

Where Unions Fell: A Historical Geography of Union Formation in the U.S.

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Abstract

An important component of labor relations is what is not seen—that is, the unionization that never occurs because of foregone participation. This paper presents data and descriptive analysis on the locations where union formation declined in the US. Through careful cleaning of city and state information associated with National Labor Relations Board (NLRB) representation elections, we are able to better understand the geospatial element of the dramatic decline in elections since the 1960s. Since past studies have shown that such elections were a critical part of the overall drop in unionization, at least prior to 1985, these data provide rich insights into the causes and consequences of overall deunionization in the US. Early results suggest that elections have virtually disappeared from rural areas and are now heavily concentrated in urban centers, possibly contributing to unequal rural development and regional brain drain. Moreover, we find evidence of very small local contagion effects across election events.

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A big question in economics is what happened to the prevalence of unions in the United States. Only about six percent of private sector workers now belong to a labor union, but over one-third of workers were union members in the 1950s. With income inequality on the rise, and increasing evidence that the decline of unions played a role (Farber, et al., 2018; Freeman, 1980; Freeman and Medoff, 1984; Card, 2004), this issue demands careful study. How exactly did such change come about? What are the drivers of this change?

Economists have posited a number of good theories to explain the erosion of unions. Top candidates include: trade shocks (Adamson and Partridge, 1997), offshoring, sectoral shifts (Polachek, 2003; Farber and Western, 2001), migration of economic activity (Friedman, 2008), employer aggression (Ebbinghaus and Visser, 1999), and public policy (Traynor and Fichtenbaum, 1997), but there is no strong consensus about which theory is best. Data limitations often make it difficult to empirically determine the relative contributions of these explanations. Most of the information we have on union membership comes from surveys, and most surveys lack either the duration or the disaggregation necessary to zone in on specific causes. For example, labor economists often use commuting zones to define a local labor market, but union variables are typically at the state or national level, making it difficult to perform preferred empirical methods.

A more ideal fountainhead would provide long-running revealed preference data on some disaggregated measure of union prevalence. National Labor Relations Board (NLRB) representation elections are one such source. This paper presents the first dataset on these elections that is disaggregated to the city level.

To introduce the source briefly, a union certification election is a democratic process by which workers collectivize. If workers in a given unit (a shop floor, for example) can show that 30% or more of them wish to unionize, the NLRB holds an election to decide the matter. Since gaining formal recognition grants stronger legal protections, most newly unionized workers establish themselves through this

process.¹

Data on these elections provide a rich look into the pulse of union organizing and the flow of private sector union membership. Elections respond quickly to changing conditions and are a strong indicator of worker’s beliefs about the future value of collective bargaining. And since new firms are always being born—by default non-union in the US—there must be a constant flow of elections to maintain union prevalence. Therefore, a meaningful path to understanding unions runs through an analysis of patterns in election activity. The central contribution of this paper is to show where, in greater detail than ever before, unions declined in the U.S.

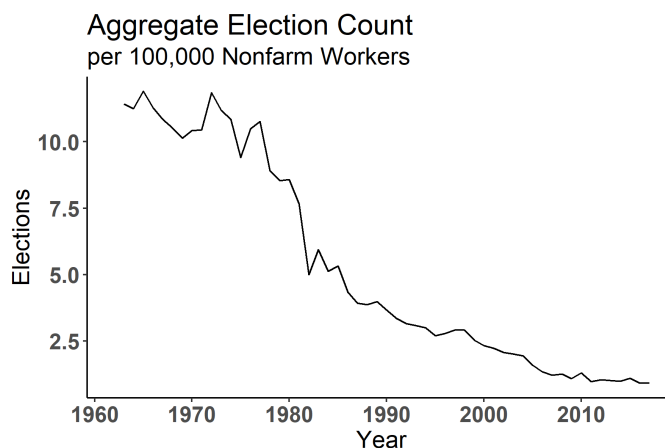
We also link to rich population and labor market data to see whether certain environmental variables correlate with union decline. Although preliminary, early results indicate that elections have urbanized rapidly since the 1990s. Although union formation has retreated everywhere, elections have all but disappeared from rural areas. Additionally, the rate of election decline in rural areas has outpaced the rate at which the US population has migrated toward metropolitan areas and dense urban centers, leaving the remaining rural workforce to fend for themselves in what are often highly concentrated job markets.

