

Debt and Incentives in Political Campaigns*

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Abstract

Debt is a significant source of funding of political campaigns, with almost half of all campaigns relying on some form of debt. In this paper, we analyze the legislative incentives created by this type of debt financing. We find that indebted politicians raise more funds in subsequent elections, especially from special interest groups. We also show evidence of votes-for-money arrangements, especially among indebted politicians, whereby politicians vote for the benefit of those interest groups that help funding their reelection campaigns. The results are consistent with the view that debt creates legislative distortions and exacerbates the principal-agent problem because it forces indebted politicians to take policy positions that are not aligned with the local constituents' interests.

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The finance literature has dedicated considerable effort to studying financing decisions of economic agents. In corporate finance, since the pioneering work of Modigliani and Miller (1958) showing that corporate financing decisions are irrelevant in a frictionless world, researchers have focused on the role of financing frictions for capital structure choices of firms. Six decades of research suggest that a firm's reliance on debt financing is a function of its marginal tax rate, the deadweight loss in default, the information environment, and the incentive conflicts among its claimants (see, e.g., Graham (2008) and Frank and Goyal (2008) for excellent reviews). In other areas of financial economics, borrowing decisions have been the subject of intense analysis in the household finance, corporate governance, and the political economy fields, just to name a few.¹

While the importance of financing decisions for firms, households, consumers, governments, and top management has long been recognized, little is known about financing decisions (specifically the reliance on debt financing) of political campaigns and the impact of those decisions on the legislative process. This lack of evidence is surprising from both a theoretical and an empirical point of view. From the theoretical perspective, representative democracies are agency relationships, whereby local constituents (the principals) elect representatives (the agents) to represent the principals' interests in the legislative decision-making. Jensen and Meckling (1976) and a considerable body of research that followed suggest that borrowing decisions are important for the principal-agent relationship because they affect the agent's incentives. In the context of political campaigns, the way in which (re)election campaigns finance themselves can have a significant effect on the dynamics of the principal-agent relationship because borrowing decisions may affect the representatives' legislative incentives.

On the empirical front, the U.S. political campaigns are costly and require substantial fundraising efforts on the part of politicians seeking office. Over the 1983 – 2014 period, which encompasses our study, political campaigns for the U.S. House of Representatives and the Senate have raised a total of \$19.8 billion in 2014 dollars. Importantly, a significant portion of that total is debt capital. At \$1.9 billion or 10.6 percent of the total, debt constitutes the second largest source of campaign funds, preceded only by individual contributions and is larger than total contributions

¹ In household finance, see e.g., Campbell and Cocco (2003) for the analysis of mortgage markets, Vissing-Jorgensen (2012) for the analysis of the consumer and credit card lending markets, Looney and Yannelis (2015) for the analysis of the student loan markets, and Morse (2011) for the analysis of the payday lending markets. In corporate governance, see e.g., Bebchuk and Jackson (2005) Sundaram and Yermack (2007), Edmans and Liu (2011), and Wei and Yermack (2011) for evidence on the importance of inside debt in mitigating firm risk-shifting. In political economy, see e.g., Cukierman and Meltzer (1989), Persson and Svenson (1989), Alesina and Tabellini (1990), Arellano and Ramanarayanan (2012), Song, Storesletten, and Zilibotti (2012) for the analysis of fiscal policy and government debt.

from corporate, labor and trade Political Action Committees (PACs). Campaign borrowing is pervasive, with nearly half of all campaigns relying on some form of debt. Borrowing campaigns raise almost a third of total campaign funds through debt, and three quarters of indebted campaigns carry debt into subsequent elections. It is clear that the potential legislative incentive distortions created by the use of debt in political campaigns can be significant.

