

# The Effects of Unemployment on Voter Turnout in U.S. National Elections

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**Abstract:** This paper examines the effects of economic hardship on political participation. Economic hardship can impede political participation, but can also galvanize citizens to seek redress from government. In this paper, I study the effects of personal experience with unemployment on voter turnout in the United States. I argue that individuals perceive job loss as a personal problem in low-unemployment contexts and a social problem in high-unemployment contexts. Job loss is therefore a mobilizing experience when and where the unemployment rate is high. I test my theory using the Current Population Study Voting and Registration Supplement from 1978 through 2010. In a cross-sectional analysis, I find that the effect of unemployment on reported turnout is increasing in unemployment context. By exploiting the timing of job loss around Election Day as a quasi-experiment, I estimate that the causal effect of involuntary job loss on reported turnout ranges from about -5 percentage points in low-unemployment contexts to over 10 percentage points in high-unemployment contexts. I do not find similar effects for individuals who quit their jobs around Election Day or who lose their jobs well before Election Day.

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## **Introduction**

The United States is recovering from its longest period of high unemployment since the Great Depression in the aftermath of the economic downturn that began in late 2007.<sup>2</sup> While the link between high or rising unemployment and anti-incumbent voting is well-established in political science (Mueller 1970; Kramer 1971; Lepper 1974; Hibbs 1979), most of the research on the connections between economic conditions and political behavior focuses on unemployment as a macroeconomic indicator and not as a form of personal economic hardship experienced by some Americans and not others (e.g. Radcliff 1992). Additionally, the literature on economic voting primarily considers how economic outcomes affect individual vote choice, but rarely examines whether these outcomes affect political participation in the form of turning out to vote. The majority of attempts to understand this relationship (Schlozman and Verba 1979; Rosenstone 1982) predate the last time the unemployment rate reached recent heights and tend to focus on unemployment solely during economic recessions.

This paper examines the effects of personal experience with job loss and unemployment on Americans' propensities of turning out to vote in national elections spanning 1978 through 2010, a period that includes both good and bad economic conditions. I develop a new theory of political behavior following personal economic hardship that incorporates the broader economic context in which Americans experience unemployment. Then, I utilize the instrument that the federal government uses to calculate the unemployment rate on a monthly basis, the Current Population Survey (CPS), jointly administered by the Bureau of the Census and the Bureau of Labor Statistics to test this theory across multiple levels of analysis. By exploiting the quasi-panel structure of the CPS and the timing of job loss, I estimate the causal effects of job loss on

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<sup>2</sup> At the worst point of this jobs crisis, October 2010, over 15.4 million Americans were unemployed, with over 40 percent unemployed for 27 weeks or longer periods of time.

voter turnout for a balanced sample of Americans who become unemployed in the weeks surrounding Election Day.

I find that the economic and social contexts in which Americans experience unemployment structure the ways in which their economic situations influence their political behavior. Broadly speaking, personal experience with involuntary unemployment is a mobilizing phenomenon that increases voter turnout in high-unemployment contexts and a demobilizing phenomenon that decreases voter turnout in low-unemployment contexts. These findings have important implications for how political scientists think about the phenomenon of unemployment, particularly the significance of unemployment as a personal experience that has systematic effects on how we engage in politics. From a methodological standpoint, this paper is an example of how design-based inference can help us to establish the causal relationships between personal economic conditions and political behavior.

The remainder of this paper proceeds as follows: In the next section, I summarize the existing scholarly research on the effects of job loss on political behavior, namely political participation. Following this, I articulate my main argument, that the context in which Americans experience job loss influences the extent to which unemployment is a “socially-centered problem,” that mobilizes individuals who experience it to engage in political participation (Brody and Sniderman 1977). Then, I describe the data used in this analysis. I present a large, cross-sectional analysis of the effects of unemployment on voter turnout. I find a robust association between job loss and voter turnout that is consistent with the theory of *Unemployment-in-Context*. Next, I introduce a design-based approach which carefully constructs two groups into which citizens who experience job loss are quasi-randomly assigned within a one-month window of time around Election Day. Here, I demonstrate that the design-based

approach reduces the problem of selection bias and produces a more balanced sample. I then estimate the causal effect of job loss on individual propensity to turn out to vote and attempt to address the causal mechanisms that contribute to my findings, particularly whether resources or psychological factors underpin them. In this section, I also discuss the limitations and implications of my findings. Finally, I conclude with a discussion of how my findings contribute to our understanding of how personal economic hardship affects political behavior and with suggestions for future research.

### **Previous Research**

At present, gaps exist in our understanding of how unemployment affects political attitudes and behavior in part because there has been so little attention paid to unemployment as a personal hardship and the disparate contexts in which someone can experience unemployment (when it is a widespread problem and when it is relatively uncommon). With the exception of very recent scholarship emerging from the 2007 economic recession (Margalit 2013; Burden and Wichowsky 2014; Owens and Pedulla 2013), existing theories of unemployment were created and evaluated the last time the unemployment rate was as high as it is today, nearly three decades ago

#### *Mobilization*

Unemployed Americans may engage in political behavior to lobby government to address economic hardships such as high unemployment or inflation or to express their discontent with their unfortunate situations and punish the members of government who they believe are responsible for job loss and high unemployment (Lipset 1960; Schlozman and Verba 1979; Healy 2009; Margalit 2011). This mobilization would be consistent with the notion of retrospective “pocketbook voting” (Fiorina 1981; Bartels 2008; Bartels 2010) and findings that

voters are wont to punish elected officials for poor economic outcomes (Lau 1982; Owen 2011). Similarly, voting as a means of expressing grievances with current conditions can be viewed as an extension of political participation as a civic duty (Riker and Ordeshook 1968). Another mechanism through which unemployment may directly influence political participation is by way of policy feedback, through the receipt of unemployment benefits from the government. Interacting with government through participation in a government program such as Social Security has been shown to increase an individual's likelihood of turning out to vote (Campbell 2002; Mettler and Soss 2004; Chen 2012).

Job loss can also provide non-psychological sources of voter mobilization; the unemployed may become more politically active because they have more free time to follow politics and participate (Charles and Stephens 2011). However, the link between free or leisure time and political participation is rather weak (Verba, Scholzman, and Brady 1995; Putnam 2000). Furthermore, survey evidence from both the 1970s and the 2010s indicates that while unemployed Americans have more leisure time and watch more television than gainfully employed Americans, they dedicate less time to watching or reading the news (Scholzman and Verba 1979; Krueger and Mueller 2011).

### *Withdrawal*

The financial burden of unemployment and the demands and stresses of looking for new work could lower one's likelihood of participation (Scholzman and Verba 1979; Rosenstone 1982). Unemployment contributes to significant psychological distress and associates with negative physical health outcomes (Warr 1987). The unemployed express lower levels of life satisfaction, including satisfaction with income, satisfaction with their families, and satisfaction with their personal accomplishments (Feather 1989; Scholzman and Verba 1979). Most

importantly, the unemployed report lower levels of self-esteem and personal efficacy, which can later contribute to a general sense of apathy (Bandura 1982).

These findings point to unemployment as a demobilizing phenomenon. Americans who experience job loss are unlikely to get sufficiently aroused to make it a point to head to the polls on Election Day. To the extent that citizens perceive job loss as a personal problem with which they must cope and that they must remedy, job loss will not increase their likelihood of voting (Sniderman and Brody 1977). As Rosenstone concludes, “When a person experiences economic adversity his scarce resources are spend on holding body and soul together – surviving – not on remote concerns like politics” (1982, p. 26).

### **Unemployment in Context**

In this section, I outline a new theory of how personal hardships interact with broader social and economic trends to influence political behavior, which I call *Unemployment-in-Context*. While I focus my discussion on the economic hardship of unemployment and the political behavior of turning out to vote, the theory is similarly applicable to other forms of economic hardship and other political outcomes. Unemployment represents a good test case because it is an unambiguous personal hardship, as opposed to more subjective worries over not making ends meet.<sup>3</sup>

Unemployment occurs under a variety of circumstances that should affect how it is experienced, understood, and potentially incorporated into political attitudes and behavior. Building off of Sniderman and Brody (1977), I argue that personal problems and hardships, such as unemployment, can become politicized to the extent that individuals perceive them as externally caused, pervasive in their communities, and resistant to individual influence or

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<sup>3</sup> While citizens may not be able to agree on what constitutes a struggling economy, perhaps due to partisan biases in evaluating objective economic conditions (Bartels 2008), or agree upon a threshold for “low-income,” the definition of unemployment is comparatively easier to understand.

remedy. Individuals form these perceptions in response to their local unemployment contexts, which reflect the social and economic realities in which individuals must cope with their economic hardships and take steps to remedy them.<sup>4</sup> Local context and geographically narrow interests have been shown to meaningfully affect political behavior (Cutler 2007). In short, job loss in low-unemployment contexts is a demobilizing phenomenon. However, unemployment becomes a socially-centered and politicized issue in high-unemployment contexts and should contribute to political mobilization (Burden and Wichowsky 2014).

When an individual loses his or her job, “the person will undertake a causal search to determine why the outcome occurred, especially if the job was an important part of that person's life or if loss of the job was unexpected” (Feather 1990, p.68). Unemployed citizens learn about the broader state of the economy through their family and friends, who might also be unemployed (Paolino 2011), their job-seeking behavior (Mortensen 1984; Krueger and Mueller 2011), and other contextual factors such as nearby mass layoffs (Healy 2009) and plant closures due to outsourcing decisions (Margalit 2011). The act of applying for unemployment benefits can also aid in this process (Mutz 1994).

Importantly, the politicization of economic hardship is affected by real economic context, not simply national economic conditions as reported in the news media or elsewhere.<sup>5</sup> Reported concern about unemployment is significantly affected by the unemployment rate but not significantly affected by national news stories about unemployment (Behr and Iyengar 1985; Iyengar and Kinder 1987). Jobless Americans should exhibit a distinct sensitivity to

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<sup>4</sup> This is a major distinction between my theory and the existing literature. I allow individuals to form perceptions about their hardships, rather than classify some hardships as personally-centered (such as going through a divorce) and some as socially-centered (such as monetary inflation) based on their content alone.

<sup>5</sup> Of course, local and national economic conditions are correlated, but at any given point in time, we observe substantial variation in unemployment across U.S. States. For example, during the worst months of the most recent jobs crisis, the unemployment rate in Nevada approached 15%, while at the same time remaining around 4% in North Dakota. Followers of European politics will note that the unemployment rate in Nevada at this time was roughly equivalent to that of Greece.

unemployment context that alters the manner in which their own experiences with unemployment affect their political behavior. This sensitivity should be consistent with the mobilization that occurs when an individual is faced with a socially-centered problem (Brody and Sniderman 1977; Sniderman and Brody 1977).

