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The Effect of Local Economic Shocks on Local and National Elections

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Abstract

We study the reaction of voters to shifts in local economic conditions. Using the departure from the gold standard of US trading partners in 1931 and the US in 1933, we exploit heterogeneity in export destinations, creating local differences in expenditure-switching in US counties by isolating the aggregate effects of the monetary shocks using time fixed effects. We find significant changes in local voting behavior in response to both shocks, one originating abroad, and another domestically. The response to both shocks have similar magnitude. We argue that voters punished and rewarded incumbents regardless of the shocks' origin, implying strong feedback from economic conditions to electoral outcomes.

JEL: D72, N42 E61

Keywords: US elections, gold standard, economic voting

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1 Introduction

Social scientists, journalists, and general observers have long acknowledged the importance of changes in economic performance in determining electoral outcomes.[1] Leading evidence on the strength of this relation has been documented at both the national (Erikson, 1989) and the sub-national levels (de Benedictis-Kessner and Warshaw, 2020). A critical empirical concern in estimating the strength of changes in determining economic conditions on electoral outcomes is the presence of unobserved variables that simultaneously affect economic conditions and electoral outcomes. Any economic policy that simultaneously affects the economy and changes popular support for other reasons will be a threat to identification.

In this paper, we overcome this empirical challenge by exploiting two large and sudden economic events that impacted the US economy during the 1930s with unequal effects across local regions. First is the abandonment of the gold standard by several US trading partners, most notably the United Kingdom, which generated a large appreciation of the US dollar relative to some of its trading partners and, as a consequence, a deterioration in the economic conditions of the export sector of cities oriented to those trading partners. Second is the abandonment of the gold standard by the US, which generated the exact opposite consequences for cities exposed to countries that let their currency appreciate against the US dollar.

We will exploit the variation induced by these two episodes in the economic conditions across different counties as a function of their pre-existing exposure to bilateral exchange rate fluctuations weighted by export intensities as in Candia and Pedemonte (2021), which can be interpreted as exogenous to unobserved determinants of electoral outcomes. This feature of the setting is ideal for providing better estimates to answer the old question of whether local economic activity affects electoral outcomes. Importantly, our strategy *does not* rely on a particular stance on whether the exit from the gold standard was an electorally savvy measure at the national level; this variation will be soaked by time fixed effects. Our identification strategy requires that factors apart from

[1] Perhaps no one else popularized this notion more than James Carville during Bill Clinton's 1992 presidential campaign when he said, *"It's the economy, stupid,"* to stress the importance of economic performance to the campaign's success.

economic voting through which the economic measures we analyze affect electoral outcomes be uncorrelated with the exposure to trade we use in our regression analysis.

Furthermore, the different nature of both exchange rate shocks allows us to test whether voters react differently to shocks that had similar consequences (albeit of opposite sign) but starkly different causes on an equal footing. In particular, we can test whether voters reward (or punish) incumbents for the consequences of events that are caused by their actions and react to those that are not. Since the abandonment of the gold standard by US trading partners was out of the scope of action of the incumbent president, Herbert Hoover, we will test if the first shock has little effect relative to the abandonment of the gold standard by the US, a policy action decided by President Franklin D. Roosevelt (FDR). This sequence of events gives us the opportunity to test whether the view in Fiorina (1978) -according to which voters hold the government accountable regardless of whether it is responsible for events or not- finds support in the data.

Our identification strategy consists of comparing voting patterns between counties that are differentially exposed to exchange rate fluctuations. To do so, we merge census employment data and detailed administrative records on exports by sector and destination to determine each county's degree of exposure to different destinations around the world. We weight bilateral exchange rates by these exposure shares to compute the extent to which a particular county was affected by exchange rate fluctuations. This measure of exposure to trade varies across counties and over time and captures county-specific depreciations (or appreciations) of the US dollar relative to a trade partner; this measure is relevant for the county depending on the basket of goods and the pool of countries with which each of them trades.

Importantly, the data set we build allows us to include a time fixed effect to deal with two simultaneous consequences generated by the abandoning of the gold standard (both by the US trading partners first, and then the US). The first consequence is expenditure switching (i.e., the change in the composition of the basket of foreign and domestic goods consumed by each county), which affected mainly cities exporting to the countries for which the bilateral exchange rate changed. Second is monetary easing due to a lower real interest rate (Bouscasse, 2022), which affected the whole country;

this latter mechanism is accounted for when we include a time fixed effect.

This empirical strategy allows us to obtain variation in local economic activity, coming from international/aggregate shocks, but where we control for aggregate common variation. With this strategy, we are able to exploit cross-sectional changes in economic activity between cities that are exogenous to local electoral conditions.[2] Our controls and resulting variation have a clear economic interpretation. The shock is scaled by its intensity in order to have a direct economic measure. With this setting, we are able to overcome the main empirical challenges in the literature and obtain a clean empirical estimate.

Our results indicate that local economic activity affected county-level election outcomes during the period we study (which included both presidential and congressional elections). Under President Hoover's administration (election years 1930 and 1932), during which a large appreciation took place, we find that, at the county level, a one standard deviation increase in our measure of appreciation induced an average increase in the Democratic Party's vote share of 1.474 percentage points. Then, under President Roosevelt's administration (election years 1934 and 1936), during which an even larger depreciation took place, a one standard deviation depreciation increased the Democratic Party's vote share by 2.665 pp, on average. Moreover, these results imply that voters reacted to economic outcomes regardless of whether they were caused by local politicians' actions.

