

Economic Adversity and Voter Turnout: A Multilevel Analysis

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Abstract

Do economic hardships affect electoral participation? Using cross-sectional data for 43 countries in Africa, Asia, Europe and Latin America between 1996 and 2015, we find that individual-level attributes shape voters' reaction to economic adversity. This paper presents empirical evidence showing that changes in unemployment affect electoral participation. However, the effect of economic downturns on citizens' willingness to participate in elections depends on their ability to cope with difficult situations.

Keywords: Electoral participation, economic voting, voter turnout

The voluminous literature on economic voting has established that economic fluctuations affect voters' behavior. Numerous studies show that support for incumbent parties declines during economic recessions. Much less is known about the relation between the economic conjuncture and electoral participation. The literature has produced conflicting arguments regarding the impact of the economy on voter turnout. In particular, there is a perennial debate between scholars who argue that economic hardships mobilize citizens to express their grievances at the polls and other scholars who maintain that an economic recession depresses electoral participation. Most previous empirical tests of this relationship in cross-national analyses have produced null findings (Blais & Dobrzynska, 1998; Fornos, Power, & Garand, 2004; Kostadinova & Power, 2007; Lavezolo, 2008).

One of the reasons for these null results is that most previous cross-national studies assume that the impact of macroeconomic fluctuations on turnout is direct and unconditional. On the contrary, we postulate that periods of economic crisis affect different socio-demographic groups asymmetrically. Young people and individuals in a situation of economic vulnerability are more likely to suffer the negative consequences of an economic downturn. As a result, we argue that they are the most likely to become mobilized when

there is a rapid increase in the unemployment rate in order to express their grievances at the polls and to seek remedies for the poor economic performance of the incumbent government.

We estimate multilevel models using aggregate macroeconomic and individual-level data from the CSES (Comparative Study of Electoral Systems). Our models show that increases in the unemployment rate stimulate turnout but this effect is stronger for younger citizens and for individuals with a low socioeconomic status. Our findings cast doubt on the null findings of previous cross-national studies. We show that macroeconomic fluctuations have an impact on citizens' turnout decisions, but they do not affect everyone equally.

The paper will proceed as follows. First, we discuss the theoretical importance of this research question for the study of democratic representation. Second, we present previous research on the link between macroeconomic fluctuations and electoral participation. Third, we discuss our theoretical expectations regarding the asymmetrical impact of economic hardships on citizens' turnout decisions. Fourth, we present the data and the model estimation. The following section presents and discusses the statistical results. The final section concludes and suggests avenues for further research.

Economic downturns and democratic representation

In representative democracies, the most common way for citizens to participate in politics and influence political outcomes is to vote. As pointed out by Manin et al. (1999: 50), "governments make thousands of decisions that affect individual welfare; citizens have only one instrument to control these decisions: the vote." However imperfect, this institutional method is a critical aspect of democratic representation. Through elections, citizens can signal their preferences and hold governments accountable.

In order for elections to function effectively as mechanisms of democratic representation, participation must be widespread and everyone's voice must be heard and weighed equally. In practice, however, there are important disparities in turnout across various segments of society which works against equal representation. In particular, young and poor citizens tend to participate less than older, more educated, and wealthier individuals (Lijphart, 1997; Schlozman, Verba, & Brady, 2012). While this was originally shown in the US context (Brady, Verba, & Schlozman, 1995; Wolfinger & Rosenstone, 1980), more recent studies have demonstrated similar patterns of unequal participation in a variety of other contexts (Bratton, Chu, & Lagos, 2010; Carreras & Castañeda, 2014; Kuenzi & Lambright, 2011; Norris, 2002). This is problematic for democratic representation because

politicians tend to disregard the voices they do not hear, and make more determined efforts to represent the interests and preferences of politically active citizens (Lijphart, 1997; Lindblom & Woodhouse, 1993: 111; Nooruddin & Simmons, 2015).

The question that will be addressed in this paper is whether this participatory inequality (and its deleterious effects on democratic representation) are contingent on economic fluctuations. As will be shown in the next section, economic crises affect primarily the youth and individuals with a low socioeconomic status. In elections that take place during periods of economic duress, do these segments of society respond by exiting the political arena (abstaining) or by voicing their grievances and expressing their preferences at the ballot box? While previous studies suggest that both withdrawal and mobilization are possible (Rosenstone, 1982), the implications of these two possibilities for democratic representation and accountability are drastically different.

We argue and demonstrate empirically in this paper that economic downturns alleviate the inequality of electoral participation. While young citizens and people with a low socioeconomic status are more likely to abstain when the government is doing a good job managing the economy, they significantly increase their level of electoral participation when the economy is tanking. This paper will show that segments of society that are often unheard are able to express their grievances and to influence government formation during critical periods of economic duress. In other words, we qualify the conventional wisdom that the preferences of the youth, the poor, and the poorly educated are not properly represented in representative democracies.

Previous Research

While the proposition that macroeconomic fluctuations shape election results is robust and supported by a voluminous body of research (Lewis-Beck & Stegmaier, 2000), the relationship between economic conditions and electoral participation is unclear and has received much less attention. The few studies that have analyzed this question have proposed competing theoretical expectations and produced mixed findings (Blais, 2006). Both a "mobilization" and a "withdrawal" effect are possible. On the one hand, economic downturns might lead to an increase in electoral participation by citizens who want to express and redress their grievances. On the other hand, economic hardships might alienate individuals and lead them to withdraw from the political process (Radcliff, 1992; Rosenstone, 1982).

The "withdrawal" hypothesis is based on the argument that economic adversity is stressful, and that citizens who are preoccupied with their personal financial situation

cannot spend time and resources thinking about politics. In Rosentone (1982: 26)'s words, "when a person experiences economic adversity his scarce resources are spent on holding body and soul together 'surviving' rather than on remote concerns like politics." Moreover, during periods of economic duress, people might grow increasingly alienated and lose trust in political institutions. A negative economic performance suggests to the public that governments are not able to solve problems, which might lead to a loss of confidence in representative institutions and an increase in democratic dissatisfaction (Clarke, Dutt, & Kornberg, 1993; Mishler & Rose, 2001; Taylor, 2000; Van Erkel & Van der Meer, 2015). In turn, electoral participation may decline when citizens become disenchanted with political institutions and with democratic performance (Cox, 2003; Gronlund & Setala, 2007; Norris, 2002). Galais and Blais (2014) similarly show evidence that people were less inclined to consider voting as a civic duty following the recent economic recession in Spain.

