Political Cleavages and Exposure to the Global Financial Crisis

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Abstract

How do global financial crises impact domestic politics? In this paper, we build on the seminal work of Rogowski (1987), who contends that, during an economic shock, globalization's winners lose, and its losers win – at least in relative terms. We test whether these changes in financial capital translate into changes in political capital. We examine corporate campaign contributions and lobbying expenditures in the United States before and after the 2008 global financial crisis. We compare the political expenditures made by firms who were more or less exposed to the global 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 in campaign contributions to the proliferation of less mainstream candidates in federal elections. Our findings suggest that part of the growing elite polarization in American politics is due to the differential impact of 2008's global financial crisis on the relative political capital of corporate donors.

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1 Introduction

In his classic treatise on exposure to trade and political cleavages, 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 of globalization. As a result, following a major shock – such as the Great Depression – political regimes that favored the interests of abundant factors of production shifted to support the interests of scarce factors of production. This led to the rise of populism in South America and fascism in Europe and Asia.

The first two decades of the 20th century witnessed a global economic recession and fundamental political realignment among advanced industrial democracies in the west. Does the intuition provided by Rogowski (1987) help us make sense of these political shifts? We use rich data from the United States to address this question by comparing how those firms most and least affected by the global financial crisis (GFC) changed their campaign contributions and lobbying, and how these changes influenced the electoral fortunes of political players. We show that firms that lost most from the GFC reduced their involvement in politics by more than those firms that were relatively unaffected. 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.

We argue that our analysis provides two important contributions to the literature. First, we confirm the underlying assumption of Rogowski (1987) by showing that the tools of political influence are indeed vulnerable to economic shocks. Second, we show that the shifts in the terrain of political influence that result from economy-wide shocks produce substantive changes in the terrain of political power. Our research in the context of the United States further highlights a rich vein of future research that applies the logic of Rogowski (1987) to other advanced industrial democracies similarly integrated in the global economic system.

In the following section we explore a simple theory of exposure to financial crises that will explain our empirical approach in Section 3. We present our results in Section 4; Section

5 concludes.

2 Economic Shocks and Shifting Political Power

What started in 2007 as an isolated subprime mortgage crisis in parts of the U.S., 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.[1] The preliminary prognosis for the causes of the global financial crisis (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 the financial contagion that followed the collapse of Lehman. Rather, it was a trigger that revealed myriad structural issues in the global financial system, including opacity of balance sheets, dependence on short-term funding, and fluctuations in risk aversion (Kamin and DeMarco, 2012).

The 2008 GFC also impacted the real economy due to a sharp drop in global demand not seen since the 1930s. Global trade volumes dropped by 15% in the first year of the crisis (Freund, 2009).[2] Although protectionism was largely rebuffed due to coordination through the WTO as well as the newly-established Group of Twenty (G20), the U.S. experienced a rather sharp drop in exports due to an appreciation of the U.S. dollar caused by an international flight to safety (Engel, 2010). Claessens, Tong, and Wei (2012) find that firms with greater sensitivity to global demand and trade suffered more during the crisis than those more insulated from the global economy.

It is from these two observations about the transmission of the economic crisis to firms through both real and financial channels that we build our simple model of exposure to

[1] 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.

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

the global financial crisis. Following Claessens, Tong, and Wei (2012), we predict that firms more sensitive to demand shocks (the "real channel") will be more exposed to the GFC. As global demand retreats, firms that specialize in tradable goods or services will experience a more severe downturn than firms specialized in non-tradables. Likewise, firms that are more dependent on short-term funding due to an over-leveraged balance sheet will be more exposed to the GFC than more risk-averse firms with lower debt-to-equity ratios (cf. Kamin and DeMarco, 2012). We illustrate the interaction of these exposure measurements in Table 1. Note that the most exposed firms (bottom-right quadrant) will be those with high exposure to global demand shocks (highly tradable goods and/or services) and financial exposure (high debt-to-equity ratios), while the most insulated firms (top-left quadrant) will tend to specialize in non-tradables and will have a more stable balance sheet with lower levels of debt to equity.

Indeed, we see that sectors in the "highly exposed" category tend to be those related to construction or real estate (see Figure 4 below). These sectors specialized in the manufacturing of products for home or office construction (e.g., plumbing fixtures and truss manufac-

Figure 1: Exposure via Real and Financial Channels

		Global Demand Exposure	
		Low	High
Financial Exposure	Low	**Insulated** Non-tradables with low debt-to-equity	**Exposed** Tradables with low debt-to-equity
	High	**Exposed** Non-tradables with high debt-to-equity	**Highly Exposed** Tradables with high debt-to-equity

turing) or in real estate services such as title insurance. As the housing crisis was not limited to the U.S., also hitting Ireland, Greece, Portugal, Spain, and the United Kingdom, global demand in these sectors plummeted in 2008. With high returns going to these sectors prior to the GFC, they also tended to have high financial exposure due to over-leverage (Reinhart and Rogoff, 2009), thus putting them squarely in the "highly exposed" category. The sectors least exposed to the crisis tended to be non-tradables with low debt-to-equity ratios – e.g., physicians and national security related sectors.

The core of Rogowski's (1987) influential piece is that during an economic crisis, globalization's winners lose, and its losers win, at least in relative terms. Of course, all major sectors may lose income during a severe global contraction, but those most tied to the global economy may experience a disproportionately large burden. Indeed, by definition, those exposed to the global economy should lose more when the global economy shrinks than those less exposed. Our key distinction from Rogowski (1987) is in how we define exposure to a global financial crisis, which includes not only exposure to the real economy through an international trade mechanism, but also financial exposure through a leverage channel. It is from this relationship between the two channels of exposure that we hypothesize how exposure to (or insulation from) an economic shock will translate into shifts in relative political power.