In order to obtain a direct measure of the effect of changes in economic activity on electoral outcomes, we use retail sales per capita from Fishback (2017) available for the years 1930, 1934, and 1936. We use the city-specific depreciations as an instrument for local economic activity, assuming that national and international policies were not motivated by the economic conditions of some US counties relative to others, since we control for time fixed effects. We find that a $1 increase in retail sales per capita, caused

[2] In the case of 1931, the UK left the gold standard without the motivation of affecting local electoral outcomes in the US. The policy reaction in the US could have been electorally motivated and it is what the voters evaluated. In the case of 1933, while the motivation could have been electoral, the depreciation affected many cities in a different way, as the policy is not targeted to a particular city. Moreover, the US didn't control the reaction of other trading partners. Cuba remain tied to the US dollar, the UK stayed flexible, and France didn't abandoned the gold standard. The exchange rate is a bilateral price and the US couldn't control its trading partners' reactions. Eggertsson (2008) discusses the policy motivation for those changes in regime in the US.

by an exogenous depreciation, increases the vote share of the incumbent by 0.14 percentage points. We also find very similar effects when we separate regressions by president. In the case of Hoover, the coefficient is 0.18, and in the case of FDR, it is 0.12, implying that, if anything, Hoover was more damaged by policies that originated abroad.

Understanding how and when economic voting becomes more salient is critical for democratic accountability. If voters reward or punish incumbents regardless of their role in determining economic outcomes, the feedback from economic to electoral performance weakens. While rational voters should not react to events outside the control of governments, a large literature has found that voters indeed respond to such events (most infamously popularized by shark attacks in Achen and Bartels (2012)). Ashworth, Bueno de Mesquita, and Friedenberg (2018) argue that events such as natural disasters provide voters the opportunity to learn about their government's ability and through them to have an electoral impact that is not necessarily attributed to voter irrationality.[3] This paper offers a more definite test of the matter by measuring the electoral outcomes following two similar economic shocks that differ in how far they were from the scope of the government's powers. While the government may always react to any shock and might be punished for that reaction, in this paper we exploit the same economic shock, not very distant in time, but of different origin. The events of 1931 originated abroad, and the events of 1933 were the result of a decision made by the incumbent at the time. The reaction of voters was similar in both.

The remainder of the paper is organized as follows. Section 2 frames this paper within the existing literature. Section 3 provides details on the historical context. Section 4 describes the theoretical expectations of the consequences of the events under study. Section 5 describes the data and research design. Section 6 presents the results and Section 7 concludes.

[3]The appreciation shocks of 1931 were unexpected, in a sense similar to a natural disaster, since their origin was beyond the government's control. One could interpret voters' reaction as the valuation of the administration policy reaction or inaction in response to the shocks.

2 Economic Voting, Local Conditions, and the Room to Maneuver

This paper bridges the literature exploring the effect of economic voting (i.e., the connection between economic conditions and electoral outcomes) at the local level and the literature on the role of governmental constraints to policy in shaping economic voting. The literature on economic voting spans multiple elections and countries. Lewis-Beck and Stegmaier (2000) review almost 300 of the early articles and books exploring the empirical relevance of economic voting. Most of them used presidential popularity (e.g., Gallup polls, which allowed for longer series than elections since these occur less frequently) or vote shares as dependent variables and GNP or unemployment (monthly or quarterly when used along with popularity) as the regressor of interest. They conclude that economic conditions do shape election outcomes and that this phenomenon is robust across different contexts. Duch and Stevenson (2008), however, paint a much more nuanced picture of the evidence by analyzing 103 political parties in 18 countries over 22 years; the main lesson from their book is that the cross-country variation might be attributed to the way voters recognize governments' responsibility in determining electoral outcomes.[4]

More recently, researchers have focused on studying the topic using more granular data. Healy and Lenz (2017) use two population-based data sets: consumer loans in California (between 2006-2010) and business establishments in the US since the 1990s. They claim that this alleviates the measurement error concern that seems to have led previous studies to find small effects. In a similar spirit, de Benedictis-Kessner and Warshaw (2020) study the effect of county-level changes in wages on local elections between 1968 and 2018. Both of these papers find large effects, implying that politicians might face incentives to target geographic areas to grow their economies and improve their electoral outcomes. Those papers focus on changes in local economic conditions, controlling for time fixed effects. While they control for aggregate economic variation, such changes might not solve the key concern that politicians might want to affect eco-

[4] A related literature has also studied economic voting through novel angles such as the role of partisanship identification (Ang et al., 2022), the "clarity of responsibility" stemming from multilevel governance (Anderson, 2006), and the credibility of economic information (Alt, Marshall, and Lassen, 2016).

nomic conditions in places in which they might want to grow electorally. Our paper extends this literature by providing a historical perspective while using a much more plausibly exogenous measure of economic conditions that varies at the county level.

A growing literature has paid attention to the role of the "room to maneuver," or the constraints that governments face in implementing their policies, in economic voting. Duch and Stevenson (2010) propose a model in which the relative magnitudes of a "competence" versus a "non-political" signal determine whether economic voting will be relevant. They conclude that in open economies -which are more subject to exogenous economic shocks- economic voting is weaker than in less open economies. Hellwig (2008) studies how globalization -as a constraint to domestic policy- might impact economic voting. He argues that voters evaluate parties differently when elected representatives are perceived to be constrained by exogenous conditions. Kosmidis (2018) answers a similar question in an experimental fashion by varying the (in)ability of the government to design fiscal policy in two different hypothetical situations presented to participants. He finds that while economic voting is strong, its size does not depend on the government's room to maneuver. Our paper extends this literature by focusing on a set of historical events that produced a natural experiment in which the government, first, suffered an economic shock not produced by its policies (although, again, one to which it had to respond), and, second, a similar economic shock produced by its policy. This similarity allows us to compare the electoral consequences of these shocks and understand the role of the shocks' origin.

Importantly, the use of these historical events is not anecdotal but key to alleviating empirical concerns. In particular, Guntermann, Lenz, and Myers (2021) point out that most studies on economic voting focus on modern economies, which facilitate economic voting because governments have the Keynesian toolkit to manage the economy and to collect and disseminate measures of the economy, and voters are exposed to news media coverage of the economy. Since these analyses are based on the last 70 years, they cannot tell whether economic voting requires the conditions that are particular to this period. By focusing on the pre-WWII period, this paper can, to a large extent, rule out the influence of such factors.

