Political Cleavages and Exposure to the Global Financial Crisis*

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December 9, 2021

Abstract

Can a financial crisis tip the domestic balance of power between the winners and losers of globalization? In this paper, we trace that roots of contemporary elite polarization in American politics to the differential impact of the 2008 global financial crisis. We examine firms' corporate campaign contributions and lobbying expenditures before and after the financial crisis, finding that firms more insulated from the crisis experience a relative increase in their political expenditure profiles. We then identify the recipients of these expenditures, tracing the inversion of political capital to the proliferation of less mainstream candidates in federal elections. Our findings provide a causal mechanism through which elite polarization has grown in American politics: exposure to the global financial crisis caused a shift in political capital from the incumbent winners from globalization to anti-globalization challengers.

Word Count: 6,531

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1 Introduction

Can a financial crisis tip the domestic balance of power between the winners and losers of globalization? After the 2008 global financial crisis (GFC), the United States experienced a partisan realignment over support for globalization, with the previously pro-trade GOP opposing deeper integration, ushering in a new era of American neomercantilism (Helleiner, 2019). This realignment is puzzling given the historical evidence of a left-right divide on globalization, with left-leaning parties tending to be more anti-globalization than their right-leaning competitors (Milner and Judkins, 2004). The oft-cited "China shock" literature (Dorn et al., 2020) provides evidence of the gradual erosion of support for globalization due to local import competition, but, importantly, this literature does not provide a transmission mechanism for this new cleavage in American politics or explain its timing. In this paper, we examine mechanisms by which the financial fate of firms might translate into the political fate of elites. We argue that the fallout from the GFC amplified the voices, in relative terms, of firms who were losing out from globalization.

In his classic treatise on exposure to trade and political cleavages following the Great Depression, Rogowski (1987) builds on Stolper and Samuelson (1941) and Becker (1983) to argue that adverse shocks to globalization negatively impact the winners from globalization more so than the losers. Following a financial crisis, political regimes that favored the interests of globalization's winners shifted to support the interests of globalization's losers—e.g., Rogowski attributes the success of the New Deal to the sharp increase in organized labors' political power in the 1930s. His argument depends on an assumption that financial reversals translate into changes in political capital. In this paper, we ask if Rogowski's intuition helps us make sense of the fundamental political realignment in contemporary American politics. Using firm-level data, we compare how those firms most and least exposed to the GFC changed their campaign contributions and lobbying expenditures after 2008. We further examine downstream political outcomes, looking at the electoral fortunes of political players.

Our data include more than 14 million observations per year for the 1990-2018 period. To measure exposure to the GFC, we utilize firm-level data from Reference USA.[1] In measuring the transmission mechanism through which exposure to the GFC may impact political outcomes we use rich data on firm-level campaign contributions from the Center for Responsive Politics[2] and the Database on Ideology, Money in Politics, and Elections (DIME) (Bonica, 2019), as well as firm-level lobbying data from LobbyView (Kim, 2018). We use this expansive observational data to draw causal inferences about the effects of exposure to the GFC on elite polarization.

We find that firms that lost most from the GFC reduced their financial involvement in politics more so than those firms that were relatively unaffected. Specifically, when looking at campaign contributions by political party, we find evidence of a negative effect for Democrats and incumbents and a positive effect for third party and Republican candidates. Evidence of an effect of the GFC on lobbying expenditures is stronger: compared to firms insulated from the crisis, more exposed firms experienced a relative decline in their lobbying expenditures, an effect that has persisted over time. Furthermore, we show that these changes in the locus of political influence resonated in American politics writ large, with Republicans and non-incumbent politicians disproportionately benefiting. The financial crisis appears to have tipped the balance of political capital away from globalization's winners, suggesting that an overlooked fallout from the financial crisis is the amplification of the political voice of the losers from globalization.

Our contribution speaks to a broad literature that analyzes the recent backlash against globalization (Broz, Frieden, and Weymouth, 2019; Naoi, 2020; Mansfield, Milner, and Rudra, 2021; Walter, 2021) and growing elite polarization in US politics (Hare and Poole, 2014; Sides and Hopkins, 2015; Diermeier and Li, 2019). While one strand of literature uses

[1]The company that supplied the data is now known as Data Axle and can be purchased on their webpage: `https://www.data-axle.com/what-we-do/reference-solutions/`.

[2]See `http://www.opensecrets.org/`.

the "China shock" or local import competition to identify the cause of elite polarization between 2010 and 2020 (Colantone and Stanig, 2018; Dorn et al., 2020; Bisbee et al., 2020), we are the first to provide a transmission mechanism for this abrupt shift in US politics after the 2008 global financial crisis.

In the following section we explore a simple theory of exposure to financial crises and how this translates into shifts in political power. We then explain our our empirical approach in Section 3 and present our results in Section 4. Section 5 discusses the implications of our results and concludes with suggestions for continuing research.

2 Economic Shocks and Shifting Political Power

We examine a specific mechanism through which the global financial crisis (GFC) translated into a fundamental realignment in US politics: political expenditures. We are certainly not the first to explore this political shift. Evidence from the "China shock" literature suggests that this realignment can be attributed to rising import competition by China (Jensen, Quinn, and Weymouth, 2017; Dorn et al., 2020; Bisbee et al., 2020). Along similar lines, the globalization backlash literature finds rising support for populist (anti-globalization) parties in regions experiencing a decline in manufacturing employment (Broz, Frieden, and Weymouth, 2019), increased automation (Milner, 2020), or decreased financial support for economically vulnerable voters (Baccini and Sattler, 2020). Together, this literature provides strong evidence for the gradual erosion of support for globalization, but it does not provide a transmission mechanism for the abrupt change in American politics seen after the GFC.

Theoretically, we are motivated by a core argument of Rogowski (1987): during an economic crisis, globalization's winners lose, and its losers win, at least in relative terms. As Rogowski (1987, 1123) puts it in a key assumption driving his approach, "those who enjoy a sudden increase in (actual or potential) wealth and income will be thereby be enabled to expand their political influence." During a crisis, everyone may lose, but some lose more

than others, allowing some groups to gain ground in relative terms. Indeed, by definition, those who are less exposed to the global economy should lose less when the global economy shrinks compared to those who are more exposed. This suggests that when relative financial gains translate into political gains, a fundamental realignment in political power can occur.

We are not alone in making the claim that the financial fates of globalization's winners and losers convert into their relative political power. Richardson (1993) and Bohara, Gawande, and Sanguinetti (2004) similarly claim that positive exposure to the global economy generates political capital. And even before the "New" New Trade Theory (NNTT) literature developed in the early 2000s, Salamon and Siegfried (1977) found strong support that larger firms wielded more political capital due to their economic power. The empirical evidence from Bernard et al. (2007) emphasizes that these larger firms also tend to me more globally engaged.

So, the idea that economic gains (or losses) from globalization translates into political power is not new. Our study, however, is the first to specify a precise mechanism by which these relative changes in financial fortunes become political power. We focus on changes in political campaign contributions and lobbying expenditures by firms that experienced higher or lower levels of exposure to the GFC.

2.1 Exposure to the 2008 Global Financial Crisis

Who was exposed to the GFC and how did this impact their financial fortunes? What started in 2007 as a subprime mortgage crisis in parts of the United States, quickly spread to global financial markets on September 15, 2008, the day after Lehman Brothers collapsed. By the end of 2008, U.S. gross domestic product had dropped by 8.4% from the year earlier, at the time the largest economic contraction since the Great Depression.[3] The preliminary

[3] U.S. Bureau of Economic Analysis, Percent Change of Gross Domestic Product [CPGDPAI], retrieved from FRED, Federal Reserve Bank of St. Louis; `https://fred.stlouisfed.org/series/CPGDPAI`, July 24, 2020.

prognosis for the cause of the GFC was exposure to the U.S. subprime mortgage market through purchases of mortgage-backed securities; however, exposure to mortgage-backed securities was not a main predictor of financial contagion. Rather, it was a trigger that revealed myriad structural issues in the global financial system (Kamin and DeMarco, 2012).

The GFC impacted the real economy due to a sharp drop in global demand not seen since the 1930s — trade volumes dropped by 15% in the first year of the crisis (Freund, 2009).[4] Claessens, Tong, and Wei (2012) found that firms with greater sensitivity to global demand and trade suffered more during the crisis than those more insulated from the global economy. The upshot of these features of the GFC is that former winners from globalization may have taken a sudden loss relative to the losers from globalization. As global demand retreated, firms that specialized in tradable goods or services experienced a more severe downturn than firms specialized in non-tradables, caeteris paribus.