In low-unemployment contexts, job loss should have a demobilizing effect on voter turnout on those who experience it. Unemployed Americans will not politicize their personal hardships and perceive them as problems that should be addressed by government. They will perceive being unemployed as their own problem and devote their efforts to the job search over participating in politics, making voting a substitute for the job search and raising the costs of voting (Downs 1957, Riker and Ordeshook 1968). In high-unemployment contexts, job loss should make individuals more likely to vote than we would expect had they experienced no unemployment. I expect individuals who experience job loss when and where the unemployment rate is high to perceive their hardship as part of a broader social problem and be spurred by this to vote. This is not because of increased leisure time or any other resource-based explanation but is psychological and based on mobilization. In the remainder of this paper, I evaluate the implications of *Unemployment-in-Context* and present evidence in favor of a mobilization-based explanation for how job loss affects voter turnout.

## **Data**

Focusing on the unemployed as a population of interest can be challenging for a variety of reasons. First, since 1960 no more than 10.8 percent of the U.S. labor force has been considered unemployed. Second, while the total proportion of jobless Americans has always been greater than the unemployment rate<sup>6</sup>, it is difficult to differentiate between the long-term unemployed

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<sup>6</sup> The reported unemployment rate uses as its denominator the proportion of non-institutionalized Americans who are in the labor force. Individuals who have left the labor force for any reason are not included, even if they have left



who may still be seeking employment, and those who are no longer part of the labor force because they are discouraged. Third, as is the case with many embarrassing or socially undesirable outcomes, we can expect self-reports of unemployment to be biased downward. Finally, surveys that rely on simple random sampling or similar techniques tend to undersample individuals with low socioeconomic status, a group that is more likely to be unemployed. Thus, without a very large sample or a purposeful sampling design, it is difficult to attain precise data about unemployed Americans.

The ideal data set for a study of the effects of job loss on Americans' political attitudes and behavior would be a very large longitudinal survey that frequently inquires about labor force participation and includes various measures of public opinion and inquiries about political participation. To the best of my knowledge, no such data set exists.<sup>7</sup> In order to locate an adequately-sized sample of unemployed Americans, I turn to the Bureau of Labor Statistics' official instrument for calculating the monthly unemployment rate, the Current Population Survey (CPS). The CPS is administered at the household level to about 50,000-60,000 households and asks about the employment status of each member of the household at least 15 years of age in the week containing the 12<sup>th</sup> day of the month.

### *Dependent Variable*

Most important for my purposes, the November CPS contains a Voting and Registration Supplement in even-numbered years, which asks eligible respondents whether they (and other members of their household) turned out to vote on Election Day. I exclude any respondents who

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the labor force out of frustration due to long-term unemployment. For instance, Western and Pettit (2005) demonstrates that the racial disparities in employment and wages would be even greater but for the exclusion of incarcerated individuals from the labor force in reports published by the Bureau of Labor Statistics.

<sup>7</sup> For example, while the American National Election Studies 2008-2009 Panel Study fielded 6 waves in 2008 alone, its sample size was under 3,000 and it included just 2 inquiries to employment status nearly a year apart.

could not recall if they voted.<sup>8</sup> This leaves a sample of 1,535,337 respondents, with 56,234 unemployed respondents, in 17 elections spanning 1978 through 2010. This time period includes two elections that took place when the national unemployment rate was very high (1982 and 2010, with rates of 10.8 and 9.8 percent, respectively) and three elections that took place when the unemployment rate was rather low, approaching what is considered full employment<sup>9</sup> (1998, 2000, and 2006, with rates of 4.4, 3.9, and 4.5 percent respectively). In the next section, I offer support for the theory of *Unemployment-in-Context* by presenting evidence that indicates that the effect of unemployment on an individual's likelihood of turnout to vote significantly varies with the unemployment rate in his or her state at the time of the election.

### **Cross-sectional analysis**

*Unemployment-in-Context* posits that unemployed Americans will be mobilized to turn out to vote in high-unemployment contexts. In order to broadly test this claim, I rely on two useful characteristics of the available data. First, the CPS household survey is both large in size and a representative sample of U.S. states. This allows me to examine the effect of unemployment on voter turnout in each state for each election separately (867 state-year cases in total, counting the District of Columbia), without making any assumptions about how unemployment in one state may be similar to unemployment in another state, which would be the case if I pooled my data within election years or pooled across all states and elections. Second, I am able to exploit the substantial variation in the unemployment rate across states at a given period of time. For the remainder of this analysis, I operationalize “local unemployment context”

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<sup>8</sup> This differs from the approach used by the Census Bureau, which does not exclude these unsure responses when it publishes turnout statistics using CPS data (Hur and Achen 2013).

<sup>9</sup> The Full Employment and Balanced Growth Act of 1978 instructs the United States to strive for full employment, which it defined as unemployment rates not more than 3% for persons aged 20 or over and not more than 4% for persons aged 16 or over.

as the seasonally-adjusted unemployment rate in a respondent's state of residence.<sup>10</sup> Figure 1 displays the distribution of the seasonally-adjusted unemployment rate by state over the time period of interest for this analysis.

[Fig. 1 here]

This substantial variation in the unemployment rate by state means that I will be able to incorporate additional variation in local unemployment context, ranging from very low-unemployment contexts (the lowest being New Hampshire in 1986, with an unemployment rate of 2.1 percent) to very high-unemployment contexts (the highest being West Virginia in 1982, at 17 percent). If I am correct, unemployed Americans will be more likely to turn out to vote in high-unemployment contexts, all else equal. As a descriptive first step, I plot the average turnout rates for each state in each election as computed from the CPS household survey for employed and unemployed respondents as a function of the unemployment context in Fig. 2.<sup>11</sup> Because turnout rates are uniformly higher during presidential elections and considerably more stratified by age, income, and education (Wolfinger and Rosenstone 1980), I plot presidential and off-year elections separately.

[Fig. 2 here]

The scatterplots in Fig. 2 demonstrate that turnout generally increases with unemployment context, measured here as the seasonally-adjusted unemployment rate in each state in November of each election year. In both presidential elections and off-year national elections, reported turnout among the employed and the unemployed is higher on average in

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<sup>10</sup> State of residence is the best available geographical unit for this analysis because the CPS utilizes a representative sample of each state. While there can be intrastate variation in unemployment, I am unable to consider smaller units such as metropolitan areas and counties, because confidentiality laws prevent the BLS from sharing this information for respondents in all but the largest metropolitan areas and counties.

<sup>11</sup> For simplicity's sake, I plot the raw means for each group without any weighting or adjusting.

high-unemployment contexts than in low-unemployment contexts. This suggests that difficult economic times “raise the stakes” of elections and mobilize voters to participate.<sup>12</sup>

In both presidential and off-year elections, the turnout rate for unemployed respondents (designated on the plot using x’s and summarized with dashed lines) increases more rapidly than the turnout rate for the employed as a function of the local unemployment context. This is especially true in presidential elections, in which a 1-point increase in the state-level unemployment rate is associated with a roughly 1.3-point increase in turnout among unemployed voters ( $t=3.85$ ,  $p < .01$ ). This is approximately 3 times larger than the corresponding effect of a 1-point increase in the unemployment rate on employed voters’ reported turnout rates. The information presented in Fig. 2 indicates that unemployed citizens are more sensitive to local economic context than employed citizens, particularly during presidential election years.

### *Multilevel Analysis*

Turnout among unemployed Americans is positively associated with local unemployment context. However, the data presented in Fig. 2 do not account for various underlying differences between states and across election years that might confound the relationship between economic conditions and aggregate voter turnout. To account for these differences, and to assess the effect of unemployment across a range of economic contexts, I utilize the two-step, multilevel approach that has been previously applied to questions of economic voting (Duch and Stevenson 2005) and voter turnout (Jusko and Shively 2005). Specifically, I estimate the following model for each of the 867 elections (51 states over 17 election years) in my merged CPS data set:

$$\text{Vote}_{ij} = \alpha_j + \beta_{1j}(\text{Unemployed}_{ij}) + \beta_{2j}(\text{NILF}_{ij}) + \beta_{3j}(\text{Public Sector}_{ij}) + \beta_{4j}(\text{Age}_{ij}) + \beta_{5j}(\text{Age}_{ij}^2) + \beta_{6j}(\text{Education}_{ij}) + \beta_{7j}(\text{Income}_{ij}) + \beta_{8j}(\text{Black}_{ij}) + \beta_{9j}(\text{Latino}_{ij}) + \beta_{10j}(\text{Female}_{ij}) + \beta_{11j}(\text{Married}_{ij}) + e_{ij}.$$

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<sup>12</sup> One caveat to this statement is that it only applies to voters who are in the labor force (that is, employed and unemployed). A corresponding analysis (not shown) of turnout rates for voters who are not in the labor force (NILF) finds no relationship between NILF turnout rates and local unemployment context in off-year elections and a small but negative relationship in presidential elections ( $B = -.004$ ,  $t = -2.29$ ,  $p < .05$ ).

In this equation, the binary outcome of turning out to vote, as reported in the CPS household survey is modeled as a linear function of three indicator variables that capture aspects of a respondent's labor force status, one each for if she is unemployed, not in the labor force, and employed in the public sector. Respondents can only fall into one of these categories, leaving gainfully employed in the private sector as an omitted category. I control for various demographic variables that reliably associate with turning out to vote; chief among these are age (and a quadratic age term), income, and education (Wolfinger and Rosenstone 1980; Verba, Schlozman, and Brady 1995). I also control for membership in a minority racial or ethnic group, gender, and marital status. I use OLS to model the first-stage coefficients.<sup>13</sup>

The quantity of interest for the first-stage regressions is the estimated coefficient on unemployment,  $\beta_{1j}$ . Specifically, I expect under *Unemployment-in-Context* that the effect of unemployment on reported voter turnout will be negative but increasing in local unemployment context. In other words, unemployed citizens should have lower turnout rates than employed citizens, but the “effect” of unemployment on turnout (that is, the gap in turnout between unemployed respondents and all other respondents, all else equal) should become smaller in absolute terms in high-unemployment contexts. The descriptive results presented in Fig. 2 suggest that this is true, but those results do not include any additional controls and may simply reflect underlying differences between the employed and unemployed, perhaps due to demographics. As a first step, I plot the estimates of  $\beta_{1j}$  against local unemployment context, again operationalized as the seasonally adjusted unemployment rate in each state during each

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<sup>13</sup> Even though this dependent variable is binary, I use OLS to estimate the first-stage coefficients and treat the first stage as a linear probability model. Achen (2005) finds that employing probit regression for the first stage requires additional efforts to correct for heteroskedasticity and ensure consistent second-stage estimation. I have repeated these analyses using probit regression as the first stage and the results are substantively similar to the linear probability model I present here.

election year in my data set. I present these in Fig. 3, and as before, I separate presidential and off-year elections.