3 Context

In economic terms, the period under study was marked by the Great Depression, at the beginning of which most countries had their currencies tied to the price of gold, which in practice implied a system of fixed exchange rates (Eichengreen (1996)). Starting in August 1931, big US trading partners depreciated their currencies or left the gold standard: Mexico in August, the UK in September, and Japan in December. As a consequence, a large appreciation of the US dollar relative to the currencies of its trading partners followed, which meant that industries focused on exports to these destinations suffered from poorer economic conditions. In November 1932, Franklin Delano Roosevelt won the election against the incumbent Herbert Hoover. Upon taking office in 1933, FDR took the United States off the gold standard, leading to a depreciation of the US dollar and inducing a recovery in the tradable sector (Eichengreen and Sachs, 1985; Candia and Pedemonte, 2021). Edwards (2018) reviews the discussions and motivations of FDR to abandon the gold standard. Noticeably, this depreciation was not necessarily an adjustment with respect to the currencies against which the US dollar appreciated in 1931. For example, France and Germany remained on the gold standard and, as a consequence, the depreciation of the US dollar was stronger relative to the currencies of these countries, than to those of countries that at the time had a flexible exchange rate, such as the UK.[5] On the other side, the Mexican peso, after depreciating against the US dollar in August 1931, was tied back to the US dollar and remained tied after the US left the gold standard in 1933.

In political terms, a stark contrast in political ideologies set apart the governments of Hoover and FDR. Hoover won the election of 1928 with 58.2 percent of the popular vote; his government was characterized by a strong opposition to federal interventionism in the economy and a reliance on local governments instead. One year after Black Tuesday, the midterm elections of 1930 took place; the Republican Party lost 52 seats to the Democratic Party, although the Republican Party still won the popular vote with a 53 percent. In 1932, Franklin Roosevelt challenged the incumbent on the basis of a "New Deal"; he won both the Electoral College (472 to 59) and popular votes (57.4 to 39.6 percent). His government was characterized by a much stronger intervention of

[5] In 1931, the bilateral exchange rate between the US and France and the US Germany did not change.

the federal government in the economy. A month after his inauguration, FDR's government left the gold standard, devaluing the US dollar, which on top of the economic consequences we observe in the data had legal consequences, such as a series of legal actions before the Supreme Court by holders of federal gold certificates Edwards (2018). In the 1934 midterm elections, results were largely favorable to the Democratic Party. FDR was re-elected in 1936, after four years of economic recovery. Figure 1 synthesizes the timeline of events.

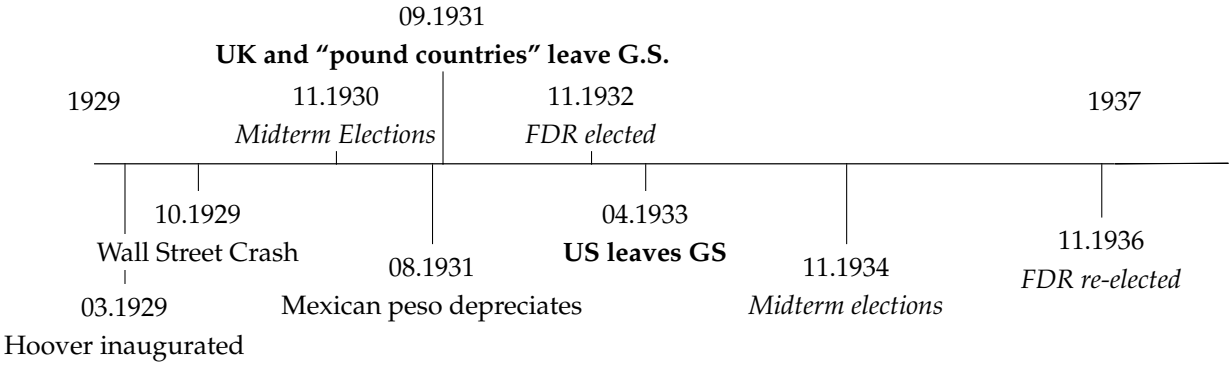


Figure 1: Timeline of events

Note: Economic shocks in bold; measured outcomes in italics.

There are several elements at interplay in our setting that need to be considered for interpretation. First, we observe the local-economy consequences of an international shock but evaluate the presidential (i.e., national) electoral outcomes in the 1932 election. In this case the public judges the incumbent for the consequences of a shock even though he is not responsible for its origin. Second, we observe the results of a country-wide policy -the abandonment of the gold standard- that is not a prerogative of Congresspersons on their electoral outcomes in 1934; in this case there is a mismatch in the accountability levels, so economic voting should not be that strong, in principle. Congresspersons are not responsible for exchange policy, although one might think that voters would reward the president's party. Finally, we observe the impact of the same policy but on a presidential election. In this case the accountability link is clear, since the president is the responsible for the actions taken in this field.

4 Theoretical Predictions

Duch and Stevenson (2010) propose a model of economic voting in which voters must determine the extent to which shocks to the economy are the result of the competency of the incumbent as opposed to exogenous shocks on the basis of a noisy signal. According to their predictions we should expect little room for economic voting after the appreciation generated by the UK abandonment of the gold standard as long as voters realize the shock was "non-political." Although it is a matter of fact that the incumbent lost the election, it is not obvious whether the counties hardest hit by adverse economic conditions were less likely to vote for him; that is the research question we are interested in answering. Also, while Duch and Stevenson (2010) place great importance on the information that individuals might acquire to take decisions, in this setting we are unable to directly judge the relevance of this mechanism. We alleviate this concern by exploiting the longitudinal dimension of the data set and assuming that access to information at the county level remained constant over time so it can be captured by fixed effects.

On the other hand, one should expect an important role for economic voting right after the US abandoned the gold standard and economic conditions improved for the tradable sector. Since this was arguably a consequence of the government's policy, according to Duch and Stevenson (2010) voters should interpret this as a "competence signal" and reward the government. Although in their model this prediction holds for voters' assessment focusing on the most recent shock to the economy, we evaluate the effects of the shock on electoral outcomes that take place one (midterms) and three (reelection) years after. Therefore, the results should be read as a lower bound on economic voting.