We expect that globally-oriented firms supported politicians who favored globalization and lobbied the government to promote policies favoring free trade. Try though they might during the financial crisis, we hypothesize that they were not able to marshal the financial resources that they would have under better circumstances. The opponents of globalization similarly faced financial constraints during a crisis, but, on the margins, we expect that their lower exposure to the crisis enabled them to better weather the storm. We hypothesize that, compared to the more exposed firms, less exposed firms were able to expend more on campaign contributions and lobbying following the GFC.

[4] In the first quarter of 2009, nominal trade contracted by 30% on average from the year earlier (Freund, 2009).

2.2 Money as Political Power

Campaign contributions represent one conduit for money to become political power under democracy.[5] Such a conduit is not without controversy in the American Politics literature. Ansolabehere, De Figueiredo, and Snyder (2003) conclude that there is surprisingly little money in US politics when measured by campaign contributions, leading them to suggest that this tool of influence buys access, not influence. Yet access is, if not sufficient for influence, at least necessary, as argued by Bertrand et al. (2020), who show that political access is paramount, often using corporate philanthropy as a tool for political influence. We hypothesize that more exposed firms will donate less after the GFC and that more insulated firms will donate more to candidates who oppose globalization, typically challengers and Republican (Tea Party) candidates. But we also take this proposition with some reservations; if, as Ansolabehere, De Figueiredo, and Snyder (2003) suggests, campaign contributions buy access, then lobbying, a more direct form of access, should be an even more important conduit for money to become power.

Lobbying expenditures are harder to connect to a specific politician, but are also orders of magnitude larger than the campaign contributions which are subject to federal and state limits. The received wisdom of a substantial body of work on lobbying concludes that, on average, these expenditures are more policy-focused than those outlays that go toward campaign contributions (Fouirnaies and Hall, 2018; Kim, 2017). This is not to suggest that they are always earmarked for specific bills or particular regulatory clauses. Lobbying expenditures can occur anywhere in the policy-making process, from informing politicians on the broad strokes of a firm's financial position to helping craft the specific language of a regulation.

[5] Clifford Smith, Jr. famously said that "cash rules everything around me" (Wu-Tang Clan, 1994). We agree, suggesting that financial capital can translate into political capital and play a pivotal role in democratic elections.

While these tools of political influence may differ in terms of their magnitude, scope, and strategic context, they also share two important qualities for our research. First, they are both relatively liquid tools of influence, meaning that firms have a fair degree of latitude over how much, where, and when to allocate these funds. As such, they are arguably more responsive to broad economic fluctuations that might influence a firm's bottom line.

Second, these strategies are important to the centers of political power. Campaign contributions flow into specific congressional committees (Fouirnaies and Hall, 2018), creating a powerful incentive for incumbents to seek particularly plumb assignments. Lobbying efforts ebb and flow according to the legislative calendar, pumping in millions of dollars that filter down disproportionately among politicians (Kim, 2017). Put bluntly, these two sources of money in politics create the field in which politicians, lobbyists, interest groups, and voters themselves contribute to produce political outcomes.

We suspect that the sheer magnitude of the GFC may have impacted firms' financial ability to make campaign contributions and lobbying expenditures, and that the GFC may have had differential impacts on firms that were more or less exposed to the global dimension of the crisis. Moreover, the downstream electoral effects of this shift in firms' political spending explains the post-GFC realignment in US politics.

3 Empirical Context and Strategy

We test our theoretical intuition with rich data on the two most well-known measures of political influence: campaign contributions and lobbying. We are fundamentally interested in the degree to which firms most exposed to the GFC withdrew from the political arena—relative to more insulated firms—and how this withdrawal reshaped American politics. To proceed, we need to define an empirical measure for "exposure" to the GFC as well as measures of "political influence," campaign expenditures and lobbying expenditures.

For our empirical work on campaign expenditures, our unit of analysis is at the level

of Political Action Committee (PAC) and two-year congressional cycle. For the lobbying expenditure data, the unit of analysis is the firm (client) and year.

3.1 Independent Variable: Measuring Exposure to the GFC

To measure the degree to which our firms are "exposed" to the GFC, we calculate the industry-level change in employment for the universe of firms in the United States. We base this choice of measurement on the microfoundation that more financially exposed firms tend to have procyclical employment policies (Sharpe, 1994). In the now classic treatise on financial crises, Kindleberger and Aliber (2011) write that almost every financial crisis in history followed a speculative mania, that is, a credit-fueled asset bubble. In the years prior to the GFC, financial markets were flush with credit on account of loose monetary policy, an end to the Glass-Steagall Act, and new financial products that allowed banks to securitize loans. While the housing market shares the majority of the blame for this speculative mania, firms also utilized this excess credit—as did consumers and governments (Blyth, 2013)—, putting strains on their balance sheets. Firms that were more dependent on short-term funding due to an over-leveraged balance sheet were more exposed to the GFC than more risk-averse firms with lower debt-to-equity ratios (Kamin and DeMarco, 2012). In a survey of over 1,050 Chief Financial Officers across the United States, Europe, and Asia, Campello, Graham, and Harvey (2010) find that these over-leveraged firms planned deeper cuts to employment than those less constrained by credit markets.

We obtain the firm-level employment data from Reference USA, which has year-end estimates of employees and sales for every parent firm, subsidiary, and plant in the United States, numbering approximately 14 million observations per year.[6] Importantly, these data include the 8-digit industry code, assigned according to the North American Industry Clas-

[6]By relying on establishment-level data, we sidestep potential endogeneity concerns associated with more politically active parent companies being better equipped to ride-out the crisis, thus spending the same on political influence.

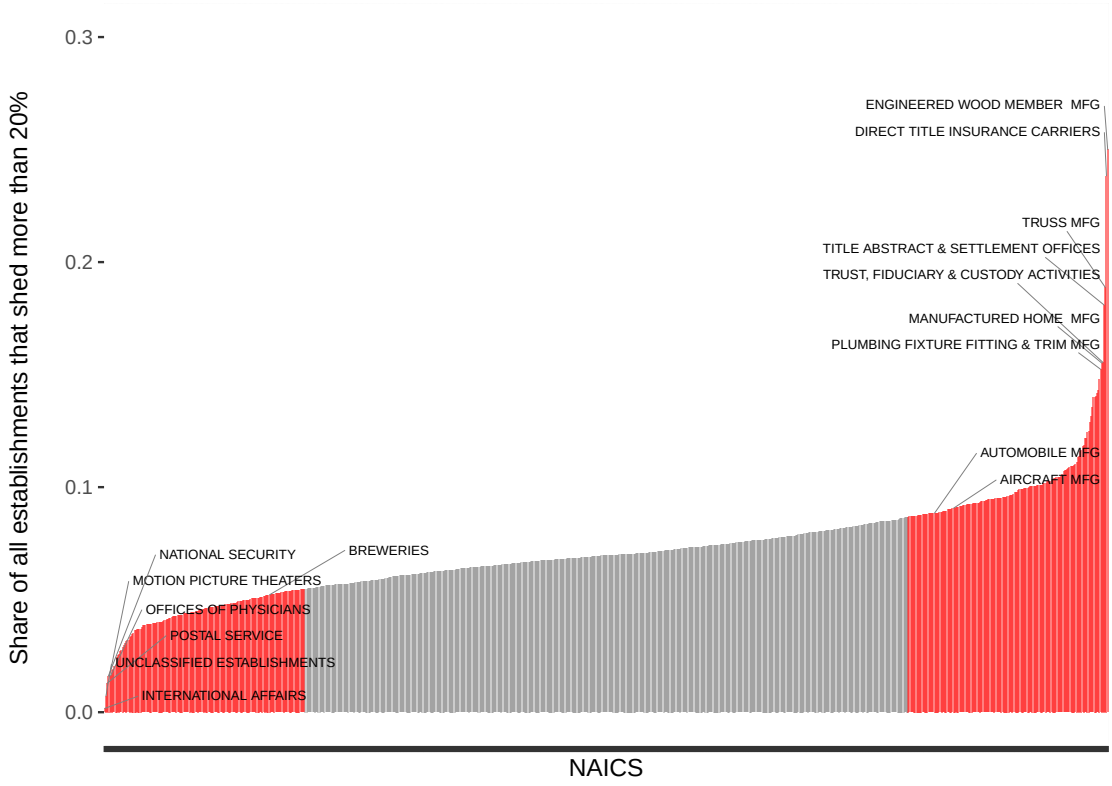
sification System (NAICS), which we aggregate to a 6-digit industry code in order to map to our political expenditure variables.