The "mobilization" hypothesis is based on research that shows a "negativity" bias in political perceptions and political behavior (Kahneman & Tversky, 1979; Lau, 1982; Soroka, 2014). Lau (1982: 353) defines negativity as the "tendency for negative information to have more weight than equally extreme or equally likely positive information." Several studies have shown that the media gives much more coverage to negative economic news than to positive economic fluctuations (Harrington, 1989; Hetherington, 1996). The public reacts asymmetrically to an already biased media content and to the economy itself (Soroka, 2006). In other words, citizens become more aware of economic fluctuations during an economic downturn, and may be induced to become more engaged in the political arena in order to express their grievances and to seek remedies for the poor economic performance of the incumbent government (Burden & Wichowsky, 2012; Kern, Marien, & Hooghe, 2015).

These competing theories have been tested several times in cross-national analyses of electoral participation, and the findings are rather mixed. Pacek et al. (2009) show that turnout in post-Communist countries is lower when unemployment rates are higher (a "demobilizing" effect), while Panagopoulos (2008) reports that turnout in countries with compulsory voting systems is higher when GDP growth is lower (a "mobilizing" effect). However, most of these cross-national studies find no relationship between the macroeconomic situation in a country and aggregate turnout rates. In an analysis of 324 national elections held in 91 countries, Blais and Dobrzynska (1998) report a null finding. Their analysis shows that GNP per capita growth does not explain cross-national differences in electoral participation. Similarly, Kostadinova (2003), Fornos et al. (2004), and Lavezolo (2008) find that the macroeconomic situation does not influence turnout

in Eastern European and Latin American elections. In a comprehensive review of the determinants of voter turnout, Blais (2006) concludes that "there is no clear relationship between the economic conjuncture and turnout."

Economic Crisis, Individual Attributes, and Voter Turnout

One of the limitations of this cross-national research is that it assumes that the effect of macroeconomic fluctuations on turnout is direct and unconditional. Most of these previous studies use aggregate data which does not allow researchers to explore more subtle relationships between economic hardships, contextual conditions, individual or group characteristics, and political engagement. The null findings in large cross-national analyses might hide the fact that certain contextual country characteristics might lead to more or less participation during periods of economic crisis. For instance, citizens might become mobilized in countries with weak welfare programs where the stakes of macroeconomic fluctuations are much higher, but become more passive in countries with extensive security programs (Lavezzolo, 2008; Radcliff, 1992). Moreover, an economic downturn might lead to an increase in electoral participation in countries with more viable political parties because citizens have more options to express their grievances. Otherwise, voters might prefer to abstain (Rowe, 2015; Weschle, 2014). Similarly, citizens are more likely to participate during economic bad times when the institutional framework and the electoral context facilitates the identification of a "target" party and offers an alternative option for voters who seek to redress their grievances at the polls (Burden & Wichowsky, 2012; Tillman, 2008).

The weak and inconsistent findings of cross-national studies may also be related to the fact that they do not consider the possibility of interactions between macroeconomic conditions and individual characteristics. Macroeconomic outcomes are unlikely to affect the electoral participation of all citizens equally. One study actually demonstrates that only individuals who blame the government for the poor economic performance are likely to be mobilized during bad economic times (Arceneaux, 2003). In this paper, we take one step further and we argue that the impact of macroeconomic downturns on citizens' political engagement is contingent on individuals' sociodemographic characteristics. In particular, we expect that citizens who suffer more from an economic downturn are more likely to be mobilized.

First, economic adversity should have more impact on the political engagement of individuals in situation of economic vulnerability. When the level of unemployment increases, individuals with a lower socioeconomic status are more likely to suffer the

consequences. Poor citizens are less likely to have accumulated savings which could help them make ends meet during periods of economic duress. They also tend to have the most precarious jobs, which can be rapidly lost during bad economic times. Even if some low-income individuals are not directly affected by the economic hardships, they are more likely to have friends and family members who are financially strained. In sum, economic crises which result in a rise in unemployment affect low-income groups faster and in more dramatic ways.

There is a long body of research showing that the poor, the working classes, and unemployed individuals are more preoccupied with personal economic concerns and tend to perceive economic conditions more negatively than the rest of the population (Duch, Palmer, & Anderson, 2000; Rosenstone, 1982; Singer, 2011). These evaluations in turn affect political attitudes and political behavior. The political support of individuals with a low socioeconomic status exhibits more sensitivity to macroeconomic fluctuations than the political support of white-collar workers (Hibbs & Vasilatos, 1982). Similarly, another study finds that working class citizens in the United States "provide the bulk of the electoral response to economic recession" (Weatherford, 1978: 917).

In sum, the existing research suggests that low-income individuals react more strongly to economic downturns. This might lead to a greater mobilization of these groups during periods of economic hardship. First, individuals in a situation of economic vulnerability might have more intense grievances against the incumbent government. While the middle classes and the highly educated segments of society might survive an economic recession relatively unscathed, the poor might suffer the consequences of macroeconomic downturns more rapidly and more acutely. This, in turn, might mobilize them to participate in the political arena in both conventional and unconventional ways (Kern, Marien, & Hooghe, 2015).

Second, economic concerns might underline the salience of politics for citizens with a low socioeconomic status. While politics might often seem a remote concern for individuals with a low socioeconomic status, a period of economic duress might increase the political awareness of these groups, as suggested by the "negativity bias" scholarship reviewed above.

Third, bad economic times might considerably facilitate electoral decisions for individuals with low socioeconomic status and poor levels of education. One of the main reasons these segments of society are less politically engaged is that they often lack the skills to make informed decisions in the political arena. They are less likely to understand politics and public issues, and thereby to connect their preferences with electoral decisions (Schlozman et al., 2012: 19). During "normal" times, individuals with low socioeconomic

status might find it hard to decide which party or candidate is more in line with their preferences. On the contrary, during economic recessions the cognitive effort required to vote is reduced. The economic crisis can be used as a shortcut by individuals with low civic skills, who might vote to sanction the incumbent government for its bad economic performance.

Finally, poor and unemployed individuals are less likely to see themselves as responsible for their personal financial troubles when the economy is in crisis. On the contrary, they are more likely to blame the government and to participate in elections in order to punish it (Incantalupo, 2015). Three studies in the US context indeed suggest that in periods of economic duress, unemployed voters and individuals with a low socioeconomic status are more likely to vote in national elections (Incantalupo, 2015; Rosenstone, 1982; Southwell, 1988). Our study is, to our knowledge, the first attempt to look at these questions with a cross-national dataset. The first hypotheses of the paper follow from this discussion.

Hypothesis 1: The mobilizing effect of macroeconomic downturns on electoral participation is stronger for individuals with a low socioeconomic status.

Hypothesis 2: The mobilizing effect of macroeconomic downturns on electoral participation is stronger for unemployed individuals.