5 Data and Research Design

We collect data on electoral outcomes and local economic conditions in the United States between 1930 and 1936. We create a county-level shift share measure of exposure to trade, which combines *shifts* variation in bilateral exchange rates with destination export shares by county, and county-level *shares* of employment in the export-oriented

sector. The core of our research design consists of comparing the electoral outcomes of similar counties that were exposed to different destinations, for example, the UK versus Germany, due to pre-existing conditions, and exploit the fact that the US dollar appreciated against the pound but not against the deutschmark in 1931.

We gather election results at the county level from the Inter-university Consortium for Political and Social Research (1999) for four different elections: the midterm of 1930, the presidential of 1932, the midterm of 1934, and the presidential of 1936. We use the vote share of the Democratic Party expressed as a number between 0 and 100. Figure A.1 in Appendix A shows the county-level distribution of the Democratic Party's vote share in the four elections we cover.

To measure exposure to trade, we use changes in exchange rates at the county level appropriately weighted by sector-destination. Specifically, we construct the following measure:

$$\text{Exposure to Trade}_c^{t,t-1} = \underbrace{\sum_s \text{Share}_{s,c,1930}^{W}}_{(i)} \times \left[\underbrace{\sum_d \text{Share}_{s,d,1928}^{Ex}}_{(ii)} \times \underbrace{\left(\text{RER}_{d,t} - \text{RER}_{d,t-1}\right)}_{(iii)} \right], \quad (1)$$

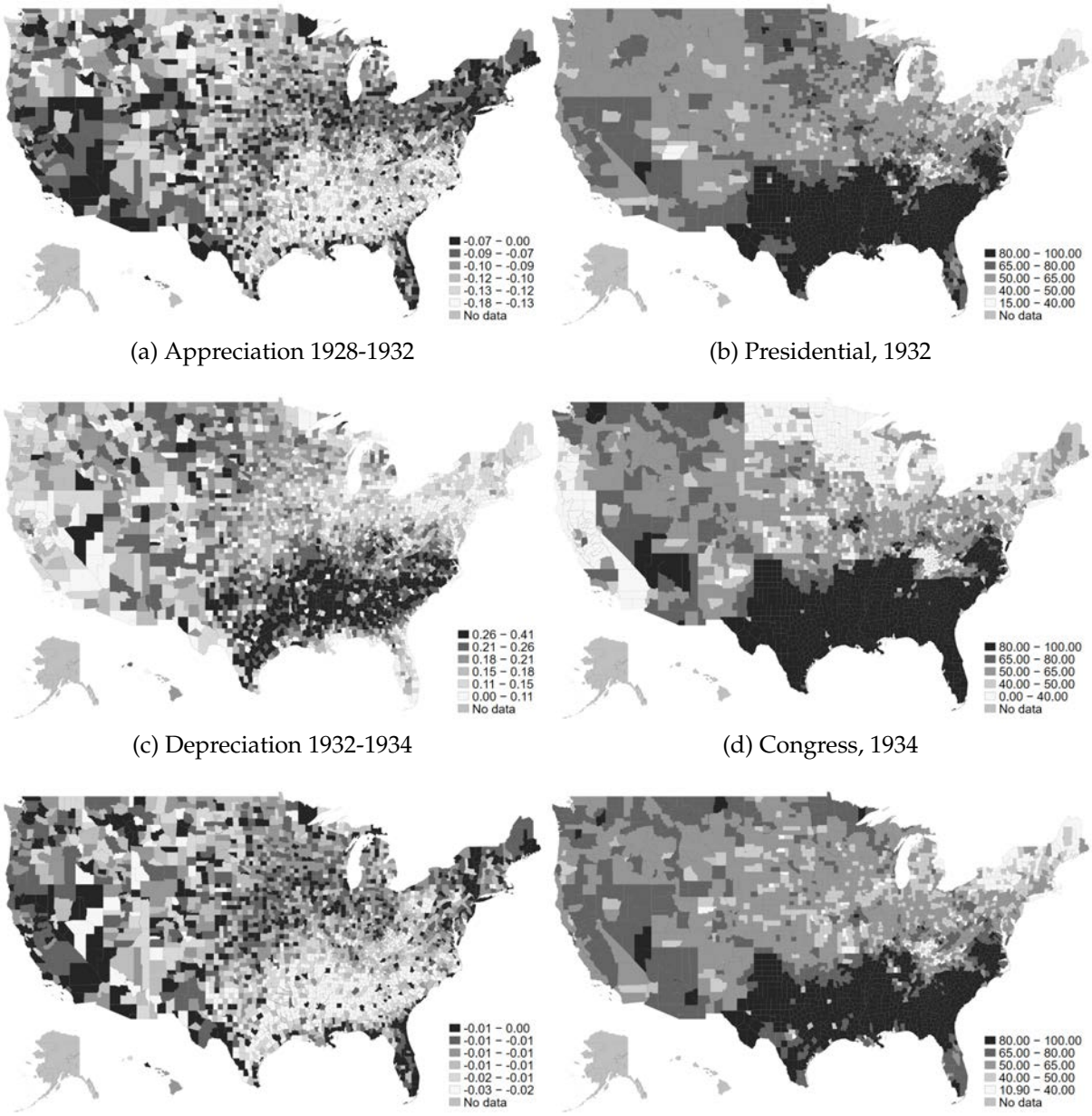
where c indexes counties and t indexes years. (i) $\text{Share}_{s,c,1930}^{W}$ represents the share of workers in sector s in county c according to the census of 1930, the closest census before the date on which Britain abandoned the gold standard, (ii) $\text{Share}_{s,d,1928}^{Ex}$ is sector's s export share going to destination d in 1928, and (iii) $\text{RER}_{d,t}$ is the bilateral real exchange rate of the US relative to destination d in year t for different pairs of years (1930-28, 1932-28, 1934-32, 1935-32).