[Fig. 3 here]

As expected, the effect of individual unemployment on reported voter turnout is on average negative, but increasing in local unemployment context. The effect of unemployment on voter turnout is smaller in absolute terms when and where the unemployment rate is high, indicating that the turnout gap between unemployed Americans and the rest of the electorate is smaller under more dire economic conditions. As before, this relationship is stronger in presidential election years ( $B = .006$ ,  $t = 2.87$ ,  $p < .01$ ) than in mid-cycle election years. We observe this relationship even in the presence of some outlying observations.<sup>14</sup>

Once more, we have evidence that unemployment, while generally demobilizing, becomes less demobilizing in high unemployment contexts. To further this point, I replicated the above analysis, but replace the indicator variable for unemployment with one for job loss.<sup>15</sup> This isolates the effect of involuntary unemployment on voter turnout. I expect that these individuals should be even more sensitive to local economic conditions. I plot the coefficients for job losers in Fig. 4.

[Fig. 4 here]

As expected, the relationship between the effect of involuntary job loss on voter turnout and local unemployment context is stronger than that for unemployment. Individuals who are fired or laid off from work are especially demobilized in low-unemployment contexts, but this effect

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<sup>14</sup> For example, some states experiencing very low unemployment have very large and positive coefficient estimates for unemployed voters, indicating that these voters turned out at significantly higher rates than other voters. This is probably due to very small samples of unemployed respondents in a particular state during a particular election. I am reluctant to just start dropping outlying observations without a compelling reason and leave these in for now

<sup>15</sup> In addition to counting those who are laid off from work as unemployed, the Bureau of Labor Statistics counts individuals who have quit their jobs and are actively looking for new work as unemployed. Additionally, new entrants to the labor force and re-entrants who have not yet found work are included among the unemployed. I make no additional changes to the analysis aside from focusing on involuntary job loss instead of unemployment.

more rapidly approaches zero as the local unemployment rate increases. The simple, bivariate association between the effect of job loss on turnout and the unemployment rate is positive and weakly significant in off-year elections ( $B = .004$ ,  $t = 1.78$ ,  $p < .10$ ) and once again significant in presidential elections ( $B = .011$ ,  $t = 3.52$ ,  $p < .01$ ).

At a glance, this suggests that the turnout gap between unemployed Americans and the rest of the electorate decreases by more than one point for each one-point increase in the local unemployment rate, even when we control for individual-level factors that reliably associate with the decision to turn out to vote. But while the scatter plots presented thus far are highly suggestive, they fall short of a strong test of the implication that the effect of unemployment on turnout increases (approaches and crosses zero) in higher-unemployment contexts. So, I conduct the second stage of the two-step process employed to study individual-level effects in context when data are sufficient for this kind of analysis (Achen 2005; Duch and Stevenson 2005; Jusko and Shively 2005). I examine the effects of unemployment on voter turnout as a function of unemployment context using the following model:

$$\beta_{ij} = \eta + \gamma_1(\text{Context}_j) + \gamma_2(\text{Region}_j) + v_j$$

I use the stage-one estimates of  $\beta_{ij}$  as the dependent variable, modeled as a linear function of local unemployment context, with an indicator variable for each region. The stage-two coefficients are estimated using Feasible Generalized Least Squares (FGLS) to account for the fact that each of the 867  $\beta_{ij}$  estimates has its own sampling variance and for heteroskedasticity in the stage-two estimates (Hanushek 1974; Bryk and Raudenbush 1992; Achen 2005; Jusko and Shively 2005; Lewis and Linzer 2005). The results of this analysis are presented in Table 1.

[Table 1 here.]

Once more, I examine presidential elections separately from mid-cycle elections and perform the level-two analysis using both the estimated effects of unemployment and the estimated effects of involuntary job loss. I operationalize economic context in the form of the seasonally adjusted unemployment rate in each state in November of each election year. I also include an indicator variable for region, as trends in unemployment are sometimes geographically concentrated, such as the relatively low unemployment we observe in Sunbelt states in the 1980s and the high unemployment in manufacturing centers in the Midwest in both the 1980s recession and the most recent recession.

The size of the negative effect of unemployment on voter turnout shrinks as the unemployment rate increases. This is significant at the 95% level or better in both presidential and off-year elections, although the trend is more pronounced in presidential elections. At low levels of unemployment, the turnout gap between the employed and the unemployed is at its largest, and this is especially true outside of the Northeast region. Focusing just on involuntary unemployment, as presented in Table 1b, we see that job losers are especially sensitive to the broader context in which they experience the demobilizing effects of job loss. The results are fairly similar to bivariate trends depicted in Figs. 3 and 4; a one-point increase in the unemployment rate reduces the turnout gap between job losers and the rest of the electorate by slightly more than one point. This persists even after controlling for demographic confounders and taking into account the uncertainty with which we observe the effects of job loss and unemployment on reported turnout.

Broadly speaking, these results provide crucial initial support for *Unemployment-in-Context*. The effect of job loss on turnout is negative in low-unemployment contexts, indicating that personal experience with this form of economic hardship is demobilizing. However, as we



move into high-unemployment contexts, this effect approaches and crosses zero, indicating that experiencing job loss when and where the unemployment rate is high is a mobilizing phenomenon. By adopting a multilevel and interactive framework through which both personal experience with unemployment and local economic context can affect voter turnout, I show that the effects of unemployment persist over both space and time (51 separate states in 17 separate elections spanning 32 years) and that the effects of unemployment, particularly involuntary unemployment, vary with respect to the contexts in which they are realized.

### **Design-based Approach**

Unemployment, and the variety of economic conditions under which Americans can experience unemployment, affects individual-level reported turnout in national elections. The findings of the previous cross-sectional analysis support this claim, controlling for various individual-level factors that associate with voter turnout and some contextual factors that affect the relationship between unemployment and turnout. In this section, I perform another analysis to provide additional support for *Unemployment-in-Context* as a mobilization-based theory of political participation under economic hardship. While the previous test of the claim that the mobilizing effect of personal experience with unemployment is increasing in unemployment context was very broad, this test is very narrow and useful for causal inference about the effect of unemployment on voter turnout.

Previous attempts to study the effects of unemployment on political behavior have had to contend with the confounding effects of socio-economic status, age, race, and gender, which affect both one's hazard of experiencing unemployment and one's political beliefs and participatory habits.<sup>16</sup> Unfortunately, no amount of statistical correction can isolate the effects of

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<sup>16</sup> This is clearly problematic for our understanding of unemployment's effects of electoral politics. A *New York Times* article written during the height of the jobs crisis (Rampell 2011) argues that one reason that politicians have

unemployment from these pre-existing covariates (Sekhon 2009); our inference must instead be driven by careful research design. If we are interested in the effects of unemployment as a “treatment” that increases or decreases someone’s likelihood of voting, the most direct test of its efficacy would be a controlled, randomized experiment in which citizens are assigned to various employment status conditions such that treatment assignment is exogenous with respect to any other factors that might affect turnout. Clearly, this is both unfeasible and unethical. Instead, we need a source of quasi-random assignment that overcomes the problem of selection bias in who is “treated” with unemployment on or around Election Day.

I argue that the CPS and its November Voting and Registration Supplement can be used for this purpose because of three important features of the survey. First, it not only inquires about employment status, but also the reason for unemployment. This allows me to identify individuals who are involuntarily unemployed (also known as “job losers”). Second, the CPS asks respondents how many weeks they, or another unemployed member of their household, have been unemployed. Since the CPS asks about employment status with respect to the week containing the 12<sup>th</sup> of each month, I can utilize this measure of duration to place the date of job loss for each unemployed respondent into the week in which it occurred. Third, the CPS has a partially longitudinal structure. Households are interviewed as part of the CPS sample for 4 consecutive months, then not interviewed for 8 months, and then interviewed again for 4 consecutive months. For this analysis, I utilize the November CPS with its Voting and Registration Supplement, merged with the December CPS for all even-numbered years from

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devoted so little attention to the jobs crisis is because of low participation rates among the unemployed, relative to the employed. In the article, political scientist Michael McDonald estimates a turnout gap of 11 percentage points between the unemployed and employed in 2010, but offers the caveat that this gap is not sufficient to claim a causal effect of unemployment on turnout. Cross-sectional comparisons of the turnout rates of unemployed Americans to the turnout rates of employed Americans such as this one are canonical examples of statistical confounders in action. It is not controversial to state that the unemployed vote at a lower rate than the gainfully employed and empirical evidence overwhelmingly supports this statement. However, this says nothing about the causal effects of unemployment on voter turnout.

1994 through 2010.<sup>17</sup> For all respondents who report being unemployed on Election Day, and those who report unemployment in the December survey, I code the number of weeks before or after Election Day that they experienced involuntary job loss.

I identify two groups of citizens within the subpopulation of job losers. The “treatment” group is composed of pre-Election Day job losers, individuals who experience involuntary job loss 1-4 weeks prior to Election Day. I treat this as an arbitrary discontinuity or cutpoint. The “control” group is composed of post-Election Day job losers, respondents who are coded as employed in the November CPS (and were thus employed on Election Day) but who involuntarily lose their jobs and become unemployed in the period 1-4 weeks following Election Day<sup>18</sup>. In order to be sure that I can precisely identify the timing of job loss, I remove any individuals who report unemployment that dates to the week including Election Day<sup>19</sup>. I argue that the timing of job loss, and thus the receipt of the treatment of unemployment just before or after Election Day is plausibly exogenous within this short period of time with respect to the socioeconomic covariates that act as pre-treatment sources of selection bias<sup>20</sup>. If it is the case that the timing of unemployment approximates random assignment, then we can use this design to provide an unbiased estimate of our quantity of interest, the effect of job loss on an

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<sup>17</sup> The CPS underwent a major redesign in 1994. Because of this, I cannot include 1978-1992 in my analysis at the moment (even though I have the data and used them in the previous section) because of changes to how the survey was administered that make it more difficult to utilize the panel structure of CPS and properly identify the timing of a respondent’s job loss.

<sup>18</sup> I also refer to the treatment and control groups as “newly unemployed” and “soon-to-be unemployed,” respectively.

<sup>19</sup> I chose the size of the “window” around Election Day in order to utilize all of the data available in the December CPS and identify as many November respondents who subsequently experienced job loss as possible. This helps to assure sufficiently large numbers of observations in both my treatment and control groups before assessing the turnout rates of both groups. The results are substantively similar if I restrict the window to 1-3 weeks before and after the week containing Election Day, but the uncertainty around my estimates is larger, as is expected.