Another group that is disproportionately affected during periods of economic duress is the youth. Young people are the hardest hit when a country undergoes an economic recession. As pointed out in the 2011 UN World Youth Report (2011: 17), “during economic downturns, young people are often the ‘last in’ and the ‘first out’ - the last to be hired, and the first to be dismissed.” Because they lack the work experience of older workers, young individuals have a much harder time finding a sustainable income in the formal economy during economic recessions. As a result, many young voters become discouraged and drop out of the formal job market altogether (UN World Youth Report, 2011). Similarly, several studies analyzing the impact of the recent global financial crisis on the youth show that young people are much more vulnerable to the effects of the crisis. Young people are the most likely to be income poor, and they are disproportionately vulnerable to lay-offs (Junankar, 2014; Marcus & Gavrilovic, 2010; Verick, 2009). Hence, negative macroeconomic fluctuations might produce more anxiety among young voters, and a greater desire to express and redress grievances at the polls. This discussion leads to our third and final hypothesis.

Hypothesis 3: The mobilizing effect of macroeconomic downturns on electoral participation is stronger for young individuals.

Data and methods

We study the effect of macroeconomic adversity on voter turnout using cross sectional data for 43 countries in Africa, Asia, Europe, and Latin America. In particular, we examine unemployment rates and voter turnout in presidential and legislative elections across countries between 1996 and 2015 and analyze how individual-level attributes shape the effect of economic adversity on electoral participation. We rely on individual-level and macro-level data on voting, socio-demographic, and macroeconomic variables provided by the Comparative Study of Electoral Systems. This research initiative is coordinated by the Center for Political Studies and the GESIS - Leibniz Institute for the Social Sciences, and collects first-hand information from election study teams from around the world. The CSES dataset offers high-quality information about public opinion, vote choice, citizens' attitudes, standardized sociodemographic measures, electoral returns, turnout, and macro-level data on aggregate electoral returns, electoral rules and formulas, and regime characteristics. The data set also includes information about macroeconomic performance, unemployment, and human development.

To examine our argument, we estimate a number of hierarchical linear models to account for the particular structure of the data. In the CSES dataset individuals are nested within countries and elections. Consequently, we use two-level random-intercept models with a grouping structure of individuals nested within countries. In particular, we use a number of mixed-effects models for binary responses (turnout is coded as a dummy variable) in which first-level predictors are individual-level predictors and second-level are country-level predictors that explain aggregate electoral behavior.

Dependent variable: electoral participation

This paper analyzes the effect of fluctuation in unemployment on the individual propensity to participate in elections. The main dependent variable is reported turnout in the last national elections (presidential or parliamentary). We use a dichotomous measure of electoral participation in the last national elections (0: no, did not vote; 1: yes, did vote). For complete descriptive statistics please see table [A1](#) in the appendix.

Although over-reporting turnout may be a problem (Granberg & Holmberg, 1991; Swaddle & Heath, 1989), in this article, we follow conventional practice and analyze reported turnout. Almost all cross-national studies of electoral participation at the individual level - including all the works cited in this article - use surveys and analyze reported turnout, because these are the data available. A recent study of the determinants of electoral participation using reported and validated vote in the United States suggests

that it is not very problematic to use reported turnout because explanatory factors behave similarly in validated and reported turnout models (Achen & Blais, 2016). Using reported turnout would be problematic for our purposes if respondents' inclination to lie about their turnout decisions varied with fluctuations in the rate of unemployment, but there are no valid theoretical reasons to support that possibility.

Validated turnout data only exists for a few elections in five countries New Zealand, Norway, United Kingdom, United States, and Sweden (Karp & Brockington, 2005). Unfortunately, these national election studies use different measures of the key variables in our analysis (education, employment status, income) so it was impossible to construct a merged database to analyze the impact of unemployment in these countries.

Independent variable: change in the unemployment rate

Macroeconomic fluctuations can be measured in different ways, but this paper focuses on the impact of changes in the unemployment rate on electoral participation. Previous research has shown that this indicator is perceived accurately by the mass public and nicely captures economic hardships and anxiety at the individual level (Conover, Feldman, & Knight, 1986; Dolan, Frensdreis, & Tatalovich, 2009). Unemployment is vividly perceived by individuals, and changes in the unemployment rate are widely covered in the media. As a result, fluctuations in unemployment have an immediate impact on citizens' perceptions and behaviors (Conover et al., 1986).

While changes in GDP growth and changes in unemployment tend to correlate, fluctuations in the unemployment rate are a much better proxy for economic hardships at the individual level. Fluctuations in GDP growth might not be as accurately perceived by the population, and they do not always have a direct and immediate impact on citizens' standard of living. On the one hand, there are several examples of jobless growth. For instance, the neoliberal policies in Latin America during the 1990s led to sustained economic growth but imposed high social costs and led to a significant increase in unemployment (Green, 1999). On the other hand, unemployment might decline even in the context of weak growth (Schwartz, 2016). Using inflation as a measure of economic hardships is even more problematic. Previous research has shown that inflation is more abstract and it takes longer for citizens to perceive it (Conover et al., 1986). Several studies have revealed that inflation is simply not perceived accurately by the mass public (Dolan et al., 2009; Holbrook & Garand, 1996).

Given the problems with alternative measures, we operationalize our main independent variable (economic hardships) with a measure of percent change in the unemploy-

ment rate. Our measure of percent change takes into account a longer period than the immediate change that occurs between the year preceding the election and the election year. It is problematic to assume that the unemployment rate of the election year has any effect on electoral participation when elections are held early in the year. Hence, following Pacek and Radcliff (1995), we use lagged measures of unemployment when elections are conducted between January and April. A sharp recent increase (decrease) in unemployment may have a durable effect on electoral participation even if it is followed by a much smaller decrease (increase) in the unemployment rate during the election year. Hence, we constructed measures of percent change that incorporate recent changes in the unemployment rate as well as the immediate change in unemployment in the months preceding the election. Our main independent variable is then operationalized as an average of recent and immediate changes in the unemployment rate, as can be seen in the following formula.

$$\Delta unemployment = \frac{\Delta unemployment_{immediate} + \Delta unemployment_{recent}}{2} \quad (1)$$

where,

$$\Delta unemployment_{immediate} = \frac{unemployment_t - unemployment_{t-1}}{unemployment_{t-1}} \quad (2)$$

and,

$$\Delta unemployment_{recent} = \frac{unemployment_{t-1} - unemployment_{t-2}}{unemployment_{t-2}} \quad (3)$$

The statistical models also include individual-level variables that comparative political behavior scholars have previously identified as strong predictors of electoral participation (Carreras and Castañeda 2014). In particular, we focus on the individual factors that shape voters' resources and capacity to participate in the electoral process: age (measured in years), gender (measured as a dummy variable with value of 1 if the respondent is male), education (measured as a 1-8 scale where 1 is no education and 8 is post-graduate), income (measured from the lowest household income quintile to the highest household income quintile), employment status (measured as a dummy variable with value of 1 if the respondent is employed), place of residence (measured as a dummy variable with value of 1 if the respondent lives in an urban setting), satisfaction with democracy

(measured as a 1-4 scale from not satisfied to very satisfied), partisanship (measured as a dummy variable with value of 1 if the respondent supports any political party), and ideology (measured as a 1-10 scale from left to right). As in the case of the individual propensity to vote, for these individual level variables we rely on data provided by CSES. For complete descriptive statistics please see Table A1 in the appendix.