We restrict our attention to the firms, subsidiaries, and plants that were open between 2007 and the end of 2009, calculating the percentage change in employment over this period.[7] We define as treated those industries in the top 0.20 percentile of all 6-digit NAICS industries whose share of all establishments (i.e., plants, offices, etc.) terminated more than 20% of their workforce during the GFC.[8] These "highly exposed" industries are indicated in red at the right tail of the distribution in Figure 1. The industries most exposed to the GFC include home-related manufacturing (engineered wood manufacturing, truss manufacturing, plumbing fixture manufacturing), title insurance (direct title insurance carriers, title abstract and settlement offices), and financial services (trust, fiduciary, and custody activities), each of which experienced 15-30% of their plants terminating more than 20% of their employees. Other, more globally exposed, industries included in the treatment group include aircraft manufacturing, automobile manufacturing, and machine tool manufacturing, together accounting for approximately 15% of US exports in 2007.

[7]The Great Recession officially ended in mid-2009, with the unemployment rate reaching its peak by the end of this year and turning the corner by early 2010. Thus, we believe the percentage change in employment between 2007, the year before the GFC, and the end of 2009, the very end of the GFC, will best proxy for exposure to the crisis.

[8]We believe this to be a relatively optimal level of discrimination. Obviously, if we have too low of a threshold, then our treated sample would include all industries; likewise, too high of a threshold would limit our analysis to a few outlier industries. We conducted several robustness checks to test the bounds of this threshold.

Figure 1: Share of Plants with > 20% Employee Termination Rate, 2007-2009



The control industries are those that were more insulated from the GFC. They include industries in the bottom 0.20 percentile of all 6-digit NAICS industries whose establishments terminated more than 20% of their employees during the GFC, e.g., physician offices, mental health practitioners, meat processing, and your local brewery (see the left tail in red in Figure 1), each of which had fewer than 5% of their establishments terminate more than 20% of their workforce.

We appeal to the empirical reality of the GFC to measure exposure to the crisis (for similar approaches see, e.g., Mosley and Singer, 2009; Oatley et al., 2013; Ahlquist, Copelovitch, and Walter, 2020; Peritz et al., 2020, among many others). This approach releases our analysis from mapping out-of-date theory about the winners and losers from globalization to our data.[9] We instead follow a central premise of the NNTT literature that firm size matters

[9]For example, as Weldzius (2021) shows, preferences of exporting firms do not always fit the

(e.g., Melitz, 2003; Bernard et al., 2007; Baccini, Pinto, and Weymouth, 2017; Kim, 2017). If we assume that, on average, firms in exposed sectors tended to be larger in size than firms in insulated sectors, then the average treatment effects on the treated will represent the impact of the GFC on large firms relative to small firms. Alas, we find a relatively equal distribution of large firms (greater than 100 employees) and small firms (less than 10 employees) in the exposed and control groups. However, we do find that the large firms in the exposed group had double the average sales growth (6.3%) as large firms in the insulated group (3.4%) in the years leading up to the GFC (2000-2007). On the other hand, small firms in the insulated group actually decreased their average sales over the same time period (–0.03%) while small firms in the exposed group grew modestly (0.05%). This evidence suggests, albeit modestly, that the exposed firms represent the so-called winners from globalization and the insulated firms represent the so-called losers.

We take into consideration that our measure of exposure is noisy, which may bias against our hypotheses. Essentially, we pool firms within one sector and there could be intra-sector winners and losers from globalization. While noisy, our choice in measure allows us to take a rather fine-grained approach with the caveat that we are restricted to only looking at the sectoral level. Analyses at the sectoral level was a workhorse in international political economy for generations (Frieden, 1991, 2002; Hiscox, 2001; Madeira, 2016; Baccini, Osgood, and Weymouth, 2019). Insights from NNTT (Kim, 2017; Osgood, 2016; Osgood et al., 2017) suggest that a firm-level approach may produce stronger findings than we are able to find using our sectoral approach. We use this sectoral approach in order to map our measure of exposure to our dependent variables, which are only available at the sector level. We leave to future researchers to create a cross-walk between the rich firm-level data on sales and employment and the equally-rich firm-level data on political expenditures.

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predictions of old-school economic models, but are rather conditional on their supply chain reliance.

3.2 Dependent Variables: Measuring Political Influence

Our outcome measures, campaign contributions and lobbying expenditures, are obtained from the Center for Responsive Politics[10]—a not-for-profit and nonpartisan research group that tracks money in US politics—, the Database on Ideology, Money in Politics, and Elections (DIME) (Bonica, 2019), and LobbyView (Kim, 2018). These data contain the full schedule of political engagements by firms, interest groups, and political action committees (PACs). There are, in theory, many ways to measure influence in a political system. We focus on these two because of their practical significance in American politics (Gilens, 2012), their importance in the contemporary literature (e.g., on campaign contributions: Powell and Grimmer 2016; Kalla and Broockman 2016; Barber, Canes-Wrone, and Thrower 2017; Fouirnaies and Hall 2018; Fowler, Garro, and Spenkuch 2020; on lobbying efforts: Schnakenberg 2017; McCrain 2018; Lorenz 2020; Bertrand et al. 2020), and their measurability.

We restrict our attention to firms and their associated political action committees (PACs) because of the clear impact of the GFC on their spending power. Interest groups, while clearly an important facet in the US political system, have broader donor bases than firms and thus we assume are more uniformly impacted by the GFC. Moreover, we are unconcerned with any bias to our results by restricting our sample to firms and their associated PACs. Crosson, Furnas, and Lorenz (2020) reveal a conservative bias of interest groups' influence on policy outcomes; thus, if included in our analysis, should only serve to strengthen our results.

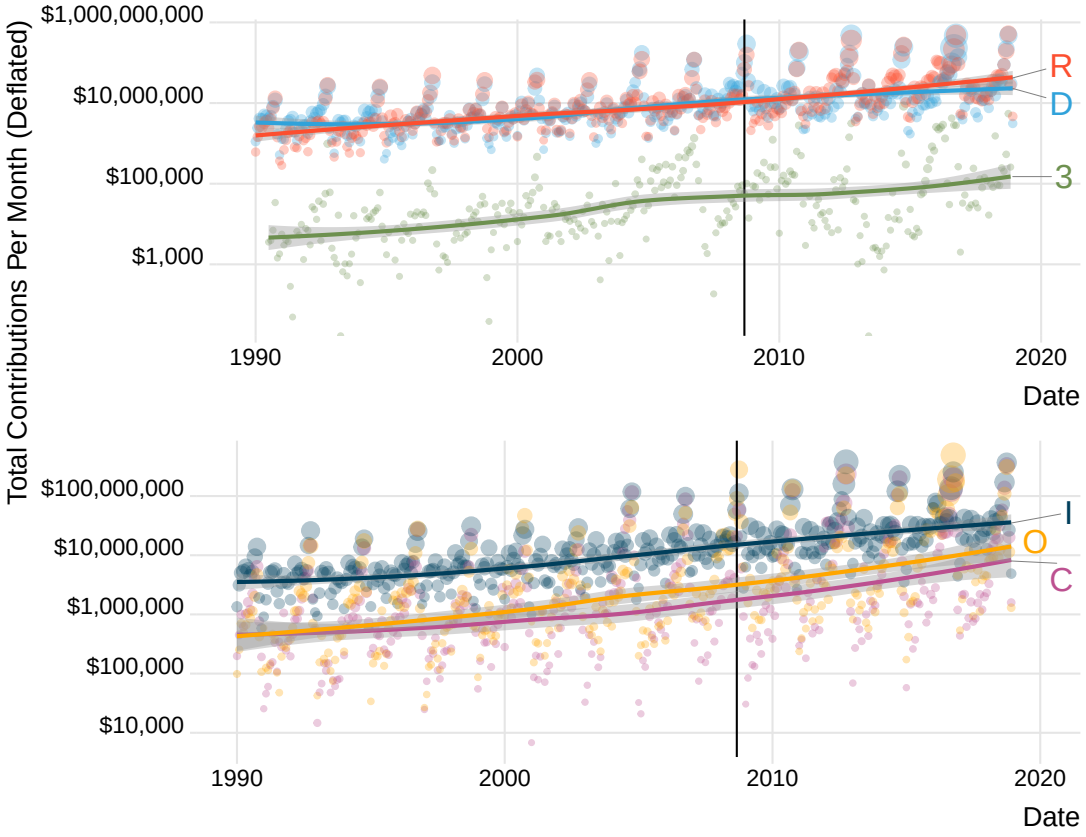
The richness in detail of the data availability for these measures allow us to delve deeply into patterns of change in political influence following the GFC. Our data not only allow us to measure the degree to which different firms engage in these tools of political influence, but also to identify the beneficiaries of these efforts. Specifically, we can measure the party affiliation, incumbency status, electoral outcome, committee assignment, and ideology of each politician who received money from our firms. Furthermore, we can attribute lobbying

[10]See `http://www.opensecrets.org/`.

spending to specific bills, their sponsors and co-sponsors, and the committees in which they are considered.

