.055 (0.071)	0.054 (0.082)	0.052 (0.082)
Electoral system: majoritarian (ref.)				
Proportional	0.501* (0.212)	0.511* (0.214)	−0.106 (0.246)	−0.087 (0.246)
Mixed	0.357 (0.251)	0.362 (0.254)	−0.066 (0.291)	−0.058 (0.291)
Year (ref. 2002)				
2004	0.112 (0.189)	0.113 (0.191)	0.122 (0.219)	0.120 (0.219)
2006	0.171 (0.184)	0.175 (0.186)	0.244 (0.213)	0.249 (0.213)
2008	0.086 (0.172)	0.085 (0.174)	0.153 (0.199)	0.148 (0.199)
2010	−0.039 (0.189)	−0.039 (0.191)	0.058 (0.219)	0.056 (0.219)
2012	−0.011 (0.189)	−0.019 (0.190)	−0.296 (0.219)	−0.306 (0.219)
2014	0.059 (0.365)	0.029 (0.369)	0.289 (0.422)	0.264 (0.423)
Constant	−0.412 (0.218)	−0.424 (0.220)	−0.679** (0.252)	−0.692** (0.252)
Var(constant)	0.228*** (0.035)	0.233*** (0.036)	0.306*** (0.051)	0.307*** (0.051)
Var(economy)		0.052*** (0.009)		0.047*** (0.008)
N (individuals)	92,347	92,347	92,155	92,155
N (surveys)	88	88	88	88
AIC	121,265.079	120,363.597	112,096.884	111,372.381
BIC	121,434.878	120,552.263	112,266.646	111,561.005

Multilevel logit models predicting incumbent and prime minister voting

Entries are log-odds coefficients, standard errors included in parentheses. Data: European Social Survey, round 1 to 7. Significance levels: * $p < 0.05$; ** $p < 0.01$, *** $p < 0.001$



Appendix 5: CSES model including income

See Table 6.

Table 6 Multilevel logit models predicting incumbent and prime minister voting in the CSES

	(1) Incumbent vote	(2) Incumbent vote	(3) Vote Prime Minister	(4) Vote Prime Minister
<i>Key variables</i>				
Economic perception	0.450*** (0.011)	0.471*** (0.049)	0.472*** (0.012)	0.479*** (0.051)
Gini coefficient	0.192 (0.125)	0.187 (0.126)	0.227 (0.116)	0.226 (0.119)
Economic perception*		0.035 (0.053)		0.052 (0.054)
<i>Individual level</i>				
Female	0.095*** (0.022)	0.080*** (0.022)	0.114*** (0.023)	0.102*** (0.023)
Age	0.068*** (0.012)	0.074*** (0.012)	0.072*** (0.012)	0.076*** (0.012)
Education: low (ref.)				
Education: middle	−0.008 (0.034)	−0.020 (0.034)	−0.046 (0.035)	−0.061 (0.036)
Education: high	−0.184*** (0.029)	−0.194*** (0.030)	−0.181*** (0.031)	−0.193*** (0.031)
Ideological position	0.042*** (0.011)	0.022 (0.011)	−0.068*** (0.011)	−0.092*** (0.012)
Income	0.023** (0.008)	0.020* (0.009)	0.028** (0.009)	0.024** (0.009)
<i>Aggregate level</i>				
GDP per capita	0.066 (0.126)	0.074 (0.126)	−0.057 (0.117)	−0.028 (0.119)
Unemployment level	−0.279** (0.101)	−0.269** (0.102)	−0.149 (0.094)	−0.138 (0.096)
Electoral system: majoritarian (ref.)				
Proportional	0.220 (0.319)	0.236 (0.321)	−0.322 (0.297)	−0.288 (0.302)
Mixed	0.381 (0.347)	0.388 (0.349)	0.175 (0.323)	0.184 (0.329)
Constant	−0.535* (0.264)	−0.529* (0.266)	−0.642** (0.247)	−0.638* (0.251)
Var(constant)	0.402*** (0.095)	0.407*** (0.096)	0.348*** (0.084)	0.361*** (0.087)
Var(economy)		0.082*** (0.021)		0.087*** (0.023)



Table 6 (continued)

	(1)	(2)	(3)	(4)
	Incumbent vote	Incumbent vote	Vote Prime Minister	Vote Prime Minister
<i>N</i> (individuals)	39,954	39,954	39,954	39,954
<i>N</i> (surveys)	37	37	37	37
AIC	49,144.404	48,517.739	46,566.733	45,962.862
BIC	49,264.741	48,655.267	46,687.070	46,100.389

Entries are log-odds coefficients, standard errors included in parentheses. Data: CSES Module 1, Module 4. Significance levels: * $p < 0.05$; ** $p < 0.01$, *** $p < 0.001$

Appendix 6: ESS models including income

See Table 7.



Table 7 Multilevel logit models predicting incumbent and prime minister voting in the ESS

	(1)	(2)	(3)	(4)
	Incumbent vote	Incumbent Vote	Vote Prime Minister	Vote Prime Minister
<i>Key variables</i>				
Economic perception	0.230*** (0.008)	0.251*** (0.026)	0.244*** (0.009)	0.256*** (0.025)
Gini coefficient	-0.023 (0.068)	-0.024 (0.069)	0.108 (0.077)	0.107 (0.077)
Economic perception*		0.100*** (0.026)		0.102*** (0.025)
Gini coefficient				
<i>Individual level</i>				
Female	0.102*** (0.015)	0.101*** (0.016)	0.106*** (0.016)	0.105*** (0.016)
Age	0.073*** (0.009)	0.071*** (0.009)	0.065*** (0.009)	0.063*** (0.009)
Educational level	0.005 (0.005)	0.008 (0.005)	-0.017** (0.006)	-0.016** (0.006)
Ideological position	0.191*** (0.007)	0.187*** (0.008)	0.187*** (0.008)	0.182*** (0.008)
Income	0.058*** (0.008)	0.059*** (0.008)	0.040*** (0.009)	0.042*** (0.009)
<i>Aggregate level</i>				
GDP per capita	-0.074 (0.068)	-0.076 (0.068)	-0.209** (0.076)	-0.209** (0.077)
Unemployment level	-0.071 (0.066)	-0.072 (0.067)	0.002 (0.075)	-0.000 (0.075)
Electoral system: majoritarian (ref.)				
Proportional	0.399 (0.239)	0.405 (0.241)	-0.221 (0.270)	-0.210 (0.271)
Mixed	0.201 (0.278)	0.198 (0.281)	-0.228 (0.315)	-0.230 (0.316)
Constant	-0.264 (0.228)	-0.273 (0.231)	-0.532* (0.258)	-0.542* (0.259)
Var(constant)	0.243*** (0.039)	0.248*** (0.040)	0.311*** (0.054)	0.314*** (0.055)
Var(economy)		0.050*** (0.009)		0.044*** (0.008)
N (individuals)	73,941	73,941	73,801	73,801
N (surveys)	82	82	82	82
AIC	97,119.521	96,424.198	88,914.654	88,378.505
BIC	97,239.264	96,562.363	89,034.373	88,516.642

Entries are log-odds coefficients, standard errors included in parentheses. Data: European Social Survey, round 1 to 7. Significance levels: * $p < 0.05$; ** $p < 0.01$, *** $p < 0.001$



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