Rogowski is not alone in making this claim that the financial fates of globalization's winners and losers translate into their relative political power. Richardson (1993) and Bohara, Gawande, and Sanguinetti (2004) similarly claim that exposure to the global economy generates political capital. In their story, if the winners from trade can pressure their government into entering a regional trade agreement, their political capital will increase as a consequence of growing regional trade. At the same time, the relative political capital of the losers from trade declines. This shift in the political fortunes of the winners and losers from trade paves the way for governments to open up even further, from regional to global trade, which, in turn, exacerbates the disparity in political power between the winners and losers. Research

has shown that indeed increased economic (or market) power translates into increased political power (Salamon and Siegfried, 1977; Faccio, 2006). So, the idea that economic gains (or losses) from globalization translates into political power is not new. However, these studies do not specify a precise mechanism by which money becomes political power.

One possible conduit for money to become political power under democracy lies through campaign contributions. Such a conduit is not without controversy in the American Politics literature. Ansolabehere, De Figueiredo, and Snyder Jr (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.

A related tool of political influence is lobbying expenditures. These financial outlays 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. 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.

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 enormously 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.

These two qualities – the responsiveness of campaign contributions and lobbying to macroeconomic conditions on the one hand, and their influence on the landscape of political power on the other – ground our ensuing empirical work. Rogowski (1987)'s seminal piece on how global financial shocks can shift the foundations of politics in the international system rests explicitly on the assumption that a firm's strategies of political influence are budget-constrained. 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."

A global economic *crisis* can have the opposite effect, reversing their political fortunes, leading to a backlash against globalization. There's been a recent research boom that investigates the origins of this backlash – see Walter (2021) for a great review of this literature. Most of this research uses cross-national data to investigate the rise of populism in Western democracies, finding that long-term trends in globalization – from falling manufacturing employment (Broz, Frieden, and Weymouth, 2019), to increased automation (Milner, 2020), to decreased financial support for economically vulnerable voters (Baccini and Sattler, 2020) – were exacerbated by the 2008 global financial crisis. In our study, we limit our scope to a single country (United States) and isolate a single mechanism (political expenditures) to find a causal pathway between the financial crisis and the the rise of anti-globalization populist parties.

This paper follows a long line of literature in international trade that estimated the impact of political expenditures on trade protectionism (Grossman and Helpman, 1994; Goldberg and Maggi, 1999; Gawande and Bandyopadhyay, 2000; Kim, 2017). We follow

suit by focusing on the relative shifts in political capital between globalizations winners and losers. Luckily for our identification strategy, donations to PACs and other interest groups do not tend to favor one side of the aisle over the other, but rather there's significant heterogeneity in interest group preferences (Crosson, Furnas, and Lorenz, 2020). We exploit this heterogeneity in interest group preferences in our empirical analysis to examine if relative shifts in political expenditures due to an economic shock translates into relative shifts in political outcomes.

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 those most exposed to the global financial crisis (GFC) withdrew from the political arena, and how this withdrawal reshaped American politics.