Figure 2 plots the total campaign contributions by month received by the party affiliation of the recipient (Democrats, Republicans, and 3rd party; top) and by the seat status of the recipient (Incumbents, Challengers, and Open seats; bottom). Points are sized by the number of unique contributions received in each month and the y-axis is placed on a log scale for visual clarity.

Figure 2: Total Campaign Contributions, by recipient affiliation and seat status



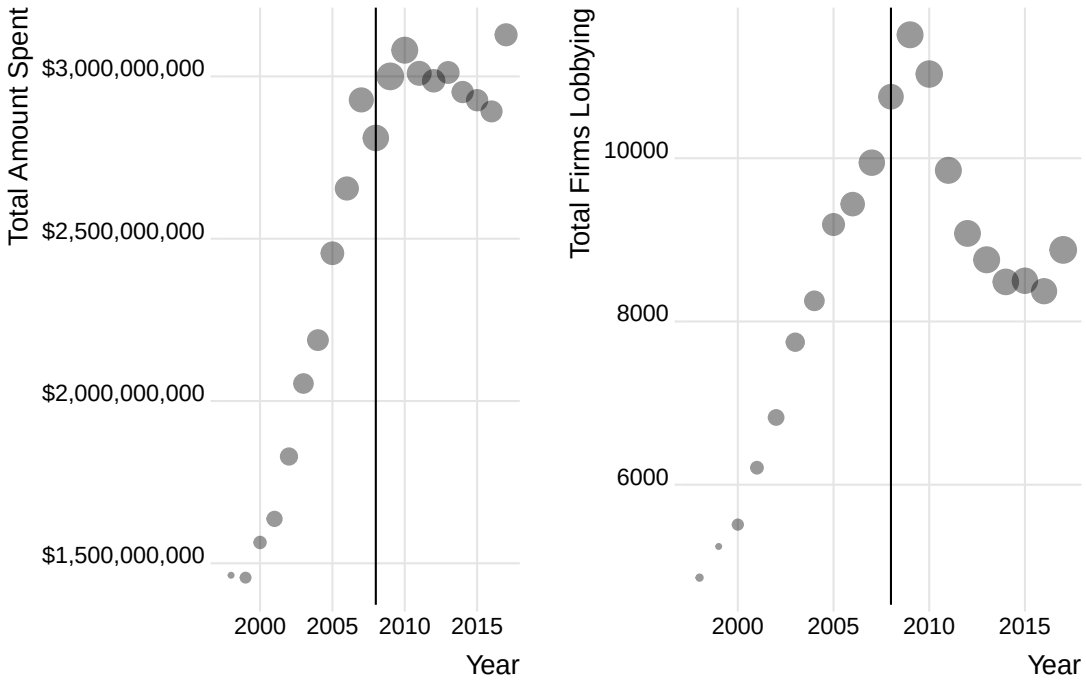
Note: The top panel illustrates total campaign contributions per month to Republican (R), Democrat (D), and third-party candidates (3). The bottom panel illustrates the total campaign contributions per month to incumbents (I), challengers (C), and open seats (O). Points are sized by the number of unique contributions received in each month. The y-axis is placed on a log scale.

As illustrated, third party candidates (top panel) and challengers (bottom panel) receive substantially fewer contributions, totaling less aggregate funds. In addition, Democrats and Republicans receive roughly equal amounts, although there is suggestive evidence that Democrats were the main beneficiaries in the early 1990s while Republicans start to gain the lead in 2016. However, these patterns interact with each other, since Democrats held majority control of Congress in the early 1990s, meaning that more incumbents were likely Democrats. There is little descriptive evidence to suggest that the GFC had any notable impact on campaign contributions writ large, nor on the electoral fortunes of a particular party or candidate type.

A different story emerges when we shift attention to the lobbying behavior of firms, summarized in Figure 3. Here we are unable to determine the recipients of these expenditures as precisely as with campaign contributions due to the nature of how these reports are filed. Nevertheless, we highlight the much clearer evidence of a response in aggregate to the GFC, whether measured as total spending (left panel, points sized by number of firms), or the total number of firms lobbying (right panel, points sized by total spent). In both plots, we note that the GFC corresponded to a spike in lobbying spending and number of participants. The spike died off in the ensuing years.

A purely descriptive snapshot of campaign contributions and lobbying by firm exposure to the GFC are presented in Figures 4a and 4b, respectively. As illustrated, there is suggestive evidence of firms exposed to the crisis adjusting their political strategies during and after the GFC. In the case of lobbying, these firms were more active overall, and reduced their influence following the GFC, but remained more prominent players. In the case of campaign contributions, the exposed and insulated firms were much more similar in pre-2008, and the effect of the crisis on their behavior was small, although exposed firms fell behind insulated firms for two cycles.

Figure 3: Firm Lobbying Expenditures, total spending (left) and no. of firms (right)

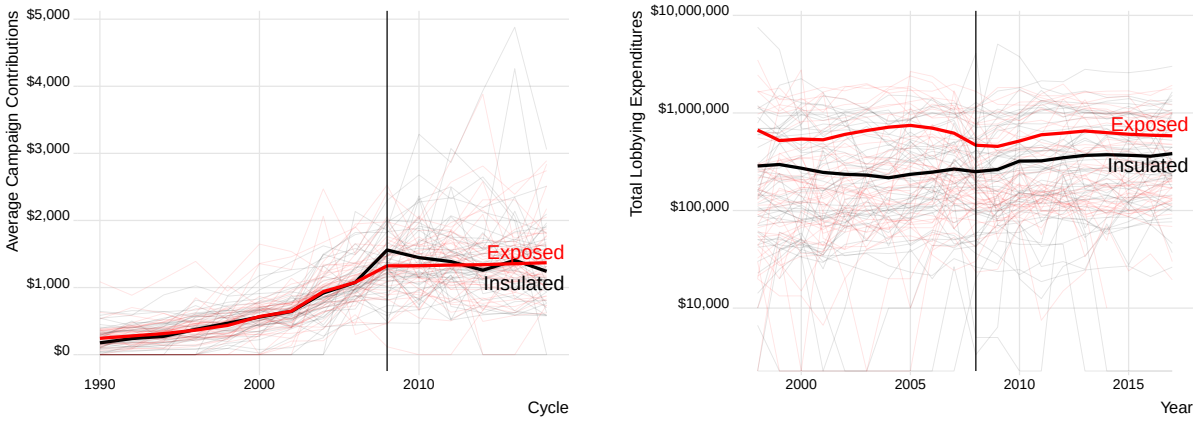


Note: points sized by the number of firms spending on lobbying efforts.

Figure 4: Firm-Level Political Expenditures, by exposed vs. insulated

(a) Campaign Contributions by Firm.

(b) Lobbying Spending by Firm.



Note: Red lines reflect exposed firms, while black lines indicate insulated firms. Thicker, darker lines represent the averages by exposure type.

3.3 Estimating the Effect of the GFC on Different Types of Firms

With this description of the data in mind, we estimate a series of generalized difference-in-differences regressions. Specifically, we define a firm i as belonging to either the treated or control group $G \in [0, 1]$ where treatment is not activated until the intervention t_0, which we set to the outset of the 2008 GFC.

This set-up provides an intuitive counterfactual setting in which we can compare how exposed (treated) and insulated (control) donors changed their respective behaviors before and after the GFC. The most simple diff-in-diff specification can be formalized as:

$$y_{igt} = \beta_1 GFC_t + \beta_2 Exposure_g + \beta_3 (GFC_t \times Exposure_g) + \alpha_i + \delta_t + \varepsilon_{igt} \tag{1}$$

where y_{igt} represents the campaign contributions of donor i, belonging to treatment group g, in period t. GFC_t is an indicator variable taking the value 1 for all periods after 2008 and zero otherwise and $Exposure_g$ is an indicator taking on the value 1 for all donors who are categorized as "exposed" according to our definition above. The coefficient of interest is β_3 which captures the causal effect of the GFC on exposed firm donations.

The benefit of a clean diff-in-diff specification is that one can simply plot the outcome over time by treatment group in order to capture the visual intuition behind the identifying logic. In our context, the claim is that any changes in the difference between the behaviors of treated and control donors prior to and following the GFC are attributable to the recession. This claim rests on the assumption that the difference between the treated and control groups observed in the pre-intervention period (prior to 2008) would have persisted in the post-intervention period were it not for the intervention itself — the parallel trends assumption.