Finally, we include some country-level variables to control for institutional factors that are usually considered as alternative explanations of voter turnout. Compulsory voting is measured as a dummy variable with values of 1 if voting is compulsory at the country-level. We also evaluate the effect of democratization on voter turnout by including a measure of the degree of democracy based on the Polity IV index. Finally, we assess the impact of the type of election on voter turnout by including a dummy variable to identify if the elections under analysis are concurrent (both presidential and legislative).

Method

To test our hypotheses, we use a stratified sample of 43 countries and run a number of model specifications combining both aggregate and individual-level data (please see Table 1 and Table 2). We begin with a non-conditional model that evaluates the "mobilization-withdrawal" hypotheses by testing the possible effects of economic adversity on the likelihood that citizens will vote. The full model includes individual-level variables to evaluate the effect of voters' resources and capacity on the propensity to vote. These models also include individual-level and country-level factors that are known to affect turnout.

In order to evaluate our conditional hypothesis ("mobilization-withdrawal" is conditional on objective individual attributes), we run a number of conditional effects multilevel- logistic regression models to assess whether or not changes in macroeconomic performance affect turnout at different levels of age, education, income, and employment

status. For these conditional models, we also run mixed-effects logistic regressions models and calculate the predicted probabilities that respondents would vote under different economic circumstances and different values of their individual attributes (age, education, income, and employment status).

As we discussed above, our data has a hierarchical or clustered structure (individual responses are nested within geographical areas). Thus, in order to estimate correct inferences (standard errors) and effectively estimate group-effects (observations are nested in countries and made at different election years), we use multi-level, random intercept models (two-level hierarchical models). Random intercept models are helpful for our analysis because they allow us to estimate separate intercepts for each level of the hierarchy (country-level), and consequently, we can account for country-specific factors that affect voter turnout (Gelman & Hill, 2006, Gelman, 2012). We use a mixed-effects model for binary responses because the grouping structure of the data consists of two levels of nested groups (individuals nested in countries). In these models, the coefficients vary across clusters (countries), and we estimate separate individual differences for each one of them. Also we assume that the differences are drawn from a normal distribution and that the covariance matrix of the random effects is unstructured, that is, we allow correlation between the level of turnout and the differences in individual objective attributes at the country level.

Findings

The results of the non-conditional model are presented in Table 1. This model assesses the effect of changes in the unemployment rate on voters' willingness to participate in the electoral process. The estimates presented in Table 1 suggest that electoral participation increases when the unemployment rate goes up. In fact, the coefficient for the variable measuring change in unemployment is positive and statistically significant. The sub-

stantive impact of a change in the unemployment rate on electoral participation can be observed in Figure A1 which presents the predicted probabilities of turnout at different levels of change in unemployment, holding all the other variables at their mean values. This estimation reveals a significant but small increase in the predicted probability of participating in elections as the unemployment rate increases. When percent change in unemployment is two standard deviations below the mean (31.2% decrease in unemployment) the predicted probability of electoral participation is 0.87; when change in unemployment is two standard deviations above the mean (32.8% increase in unemployment) the predicted probability of turnout is 0.90. While non negligible, the unconditional effect is relatively small which is in line with the findings of previous research.

[Table 1 about here]

The estimated effects of the individual-level variables are also consistent with the expectations of the literature on voter turnout. The estimates presented in Table 1 suggest that female, older, more educated, and high-income individuals living in urban areas are more likely to participate in elections. Interestingly, these estimates also suggest that the expected probability of turnout is higher for individuals who are in the labor market. This is an important finding because, as we will show later in Figures 2 and 3, the individual response to changes in the unemployment rate greatly depends on the individual status within the labor market.

Table 1 also shows that, as predicted by different theories of voter turnout, partisanship and satisfaction with democracy are positive and significant predictors of electoral participation. Similarly, country-level effects go in the expected direction: turnout is higher in countries with compulsory voting rules and when elections are concurrent.

Our main theoretical expectation is that the effect of economic adversity on voter turnout is conditional on individual-level attributes. In particular, we argue that a voter's response to macroeconomic fluctuations depends on the mechanisms that translate country-level economic recession or prosperity into individual-level economic suffering or

well-being. Such mechanisms can be institutional (i.e. the existence and strength of broad, national welfare programs), but most of them are rather associated with the individuals' capacity to cope with adverse economic conditions. Therefore, we contend that the impact of macroeconomic downturns on citizens' electoral engagement is contingent on their sociodemographic attributes, and consequently, we hypothesize that more vulnerable (or less-adaptable) citizens are more likely to mobilize when unemployment rises.

In order to test this conditional hypothesis, we run a number of multilevel mixed-effects logistic regression models designed to evaluate how individuals' sociodemographic attributes shape their electoral response to changes in unemployment rates. In the models presented in Table 2, we include a number of interaction terms between the percent change in unemployment rate and the sociodemographic attributes that could potentially shape individuals' ability to adjust to macroeconomic adversity: age, level of education, and household income. The results presented in Table 2 are again consistent with the "mobilization" hypothesis: individuals are more likely to vote as unemployment rates increase.

[Table 2 about here]

In line with our theoretical expectations, the coefficients for the interaction terms unemployment*income and unemployment*education in Table 2 are negative and statistically significant. In other words, the marginal effect of a change in the unemployment rate on voter turnout is much stronger for individuals with a low socioeconomic status. The coefficient for the interaction term unemployment*age also has the expected sign but falls short of statistical significance.

These results clearly suggest that people's response to economic adversity depends on the resources available to them to cope with it. In order to better illustrate our conditional theory of voter turnout and the magnitude of the interaction effects, we estimate predictive margins of electoral participation for different values of percent change in unemployment rates and plot the contrast of those marginal effects for different groups of age, level of

education, and income quintiles. Panels (a) to (c) in Figure 1 show the discrete marginal effects based on the models presented in Table 2. As we are looking for effects that are different from 0 (i.e. statistically significant differences), all the graphs include a reference line at the value 0 in the y-axis.

[Figure 1 about here]

The graph in panel (a) compares the difference in the effect of change in the unemployment rate on turnout between individuals that are younger than 35 years-old and the rest of population in the sample (with individuals older than 35 years-old as reference category). Panel (a) reveals small differences between younger and older people's reaction to economic adversity. Younger individuals are always less likely to vote. However, the expected difference in turnout between younger and older voters decreases slightly for every one-standard deviation increase in the change of the unemployment rate. In line with our theoretical predictions, as unemployment increases, the probability of younger voters to participate in electoral contests increases faster than the probability of older voters. However, the effect is much weaker than we anticipated.