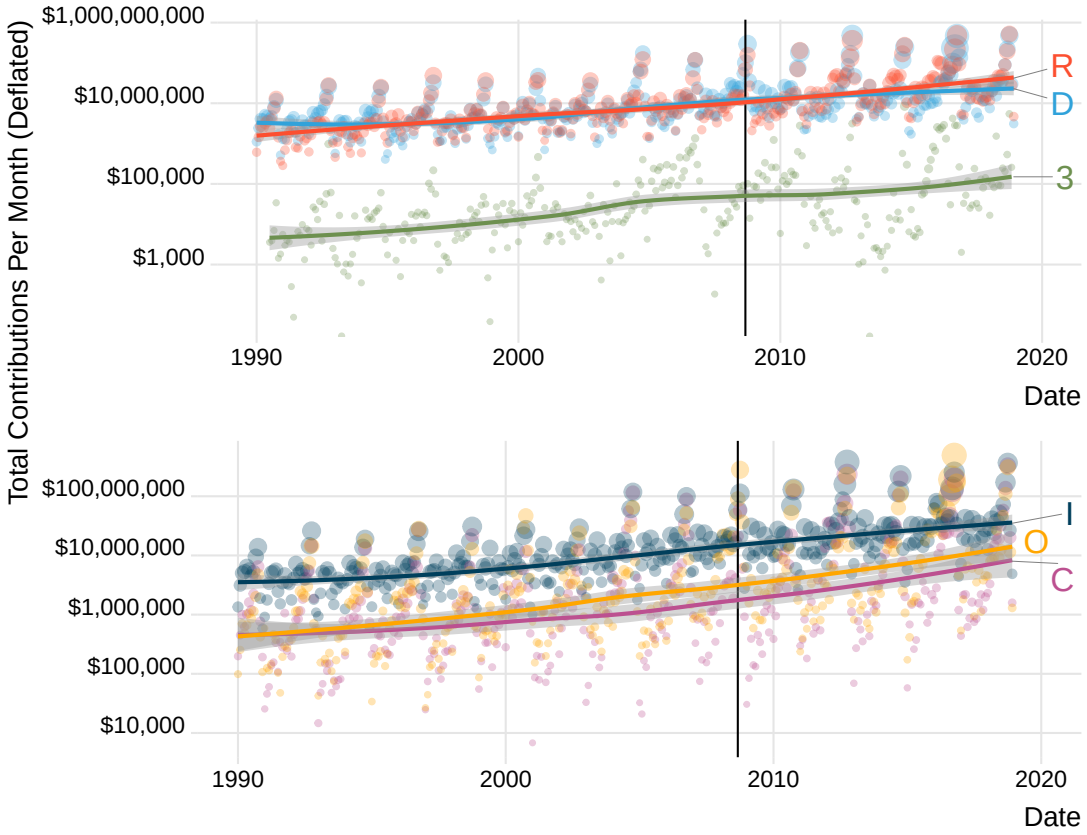
Dependent Variables

Our outcome measures – campaign contributions and lobbying – are obtained from the Center for Responsive Politics,[3] a not-for-profit and nonpartisan research group that tracks money in US politics. These data contain the full schedule of political engagements by firms, interest groups, and political action committees (PACs). We restrict our attention to firms and their associated PACs, and calculate the degree of "exposure" to the GFC as a function of the industry in which the firms are engaged.

Our data allow us to measure the degree to which different firms engage in these tools of political influence, and 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

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

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



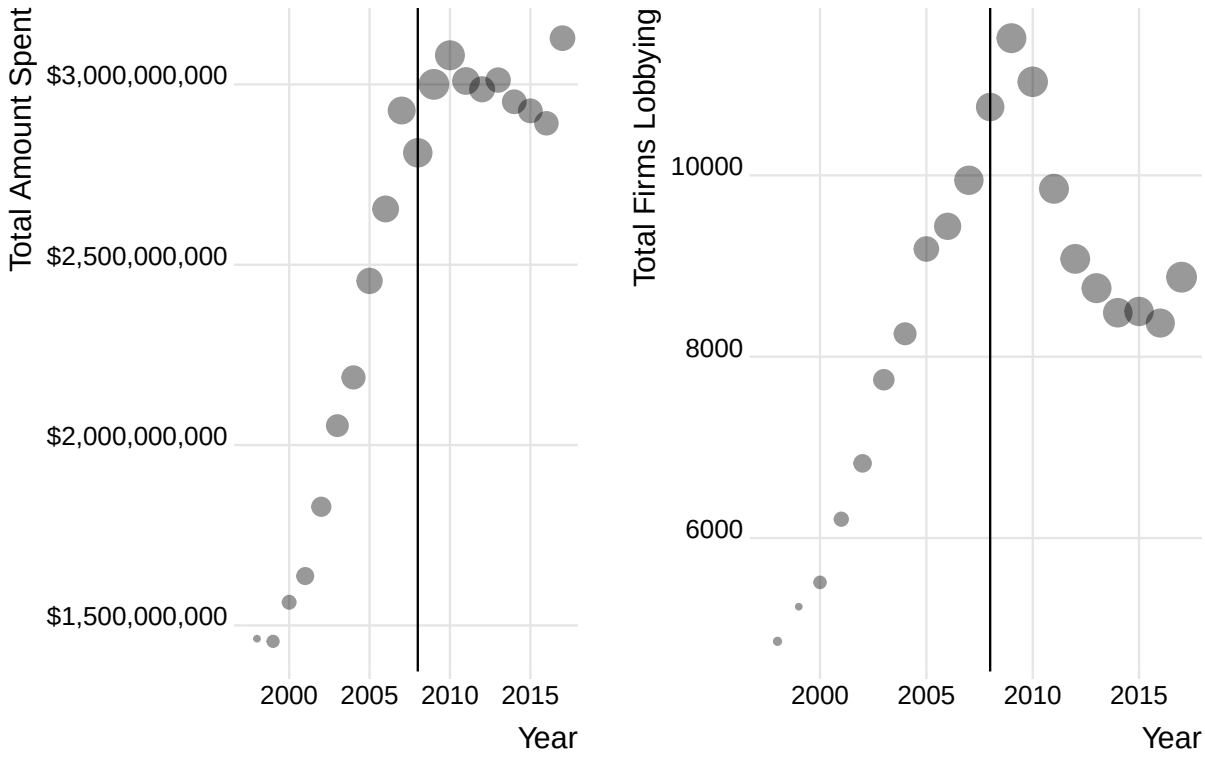
attribute lobbying spending to specific bills, their sponsors and co-sponsors, and the committees in which they are considered. Figure 2 plots the total campaign contributions by month received by the party affiliation of the recipient (Democrats, Republicans, and 3rd party; top) and by the seat status 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.

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. Furthermore, 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.