To assess the strength of this assumption, we implement a matching strategy to identify the insulated donors who, in the pre-intervention period, look as similar as possible to the exposed donors. Specifically, we use the `tjbal` package for `R` which matches treated and control units on both their pre-treated covariates *as well as* their pre-intervention outcomes

themselves. Other approaches match observations only on covariates, but our preferred approach of matching on the dependent variable as well as covariates enables us to consider both observed factors (captured by the covariates) and unobserved factors (captured by remaining variance in the dependent variable) that influence donations. See Hazlett and Xu (2018) for a detailed presentation of this approach.

The `tjbal` package further augments estimation by matching treated and control units on both the means and higher-order moments of their pre-treatment distributions, using kernel expansion of the pre-intervention vectors of outcomes. In theory, this kernel-expansion means that we are matching our treated and control units not only on their period-by-period averages, but also on distributional features of the outcome variable, such as variance, skewness, and kurtosis. Substantively, this rich matching strategy matches treated units with control units with a similar "trajectory," providing more confidence in our claim that the parallel trends assumption is satisfied.

4 Results

To anticipate our main findings presented in detail below, our principal analysis of campaign contributions reveals a short-lived—i.e., one campaign cycle—impact of the GFC on the campaign contributions of exposed firms. But when we consider the GFC effect by political party, we find suggestive evidence that the war chests of Democratic and incumbent recipients of campaign contributions took a negative hit. Third party and Republican candidates appear to have benefited, by comparison.

Turning to lobbying expenditures, we find an unambiguous picture. The GFC substantially impacted the lobbying expenditures of exposed firms. When comparing these expenditures to those of firms insulated from the crisis, we find that the negative effect of the GFC on lobbying has persisted over time. Moreover, there is suggestive evidence that Democrats lost out on lobbying after the GFC with Republicans experiencing no change in attention from

lobbyists. In other words, the GFC indeed appears to have tipped the balance of political capital away from those firms most exposed to the crisis.

4.1 Campaign Contributions and Lobbying Expenditures

We begin by estimating the effect of exposure to the GFC on our two main measures of political influence — campaign contributions and lobbying. These results are summarized in Figures 5 and 6, which plot the average treatment effect on the treated (ATT) and counter-factuals, respectively. As illustrated, there is evidence in the left column (Figures 5a and 6a) to suggest that the GFC had a meaningful impact on the contributions of firms writ large. The ATT plot in the top-left (5a) reveals a modest but statistically significant decline in average campaign contributions in the two cycles immediately following the GFC. The counter-factual plot in the bottom-left (6a) indicates that this ATT is driven predominantly by exposed firms halting their secular and steady increase in campaign contributions since 1990, while the insulated firms continued on their upward trajectory, albeit one that was also attenuated from the pre-crisis trend. However, the statistical significance of this divergence abated by the 2014 cycle, and had all but disappeared by 2018.

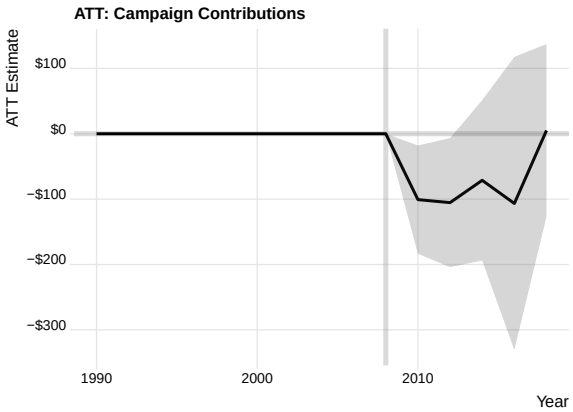
A similar story emerges when we turn our attention to lobbying behavior. As illustrated in Figure 5b, the total amount spent also declined among exposed firms following the GFC. In contrast with the campaign contributions results, this divergence did not merely disappear by 2014, but in fact flipped back to favor the exposed firms by 2018.

Insofar as political influence is a zero-sum game, these results tell a compelling story of shifting electoral fortunes. But does this divergence reflect a relative or absolute decline in lobbying? A relative decline would obtain if both insulated and exposed firms continued to increase their lobbying expenditures in the ensuing years, with the ATT generated by insulated firms increasing by a greater amount. Conversely, an absolute decline would mean that the exposed firms' lobbying fell off after the crisis. Figure 6b suggests that the answer lies somewhere in the middle of these stories. As illustrated, exposed firms did indeed see a

drop-off in their lobbying. And this reduction in influence coincided with increased spending by the relatively insulated firms, at least up until 2012. More recent years suggest that the insulated firms have also seen a decline in lobbying expenditures.

Figure 5: Average Treatment Effects on the Treated

(a) DV: Campaign Contributions



(b) DV: Lobbying Expenditures

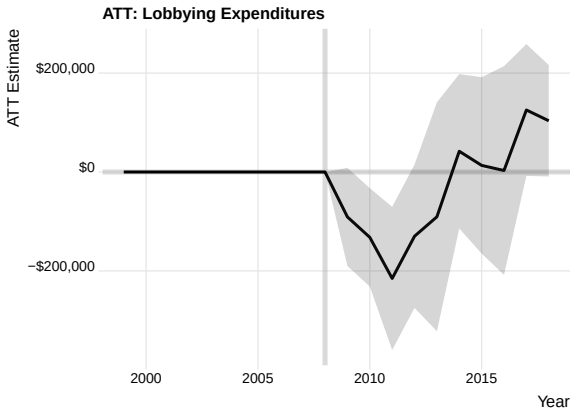
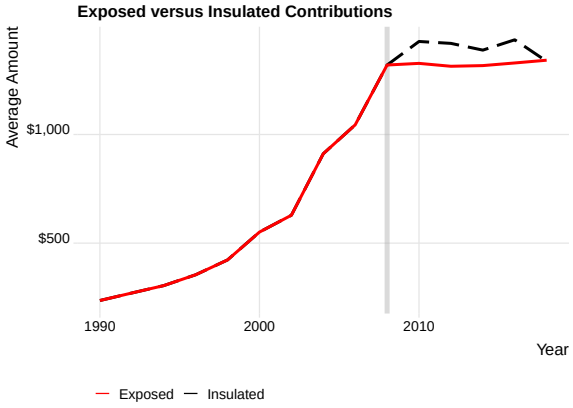
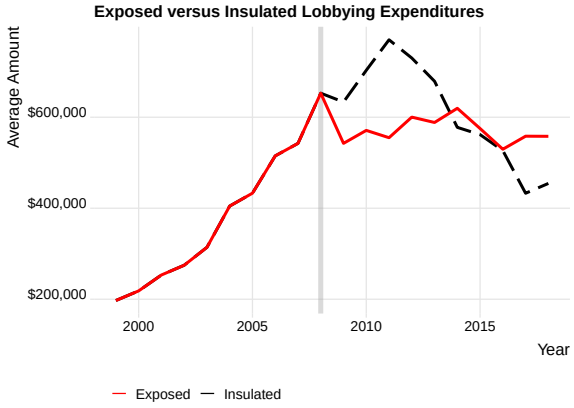