The graph in panel (b) in Figure 1 estimates the difference of the effect of change in the unemployment rate on turnout between individuals with low levels of education (none, elementary, or secondary education only) and individuals with higher levels of education (graduate and postgraduate). In line with previous research, this estimation shows that electoral participation among less educated individuals is substantially and significantly lower than among highly educated individuals. However, those differences gradually fade out with every one-standard-deviation increase in change in the unemployment rate. In fact, at very high levels of unemployment there is no statistically significant difference in the likelihood of turnout between less-educated and highly-educated individuals (at the maximum level of change in unemployment in our sample the differences between modestly and highly educated individuals is not different from zero). In other words, we provide strong empirical evidence that the electoral participation gap between highly

educated and poorly educated individuals fades out when unemployment rises. People with lower levels of education are more vulnerable to changes in the labor market, and consequently, they are more likely to seek political responses during bad economic times.

Finally, the graph in panel (c) in Figure 1 compares the difference in the effect of a change in the unemployment rate on voter turnout between individuals in the lowest quintile of income distribution and individuals from the 2nd to 5th quintile. Individuals with lower household income are substantially and significantly less likely to participate in the electoral process in comparison with individuals in higher income quintiles. However, this participation gap fades out as unemployment rises. In other words, the difference in turnout between the lowest income quintile and the rest of the population decreases significantly as unemployment goes up. In fact, at the maximum level of change in unemployment, the gap between the poorer voters and the rest of the population is not statistically distinguishable from zero. Again, this shows that rising unemployment rates trigger electoral participation among the poorer voters, who are in a situation of economic vulnerability.

The results presented in table 2 and figure 1 provide strong evidence that individual objective conditions shape people's ability to cope with challenging economic conditions and also their demands for political responsiveness and accountability. Indeed, these results suggest that although less-educated and poorer individuals are less likely to participate in electoral contests, they are more likely to mobilize during bad economic times (rising unemployment). When there is a big increase in the unemployment rate in the years preceding a national election, the turnout gap between individuals with high and low socioeconomic status narrows considerably. Less-educated and poorer individuals are not well endowed to protect themselves against adversity, so they are highly exposed to macroeconomic fluctuations. In other words, their capacity to adapt is very limited. Therefore, electoral participation becomes a more appealing option in order to seek redress for painful economic hardships.

The empirical results also suggest that people in the labor force (people who are either employed or unemployed, but part of the labor market) are significantly more likely to participate in elections than people who are not in the labor force (people who are neither employed nor unemployed; for example, students, retired people, homemakers, permanently disabled people, etc.). However, the labor force is composed by different groups of people and one can expect that individuals would have different resources available to cope with economic adversity depending on which group they belong to. For this reason, we calculate the marginal effects of a change in unemployment rate on voting turnout for different groups of individuals in the labor force.

In the CSES database, respondents in the labor force are classified as employed (full-time), employed (part-time), or unemployed; meanwhile, respondents not in the labor are classified as students, retired, homemakers, and permanently disabled. Using this classification, we first analyze the effect of labor force status on voter turnout (when unemployment is rising), and second, we compare such effects using full-time employees as reference group.

In Table [A2](#), we estimate a number of multilevel mixed-effects logistic regression models for the effect of changes in unemployment rate on turnout conditional on individuals' labor force status. Model 1 evaluates the conditional effect for individuals in the labor force, model 2 evaluates the conditional effect for individuals that are full-time employees, model 3 assesses the conditional effect for individuals classified as students, model 4 evaluates the conditional effect for individuals classified as retired, and model 5 analyzes the conditional effect for unemployed people. We are particularly interested in the effect of change in unemployment on the turnout decisions of unemployed individuals.

As we discussed above, we expect unemployed individuals to be more participatory when unemployment increases. When economic times are bad, unemployed citizens blame the government (rather than themselves) for their inability to find a stable job. As a result, they are more likely to vote in order to sanction a government perceived as inef-

fective. The results are quite consistent with our theoretical expectations. Interpreting the substantive importance of coefficients in multilevel logistic regressions can be challenging, so we estimated the discrete marginal effects based on the estimates presented in Table [A2](#).

Figure 2 illustrates these discrete marginal effects. In this figure, we calculated the contrasts of margins using "other employment status" as a reference group. The graph in panel (a) compares the difference of the effect of a percent change in the unemployment rate on voter turnout between full-time employees and the rest of population. The line showing the estimates of this difference at different levels of change in unemployment is flat but always positive and statistically significant. This means that full-time employees are always more likely to vote than the rest of the population, but these differences are not sensitive to macroeconomic fluctuations. The graph in panel (b) compares the difference of the effect of changes in the unemployment rate on turnout between unemployed individuals and the rest of population. For this group, electoral participation is significantly lower than for individuals with another employment status. However, the gap between unemployed individuals and the rest of the population narrows when unemployment goes up. In fact, there are no significant differences between unemployed individuals and other groups when the percent change in unemployment rate rises over two standard deviation above the mean. In line with our theoretical expectations, unemployed individuals are more likely to participate in the electoral process during periods of economic duress. We argue that unemployed people are more mobilized by economic hardships because they have fewer resources available to protect themselves during bad economic times (especially in contexts where the social safety net is weak).

[Figure 2 about here]

Even though the conditional effects of labor force status are clear, it is important to analyze if these predictions remain significant when we compare the response of different groups within the labor market. Since the variable "employment status" has different

categories, we create dummy variables for all of them and exclude a reference category (in this case, full-time employees), so we can interpret the coefficient for each category in reference to the excluded one. This procedure allows us to understand how rising unemployment shapes voter turnout among different groups in comparison with the group of voters in the labor force that has the most resources to deal with economic downturns. Figure 3 presents the results of this analysis.

Panel (a) in Figure 3 compares the difference in the effect of change in the unemployment rate on voter turnout between part-time employees and full-time-employees. This graph shows that there are not statistically significant differences between the response of part-time and full-time employees to rising unemployment. The effects are not significantly different from zero for any level of change in the unemployment rate. However, if one compares the difference in the effect of a percent change in the unemployment rate on voting turnout between unemployed individuals and full-time-employees, those differences are quite substantial and significant. In line with the evidence presented in Figure 2, unemployed individuals are less likely to vote than full-time employees but this difference fades out as the unemployment rate rises. When the change in unemployment rate goes above two standard deviations from the mean, the likelihood that unemployed individuals participate in elections is not statistically different from the probability of turnout of full-time employees. Once again, these results suggest that significant increases in the unemployment rate produce an important boost in the electoral participation of vulnerable groups in the labor force.