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

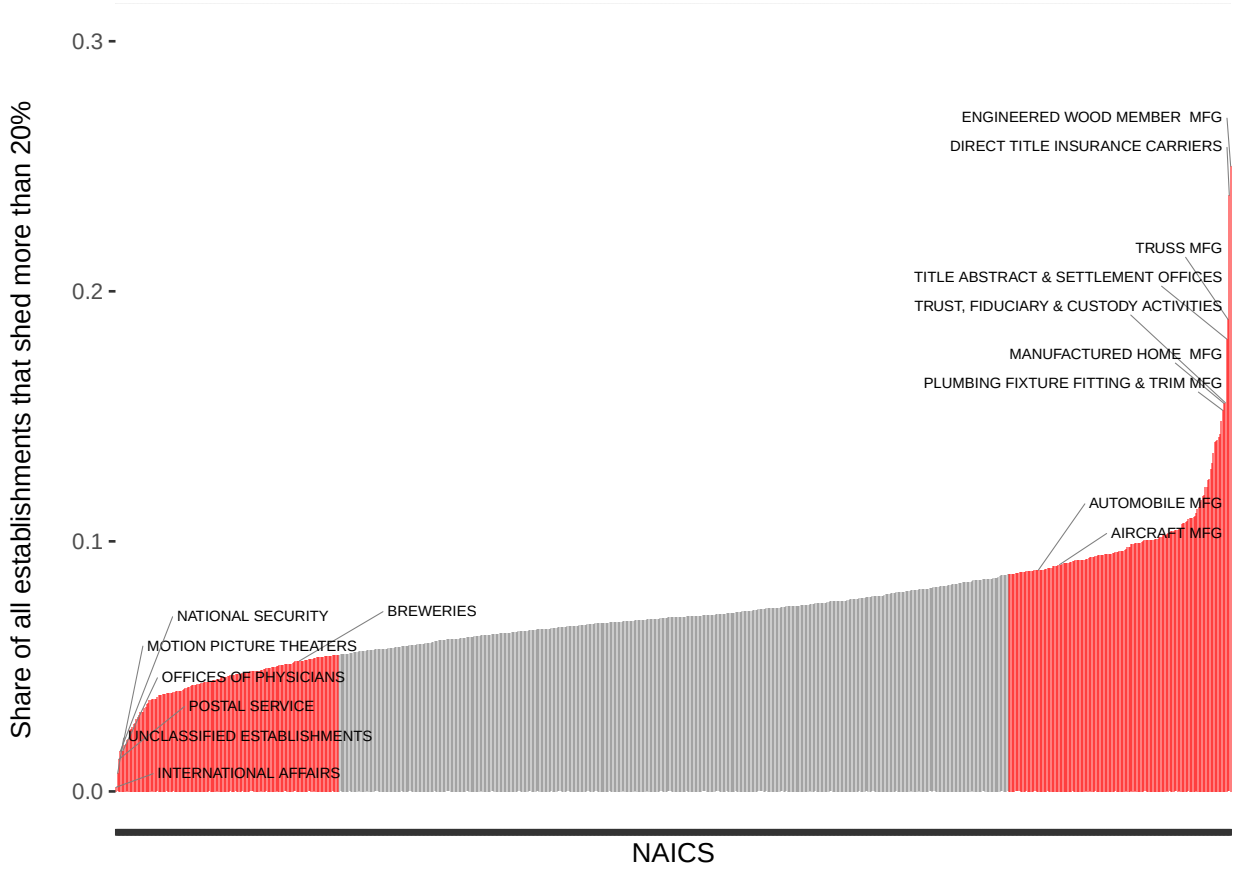


Independent Variable

To calculate 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 obtain these 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 14m observations per year. Importantly, these data include the 8-digit industry code, assigned according to the North American Industry Classification System (NAICS).

We restrict our attention to the firms, subsidiaries, and plants that were open between

Figure 4: Share of Plants with $>$ 20% Employee Termination Rate, 2007-2009



2007 and the end of 2009, calculating the percentage change in employment over this period.[4] We define as treated those industries in the top 0.20 percentile of all 8-digit NAICS industries whose share of all establishments (i.e., plants, offices, etc.) terminated more than 20% of their workforce during the GFC.[5] These "highly exposed" industries are indicated in red at the right tail of the distribution in Figure 4. 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 and automobile manufacturing.

The control industries are those that were more insulated from the GFC. They include industries in the bottom 0.20 percentile of all 8-digit NAICS industries whose establishments terminated more than 20% of their employees during the GFC, e.g., national security, motion picture theaters, physician offices, the postal service, and your local brewery (see the left tail in red in Figure 4), each of which had fewer than 5% of their establishments terminate more than 20% of their workforce.

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. And by appealing to the empirical reality of the GFC, we release our analysis from the burden of fitting economic models that predict which industries *should* suffer.[6] Although we do not control for firm size in our measure of exposure, we feel fairly certain that the

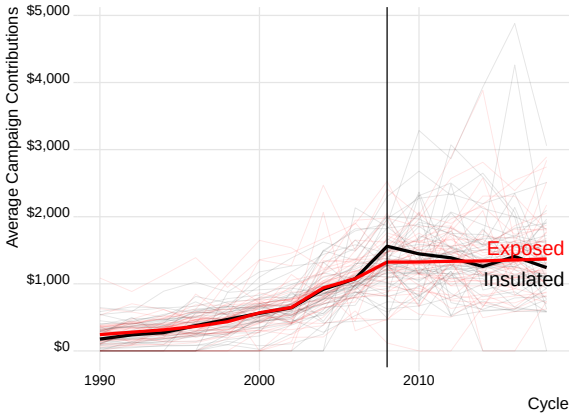
[4]The Great Recession officially ended in mid-2009, with the unemployment rate reaching its peak by the end of this year and turning the corner by early 2010. Thus, we believe the percentage change in employment between 2007, the year before the GFC, and the end of 2009, the very end of the GFC, will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

[5]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 are in the process of conducting several robustness checks for testing the bounds of this threshold.

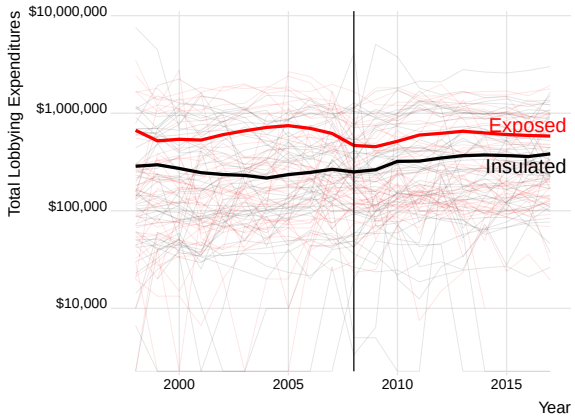
[6]See for e.g., Weldzius (2020) who shows that exchange rate preferences of exporting firms do not always fit the predictions of economic models, but are rather conditional on their supply chain reliance.