<sup>20</sup> It is not the case that economic outcomes are always exogenous with respect to Election Day. Bartels (2008) finds evidence that elites carefully time the implementation of policies designed to stimulate economic growth and improve personal economic conditions in order to influence voters who tend to behave in a myopically retrospective fashion. I claim that the timing of job loss in the 8-week period surrounding Election Day is sufficiently independent of pre-treatment confounders.

individual’s reported propensity to turn out to vote. Next, I assess the degree to which this design approximates the pre-treatment covariate balance we would expect under random assignment and improves balance over a cross-sectional comparison of the unemployed to the employed at a single point in time.

*Balance between groups*

In order for this quasi-experimental design to offer a valid foundation for better causal inference of the effect of unemployment on reported voter turnout, it must plausibly approximate as-if random assignment (Dunning 2010). In order to assess this, I compare the balance on several pre-treatment covariates in the pruned, quasi-experimental sample to the balance on the same covariates in the standard cross-sectional sample.<sup>21</sup> I do this by creating a standardized difference in means for the two relevant groups in each sample. I subtract the mean of each variable for unemployed respondents from the mean for employed respondents (within each of my two samples), and divide this absolute difference by the standard deviation of the variable in the cross-sectional sample. This accounts for the fact that there are fewer observations of each covariate in the quasi-experimental estimator, which typically results in a larger sample standard deviation and would bias the standardized difference in means for the smaller sample downward.<sup>22</sup>

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<sup>21</sup> As a reminder, the cross-sectional estimator includes all full-time members of the labor force who report unemployment in the November CPS and all individuals who report employment in the same wave. The quasi-experimental estimator includes the newly unemployed and the soon-to-be unemployed, who all experience involuntary loss of a full-time job 1-4 weeks before or after Election Day.

<sup>22</sup> In fewer words:

$$\delta_{CS} = \frac{|\bar{x}_E - \bar{x}_U|}{\hat{\sigma}_{CS}}, \delta_{QE} = \frac{|\bar{x}_C - \bar{x}_T|}{\hat{\sigma}_{CS}}.$$

Where CS denotes the cross-sectional sample and QE denotes the quasi-experimental sample. E is the subset of gainfully employed respondents, U the subset of unemployed respondents, with C and T denoting the “control” respondents (post-Election Day job losers) and T denoting the “treatment” respondents (pre-Election Day job losers), respectively.

These standardized differences in means are plotted in Fig. 5. Smaller standardized differences indicate better covariate balance, approximating the balance we would expect under random assignment.

[Fig. 5 goes here.]

The results contained in Fig. 5 indicate that limiting our focus to the subset of Americans who will experience job loss within one month of Election Day substantially improves the covariate balance between the employed and the unemployed on a variety of dimensions. While it is the case that exploiting the timing of job loss around Election Day does not perfectly approximate what we would expect under fully random assignment to employment status conditions, it is clear that within a 4-week interval around Election Day, employment status systematically associates with fewer demographic characteristics that might influence political participation than it does if we simply compare those who are employed on Election Day to those who are unemployed on Election Day. There are a few exceptions to this general trend, however. Men and women are nearly equally as likely to be unemployed on Election Day in the cross-sectional sample, but in the pruned sample, there is a higher proportion of females in the treatment group than in the control group. In other words, women are more likely to receive the “treatment” of job loss before Election Day than to be in the control group, if we restrict our focus to jobs lost during this slice of the calendar. With the exception of this covariate and individuals between the ages of 25 and 34 (just barely), pruning the sample and comparing unemployed citizens to an appropriate counterfactual improves covariate balance over a simple cross-sectional comparison. Comparing reported turnout across groups in the quasi-experimental sample should yield a better approximation of the causal effect of unemployment on turning out to vote.

## Results

I graph the mean turnout rates for pre and post-Election Day job losers in Fig. 6.

[Fig. 6 here]

The purpose of this graph is to show the baseline turnout rates for the respondents in my pruned sample. Looking at Fig. 6, it is clear that turnout rates are much higher in presidential election years than in off-year elections. However, our quantity of interest is the effect of pre-Election Day job loss on unemployed Americans' turnout, as compared to a relevant "control" group of citizens who will experience job loss shortly after Election Day. Therefore, I focus on the marginal effect of being newly unemployed on Election Day for the remainder of this discussion. I graph the marginal effects of job loss in Fig. 7. These effects are simply the differences in turnout rates between pre and post-Election Day job losers for each election year. I also include 90% confidence intervals around each estimate.

[Fig. 7 here]

The results plotted in Fig. 7 indicate that job loss has a (weakly) statistically significant effect on turning out to vote in 4 elections. In 1996, 2000, and 2002, job losers are less likely to vote than soon-to-be job losers. This difference is greater than 10 points in 1996 and 2000, elections held during periods of relatively low national unemployment. The newly unemployed are significantly more likely to vote than post-Election Day job losers in 2008, an election held during the most recent economic recession as the economy shed millions of jobs. To demonstrate the effects of unemployment more clearly, I re-estimate the differences in means by year for only those respondents working (or recently working) in full-time jobs. I plot these in Fig. 8.

[Fig. 8 here]

The general pattern of results remains the same if we restrict our analysis to just full-time workers. While we no longer observe a significant effect in 2002, we now observe a positive and significant effect of job loss on voter turnout in the 2010 election, which was marked by very high unemployment. In both 2008 and 2010, reported turnout rates for newly unemployed respondents are roughly 10 points higher than turnout rates for soon-to-be unemployed respondents.

To move beyond the raw differences in means that I present in Figs. 8 and 9, I pool the pruned sample of pre and post-Election Day job losers and re-estimate the differences in means between both groups for each election year, this time controlling for age (and age squared) income, education, race, gender, part-time employment, and if the respondent works in the public sector. I also include state fixed effects.<sup>23</sup> I plot the marginal effects of pre-Election Day job loss, now controlling for demographics, by year in Fig. 9.

[Fig. 9 here]

The results presented in Fig. 9 indicate that this pattern is robust to the inclusion of demographic controls. This should not be especially surprising, since there are few demographic differences between pre and post-Election Day job losers. The inclusion of state fixed effects also allows us to control for any unobserved factors at the state level that might have produced the pattern in turnout that we observe, such as voter registration laws. However, the results are substantively the same, and we have more reason to believe that it is job loss, and not some other factor, that explains the differences in turnout that we observe in each election year.

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<sup>23</sup> Because the outcome variable is binary, I do this using probit regression. The coefficient estimates for this can be found in the appendix to this paper.

### *Economic Context*

While the results presented thus far are highly suggestive that the causal effect of unemployment varies with respect to the economic context in which individuals experience job loss, it is possible to directly incorporate economic context into this analysis, as I incorporated it into the cross-sectional analysis. To do this, I once more estimate the marginal effects of pre-Election Day job loss on voter turnout, controlling for demographics, and include an interaction term with the seasonally-adjusted unemployment rate for each state in each election year.<sup>24</sup> As before, we should expect unemployment to have a demobilizing effect on turnout in low-unemployment contexts, but a mobilizing effect in high-unemployment contexts. I graph the effect of pre-Election Day job loss interacted with context in Fig. 10.

[Fig. 10 here]

Once more, we see that unemployment matters in context. When and where the unemployment rate is low (particularly below the structural unemployment rate of about 5 percent), job loss has a negative effect on voter turnout. As the unemployment rate rises, so does the turnout of the unemployed as compared to the soon-to-be unemployed.<sup>25</sup>

### *Summary of Results*

By disaggregating the sample by election year, we observe divergent effects of job loss on voter turnout that are consistent with the predictions of *Unemployment-in-Context*. Job loss has a demobilizing effect during elections held when unemployment is generally low and a mobilizing effect when unemployment is high. We can be especially confident that we are isolating the effects of job loss on voter turnout because our inference is based on a carefully-constructed sample of Americans who all experience job loss in a small period of time around

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<sup>24</sup> This is the same model as in the previous section; however, I include the interaction term in lieu of state fixed effects. The coefficients for this can also be found in the appendix to this paper.

<sup>25</sup> This trend is even starker if I include the unemployment rate squared in the analysis.



Election Day. The timing of job loss, even among Americans who are all at a very high risk of job loss, helps to determine who votes.

When I pool the unemployed and soon-to-be unemployed across years and control for factors that have been found to predict political participation (and unemployment), we still see Americans who are unemployed on Election Day turning out at greater rates than Americans whose jobs are slipping from their grasps when and where the unemployment rate is high and rising. Job losers in low-unemployment contexts are less likely to vote than those who will soon join them on the unemployment rolls. However, in high-unemployment contexts, the personal problem of unemployment becomes a widespread social problem, and newly-unemployed Americans turn out to vote as a result of their unfortunate predicaments.

All of this is consistent with the cross-sectional results presented earlier that demonstrate that unemployed citizens are more likely to turn out when and where the unemployment rate is high. We do not see this kind of sensitivity to broader economic context among gainfully employed Americans. In both a broad, cross-sectional examination of the effects of job loss on voter turnout and in a narrow examination of a subset of Americans who have or will soon realize job loss, we observe roughly the same pattern of results. Unemployment can be either a mobilizing or demobilizing influence on political participation, depending on the broader social and economic contexts in which it is experienced.

### **Further Analysis**

In order to be more confident that the effects we observed in the previous section are due to a causal relationship between job status on Election Day and voter turnout, I conduct a simple placebo test. My treatment group is the same as before, individuals who lost their jobs 1-4 weeks before Election Day. I compare this group to a “placebo” group of individuals who lost their jobs

5-8 weeks before Election Day. Just as before, an arbitrary date divides the pool of unemployed respondents into two groups based on the timing of their job loss, but both groups are unemployed on Election Day. I once again fit the model from the previous section, but use an indicator variable for treatment/placebo instead of treatment/control. I expect that the timing of unemployment 1 month as opposed to 2 months before Election Day should not significantly affect reported turnout. The results of this placebo test are presented in Fig. 11 and show no discernible pattern. Job loss centered on an arbitrary date one month before Election Day does not affect voter turnout like job loss centered on the arbitrary date of Election Day.