[Figure 3 about here]

The empirical analysis presented above also suggests that the difference in the likelihood of electoral participation among different sociodemographic groups fades out almost entirely when the mean percent change in unemployment rate reaches its maximum values. At a very high level of unemployment, well-resourced voters keep their level of participation at normal levels, but more vulnerable groups that are usually demobilized

(for example, poorer, less-educated, or unemployed individuals) significantly increase their electoral participation to hold incumbent governments accountable and to demand policies that protect them from the negative effects of economic adversity.

Concluding remarks

We have shown that the impact of economic hardships on electoral participation is asymmetrical. In other words, economic downturns only have a mobilizing effect on voters who are in a situation of economic and social vulnerability (in particular people with a low socioeconomic status and unemployed individuals). This might help explain why aggregate cross-national studies have produced mixed (and often null) findings. Economic downturns do affect citizens' turnout decisions, but the impact is contingent on citizens' sociodemographic characteristics. Poorer, less educated, and unemployed individuals suffer more acutely from economic crises, and often lack the financial resources to cope with economic duress. We postulate that this greater pain is associated with a greater mobilization. Citizens in a situation of economic vulnerability are more motivated to express and seek redress for their grievances at the polls.

Although our paper confirms the unequal voice of different sociodemographic groups in contemporary democracies, the findings suggest that economic hardships produce a participatory boost precisely among the segments of society which are often ignored in the political arena during "normal" times. We are then less pessimistic regarding the lack of representation of low-income and poorly educated groups in a wide variety of democratic systems. It appears that these groups tend to vote in higher numbers when it matters most to them.

However, the empirical analysis leads us to reconsider one of our theoretical expectations. We argued that since young people are more vulnerable to economic fluctuations, there should be a stronger mobilization boost among young voters during economic

downturns. However, the estimations reported in this paper suggest that young citizens are only slightly more likely to vote during periods of economic duress, and this small increase in electoral participation is not statistically distinguishable from the one observed in other age groups. While this runs against our theoretical intuitions, this result may be related to the fact that younger generations appear less likely to become politically active in conventional ways within formal institutional channels.

Previous research has indeed shown that younger generations are more likely than other age groups to express their grievances in unconventional ways, such as street demonstrations (Dalton, 2011; Martin, 2012). While younger generations tend to distrust electoral politics, they are more ready to confront elites with demands from below (Dalton & Welzel, 2014). It is therefore possible that there is a participation boost among young citizens during economic downturns, but that this is expressed through participation in social movements and street demonstrations. These forms of political engagement allow participants to express their grievances in the public arena and to make direct demands on governmental institutions perceived as ineffective. There is significant anecdotal evidence showing that young people have joined social movements and mass demonstrations (such as the Indignados in Spain and the Occupy Wall Street movement in the United States) as a response to the last global recession in 2009.

In sum, we believe that while our premise (young citizens are more vulnerable to economic downturns) is correct, the implication we drew (higher electoral participation) is not accurate. Young citizens become more politically mobilized during periods of economic duress but they do not necessarily participate more in electoral politics. Future research should address this possibility in a more systematic way.

This paper also opens up other interesting avenues for further research. In particular, it would be interesting to analyze the impact of government spending in welfare programs on electoral participation. If our theory is correct, a reasonable implication is that individuals with a lower socioeconomic status should participate more when there are

less extensive welfare programs - especially during bad economic times -.

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Tables

Table 1: Estimates for mixed-effects (multi-level), logistic, and non-conditional model for voter turnout

	Mixed-effects logistic model <i>b/(se)</i>
Percent change in unemployment	0.529*** (0.08)
INDIVIDUAL LEVEL	
Age (years old)	0.027*** (0.00)
Gender (male = 1)	-0.037** (0.02)
Education (from primary to post-graduate)	0.153*** (0.01)
Income (from lower to higher quintile)	0.146*** (0.01)
In the labor market (yes = 1)	0.101*** (0.02)
Place of residence (urban = 1)	-0.156*** (0.02)
Satisfaction with democracy (from low to high)	0.247*** (0.01)
Partisanship (yes = 1)	0.914*** (0.02)
Ideology (from left to right)	0.009** (0.00)
COUNTRY LEVEL	
Compulsory voting (yes = 1)	0.226*** (0.05)
Degree of democracy (Polity IV score)	0.066*** (0.02)
Concurrent elections (yes = 1)	1.065*** (0.06)
<i>Level-two (country) random effects</i>	
Estimate	0.726
Std. Err.	0.169
Prob>=chibar2	0.000
<i>N</i>	106,669

p-values * 0.10 ** 0.05 *** 0.01

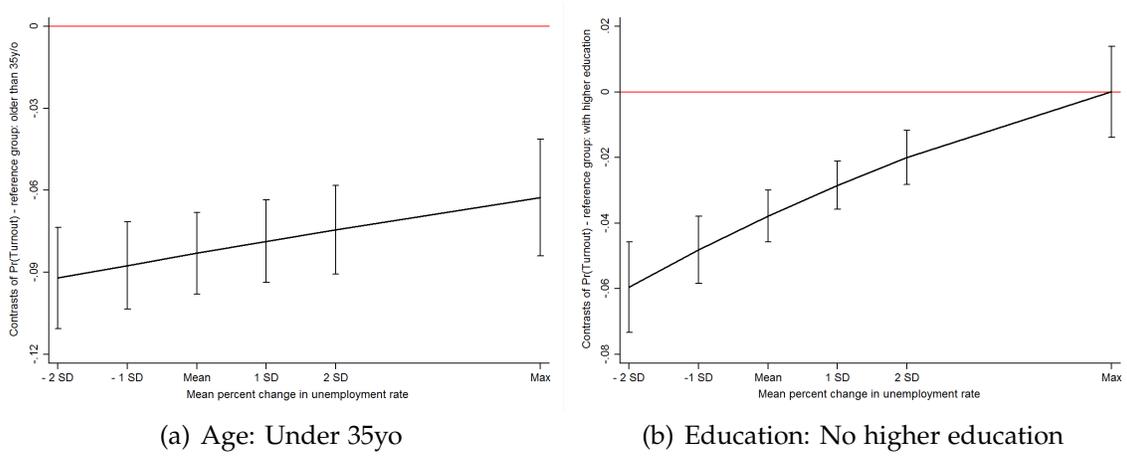
Table 2: Estimates for mixed-effects (multi-level) logistic regression conditional models for voter turnout (unemployment conditional to individual attributes)