Finally, we explore the possibility of local formation activity spillovers—election contagion, if you will. Given the recent surge in representation petitions, inspired in part by seminal victories at Starbucks and Amazon, we wonder to what extent elections beget elections within some meaningful sphere of influence. It is possible that spillover effects operate primarily at an intraorganizational level, e.g., Starbucks branch to Starbucks branch, or at an industry level, e.g., battery plant to battery plant, but we first hypothesize that information and inspiration flow most meaningfully at the regional level. Hence, we use the geographic detail now available in the data to estimate the contagion effect of prior elections in a given commuting zone.

¹the paper will go into much greater detail about voluntary recognition. For now it is sufficient to say that card check unions are becoming more common, but are still likely a minority. Prior to 1985 they were a rather small minority, so elections are an excellent gauge of inflow historically.

Descriptive Analysis

The dataset contains over 260,000 observations, 86% of which are RC (certification) elections, and about 10% are RD (decertification) elections. The remaining 4% is composed of a third variety (RM elections) that employers may file to determine if workers support a prospective unions or still support a defunct representative. Figure 1 shows how the frequency of elections has evolved over time.



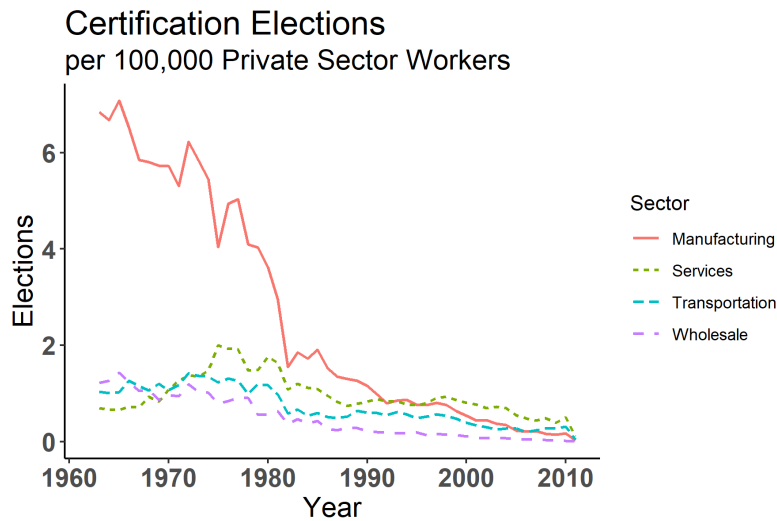
Source: Author's calculations. Data from combined sources.

Figure 1

The decline is moderate throughout the 1960s, substantial in the 1970s, and severe in the early 1980s. A more steady decline persists after 1987. Farber and Western (2002) show that the break around 1980 predates the air-traffic controllers strike in 1981, even though President Reagan's aggressive position is generally associated with a widespread change in union tolerance surrounding that event (McCartin, 2011; Fantasia, 2009). All told, the annual rate of elections per worker in 2017 dropped to less than eight percent of the rate in 1965.

Because of the disaggregation available in this dataset, a useful follow up question is whether all sectors experienced such a decline, or just a few that drove the aggregate trend. Figure 2 shows the election rate broken out to four key sectors: manufacturing, services, transportation, and wholesale. The other four sectors of construction, retail, mining, and finance were omitted to better illustrate the main trends; they either experienced similar trends to the non-manufacturing sectors, or

trivially few elections for the entire period.



Source: Author's calculations. Data from combined sources.

Figure 2

The graph shows that elections have declined for all sectors, but the fall off in manufacturing begins earlier and is more severe. It also shows that manufacturing experienced a higher level of organizing activity in the early part of the period compared to all other sectors. This is not surprising since unions have traditionally targeted blue-collar male workers in factory type settings. What is interesting is that manufacturing did not maintain its position relative to other sectors, but converged to the others by the early 1990s. Nevertheless, since all sectors experienced a decline around the same time, a force (or forces) common to all parts of the economy is likely at play—one that simply affected manufacturing more severely than the others.

A similar disaggregation in Figure 3 shows the coarse geographic variation in election activity. As expected given the high density of factories in the area, the Great Lakes region had the highest rate of elections early in the period and the greatest decline. All regions, however, experienced a very similar pattern, with the Far West being the only small exception, having started the decline a bit later. Importantly, the Southeast is one of the four most active regions throughout the period, suggesting that the loss in the Rust Belt and other densely unionized areas is not due to simple shifts in employment across regions to the resistant south.