Our Exposure to Trade measure captures changes in economic conditions of the exporting sector of a given county between period $t-1$ and t caused by changes in the exchange rate, while providing variation across counties through the way counties specialized in different economic sectors before the shock. A county s is more exposed to bilateral exchange rate fluctuations with country d whenever a larger share of its labor force works in a sector that trades heavily with country d.

To merge the census industrial employment data with the sectoral trade informa-

tion, we follow the correspondence described in Candia and Pedemonte (2021). We use 45 sectors that represent exports of US merchandise to 33 destination countries. We provide an example for illustrative purposes. Although Canada and the UK were the main trading partners of the US, Japan was the main destination for forestry and fertilizer exports. Mexico was the main destination of explosives and firearms, the Netherlands for precious stones, and Germany for cotton. At the same time, Cook County, MN led in allocating workers to forestry; Warren County, OH to explosives, Pickens County, GA to precious stones; and Tunica County, MS to cotton.

Figure 2 shows the three different episodes alongside the corresponding effects on election outcomes at the county level. Panel (a) shows that the large appreciation that took place between 1928 and 1932 as a result of the UK and Mexico abandoning the gold standard had particularly large effects in the counties in the southeast. Panel (b) shows a large vote share for the Democratic Party in the same geographic region. Similarly, panels (c) and (d), and with less strength panels (e) and (f), show that the counties that experienced the greatest recovery through a large depreciation following FDR's decision to abandon the gold standard voted more strongly for the Democratic Party.



(a) Appreciation 1928-1932

(b) Presidential, 1932

(c) Depreciation 1932-1934

(d) Congress, 1934

(e) Depreciation 1932-1935

(f) Presidential, 1936

Figure 2: Depreciation and Democrats' vote share, by election

Note: The maps in the left panels show the geographic variation in the trade exposure variable detailed in Equation 1. The maps in the right panels show Democratic Party vote shares across counties. The top panel shows data between 1928 and 1932 and the electoral outcomes of the presidential election of 1932. The middle panel shows data for the midterm elections of 1934 and the change in exchange rates between 1932 and 1934. The bottom panel uses data for the presidential election of 1936 and the change in exchange rates between 1932 and 1935.

We estimate the relationship between exposure to trade and the outcomes of the

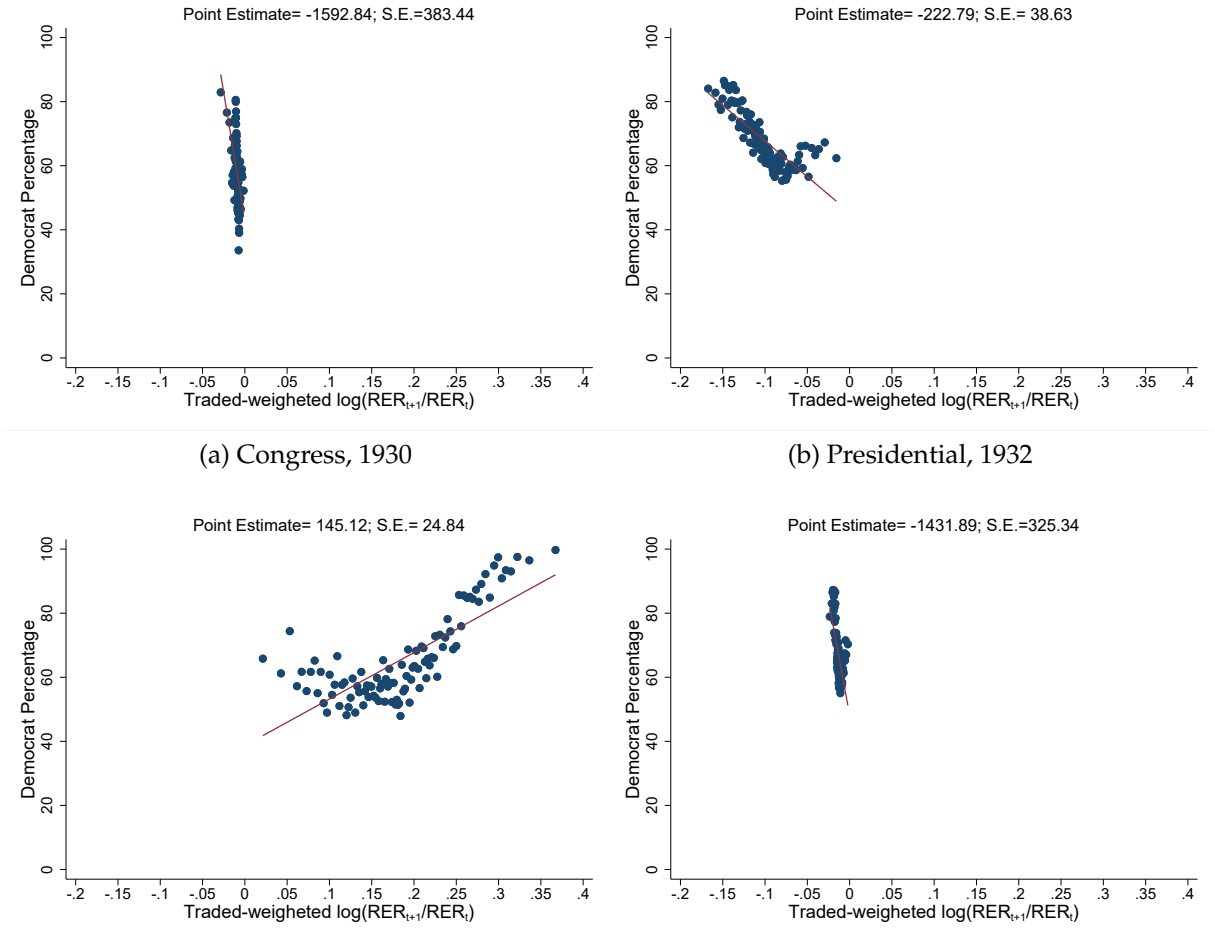
midterm elections of 1930, the presidential election of 1932, the midterm elections of 1934, and the presidential election of 1936 pooling all county-election observations to run the following regression:

$$\%\ \text{Dem Party}_{ct} = \alpha_c + \lambda_t + \beta \text{Exp to Trade}_c^{t,t-1} + \gamma \mathbb{I}(t = \text{FDR}) \cdot \text{Exp to Trade}_c^{t,t-1} + \varepsilon_{ct}, \quad (2)$$

where α_c and λ_t are county and time fixed effects, respectively. $\%$ Dem Party$_{ct}$ is the vote share of the Democratic Party. Exposure to Trade$_c^{t,t-1}$ varies across time and counties, as explained before. $\mathbb{I}(t = \text{FDR})$ is an indicator that takes a value of 1 if the election is when FDR was president.