Figure 5: 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.

real effects of the GFC were felt equally by both small *and* large firms in terms of employee layoffs. Campello, Graham, and Harvey (2010) illustrate where these firms differ in their spending plans in reaction to the GFC, which is not in employee layoffs (small firms expected a –4.3% change in employment, whereas large firms expected a –4.5% change), but rather in marketing expenditures (–10.9% for small firms vs. –4.0% for large firms) and cash holdings (–4.1% for small firms vs. –8.1% for large firms). Our data on employee layoffs is thus a record of those firms most exposed to the GFC; next we investigate how these firms adjusted their political strategies in response to the crisis.

A purely descriptive snapshot of campaign contributions and lobbying by firm exposure to the GFC are presented in Figures 5a and 5b respectively. As illustrated, there is suggestive evidence of firms exposed to the crisis adjusting their political strategies. 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.

Estimation

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 test the validity 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.

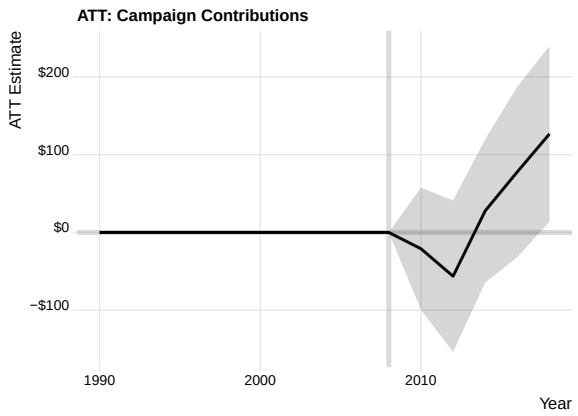
4 Results

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 Figure 6a, which plots the average treatment effect on the treated (ATT). As illustrated, there is little evidence to suggest that the GFC had a meaningful impact on the contributions of firms writ large. While the average contributions by exposed firms do dip below those of insulated firms in the ensuing cycles, the difference is neither statistically nor substantively meaningful.

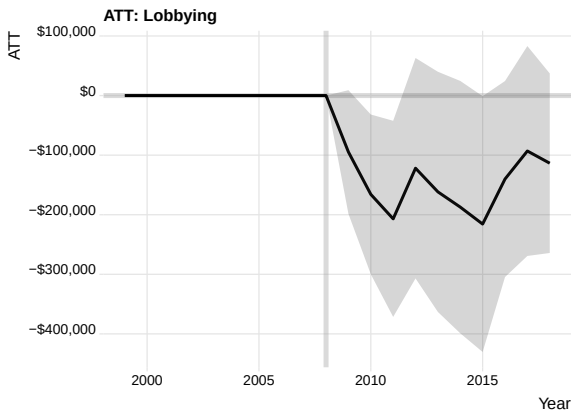
The results summarized in Figure 6a describe a shift in the relative political influence of firms who were exposed to the GFC, compared to those firms that were insulated from the crisis. Furthermore, as the plot makes clear, the magnitude of this divergence was greatest in the years immediately following the GFC. Nevertheless, there is little to suggest that the

Figure 6: Average Treatment Effects on the Treated

(a) DV: Campaign Contributions



(b) DV: Lobbying Expenditures



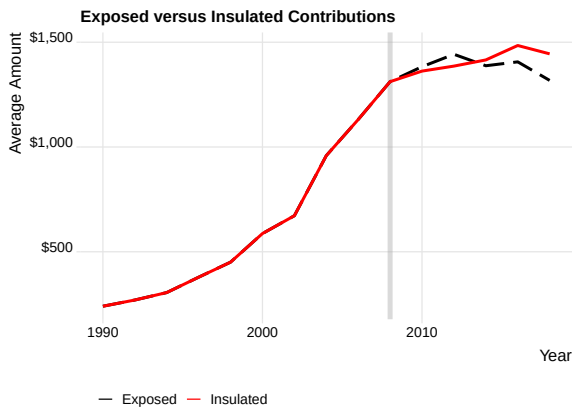
global financial crisis shifted the basis of private sector influence on American politics.

A different story emerges when we turn our attention to lobbying behavior, however. As illustrated in Figure 6b, the divergence between insulated and exposed firm lobbying is substantially greater, statistically significant, and persists over the ensuing years.

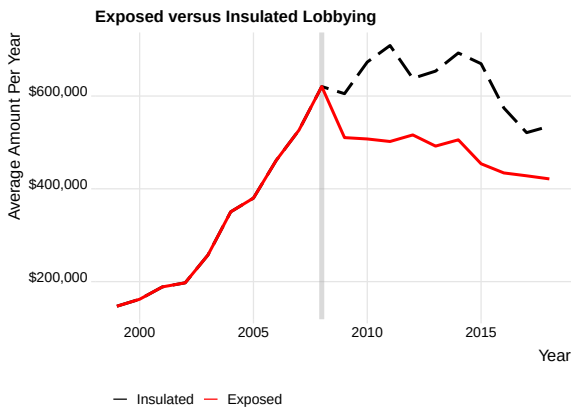
Insofar as political influence is a zero-sum game, these results tell a compelling story of shifting electoral fortunes. But does this divergence reflect a relative or absolute decline in lobbying? A relative decline would obtain if both insulated and exposed firms continued to increase their lobbying expenditures in the ensuing years, with the ATT generated by insulated firms increasing by a greater amount. Conversely, an absolute decline would mean

Figure 7: Average Spent by firms per year, Exposed vs. Insulated

(a) DV: Campaign Contributions



(b) DV: Lobbying Expenditures



that the exposed firms' lobbying fell off after the crisis. Figure 7b 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, a decline that has yet to recover to its pre-crisis levels. And this reduction in influence coincided with increased spending by the relatively insulated firms, at least up until 2015. More recent years suggest that the insulated firms have also seen a decline in lobbying expenditures, although the gap that opened up with the GFC persists.