[Fig. 11 here]

Still, it remains unclear whether the newly-unemployed are voting more than the soon-to-be unemployed due to psychological factors such as experiencing mobilization due to job loss in a high-unemployment context or as a result of resources, simply because they have more time to head to the polls and vote. Without performing any further analysis, there is good reason to discount the leisure-time explanation in favor of a mobilization mechanism based on evidence from the analysis summarized in Figs. 7-9. The treatment group in that instance was unemployed on Election Day, and thus had more free time to vote than members of the control group, who may have been stuck at work. Assuming that the gains to leisure time from recent unemployment are roughly the same over the time period in this analysis, we should expect to see a uniform increase in turnout for the treatment group in all election years. This is clearly not the case, as the direction and magnitude of the causal effect of job loss changes with the level and salience of unemployment across economic contexts.

We can perform another test to adjudicate between the proposed psychological mechanism and a resource-based mechanism. The findings presented in Figs.7-9 are for

individuals who experience involuntary unemployment and do not consider people who quit their jobs. I replicate the analysis from Fig. 8, but this time use pre and post-Election Day job leavers rather than job losers. If the effects in the previous analysis are due to leisure time and not psychological motivation to vote or withdraw from politics, we should see the same effects for the voluntarily unemployed as we observe for the involuntarily unemployed. Alternatively, we might expect the voluntarily unemployed to always vote at a higher rate than the soon-to-be voluntarily unemployed, since they have more time to participate. The results of this analysis of job leavers are presented in Fig. 12.

[Fig. 12 here]

Looking at these results, we see some significant effects of being willingly unemployed on Election Day, but nothing that would suggest that the effects of involuntary job loss are entirely due to changes in leisure time. While the sample size is smaller and our results are perhaps less precise for this sample than for the involuntarily unemployed, the pattern of results in Fig. 12 is not even qualitatively similar to the one in Fig 7-9.<sup>26</sup> The timing of leaving one's job around Election Day does not affect voter turnout in the same manner as the timing of job loss around Election Day. In the next few paragraphs, I discuss some of the limitations of my approach.

### *Limitations*

One potential limitation to this study is its reliance on self-reports of turnout as the dependent variable in this analysis. Unfortunately, it is not possible to link this sample to validated voting records to look at observed turnout, but because one respondent answers for the entire household, I am able to identify respondents who spoke for themselves and respondents

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<sup>26</sup> Including individuals who are unemployed because they are new entrants or re-entrants to the labor market improves the sample size, but does not change the results.

for whom another member of the household provided responses. Controlling for self-reporting does not significantly alter the results. Misrepresentation of turnout is positively associated with political engagement and membership in a minority racial group (Belli, Traugott, and Beckman 2001; McDonald 2007). However, some of these concerns can be alleviated because of the quasi-random assignment of our treatment variable. The characteristics that contribute to misrepresentation of turnout should be balanced between the two groups.

## **Conclusion**

This paper makes several meaningful contributions to the study of political participation, particularly participation among Americans experiencing economic hardship. First, job loss near Election Day meaningfully affects the likelihood of turning out to vote, controlling for various other factors that associate with political activity. The direction of this effect is positive in contexts marked by high and rising unemployment, negative in low-unemployment contexts, and is driven by involuntary job loss, not by leisure time. In sum, the data support my hypothesis that unemployment promotes political mobilization when the unemployment rate is high and results in political withdrawal when it is low. In general, unemployed Americans' political behavior is meaningfully influenced by unemployment context to an extent that we do not observe among gainfully employed Americans. This is true whether we examine unemployment using either a very broad and externally valid approach or a very narrow and internally valid approach.

This approach is an improvement upon previous efforts to study unemployment for three reasons. First, it relies upon additional information in the form of economic context to allow for a more nuanced study of unemployment. Second, it resolves the two contradictory conceptualizations in the existing literature by allowing job loss to be either a mobilizing or a demobilizing experience, depending on when and how individuals endure unemployment.

Finally, it is a complete theory of how unemployment (and other forms of economic hardship) affects political behavior in that it is applicable in both good and bad economic climates.

Future work will look to better articulate the causal processes that lead to the effects I have uncovered here. Additionally, I hope to consider the role that unemployment *benefits* might play in structuring how Americans are affected by job loss. While they are unlikely to make much of a difference in the narrow band of time surrounding Election Day, understanding the role that this form of social insurance plays in defining the experience of unemployment more broadly is necessary if the goal is a more comprehensive inference about the effects of unemployment. There exists considerable variation in the generosity of unemployment benefits, which are administered at the state level and have been found to mediate the effects of unemployment on turnout (Radcliff 1992). Additionally, since 2009, some states have enrolled in a federal program to extend unemployment benefits while others have not, creating heterogeneity in the amount of time an unemployed American can receive some financial assistance.

While sociologists have distinguished between unemployment in a low-unemployment context as a “personal trouble” and unemployment in a high-unemployment context as an “issue” (Mills 1959), political scientists have studied the experience of unemployment solely as a personal trouble, and not as part of a broader phenomenon when considering how it affects political behavior. This paper indicates why this approach is insufficient and how to properly consider what is an incredibly trying personal experience for millions of Americans. Amid lingering fears of long-term unemployment and a “jobless” recovery, it is important that political scientists continue to study how unemployment affects and will affect our political landscape.

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**Tables and Figures:**

B <sub>ij</sub> (Unemployed)	Off-year Elections	Presidential Elections
Constant	-.015 (.010)	-.063*** (.013)
Unemployment rate	.002** (.001)	.006*** (.002)
Midwest	-.022** (.010)	-.019* (.011)
South	-.011 (.009)	-.018* (.010)
West	-.038*** (.009)	-.023** (.011)
R <sup>2</sup>	.047	.030
N	459	408

Table 1a: Second-level estimates of the effects of unemployment on turnout as a function of local unemployment context. FGLS with standard errors in parentheses.

\*p < .10; \*\*p < .05; \*\*\*p < .01

B <sub>ij</sub> (Job Loser)	Off-year Elections	Presidential Elections
Constant	-.033** (.013)	-.076*** (.019)
Unemployment rate	.004** (.002)	.010*** (.003)
Midwest	-.018 (.012)	-.039*** (.014)
South	-.005 (.011)	-.041*** (.013)
West	-.026** (.012)	-.029** (.013)
R <sup>2</sup>	.022	.056
N	459	408

Table 1b: Second-level estimates of the effects of job loss on turnout as a function of local unemployment context. FGLS with standard errors in parentheses.

\*p < .10; \*\*p < .05; \*\*\*p < .01

### US Seasonally Adjusted Unemployment

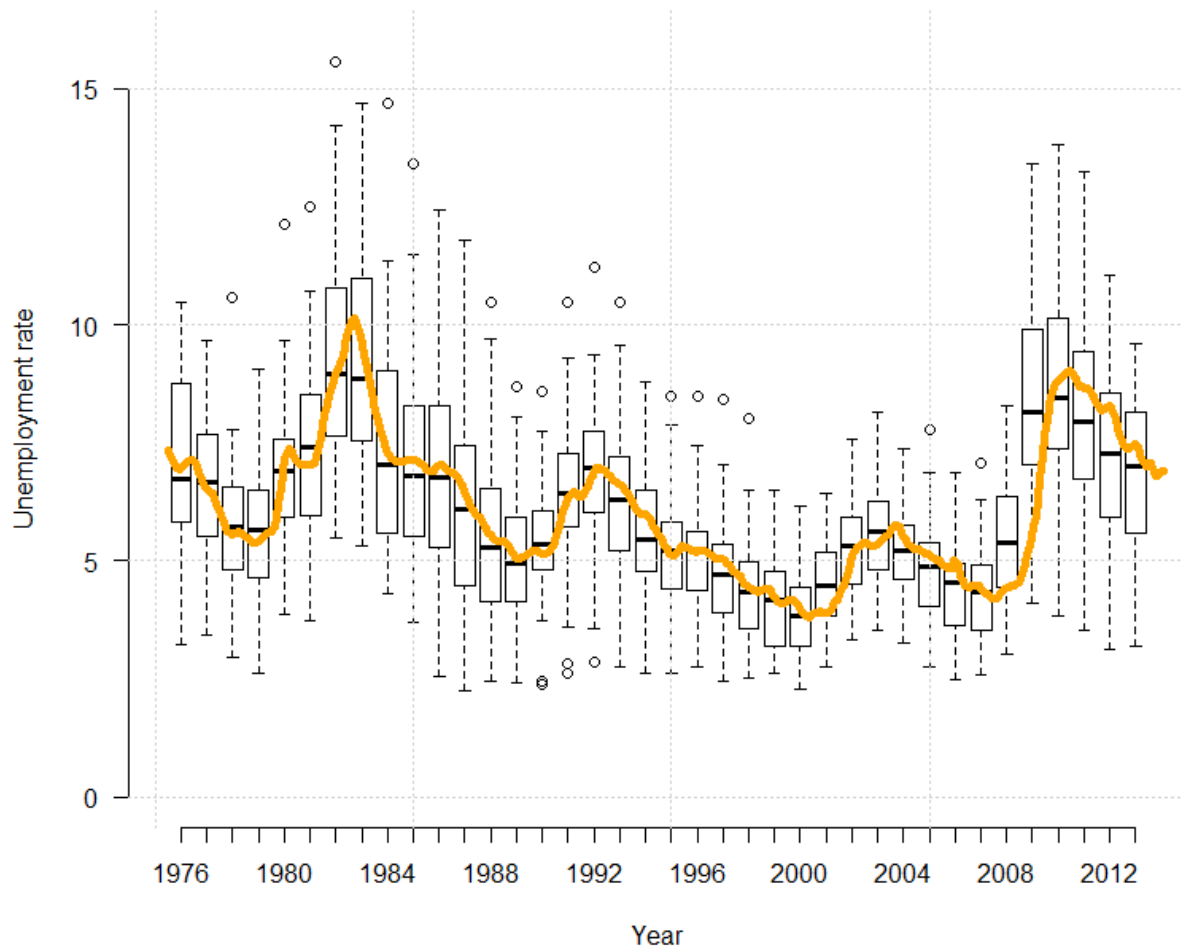


Fig. 1: Distribution of Seasonally Adjusted Unemployment Rates by State. Note: The trend line indicates the national average unemployment rate.