Our identification assumption is that, after controls, unobservable shocks that drive variation in voting behavior for one party versus the other at the county level are not correlated with our measure of Exposure to Trade. Under the assumption that any remaining unobserved variation in the Democratic Party's vote share at the county level after controlling for time fixed effects and other covariates is uncorrelated with the exposure to trade measure; β corresponds to the causal effect of economic conditions on electoral outcomes. It should be noted that to correctly interpret the coefficients in Equation 2 one should keep in mind that when FDR is in power a depreciation should increase the vote share of the Democratic Party and when Hoover is in power it should decrease the Democratic Party vote share.

The main advantage of our research design is that it isolates one source of variation in local economic outcomes that is unlikely to be directly controlled by the federal government. Previous studies used raw measures of economic conditions, such as the growth in wage rates at the local level to understand the effect on voting behavior. Raw measures could, in principle, be controlled by the federal government, by choosing spending across space, or they could affect the electoral effort of the government in different places. Our approach "fixes" the exposure shares to a pre-shock period, and only uses variation triggered by a set of shocks that the US or foreign governments did not choose in order to benefit one particular county versus another. Intuitively, our identification assumption is that Britain did not exit the gold standard to affect, for example, Van Buren, TN over Dare, NC, nor did the US the gold standard to benefit Borden, TX over Clifton Forge, VA.



(a) Congress, 1930

(b) Presidential, 1932

(c) Congress, 1934

(d) Presidential, 1936

Figure 3: Exposure to trade and Democratic Party vote share, by election

Binnned scatter-plots of Democrats' percentage of vote by each percentile of depreciation. Point estimates and standard errors (clustered at the state level) of the underlying OLS regression reported. Panel (a) uses the exchange rate variation between 1928 and 1930; panel (b) between 1928 and 1932; Panel (c) between 1932 and 1934; Panel (d) between 1932 and 1935.

6 Results

We first conduct a raw examination of the data. Figure 3 plots a binned scatter-plot of exposure to trade and the Democratic Party's vote share for the set of elections we study. Panel (a) shows a very steep relationship between the depreciation and vote shares. More importantly, it shows very small variation in the exposure value. There were no important changes in exchange rate regimes in the US trading partners during 1930, so very few exchange rates were adjusting. Panel (b) shows a more meaningful

pattern. After 1931, many economies left the gold standard or depreciated their currencies. In counties where the appreciation of the US dollar was stronger (i.e., where the economic conditions worsened), the Democratic Party's vote share was larger, presumably as a way to punish the ruling republican party. In panel (c), where we observe large variation in county-level exposure to the shock, the Democratic Party performed better in the 1934 midterm elections in counties where the depreciation of 1933 was stronger. Finally, panel (d) again shows very little variation in the exchange rate between 1932 and 1935.

Although informative, these graphs cannot tell us whether voters reacted equally to both shocks which were, as we have argued before, similar in consequences but different in nature. To conduct this test formally, we run the regression stated in Equation 2 and show the results in Table 1. Column (1) is included for bench-marking purposes and estimated by comparing different counties with different exposures to trade. We find that per each standard deviation. of the exchange rate appreciation during President Hoover's administration, the Democratic Party benefited with an extra 6.16 percent vote share. When FDR was in power, this figure was 7.27 percent. Column (2) exploits the within-county variation to estimate Equation 2; doing so causes our point estimates to drop to 1.5 percent when Hoover is in power and to 2.89 percent when FDR is in power. Adding a time fixed effect (shown in Column (3)) to account for the country-wide shocks to interest rates causes our point estimates to further (albeit slightly) drop. All in all, we interpret these results as evidence in support of the existence of economic voting. Furthermore, the fact that the impact is higher during FDR administration (i.e., when the variation in economic conditions can be traced to his policy of abandoning of the gold standard) indicates that the public might have internalized the different natures of the shocks to the economy.

As we have argued, the main mechanism through which a depreciation should affect voting behavior is economic activity. While Candia and Pedemonte (2021) show that the measure of exposure we use is strongly associated with economic activity, we lend credibility to our baseline estimates by using retail sales per capita -a measure arguably much more associated with the economic conditions of households- although this measure is susceptible to be endogenous to voting patterns and is available only

Table 1: Effect of city-specific depreciation on Democratic Party vote share

	(1)	(2)	(3)
$\mathbb{I}(FDR)$	21.3199***	7.8162***	
	(1.0208)	(0.5502)	
Exposure to Trade$^{t,t-1}$	-6.1642***	-1.5177***	-1.4742***
	(0.3429)	(0.1711)	(0.1664)
$\mathbb{I}(FDR) \cdot$ Exposure to Trade$^{t,t-1}$	7.2729***	2.8925***	2.6650***
	(0.3141)	(0.1625)	(0.2053)
Time F.E.	No	No	Yes
County F.E.	No	Yes	Yes
N	12283	12281	12281

Note: Observations are at the county-year level. Election years 1930, 1932, 1934, and 1936 are included. The dependent variable corresponds to the share of the Democratic Party's vote, expressed as a number between 0 and 100. Exposure to trade is included in the regression as relative to the standard deviation of each year. An indicator for presidential elections is also included as an explanatory variable. Standard errors are clustered at the county level in all specifications.

for a subset of years (Fishback (2017)). This exercise also gives us a more concrete measure of economic voting not in terms of appreciation or depreciation but in terms of dollars.