Did this shift reflect a fundamental restructuring of American politics? Or was it a short-lived aberration after which economy recovery replaced the dominant players in their traditional positions of influence? The story here is slightly more nuanced. On the one hand, the lobbying data would suggest that the shift was permanent. The exposed firms experienced a decline in influence that they would be unable to recover from. Even the most similar firms that were less exposed to the GFC – those that also saw a secular decline in lobbying from 2007's high-water mark – maintained a substantial lobbying advantage of approximately $75,000 per year.

But on the other hand, what suggestive evidence of a gap in campaign contributions that appeared immediately following the crisis quickly disappeared, as illustrated in Figure 7a. If anything, the exposed firms actually outspent their most similar insulated counterparts after 2012, although again the difference is both substantively and statistically trivial.

Did the terrain of money in politics change?

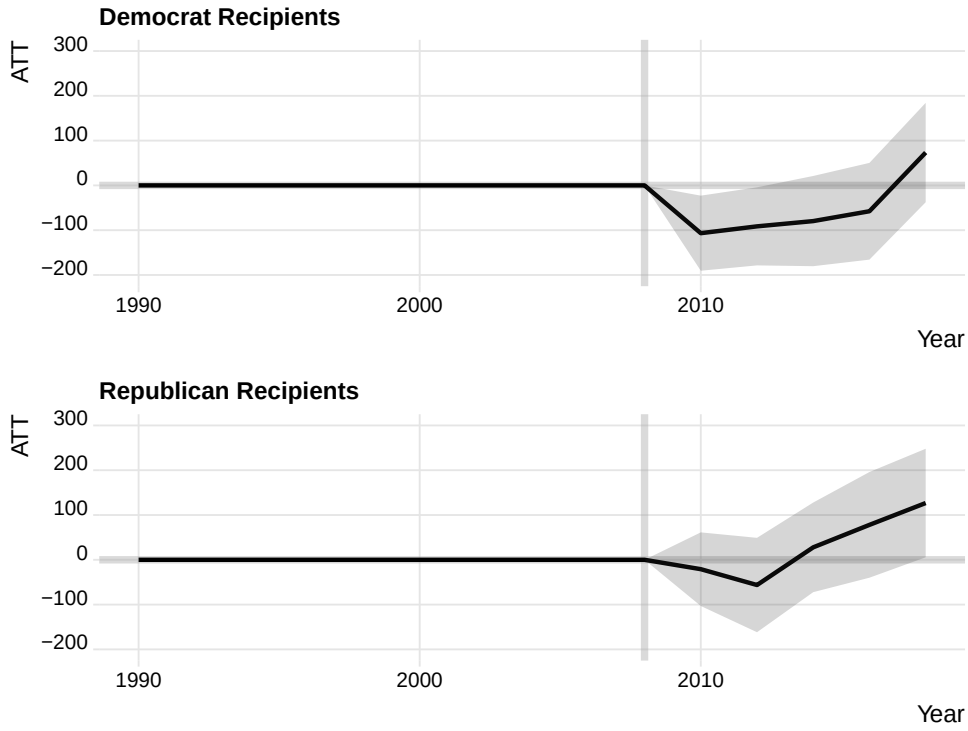
What is the relationship, if any, between this shift in political influence and the electoral fortunes of politicians and parties? We explore this question in two ways. First, we predict the campaign contributions to Democrats and Republicans separately. Second, we calculate a donation-weighted measure of recipient ideology and use this as the outcome of interest.

The former is a straightforward investigation of whether one party or another benefitted disproportionately as a function of the GFC. The latter captures the degree to which more ideologically extreme candidates benefitted 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 and lobbying in Figure 8. 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 negligible. 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 8: Average Treatment Effects on the Treated



However, these subset results 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. An alternative 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 in prior to, and following, the global financial crisis.