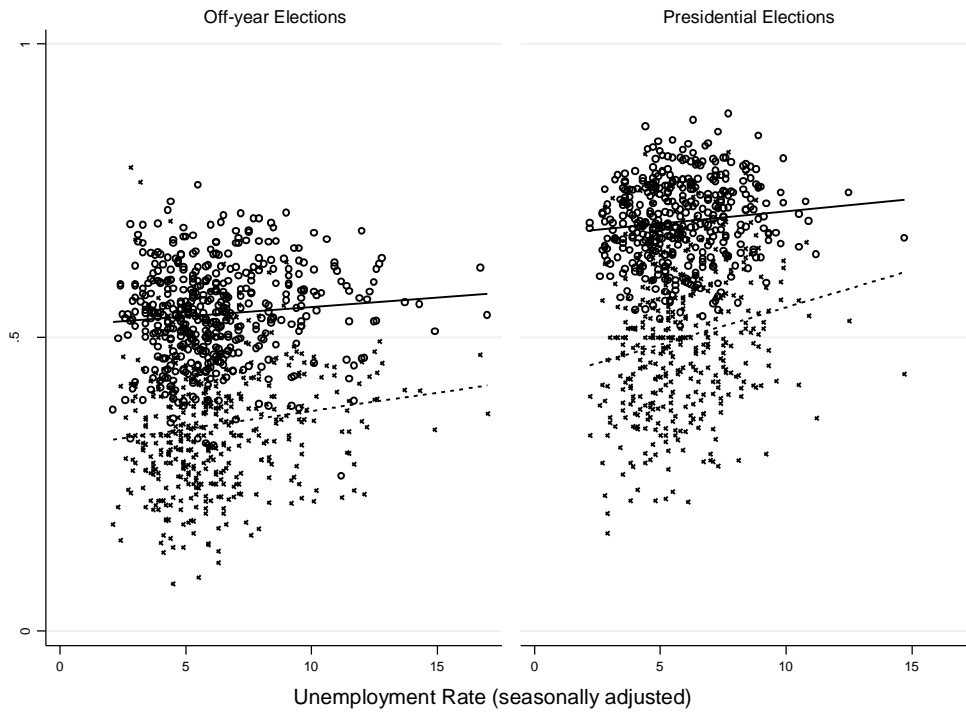


Fig. 2: Turnout Rates by Employment Status. Points represent the average turnout rate by state for each national election from 1978-2010. Employed turnout is represented by circles while unemployed turnout is represented by x's. The solid lines depict the linear relationship between employed turnout and unemployment context and the dashed lines depict the linear relationship between unemployed turnout and unemployment context.

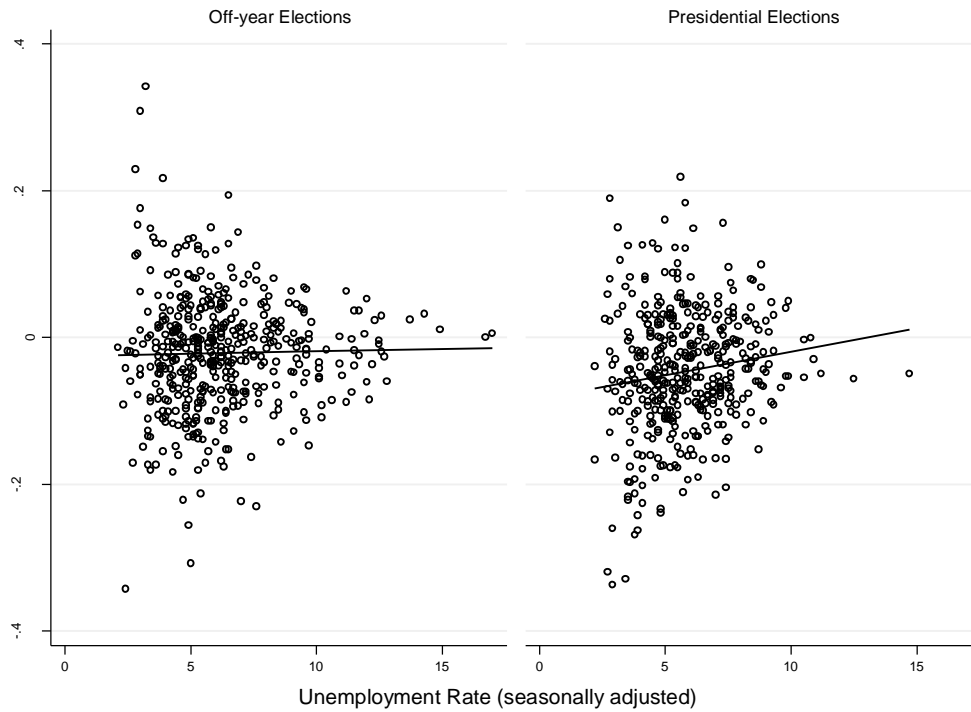


Fig. 3: The Effect of Unemployment on Voter Turnout by Local Unemployment Context. Points represent first-stage coefficient estimates. The solid lines represent the simple linear relationships between the estimates and the seasonally adjusted unemployment rates for each state in November of each election year (1978-2010).

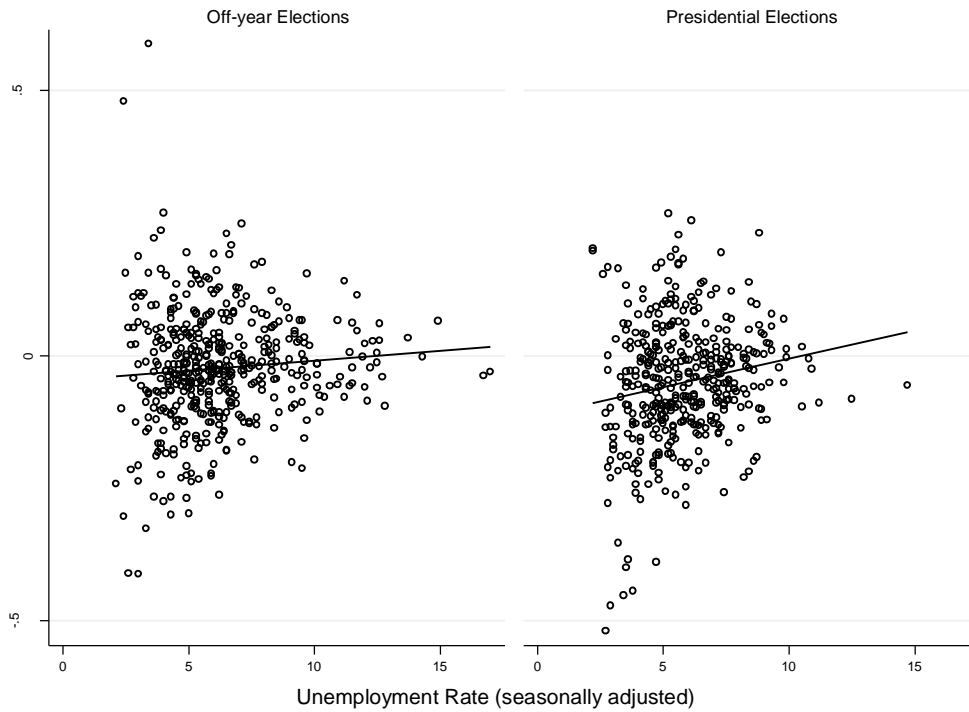


Fig. 4: The Effect of Involuntary Unemployment on Voter Turnout by Local Unemployment Context. Points represent first-stage coefficient estimates for job loss. The solid lines represent the simple linear relationships between the estimates and the seasonally adjusted unemployment rates for each state in November of each election year (1978-2010).

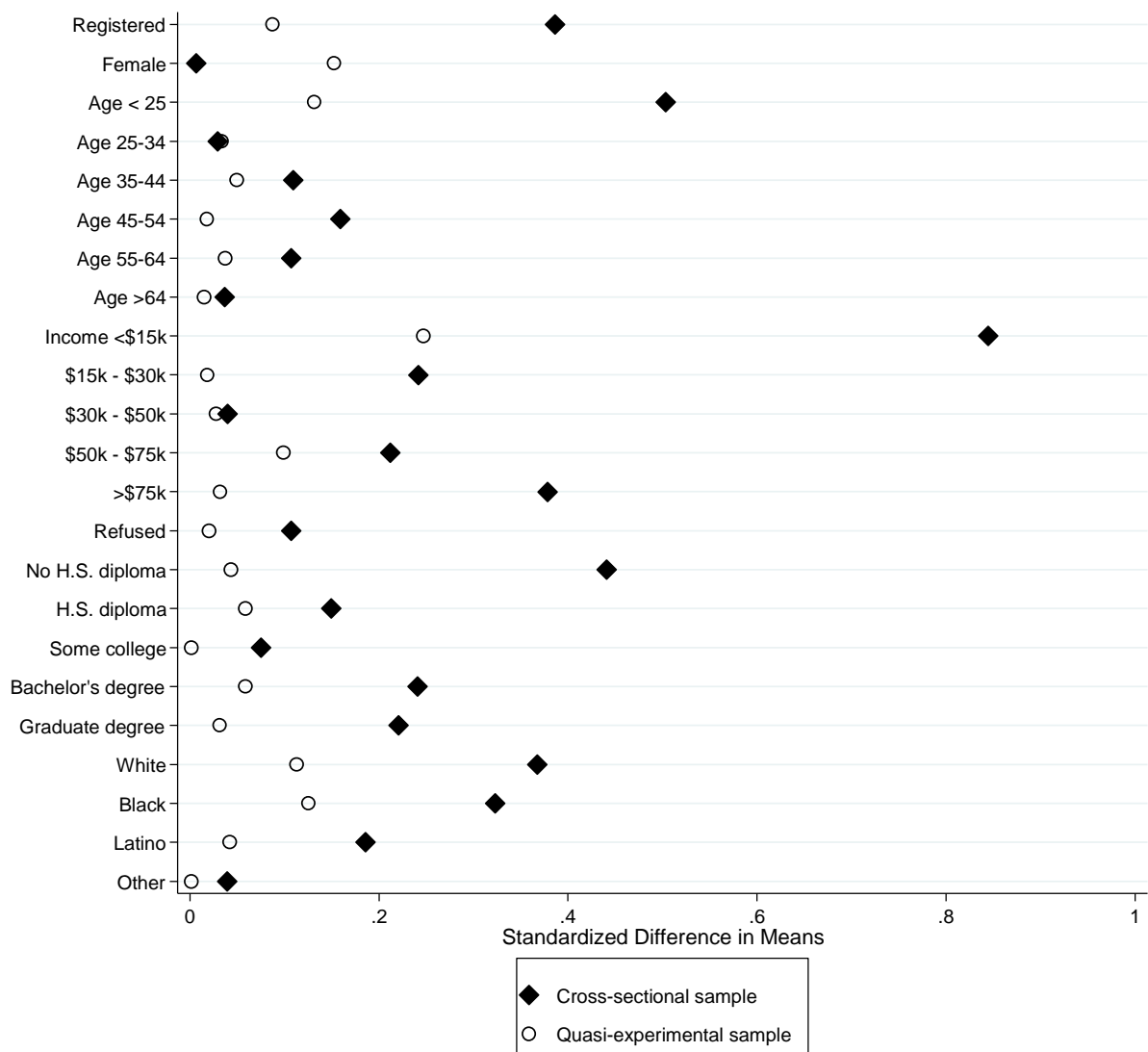


Fig. 5: Covariate Balance across Employment-Status Groups. The plotted points represent the standardized difference in means between the employed and unemployed in the cross-sectional sample (diamonds) and between the “newly unemployed” and “soon to be unemployed” in the quasi-experimental sample (open circles). Focusing on just those respondents who experience unemployment in a narrow band of time around Election Day greatly improves the covariate balance between groups and reduces the influence of potentially confounding demographic differences.