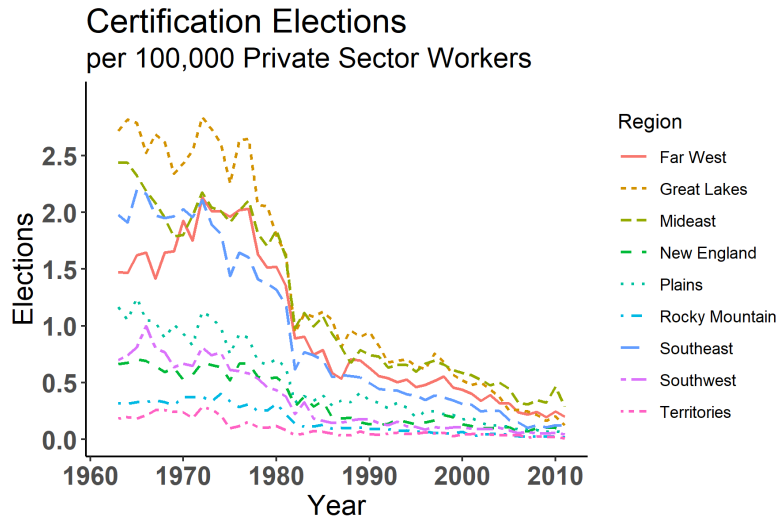


Figure 3

Of course, not all election attempts result in a union. Over 50% of workers have to vote for representation in order to have a union victory. The success rate thus matters almost as much as attempt frequency. Figure 4 shows the success rate over time. Figure 5 shows the success rate weighted by the number of eligible employees in each election.



Figure 4



Figure 5

Unsurprisingly, the trend between 1963 and 1982 is steeply negative. Surprisingly, at least to casual observers of the labor movement, success rates have rebounded and now regularly surpass 65%. This result is primarily driven by consistently higher pro-union vote shares in elections across the country. While substantial variation exists across regions, and that variation looks to be increasing, Figure 6 shows that the number of workers voting for a union has increased markedly since the early 1980s, pulling success rates up with it. This fact may suggest a resurging pro-union attitude among workers, but one should be cautious since increasing vote shares and success rates are endogenous to bargaining unit selection. Unions have become much more intentional about the units they seek to organize, choosing “targets” based on how likely they are to see victory. Further research is needed to identify the power of such a selection effect.

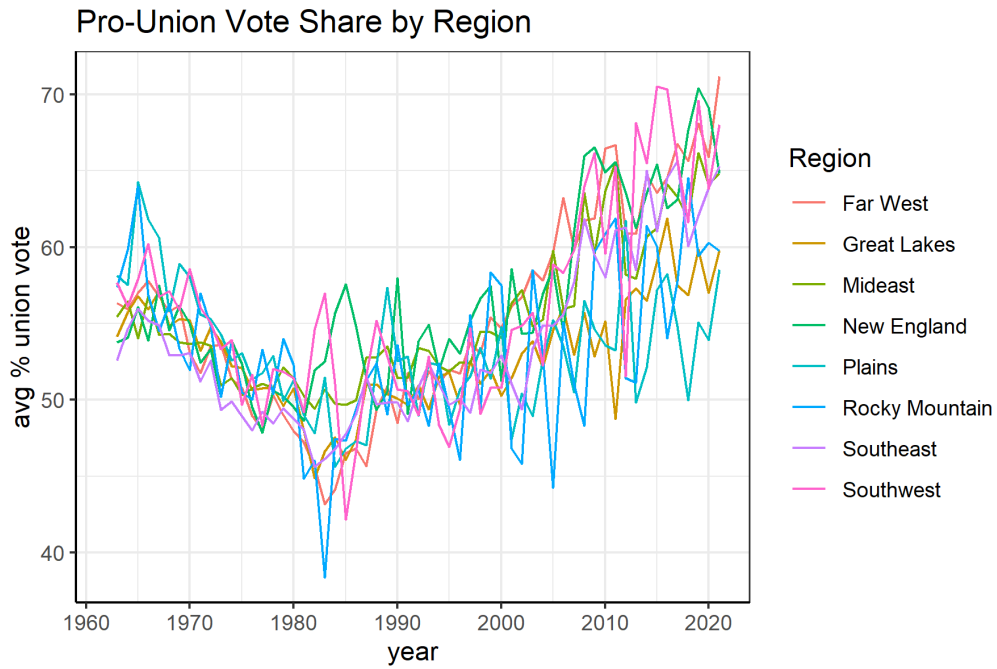


Figure 6

Finally, most elections involve small bargaining units, and the participation rate is very high; the median number of eligible employees is 22 and on average 85% or more of them vote. See Figure 7 for a plot of participation rates over time.