	(1) b/se	(2) b/se	(3) b/se
Percent change in unemployment	0.704*** (0.18)	1.036*** (0.21)	0.949*** (0.16)
INDIVIDUAL LEVEL			
Age (years)	0.027*** (0.00)	0.027*** (0.00)	0.027*** (0.00)
Education	0.148*** (0.01)	0.148*** (0.01)	0.149*** (0.01)
Income (from lowest to highest quintile)	0.146*** (0.01)	0.146*** (0.01)	0.146*** (0.01)
Change unemployment*age	-0.005 (0.00)		
Change unemployment*education		-0.103*** (0.04)	
Change unemployment*income			-0.155*** (0.05)
In the labor market	0.096*** (0.02)	0.096*** (0.02)	0.094*** (0.02)
Gender (male = 1)	-0.041** (0.02)	-0.042** (0.02)	-0.041** (0.02)
Place of residence (urban = 1)	-0.162*** (0.02)	-0.162*** (0.02)	-0.162*** (0.02)
Satisfaction with democracy (from lowest to highest)	0.238*** (0.01)	0.239*** (0.01)	0.239*** (0.01)
Partisanship (yes = 1)	0.916*** (0.02)	0.917*** (0.02)	0.916*** (0.02)
Ideology (from left to right)	0.009** (0.00)	0.009** (0.00)	0.009** (0.00)
COUNTRY LEVEL			
Compulsory voting	0.145*** (0.05)	0.157*** (0.05)	0.140*** (0.05)
Degree of democracy	-0.084*** (0.02)	-0.082*** (0.02)	-0.083*** (0.02)
Concurrent elections	1.080*** (0.07)	1.092*** (0.07)	1.071*** (0.07)
<i>Level-two (country) random effects</i>			
Estimate	1.261	1.289	1.257
Std. Err.	0.381	0.394	0.380
Prob>=chibar2	0.000	0.000	0.000
N	106,669	106,669	106,669

p-values * 0.10 ** 0.05 *** 0.01

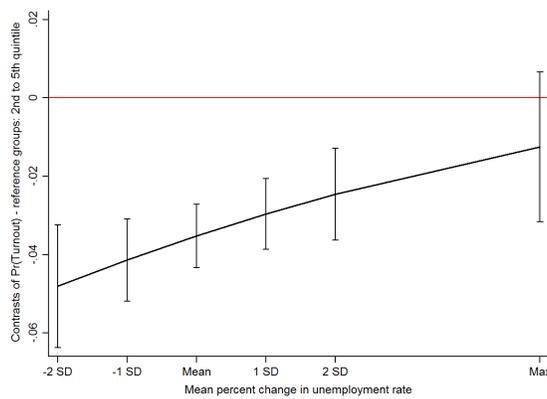
Figures

Figure 1: *Contrasts of marginal effects of the change in unemployment rate on voter turnout conditional on sociodemographic attributes*



(a) Age: Under 35yo

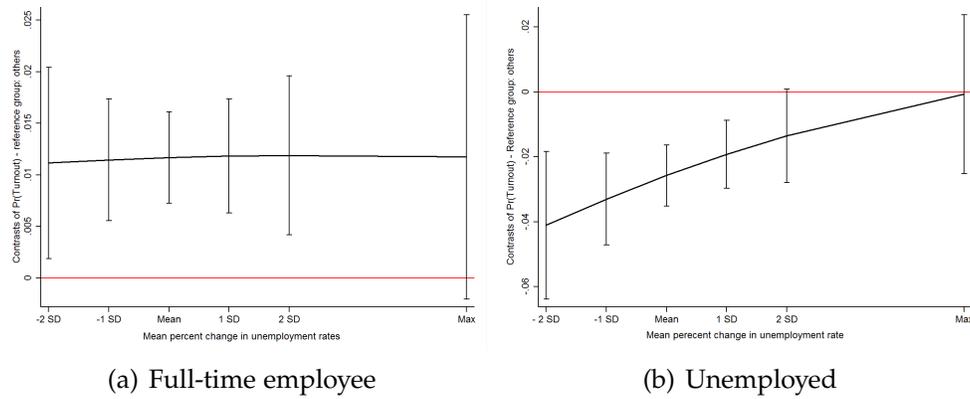
(b) Education: No higher education



(c) Income: Lowest quintile

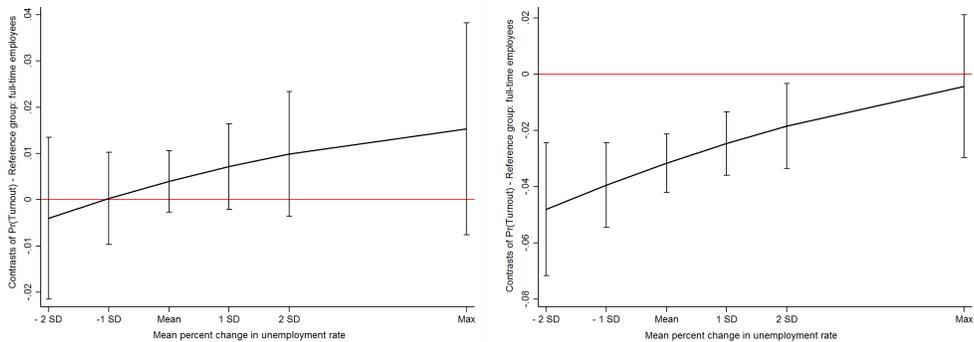
Linear calculations were calculated based on the models presented in Table 2

Figure 2: Marginal effects of the change in unemployment rates on voting turnout conditional to employment status



Linear calculations were calculated based on Table A2

Figure 3: Marginal effects of the change in unemployment rates on voting turnout conditional to employment status (reference group: full-time employees)



(a) Part-time employee

(b) Unemployed

Linear calculations were calculated based on Table A3

Appendix

Table A1: Summary statistics

	Mean	SD	Min	Max
MAIN VARIABLES				
Voter turnout	0.849	0.358	0	1
Percent change in unemployment rate	0.009	0.161	-0.317	0.867
INDIVIDUAL-LEVEL VARIABLES				
Age	46.731	17.139	15	106
Gender (male = 1)	0.477	0.499	0	1
Level of education (from low to high)	4.993	1.822	1	8
Household income (quintiles)	2.929	1.385	1	5
In the labor market (yes = 1)	0.588	0.492	0	1
Place of residence (urban = 1)	0.744	0.436	0	1
Satisfaction with democracy (low to high)	2.611	0.808	1	4
Partisanship (yes = 1)	0.476	0.499	0	1
Ideology (from left to right)	5.361	2.492	0	10
COUNTRY-LEVEL VARIABLES				
Compulsory voting (yes = 1)	0.203	0.402	0	1
Level of democracy (Polity IV score higher than 5)	9.453	0.994	5	10
Concurrent elections (yes = 1)	0.164	0.371	0	1

Table A2: Estimates for mixed-effects (multi-level) logistic regression models for voting turnout (unemployment conditional to labor market attributes - mean percentage change previous two years