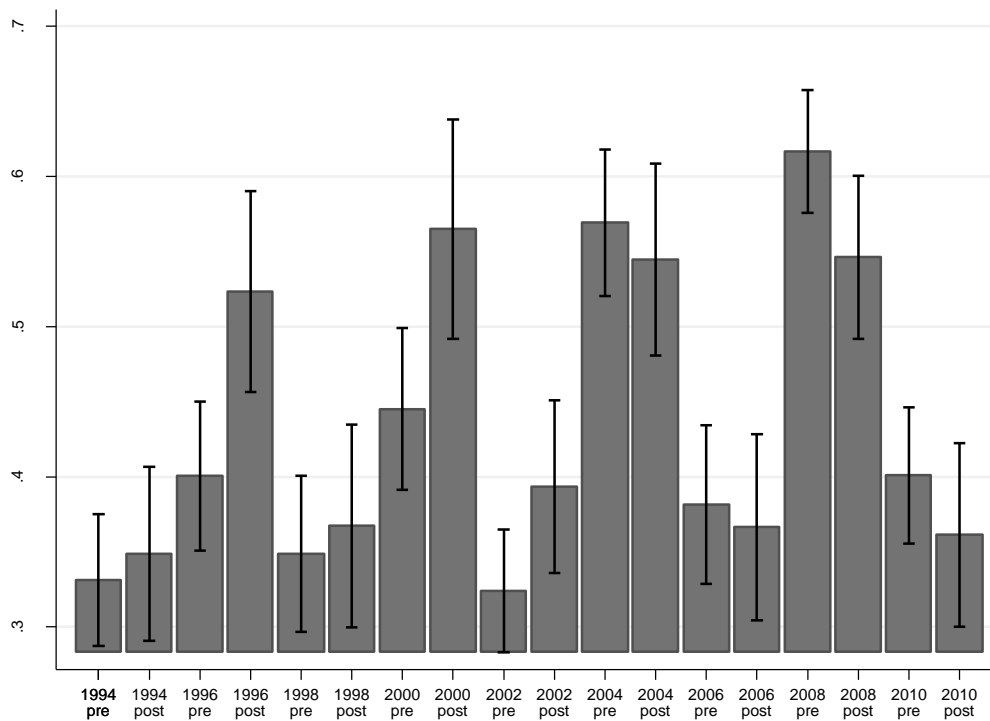


Fig. 6: Reported Turnout by Timing of Involuntary Job Loss (1994-2010). Respondents are either newly unemployed, having lost their jobs 1-4 weeks before Election Day (“pre”) or soon-to-be unemployed, losing their jobs 1-4 weeks after Election Day (“post”). Error bars represent 95% confidence intervals.

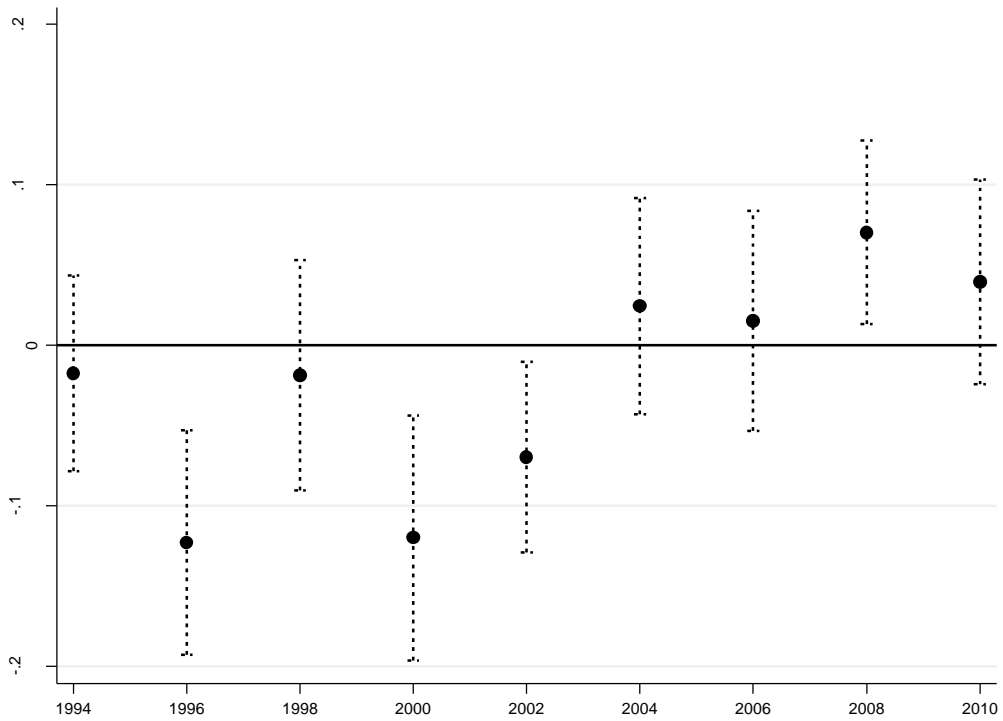


Fig. 7: The Effects of Pre-Election Day Job Loss on Voter Turnout. Points represent the difference in turnout rates between pre-Election Day job losers and post-Election Day job losers in national elections, 1994-2010. Error bars represent 90% confidence intervals.

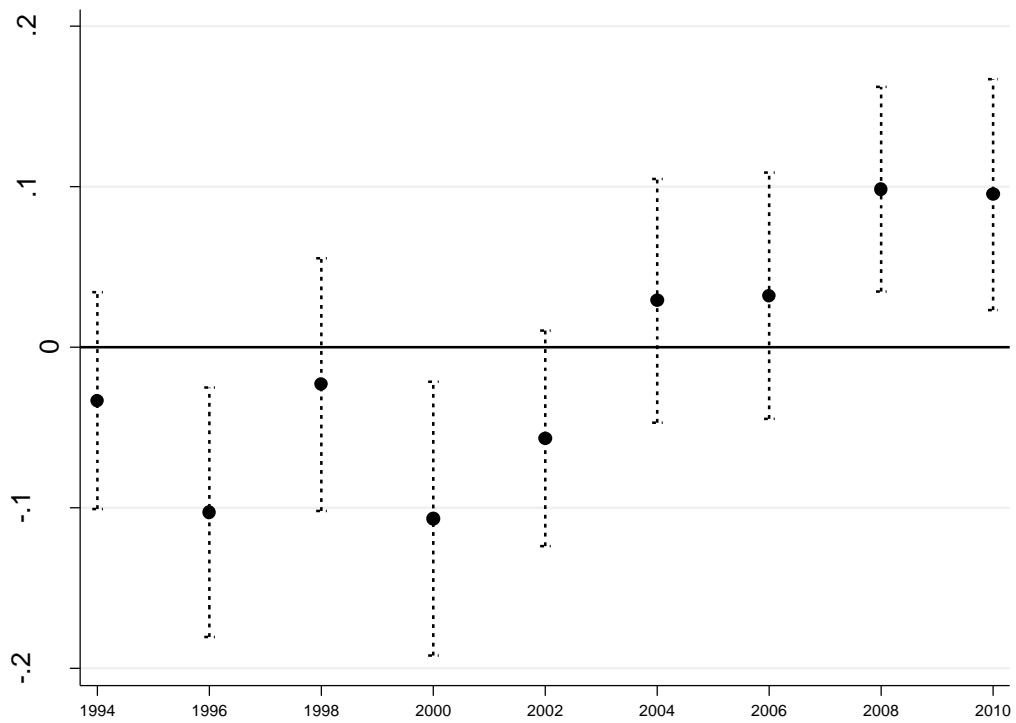


Fig 8: The Effects of Pre-Election Day Job Loss on Voter Turnout (full-time workers only). Points represent the difference in turnout rates between pre-Election Day full-time job losers and post-Election Day full-time job losers in national elections, 1994-2010. Error bars represent 90% confidence intervals.

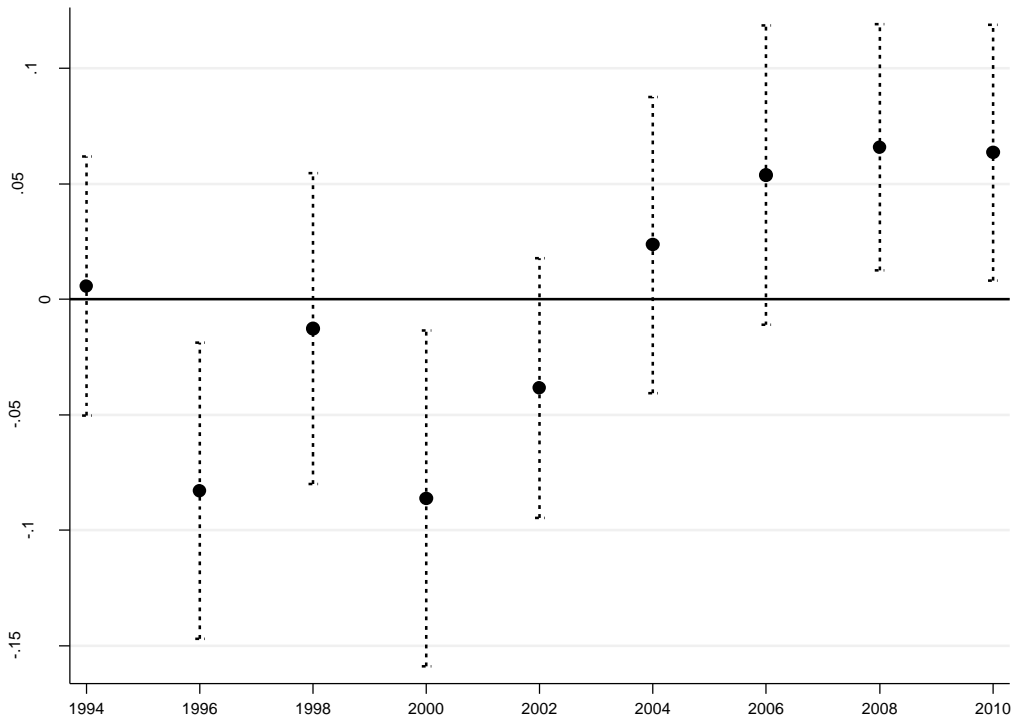


Fig 9: Marginal Effects of Pre-Election Day Job Loss on Voter Turnout. Points represent the marginal effects of pre-Election Day job loss on voter turnout after controlling for demographics and including state fixed effects (estimated using probit regression with coefficients in the appendix). Error bars represent 90% confidence intervals.