We merge yearly changes in retail sales per capita with the election outcomes of 1930, 1934 and 1936. Then, we instrument retail sales per capita with the changes in the exposure to trade, assuming that its variation is exogenous to local economic activity, as discussed previously. With this strategy, we obtain the causal effect of variation in local economic activity on election outcomes. Table 2 shows the results of various specifications using this basic approach.

First, Column (1) shows that exposure is a strong instrument for retail sales. Second, in Columns (2) and (3) we find that economic activity has a significant effect on the incumbent's vote share (Republicans in 1930 and 1932; Democrats in 1934 and 1936); a $1 dollar increase in retail sales per capita the votes of the incumbent by 0.135 percent. However, a concern with the specifications in Columns (2) and (3) is that the county fixed effect takes an average of the incumbent, not the political affiliation. Because of this, we separate retail sales by president, shown in Column (4); doing so delivers a slightly larger coefficient for President Hoover and a slightly smaller coefficient for President Roosevelt. Columns (5)-(8) use the Democratic Party's vote share as a de-

Table 2: Effect of economic activity on votes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Retail Sales	Incumbent			Democrats			
Exp to Trade	18.770***							
	(0.795)							
Retail Sales (RS)		0.212***	0.135***		-0.038***	0.023***	0.097***	0.054***
		(0.015)	(0.014)		(0.006)	(0.006)	(0.0097)	(0.005)
Lag incumbent			0.814***					
			(0.017)					
RS Hoover				0.183***				
				(0.048)				
RS FDR				0.120**				
				(0.053)				
Lag democrats					0.909***	0.820***		-0.845***
					(0.039)	(0.020)		(0.011)
Time F.E.	Yes	Yes	Yes	Yes	No	No	Yes	Yes
County F.E.	Yes	Yes	Yes	Yes	No	No	Yes	Yes
Sample	1930-36	1930-36	1930-36	1930-36	1930	1934-36	1934-36	1934-36
F		556.920	514.503	56.519	144.682	1722.287	492.7843	464.167
N	9034	9034	9020	9034	2969	6055	6052	6048

Note: Observations are at the county-year level. Specification in column (1) uses retail sales per capita as the dependent variable; specifications in columns (2)-(8) use the share of votes, expressed as a number between 0 and 100. Specifications in columns (2)-(8) use our measure of exposure to trade as an instrument for retail sales, which are measured in per capita terms in 1967 US dollars. Standard errors are clustered at the county level in all specifications.

pendent variable. We find that a $1 dollar increase in retail sales induced a 0.038 fall in the vote share of the Democratic Party in 1930 and an increase between 0.054 and 0.094 percentage points after FDR arrived to power.

7 Conclusion

This study aims to answer two related questions: first, whether or not voters react to the way an incumbent government manages the economy; second, whether that reaction depends on the origin of the shock (or "room to maneuver"). By exploiting a historical set of circumstances, we are able to isolate two economic shocks and their causes: first, an appreciation of the US dollar that took place after the UK and other important US trading partners abandoned the gold standard, a decision largely outside the scope of influence of the US president; second, a depreciation that took place after the US abandoned the gold standard, a decision taken by the executive branch.

The theory indicates that voters should reward the government more for the second shock, since it was a consequence of its policy, and they should be less responsive to

the first one, since the government had to react to a shock that originated abroad. This article finds evidence that voters weight economic conditions when voting regardless of the government's responsibility in terms of the origin of a shock, since they punished the incumbent after the negative shock of 1931 symmetrically to the way they rewarded the incumbent in 1936 after a comparable positive shock.

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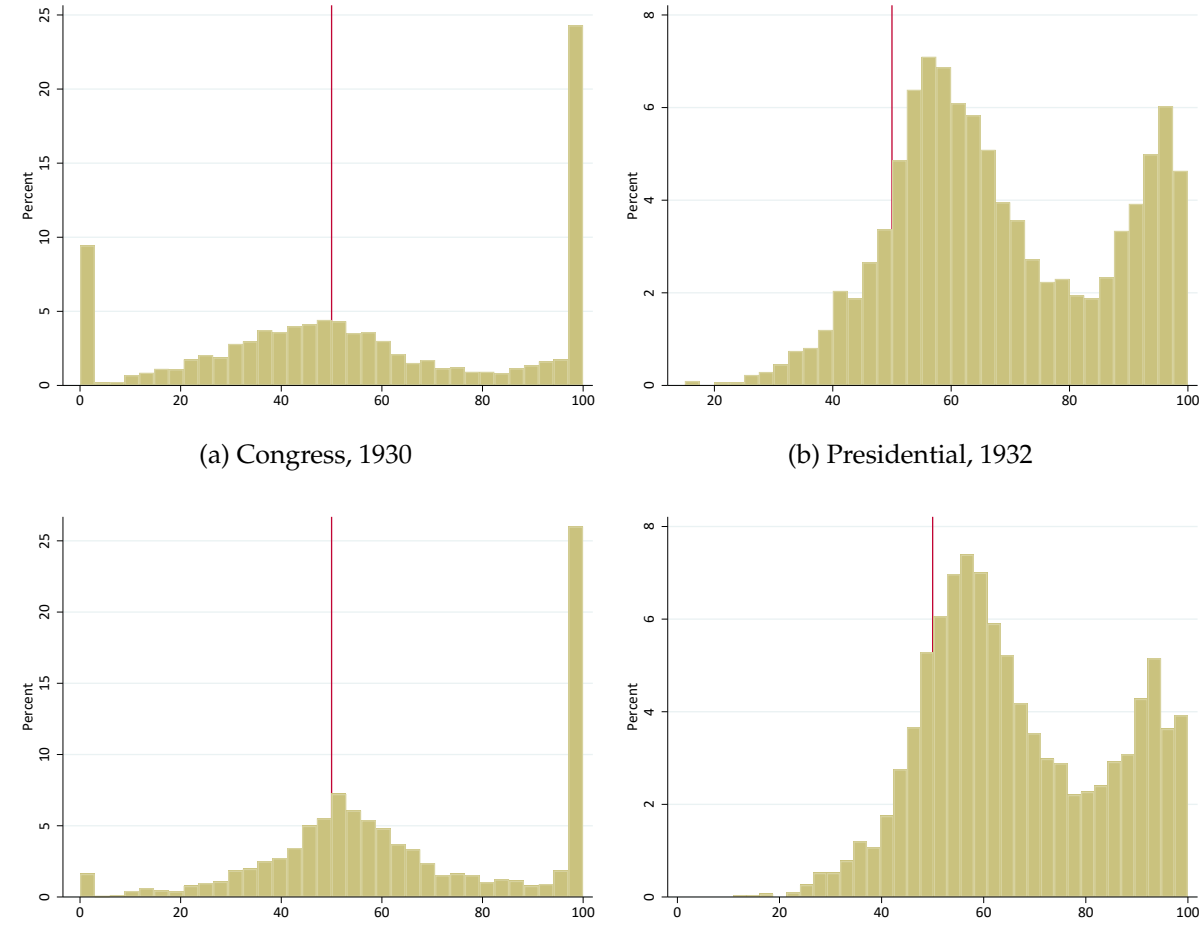
A Appendix