Figure 6: Average Spent by firms per year, Exposed vs. Insulated

(a) DV: Campaign Contributions



(b) DV: Lobbying Expenditures



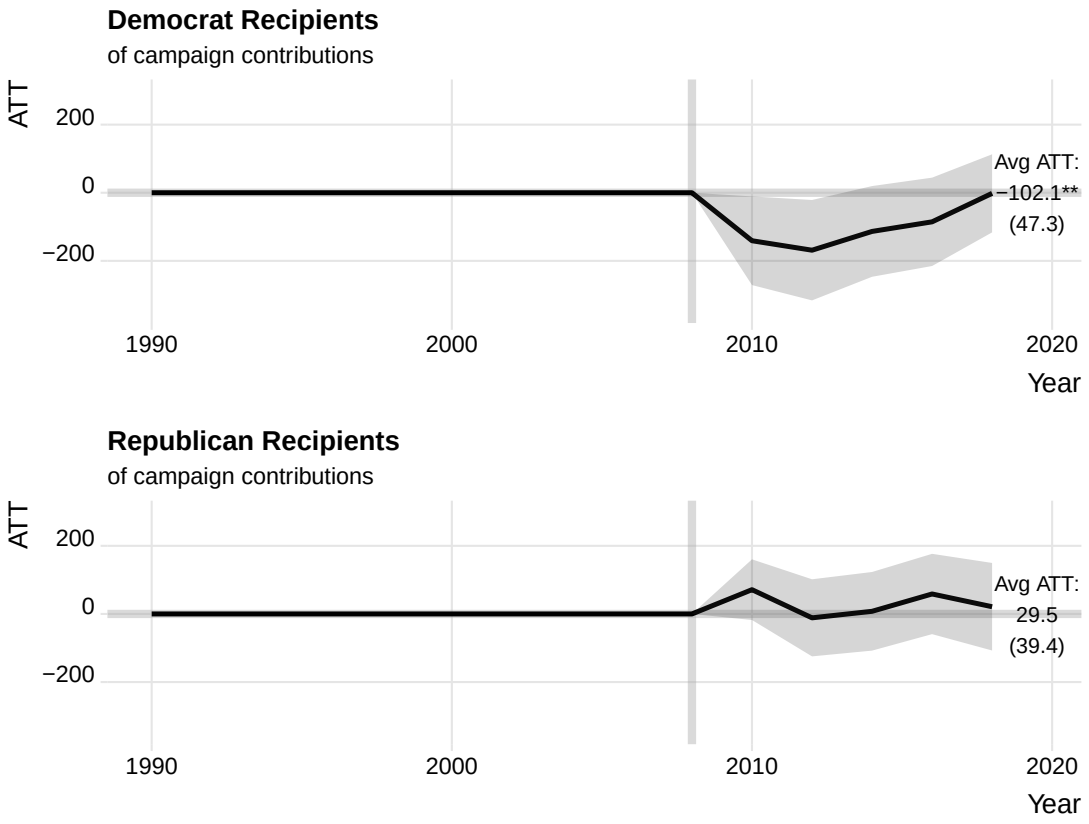
4.2 Did the terrain of money in politics change?

Having estimated the impact of the GFC on the campaign and lobbying expenditures of firms by exposure, we now turn to examining downstream political outcomes. What is the relationship between this shift in political influence and the electoral fortunes of politicians and parties? We explore this question in two ways. First, we estimate the campaign contributions to Democrats and Republicans. Second, we calculate a donation-weighted measure of recipient ideology and use this as the outcome of interest.

The former is a straightforward investigation of whether one party or another benefited disproportionately as a function of the GFC. The latter captures the degree to which more ideologically extreme candidates benefited as a function of the GFC. To construct this donation-weighted measure, we treat the recipient politician's ideology as the outcome of interest, and calculate a weighted average of this measure for each donor in each cycle, with weights given by the share of total contributions that went to a given politician. To accommodate challengers, we rely on Bonica's (2019) DIME database which estimates ideology for any politician who has received campaign contributions.

We begin by examining the partisan split along the dimensions of campaign contributions in Figure 7. The top panel displays the ATT estimates subsetting to Democrat recipients of the contributions, while the bottom panel does the same subsetting to Republican recipients. As illustrated, the global financial crisis yielded a reduction in campaign contributions to Democrats of approximately $100 per firm in the ensuing cycle, while the estimated gap for Republican recipients was small, positive, and marginally statistically significant. These plots suggest that, while the overall effect of the crisis did not yield striking divergence in the overall contributing behavior of insulated versus exposed firms, it did significantly affect the war chests of Democratic candidates.

Figure 7: Average Treatment Effects on the Treated, by campaign contribution recipient



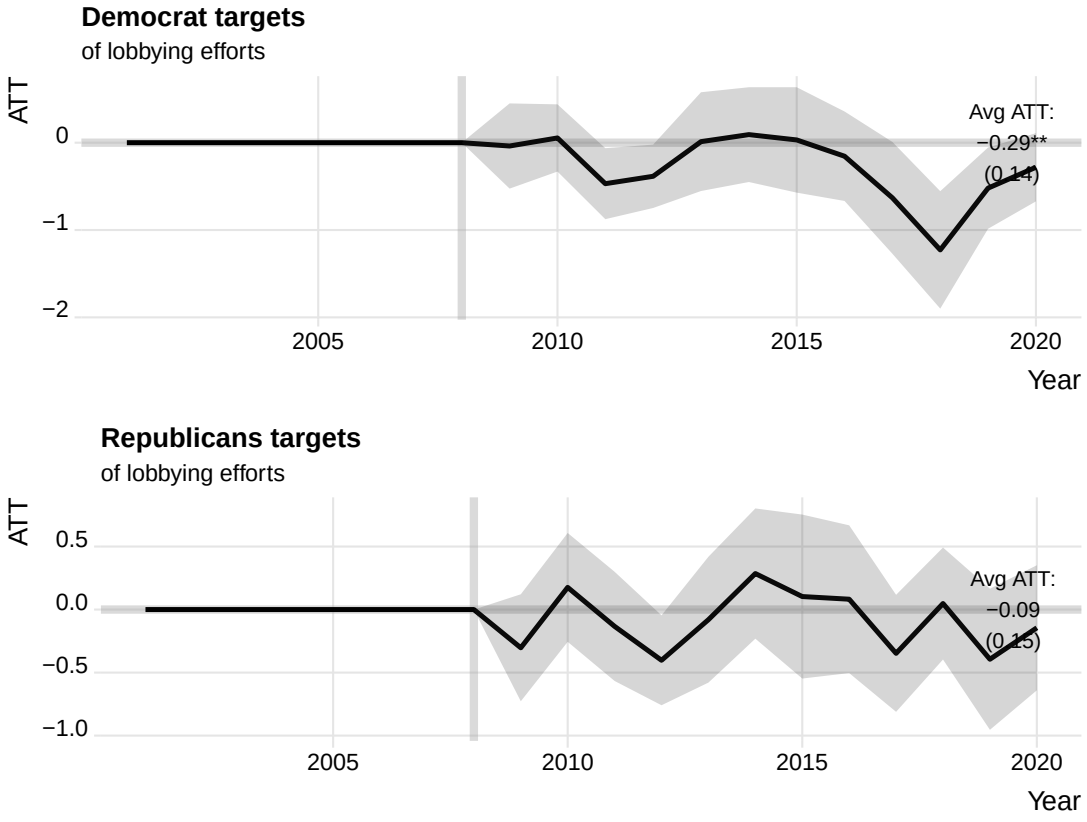
While less precise, we can also calculate the heterogeneities in lobbying by linking firms with politicians via sponsorships of the bills listed in lobbying reports. We rely on the LobbyView dataset for this analysis, which pre-processes the raw lobbying reports to create a firm-politician network (Kim, 2018). We choose not to attempt to assign dollar amounts to the links between firms and politicians due to the imprecision of how the total amounts listed should be divided up over what are often multiple bills listed on the reports.[11] Instead,

[11] Linking specific dollar amounts with individual legislators is complicated by the fact that a lobbying report can list multiple legislators / issues / bills for a single dollar amount. While one solution would be to divide these total amounts equally among n potential recipients, we worry that this may introduce additional measurement error if the reality is that one legislator received 90% of the spend while another only received 10%. As such, we rely on the count of reports linking a firm with a legislator, as per how the data provided by

we treat the total number of lobbying reports between a firm and a politician as the outcome of interest, and again use trajectory balancing to match exposed and insulated firms.

Figure 8 summarizes the findings, subsetting the data to Democrat and Republican recipients of lobbying attention. As illustrated, there is suggestive evidence that Democrats lost out, receiving an average of 1/3 fewer lobbying reports targeting bills they sponsored relative to what would have occurred in the absence of the GFC. Conversely, Republicans exhibit no systematic change in lobbyist attention.

Figure 8: Average Treatment Effects on the Treated, by lobbying target



These subset results, however, are suggestive at best. While the ATT estimates for the Democrat reduction are roughly double those observed for Republicans, the estimates are noisy enough to preclude stronger claims about a partisan penalty. Furthermore, the trajectory balancing method does not allow for interaction effects to be tested. An alternative

LobbyView are organized.

test of the partisan fortunes that were affected by the GFC is to reorient the data to make the party affiliation of the recipient the identifying group, and then compare how Democrats fared against otherwise identical Republicans prior to, and following, the global financial crisis.