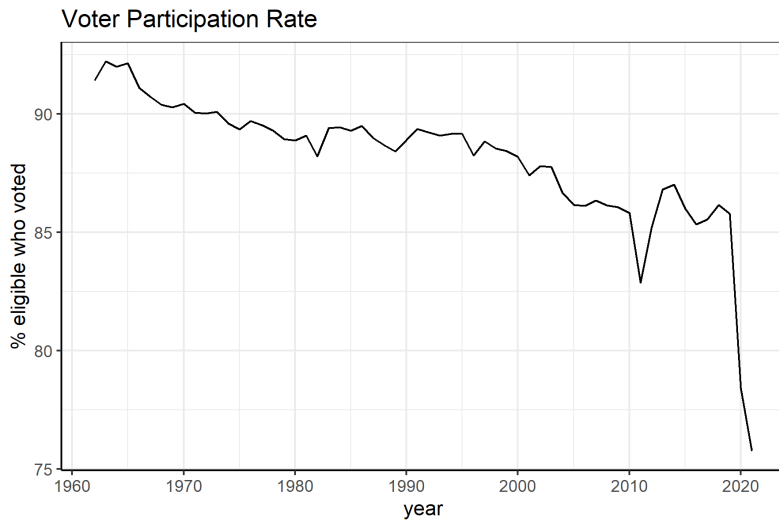


Figure 7

Election Mapping

We map each observation to see where elections were concentrated and where their decline was most severe. Figures 8 and 9 display the stark contrast between levels of activity around 1965 and 2020, respectively. Together these figures paint a striking picture of how much unions have declined in the U.S. Furthermore, they also reveal that union formation has virtually disappeared from rural areas. Though the decline occurred everywhere, elections became relegated almost exclusively to metropolitan areas and dense urban centers across the nation. Following up on the simple eye test, Figure 10 plots per capita election trends broken out by urban vs. rural counties.² This approach helps control for migration over time. As the US population urbanizes, we would expect the denominator in elections per person to fall for rural counties and rise for urban counties. All else being equal, one would expect the trend line for rural counties to thus be flatter than the trend for urban counties since a falling denominator counteracts declining election numbers. However, we see the opposite. Between 1963 and 2016, elections per 100,000 people declined by nearly one unit for rural counties, and by less than half a unit for urban counties.

Although this result may not be surprising, it is significant. It means that workers in smaller labor markets have become increasingly isolated from each other and the broader labor movement. Bargaining alone, they are less likely to develop the same level of solidarity with fellow workers as they might in a collective effort. And since unions have pivoted attention and resources toward higher value targets, small town workers may find themselves disconnected and excluded from a broader community of fate.

²We follow the Census Bureau and define rural as an area containing less than 50,000 people.