(a) Congress, 1930

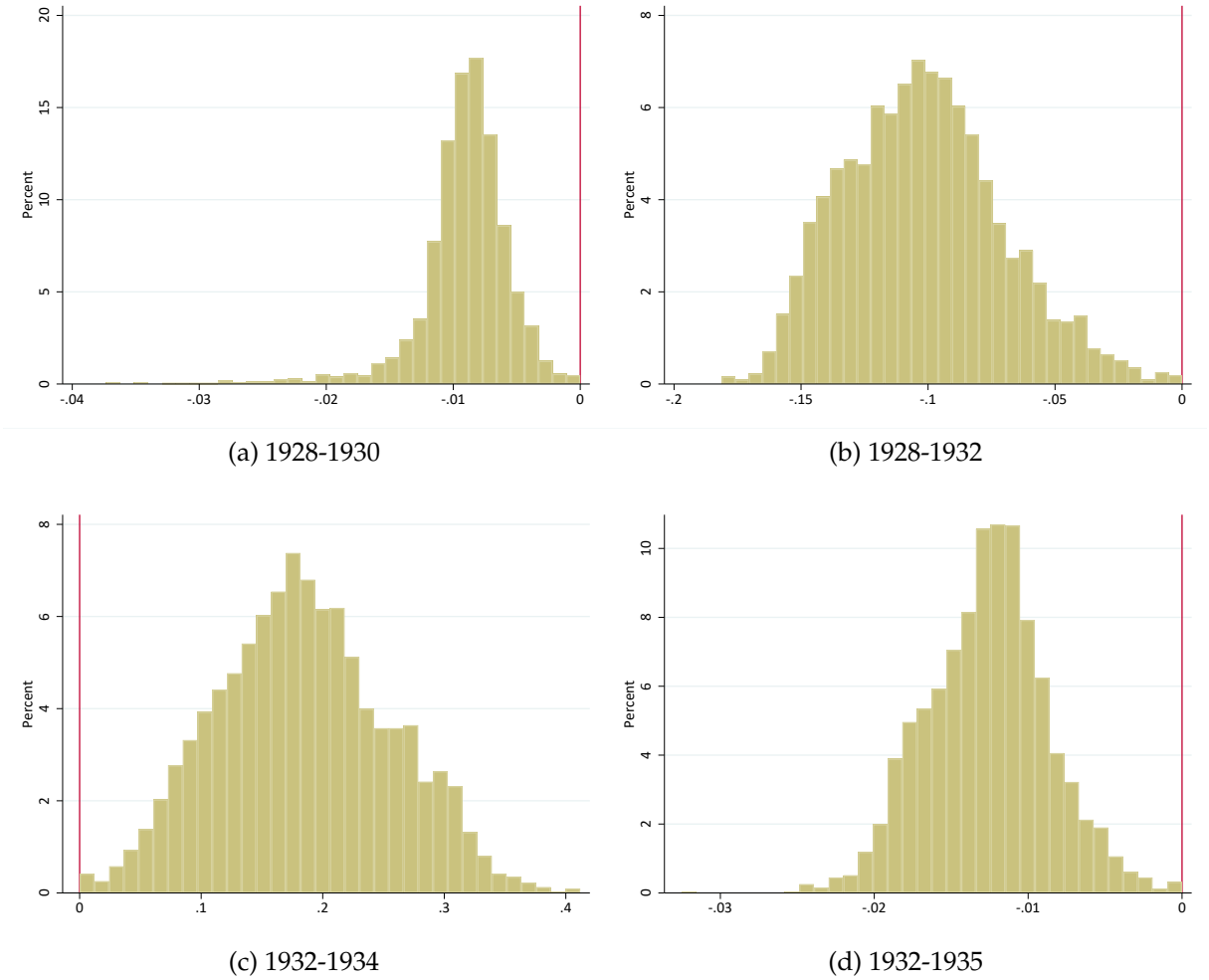
(b) Presidential, 1932

(c) Congress, 1934

(d) Presidential, 1936

Figure A.1: Democratic Party's vote share, by election

This figure shows the raw data corresponding to the Democratic Party's vote share at the county level for the four elections used. The x-axis corresponds to the percentage of Democratic Party votes and the y-axis the national density in each election. Vertical red lines indicate a value of 50 percent.



(a) 1928-1930

(b) 1928-1932

(c) 1932-1934

(d) 1932-1935

Figure A.2: Exposure to trade measure between each pair of years

This figure shows the cross-county distribution of Exposure to Trade$_c^{t,t-1}$ for different years. See Equation 1. The x-axis indicates the change in exposure between the years exposed in the graph and y-axis the density. Vertical red lines indicate a value of zero.