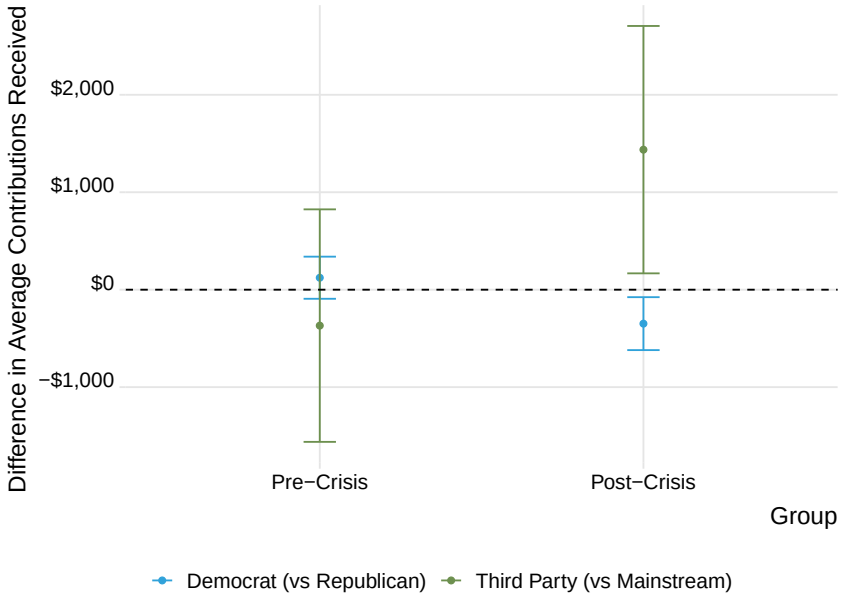
However, re-orienting the data in this fashion prevents us from using the trajectory balancing method of above, since very few of the recipients are consistently observed over the full period of interest. Instead, we fall back on a more conventional differences-in-differences analysis of the following 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. 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 roughly the same per contribution as Democrats and Republicans (labeled "mainstream" in

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



the figure). Following the crisis, these outsiders began enjoying approximately $1,400 more per contribution.

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.

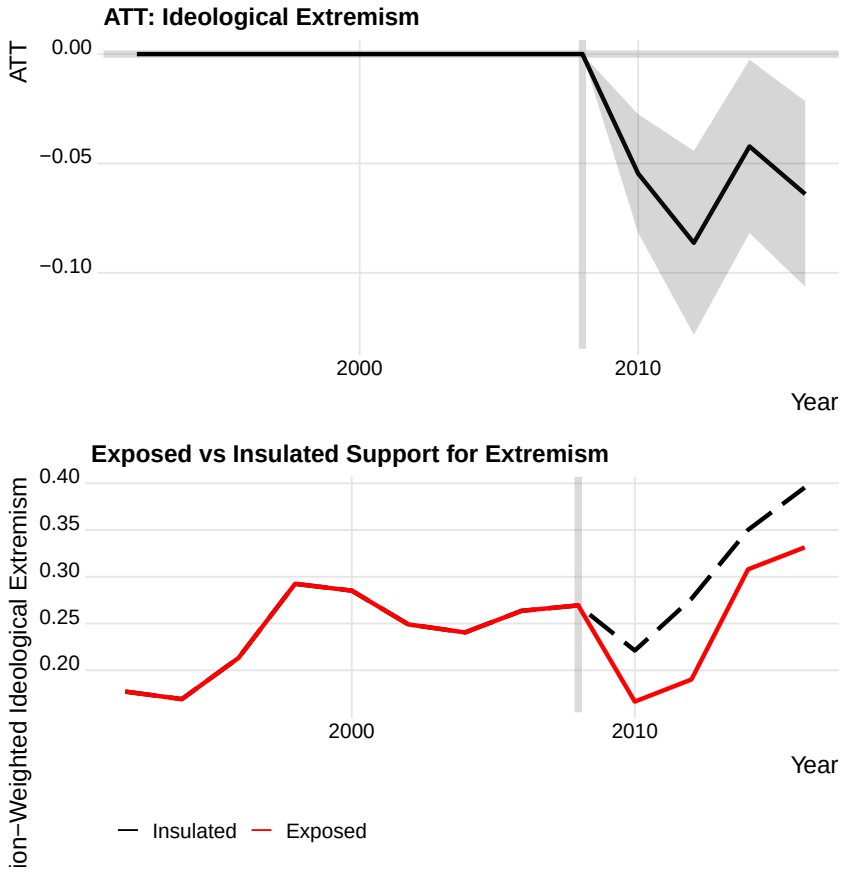
To more directly link these dynamics with the firm-level measure of exposure, we return to the trajectory balancing approach and replace the nominal value of campaign contributions with a donation-weighted average of the ideological extremism of the receiving candidates. Specifically, for each firm, 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.

Figure 10: Weighting Recipients by Ideological Extemism



Anti-Establishment Politicians

According to the framework summarized in Rogowski (1987), the preferences of globalization's winners and losers are clearly defined. In his stylized model, winners and losers were sharply divided along the dimensions of expanding and declining exposure to trade. In the

mid-2000s, the salience of foreign policy along such simplified dimensions was greatly diminished. But the underlying intuition that economic disruption erodes the existing power structures persists. Pursuant to this intuition, we test whether outsider politicians benefitted from the global financial crisis.

The analysis of ideological extremism summarized above touches on this dimension, albeit tangentially. Here we focus explicitly on the campaign contributions that went to non-incumbents. Our assumption is that an uptick in these contributions represents a shift toward anti-establishment politicians.