However, re-orienting the data in this fashion prevents us from using the trajectory balancing method used above, since very few of the recipients are consistently observed over the full period of interest. Instead, we fall back on a more conventional differences-in-differences analysis of the following form:

$$y_{i,t} = \alpha_i + \delta_t + \beta_1 D_i + \beta_2 Post + \beta_3 D_i \times Post + \varepsilon_{i,t} \tag{2}$$

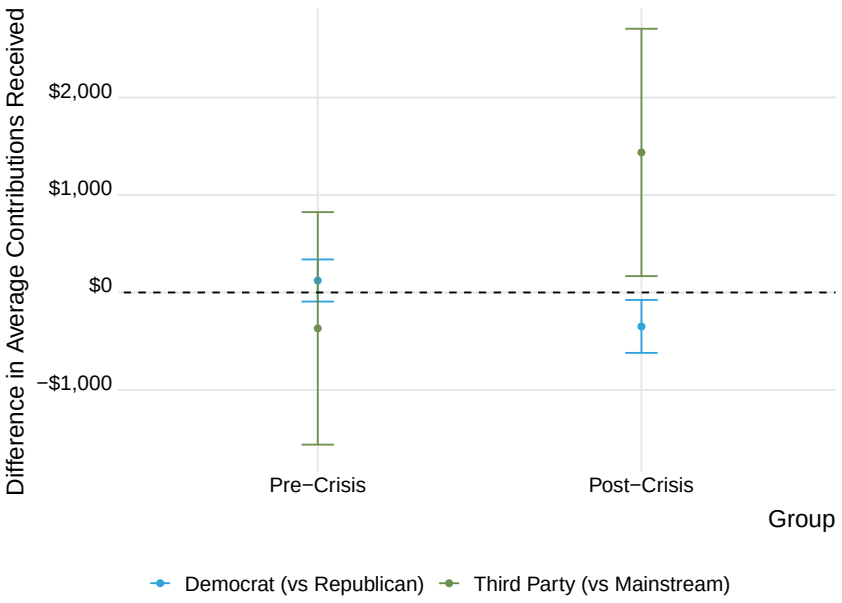
where $y_{i,t}$ is the average amount of contributions received by candidate i in cycle t, D_i is an indicator that takes the value 1 if the candidate is a Democrat (alternatively, a third party candidate) and zero otherwise, and $Post$ is an indicator that takes on the value 1 after 2008. α_i and δ_t are random effects for candidate and cycle, respectively. We are interested in the β_3 coefficient that captures the growth in the difference between Democrats and Republicans (or third party versus mainstream candidates) following the GFC.[12] Figure 9 plots these results as marginal effects.

As illustrated, there is statistically significant divergence between the support for Democrats and Republicans following the GFC. Specifically, while the average candidate in each party received roughly the same average contributions in the pre-crisis period, in the post-crisis period Democrats started to fall behind Republicans to the tune of approximately $400 per cycle in the average contribution. The reverse pattern obtains for third-party candidates, indicated by the green bars in Figure 9. In the pre-crisis period, 3rd party candidates earned

[12]"Third party" candidates are those not affiliated with either the Democrat or Republican parties. In the raw contribution data, these comprise just 20,000 observations out of 4.85m observations in total.

roughly the same per contribution as Democrats and Republicans (labeled "mainstream" in the figure). Following the crisis, these outsiders began enjoying approximately $1,400 more per contribution.

Figure 9: Difference in Average Contribution Received, pre- and post-crisis



By themselves, these trends are only weak evidence of a shift in the center of gravity in American political power. Many other things were happening over this period, and by orienting our data to make the recipient politicians the unit of analysis, we are unable to rely on the exposure mapping described above. But in conjunction with the widening gaps between exposed and insulated firms described above, this is at least smoking gun evidence suggesting that (1) third-party candidates benefitted and (2) Republicans benefitted, at least in relative terms.

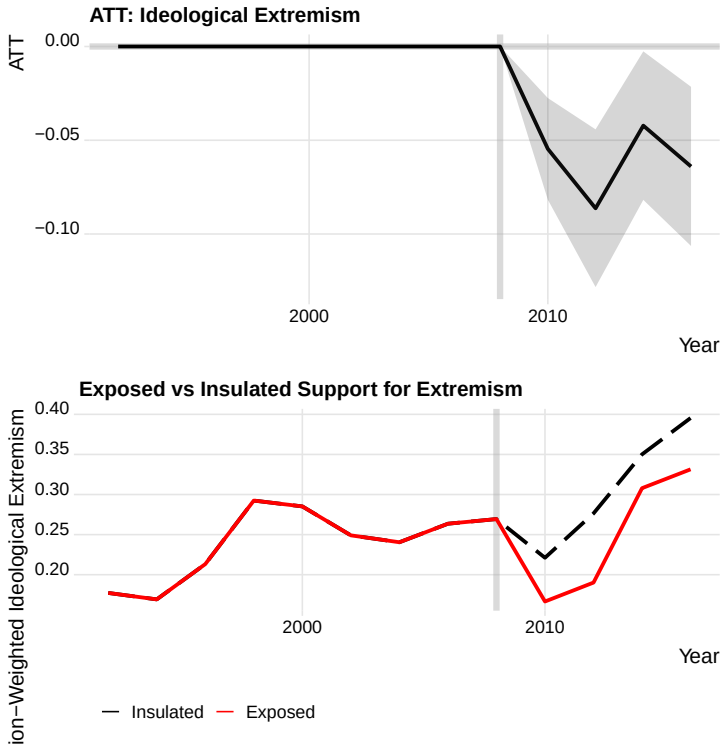
To more directly link these dynamics with the firm-level measure of exposure, we return to the trajectory balancing approach and replace the nominal value of campaign contributions with a donation-weighted average of the ideological extremism of the receiving candidates. Specifically, for each firm, we take the weighted average of the recipient politicians' ideology, where the weights are the amount contributed in each transaction. Formally, firm f in cycle

t has an ideology-weighted donation profile of:

$$Ideo_{f,t} = \sum_i Ideo_i * \frac{Cont_{i,f,t}}{\sum_{j \neq i} Cont_{j,f,t}}$$

To capture the degree to which firms started contributing to more ideologically extreme candidates, we square this weighted ideology measure. We then apply the same trajectory balancing method described above, the results of which are summarized in Figure 10. In the top panel of Figure 10 we see that in the years following the GFC, exposed firms are giving less to ideologically extreme candidates than insulated firms. Indeed, as illustrated in the bottom panel, exposed firms are giving much less to ideologically extreme candidates in the ensuing cycles, leaving space for the otherwise insulated firms to support non-moderate candidates. We explore this link between the GFC and the rise of more ideologically-extreme candidates in the next section.

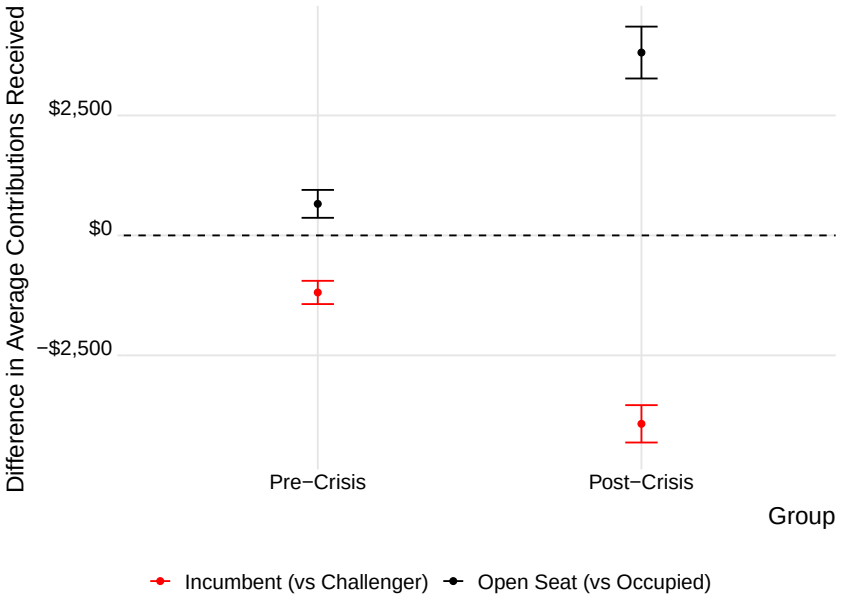
Figure 10: Weighting Recipients by Ideological Extemism



4.3 Anti-Establishment Politicians

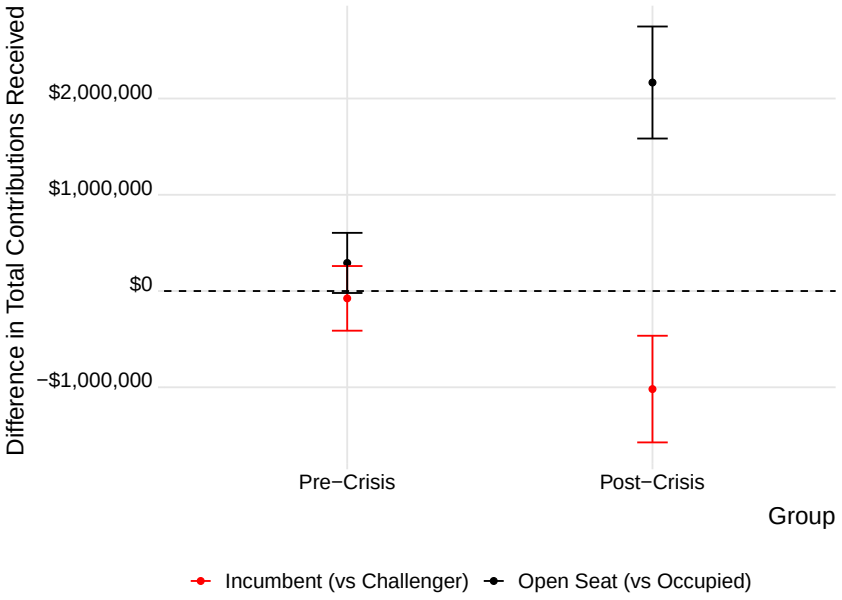
Finally, we drill further into political outcomes by examining how contributions specifically to anti-establishment candidates changed with the GFC. To test this, we again organize the data by recipient politician, and rely on the diff-in-diff specification described above. Figure 11 plots the results of the analysis, comparing the average contributions received by incumbents to those received by challengers (red), and the average receipts of open seats to occupied (black). As illustrated, there is striking evidence that incumbents suffered a large penalty following the GFC, and that much more was spent on open seats than occupied races following. The magnitude of these estimates is substantial, amounting to over $2,500 per contribution in both cases.