	(1)	(2)	(3)	(4)	(5)
	b/se	b/se	b/se	b/se	b/se
Percent change unemployment	0.412*** (0.11)	0.480*** (0.10)	0.533*** (0.08)	0.555*** (0.08)	0.517*** (0.08)
In the labor market	0.095*** (0.02)				
Change unemployment*labor	0.154 (0.13)				
Employed full-time		0.121*** (0.02)			
Change unemployment*full-time		0.058 (0.12)			
Student			0.026 (0.04)		
Change unemployment*student			-0.140 (0.23)		
Retired				-0.152*** (0.04)	
Change unemployment*retired				-0.304* (0.18)	
Unemployed					-0.267*** (0.04)
Change unemployment*unemployed					0.303 (0.23)
Age	0.027*** (0.00)	0.027*** (0.00)	0.027*** (0.00)	0.029*** (0.00)	0.026*** (0.00)
Gender (male=1)	-0.041** (0.02)	-0.052*** (0.02)	-0.027 (0.02)	-0.026 (0.02)	-0.024 (0.02)
Education	0.148*** (0.01)	0.147*** (0.01)	0.150*** (0.01)	0.150*** (0.01)	0.149*** (0.01)
Income	0.146*** (0.01)	0.142*** (0.01)	0.152*** (0.01)	0.147*** (0.01)	0.145*** (0.01)
Residence (urban=1)	-0.163*** (0.02)	-0.163*** (0.02)	-0.165*** (0.02)	-0.161*** (0.02)	-0.163*** (0.02)
Satisfaction with democracy	0.239*** (0.01)	0.237*** (0.01)	0.237*** (0.01)	0.238*** (0.01)	0.234*** (0.01)
Partisanship	0.917*** (0.02)	0.917*** (0.02)	0.915*** (0.02)	0.916*** (0.02)	0.915*** (0.02)
Ideology	0.009** (0.00)	0.009** (0.00)	0.009** (0.00)	0.009** (0.00)	0.009** (0.00)
Compulsory voting	0.142*** (0.05)	0.136*** (0.05)	0.151*** (0.05)	0.152*** (0.05)	0.152*** (0.05)
Degree of democracy	-0.081*** (0.02)	-0.079*** (0.02)	-0.079*** (0.02)	-0.083*** (0.02)	-0.075*** (0.02)
Concurrent elections	1.074*** (0.07)	1.063*** (0.07)	1.084*** (0.07)	1.087*** (0.07)	1.077*** (0.07)
<i>Level-two (country) random effects</i>					
Estimate	1.279	1.292			
Std. Err.	0.390	0.732			
Prob>=chibar2	0.000	0.000			
N	106669	106669	106669	106669	106669

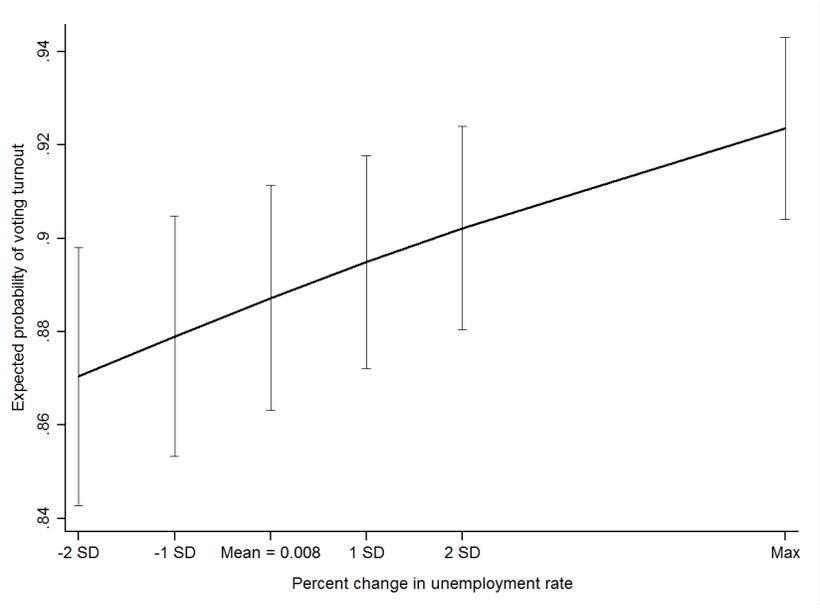
p-values * 0.10 ** 0.05 *** 0.01

Table A3: Estimates for mixed-effects (multi-level) logistic regression models for voting turnout (unemployment conditional to labor market composition): full-time employees used as reference group

	(1) turnout b/se	(2) turnout b/se	(3) turnout b/se	(4) turnout b/se
Percent change unemployment rate	0.504*** (0.09)	0.501*** (0.08)	0.530*** (0.08)	0.562*** (0.09)
Part-time employee	0.039 (0.04)	0.038 (0.04)	0.038 (0.04)	0.039 (0.04)
Unemployed	-0.316*** (0.04)	-0.325*** (0.04)	-0.316*** (0.04)	-0.318*** (0.04)
Student	-0.008 (0.04)	-0.009 (0.04)	-0.007 (0.04)	-0.008 (0.04)
Retired	-0.227*** (0.04)	-0.227*** (0.04)	-0.227*** (0.04)	-0.228*** (0.04)
Not in the labor force	-0.145*** (0.03)	-0.146*** (0.03)	-0.145*** (0.03)	-0.145*** (0.03)
Change unemployment*part-time	0.231 (0.24)			
Change unemployment*unemployed		0.311 (0.23)		
Change unemployment*student			-0.122 (0.23)	
Change unemployment*retired				-0.331* (0.18)
Age	0.029*** (0.00)	0.029*** (0.00)	0.029*** (0.00)	0.029*** (0.00)
Gender	-0.036* (0.02)	-0.035* (0.02)	-0.035* (0.02)	-0.035* (0.02)
Education	0.146*** (0.01)	0.146*** (0.01)	0.146*** (0.01)	0.146*** (0.01)
Income	0.135*** (0.01)	0.135*** (0.01)	0.135*** (0.01)	0.135*** (0.01)
Place of residence	-0.158*** (0.02)	-0.158*** (0.02)	-0.158*** (0.02)	-0.157*** (0.02)
Satisfaction with democracy	0.237*** (0.01)	0.237*** (0.01)	0.237*** (0.01)	0.237*** (0.01)
Partisanship	0.922*** (0.02)	0.923*** (0.02)	0.923*** (0.02)	0.923*** (0.02)
Ideology	0.010** (0.00)	0.010** (0.00)	0.010** (0.00)	0.009** (0.00)
Compulsory voting	0.152*** (0.05)	0.149*** (0.05)	0.150*** (0.05)	0.153*** (0.05)
Degree of democracy	-0.078*** (0.02)	-0.078*** (0.02)	-0.078*** (0.02)	-0.080*** (0.02)
Concurrent elections	1.076*** (0.07)	1.071*** (0.07)	1.073*** (0.07)	1.077*** (0.07)
N	102,675	102,675	102,675	102,675

p-values * 0.10 ** 0.05 *** 0.01

Figure A1: *Conditional marginal effects of the change in unemployment - Predictive Margins with 95% CIs*



Linear calculations were calculated based on Table 1