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

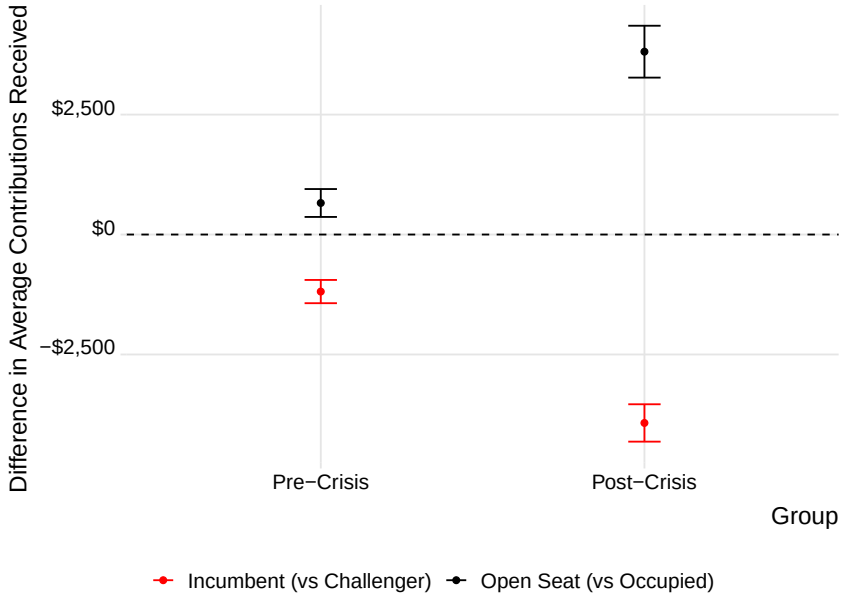
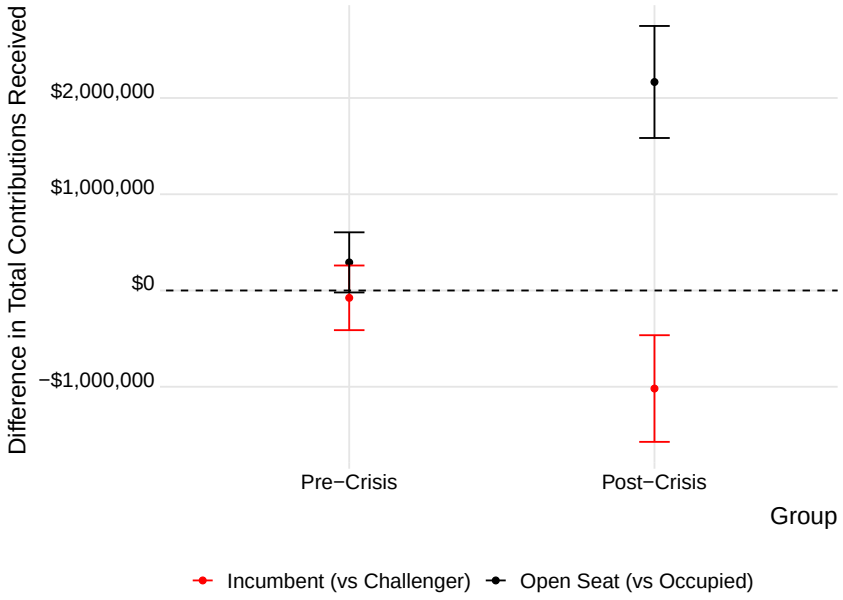


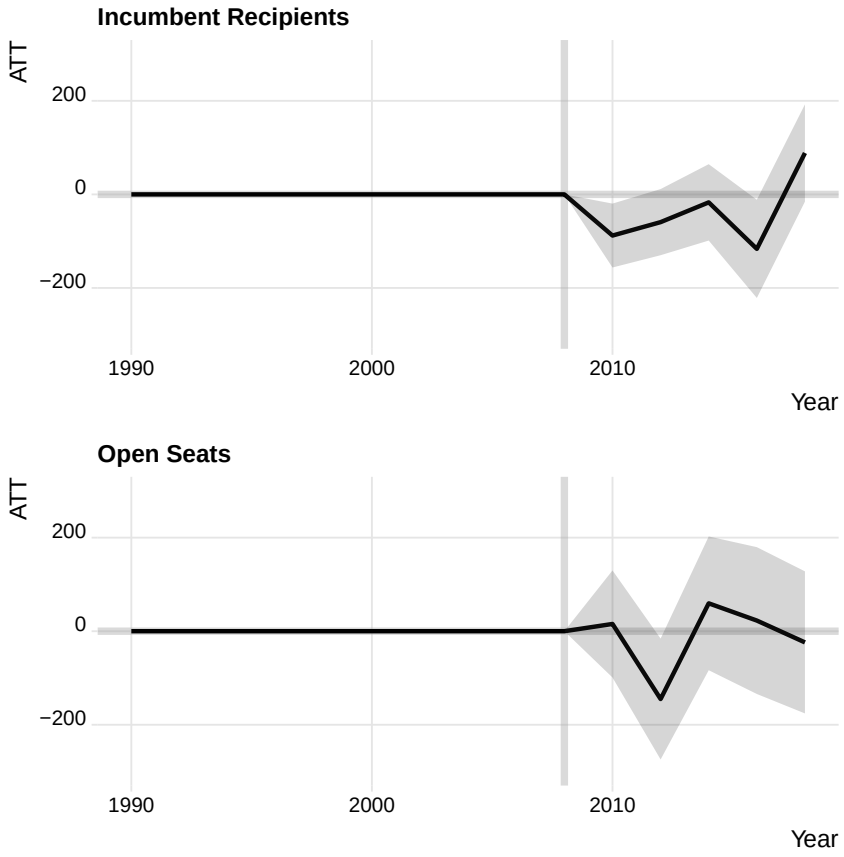
Figure 12: Total Contributions Received, pre- and post-crisis



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.

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. As illustrated, the penalty experienced by incumbents does appear to be at least partially driven by the financial challenges faced by a subset of donor firms. However, the increased contributions to open seats is uncorrelated with the firm-level exposure to the GFC.

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 (1987)'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. This paper adds to the IPE literature on economic shocks and political outcomes, providing a clear channel through which these relative shifts in economic power translate into political power.

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Appendix

Figure 14: Contributions to Canidates and PACs (exposed: blue; insulated: red)

Figure 15: Contributions to Canidates and PACs, by party affiliation (exposed: blue; insulated: red)