Figure 11: Difference in Average Contribution Received, pre- and post-crisis



But do these average receipts translate into substantial losses when aggregated up per cycle? Figure 12 suggests that they do, with only negligible differences in the pre-2008 period giving way to large disparities in excess of $1m per cycle favoring challengers, and over $2m more spent on open seats.

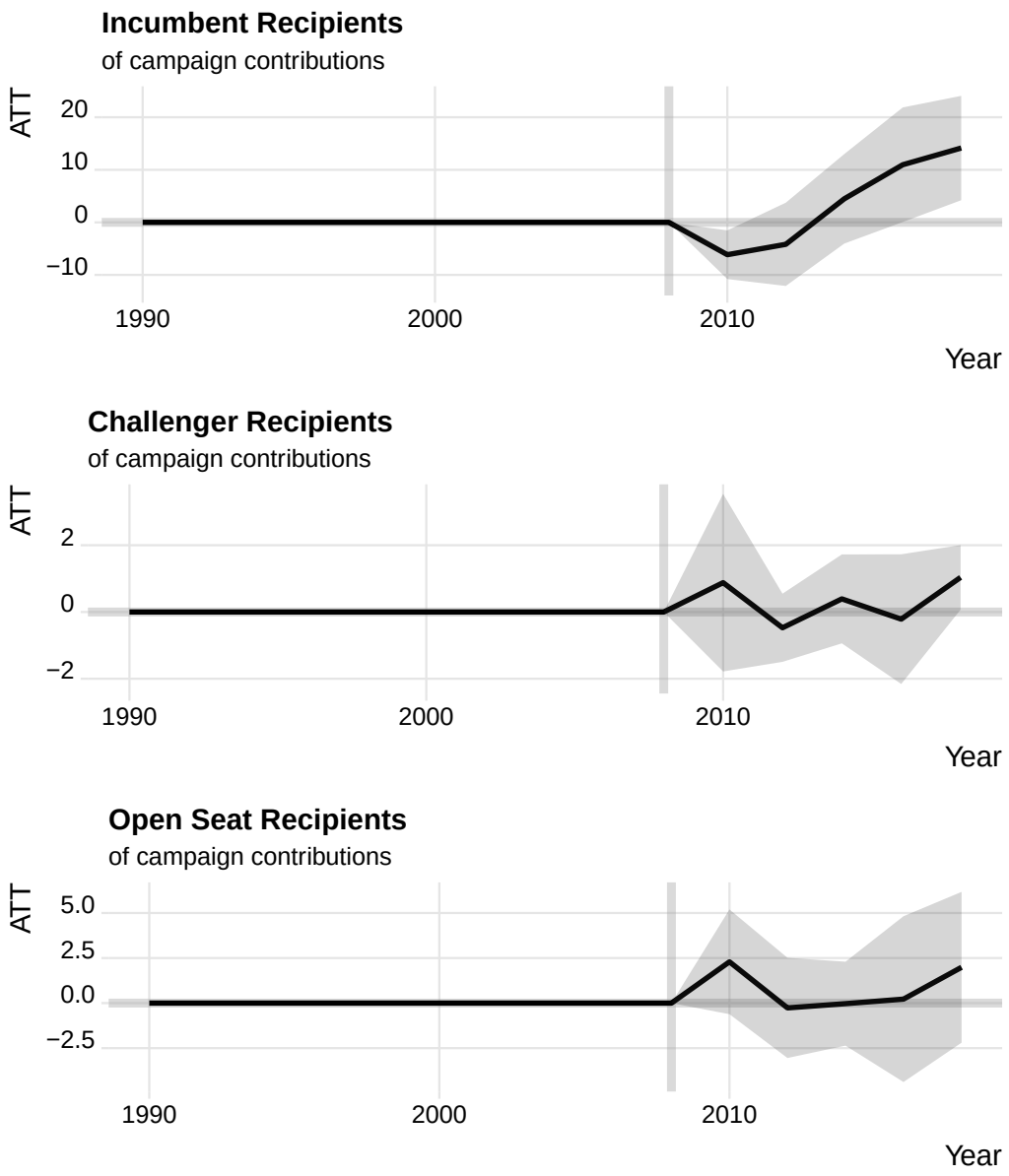
Figure 12: Total Contributions Received, pre- and post-crisis



However, by focusing on the recipient politician as the unit of aggregation, these results again suffer from a lack of convincing identification. Is this divergence due to the financial hardship experienced unequally across firms in the United States? Or does part of the story involve the well-known pattern of punishing an incumbent for bad economic times? As a final test, we subset the trajectory balancing estimates by recipient status, plotted in Figure 13. Given the differences in contribution strategies by incumbents, challengers, and open seats, we predict the change in total number of contributions by recipient status instead of the average dollar amount per contribution. As illustrated, the total number of contributions to incumbents experienced a statistically significant decline in the cycle following the GFC, while the contributions to challengers and to open seats increased, albeit insignificantly. Importantly, the trajectory balancing approach allows us to visualize the full post-GFC

dynamics, revealing that the penalty to incumbents quickly recovered, returning to parity between insulated and exposed donors by 2014, and indeed reversing the pattern by 2018. We posit that these patterns reflect the return on investment captured in the 2010 cycle – a shift in political power away from incumbents and towards challengers and open seats installed freshmen politician who were then the incumbent recipient in the ensuing cycles.

Figure 13: Average Treatment Effects on the Treated, Incumbent and Open Seat Recipients



5 Conclusion

A fundamental assumption of the path-breaking work of Rogowski (1987) is that a reversal of financial fortunes translates into a change in political capital. Yet, there is little empirical work in IPE studying precise channels impacting political power following crises. We take a narrow approach by carefully examining a rich dataset on two key channels — campaign contributions and lobbying expenditures — in an important case, the United States following the 2008 global financial crisis. We interrogate whether the GFC presented an upheaval in these prevailing channels of political influence.

In line with Rogowski's theory, we show that the GFC did indeed disrupt the relative influence of different economic actors on politics. Specifically, both campaign contributions and lobbying expenditures among the firms most exposed to the crisis declined significantly. Furthermore, these shifts in the tools of political influence tended to impact incumbents negatively, and with more political capital being directed at open seats. We proposed that those firms more exposed to the GFC represent globalization's winners, which we based on the empirical reality that these firms amassed higher gains in the pre-crisis years. Our results thus suggest that globalization's winners retreated from political spending more so than globalization's losers whose voices were amplified with their increased spending profiles.

Many scholars are scrutinizing the origins of the recent backlash against globalization, focusing on how deteriorating economic conditions have led people to change their preferences over open economies. Rather than look at changing preferences, our work here emphasizes instead the changes in the amplification of the voice and influence — specifically via campaign contributions and lobbying expenditures. Future work should continue to investigate how these expenditures influence voting behavior and policy. A more fine-grained measure of exposure to the GFC using a crosswalk between the firm employment data (14 million firms) and the firm-level expenditure data would allow to test intra-industry competition at the firm level, identifying intra-industry winners and losers from globalization.

The purpose of this paper is to highlight that anti-globalization preferences have persisted

throughout the integration of world markets, and one of the effects of the GFC seems to have been to increase the relative influence of these preferences in US politics. This paper adds to the literature on economic shocks and political outcomes, providing a clear channel through which these relative shifts in economic power translate into political power. We conclude modestly that our analysis reveals a mechanism by which the global financial crisis amplified the political voice and representation of people who have lost from globalization.

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