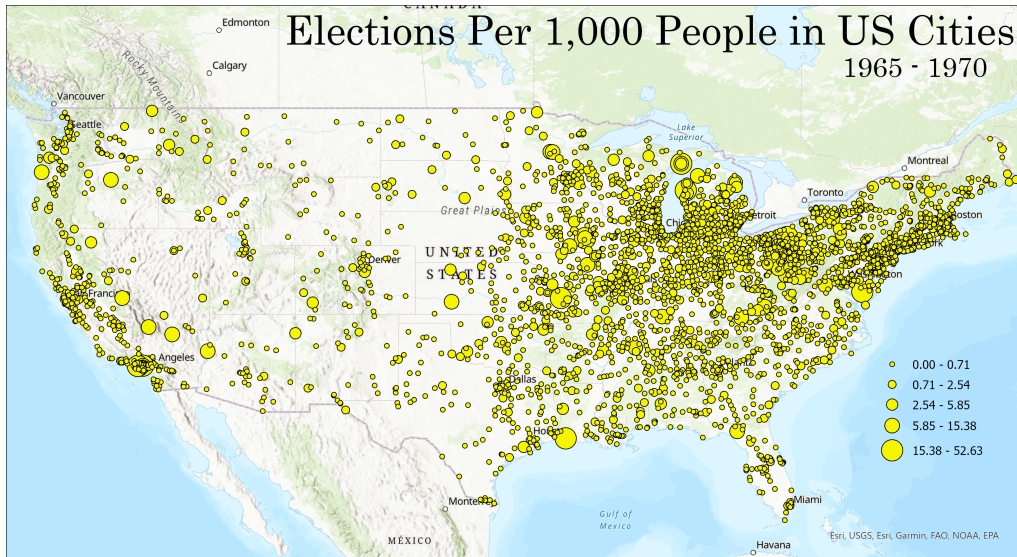


Figure 8

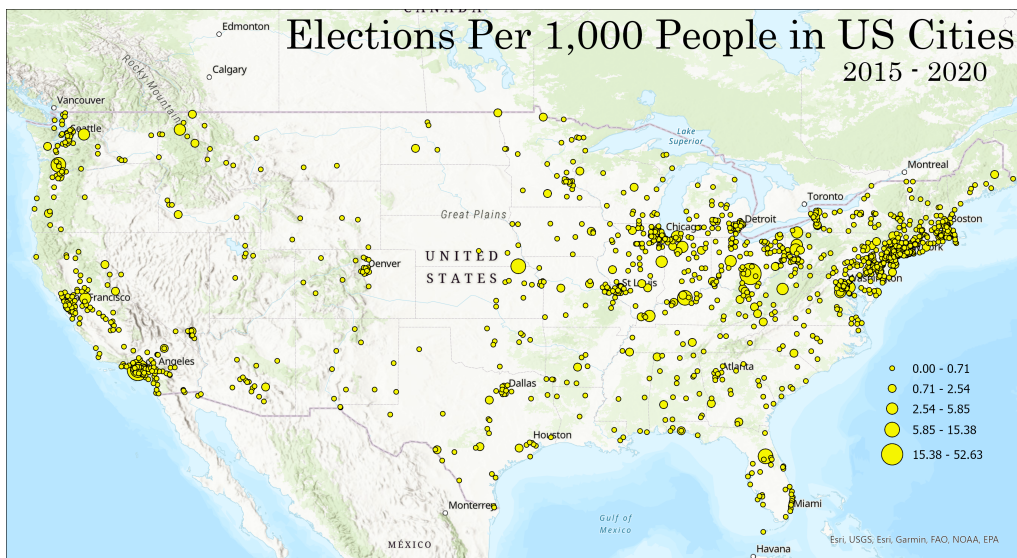


Figure 9

Contagion Effects

In this section we report preliminary results on election contagion in regional labor markets. This is a first pass only and is by no means a complete analysis. The eventual goal is to robustly estimate the extent to which election activity inspires further election activity in a given labor market. For now we define a labor market geographically, using 1990 commuting zones as the economic unit of interest.

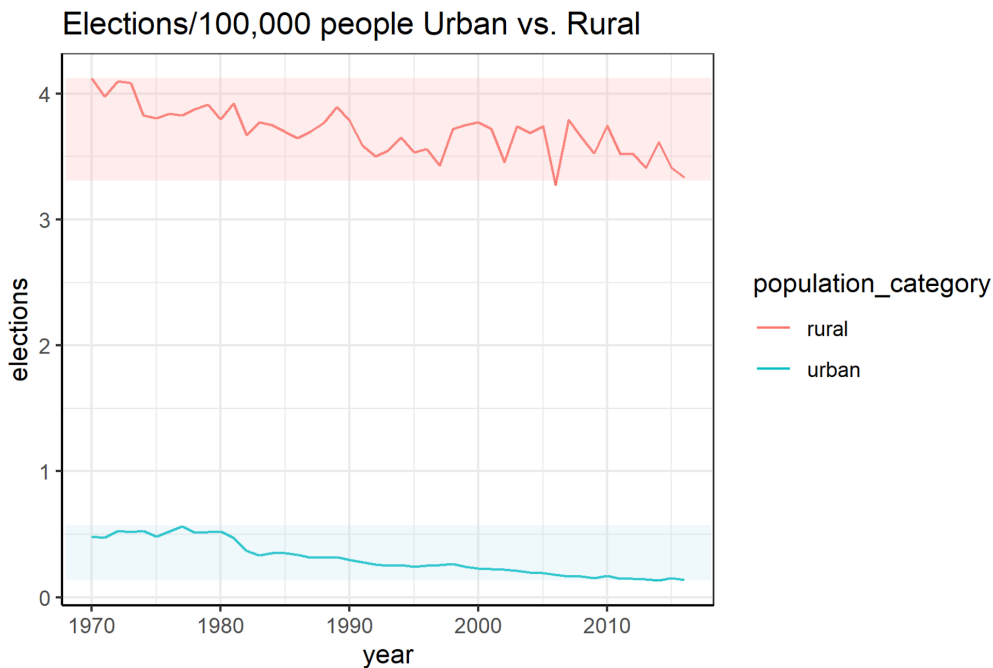


Figure 10

We begin by aggregating elections to the county-month level. This unit of observation makes it possible to link employment as a control variable, and to perform panel regressions with county fixed effects. We specify the following empirical model as a baseline:

$$\text{logit}(\text{Election}_{cm}) = \beta_1 \text{Elect}_{zm-6:1} + \beta_2 \text{Emp}_{cm} + \delta \text{Year} + \gamma_c + \varepsilon_{cm} \quad (1)$$

where c is county, m is month, Election_{cm} is a dummy variable that takes the value of 1 if there was an election in that county and month, 0 otherwise, $\text{Elect}_{zm-6:1}$ is the count of elections that happened in the commuting zone containing county c over the previous six months, and γ_c is a vector of county dummies. In alternative specifications, we aggregate over a six-month period rather than a one-month period and still regress on the count of elections over the previous six months. We also run specifications with year fixed effects rather than a time trend. Counties in which an election was never held over the entire period were dropped. Table 1 reports the regression estimates.

Column 1 corresponds to the exact specification in 1. Column 2 swaps the year

Table 1

	<i>Dependent variable: had election</i>			
	t = month		t = 6 month	
	(1)	(2)	(3)	(4)
spillover	0.002*** (0.00003)	0.002*** (0.00003)	0.001*** (0.0001)	0.001*** (0.0001)
employment	-0.059*** (0.001)	-0.060*** (0.001)	-0.001* (0.0005)	-0.001*** (0.0005)
year	-0.001*** (0.00001)		-0.005*** (0.00005)	
county FE	yes	yes	yes	yes
year FE	no	yes	no	yes
Observations	1,508,076	1,508,076	251,346	251,346
R ²	0.030	0.011	0.058	0.001
F Statistic	15,470***	8,569***	5,074***	89***

Note:

*p<0.1; **p<0.05; ***p<0.01

trend with year fixed effects. Columns 3 and 4 are repeats of 1 and 2 except they aggregate the dependent variable to a six-month period instead of a one-month period. Further experimenting with contagion timing will need to be done, but results do not appear to be overly sensitive to the two schemes tried so far. In all four columns, the coefficient on spillover is positive and statistically significant. The values are small, however, so the odds ratios are approximately the same as the coefficients themselves. Hence, the contagion effect, although precisely estimated, is not economically significant. For every additional election in a local labor market, the odds of having an election in a given county in a given month increase by only 0.2%. Put in context, the odds increase from 11.45% to 11.47%.

Perhaps the effect is seen in support for unions during an election itself rather than in the propensity to have an election. We now use OLS to regress the mean pro-union vote share on spillover and relevant controls. Table 2 reports the regression estimates.

In all four specifications the coefficient on spillover fails to be distinguishable

Table 2

<i>Dependent variable: mean pct union vote share</i>				
	t = month		t = 6 month	
	(1)	(2)	(3)	(4)
spillover	-0.002 (0.005)	-0.009* (0.005)	-0.004 (0.008)	-0.005 (0.008)
employment	1.200*** (0.132)	1.237*** (0.133)	0.255*** (0.037)	0.247*** (0.037)
year	0.203*** (0.009)		0.196*** (0.010)	
county FE	yes	yes	yes	yes
year FE	no	yes	no	yes
Observations	92,593	92,593	50,195	50,195
R ²	0.014	0.001	0.016	0.001
F Statistic	428.221***	50.439***	262.641***	24.243***

Note:

*p<0.1; **p<0.05; ***p<0.01

from zero at conventional significance levels.

Together these results suggest that if contagion is happening at the geographic level, the effect is very small. Further analysis is needed however, to explore every possibility. For example, the outcome of elections could be more meaningful than their existence. Union wins might be impactful, but union losses might be as well. Workers exposed to mixed results could be nonplussed about their chances and uninfluenced in general. Alternatively, the way in which workers win or lose could be important. Do landslide wins or losses generate spillovers? Does media coverage matter? Finally, commuting zones may not be the environment of influence. Perhaps information and inspiration comes at the organization level, creating contagion effects only across bargaining units within a large firm, such as we've seen with Starbucks and Amazon. We hope to answer these questions with further analysis. Any suggestions for how to go about it would be much appreciated.