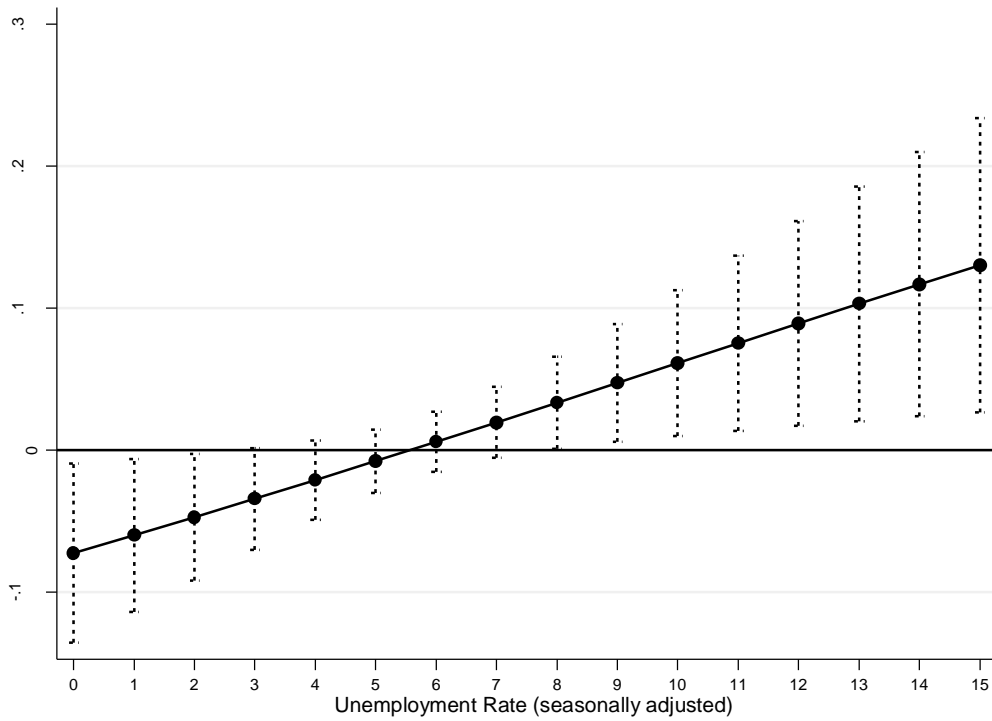


Fig 10: Marginal Effects of Job Loss and Local Unemployment Context on Turnout. Points represent the marginal effects of pre-Election Day job loss on voter turnout after controlling for demographics interacted with the state-level unemployment rate (estimated using probit regression with coefficients in the appendix). Error bars represent 90% confidence intervals.

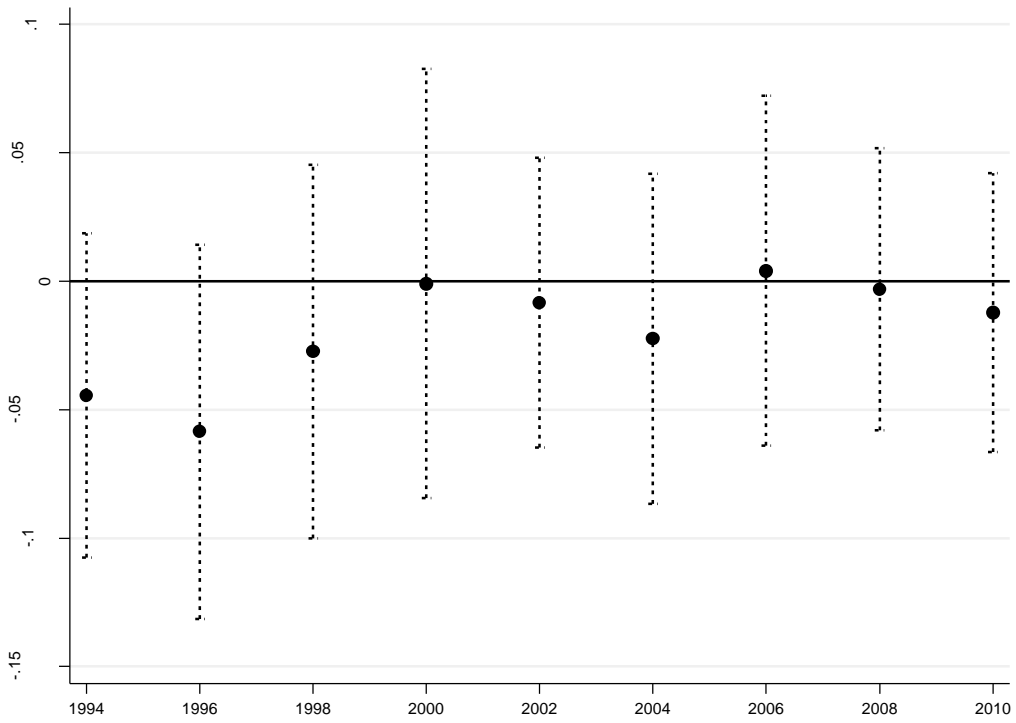


Fig. 11: Placebo test of Pre-Election Day Job Loss on Voter Turnout. Points represent the difference in turnout rates between pre-Election Day job losers (1-4 weeks before Election Day) and earlier job losers (5-8 weeks before Election Day) in national elections, 1994-2010, controlling for demographic characteristics. Error bars represent 90% confidence intervals.

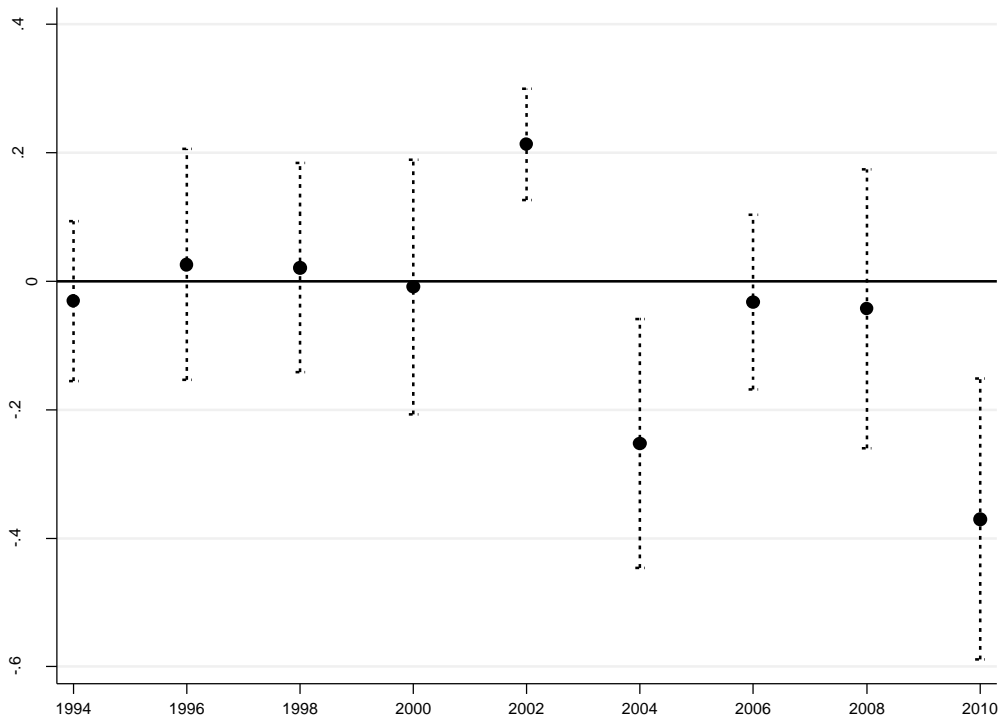


Fig 12: Effects of Voluntary Unemployment on Voter Turnout. Points represent the marginal effects of pre-Election Day voluntary job loss (quitting), controlling for demographic characteristics. Error bars represent 90% confidence intervals.

**Appendix: Full results for Figs. 9 and 10**

<b>Turnout</b>	<b>Fig. 9</b>		<b>Fig. 10</b>	
	<b>Coef.</b>	<b>SE</b>	<b>Coef.</b>	<b>SE</b>
<b>Female</b>	0.12	0.04	0.11	0.04
<b>Age</b>	0.02	0.01	0.01	0.01
<b>Age<sup>2</sup>/100</b>	0.01	0.01	0.01	0.01
<b>Education</b>	0.36	0.02	0.36	0.02
<b>Income</b>	0.06	0.01	0.06	0.01
<b>Black</b>	0.33	0.06	0.29	0.06
<b>Latino</b>	-0.05	0.08	-0.07	0.07
<b>Other Race</b>	-0.06	0.09	-0.07	0.09
<b>Part-time Employed</b>	0.26	0.05	0.26	0.05
<b>Government Employee</b>	0.16	0.08	0.18	0.08
<b>1996</b>	0.44	0.13	0.28	0.08
<b>1998</b>	-0.02	0.14	-0.02	0.08
<b>2000</b>	0.56	0.14	0.44	0.09
<b>2002</b>	-0.08	0.13	-0.17	0.08
<b>2004</b>	0.40	0.13	0.45	0.08
<b>2006</b>	-0.25	0.13	-0.12	0.08
<b>2008</b>	0.38	0.12	0.45	0.08
<b>2010</b>	-0.32	0.13	-0.33	0.09
<b>Job Loss</b>	0.02	0.11	-0.24	0.12
<b>Unemployment Rate (U3)</b>			0.01	0.02
<b>Job Loss*U3</b>			0.04	0.02
<b>Job Loss*1996</b>	-0.27	0.17		
<b>Job Loss*1998</b>	-0.06	0.17		
<b>Job Loss*2000</b>	-0.27	0.18		
<b>Job Loss*2002</b>	-0.15	0.16		
<b>Job Loss*2004</b>	0.05	0.16		
<b>Job Loss*2006</b>	0.16	0.17		
<b>Job Loss*2008</b>	0.18	0.15		
<b>Job Loss*2010</b>	0.20	0.16		
<b>Cons.</b>	-2.64	0.26	-2.67	0.21
<b>State Fixed Effects</b>	Yes		No	
<b>Log likelihood</b>	-2929.08		-2981.15	
<b>Pseudo R2</b>	.194		.180	
<b>N</b>	5318		5318	

Cell entries are probit coefficients for the models presented graphically in Figs. 9 and 10.