On the one hand, debt carried over from prior campaigns increases the demand for future fundraising since new capital is required to fight the reelection campaign *and* to service / retire existing debt.² This has the potential to increase the indebted politicians' incentives to trade voting favors in return for contributions from outside special interest groups. The argument builds on the Stigler (1971) / Peltzman (1976) framework of the political process, in which (i) incumbent politicians wish to remain in office, (ii) (re)elections are costly so outside funds are needed to finance political campaigns, and (iii) special interest groups supply political support (votes and campaign funds) in exchange for favorable legislation. In this framework, an incumbent politician standing for reelection but also carrying debt from a prior campaign has greater incentive to pledge favorable legislation to special interest groups in return for campaign funds compared to an otherwise similar debt-free politician, since funds are required to pay down the existing debt in addition to financing the reelection bid. This hypothesis, which we term the "vote pledging" hypothesis, implies that (i) indebted politicians raise more funds in future reelection campaigns and (ii) indebted politicians are more likely to pledge favorable legislation in return for campaign funds from special interest groups even if doing so results in politicians deviating from the legislative preferences of the local constituency.

On the other hand, debt from prior campaigns may force indebted politicians to take policy positions that are closer to the legislative preferences of the local constituency. If politicians face a fixed supply of total campaign funds throughout their legislative careers, debt simply shifts future campaign funds to the present. Since at least a portion of future campaign funds must now be diverted to paying back old campaign debt, the pool of future reelection funds is smaller, *ceteris paribus*. If fewer funds are available for suppression of opposition (Peltzman (1976)) and other campaign tactics, indebted politicians have little choice but to align their policy positions with those of the local constituency to secure reelection votes and maximize their reelection chances. This is in spirit the Jensen (1986) free cash flow argument. In contrast to the vote pledging

² We present evidence that campaigns work actively to retire existing debt.

hypothesis, the “alignment hypothesis” implies that (i) indebted politicians raise similar amounts of campaign funds in future reelection campaigns (because the total supply of campaign funds is fixed) and (ii) indebted politicians are more likely to align their policy positions to the legislative preferences of the local constituency. What impact debt financing choices have on future campaign fundraising and legislative choices of indebted politicians is, therefore, an empirical question.

In this paper, we analyze the predictions of the vote pledging and the alignment hypotheses. Using a comprehensive sample of almost 22,000 political campaigns for the U.S. House of Representatives and the Senate over the period 1983 – 2014, we first show that debt is a major source of funding for political campaigns. Almost half of all campaigns (46.75 percent) rely on some form of debt, and, conditional on borrowing, campaigns borrow almost a third of total raised funds. The majority of campaign debt comes in the form of personal loans that candidates make to their own campaigns, with only eight percent of campaigns relying on outside loans. Conditional on borrowing from outside sources, campaigns borrow 10 percent of total raised funds. We also show that the majority of campaigns that borrow funds are still indebted at campaign end. However, once carried over into future campaigns, debt does not linger on campaign books. The average debt maturity is 2.72 years in our sample, far less than the average campaign life of seven years, so campaigns work actively to retire existing debt. The borrowing and repayment patterns are similar across Republican and Democratic campaigns and across the House and the Senate campaigns.

When we split the sample by the campaign status, the results show that incumbent campaigns are far less dependent on debt financing compared to challenger and open race campaigns. Compared to incumbent campaigns, challenger and open race campaigns are five times more likely to borrow funds from their own candidates and twice more likely to borrow from outside sources. Moreover, conditional on borrowing, challenger and open race campaigns are four times more reliant on own candidate debt financing in total fundraising and almost three times more reliant on outside debt financing compared to incumbent campaigns.

This evidence leads us to examine two explanations for why politicians take on debt. First, it is possible that challenger and open race campaigns are forced to take on debt because information asymmetry and moral hazard problems make regular contributions from outside special interest groups prohibitively expensive. Second, it is possible that newcomer campaigns take on debt to signal their type to local constituents, to potential campaign opponents, or to outside

special interest groups. We focus on the timing of debt issues and present evidence consistent with the former, market failure, explanation.

Given the importance of debt in campaign fundraising, we next turn to analyzing the predictions of the vote pledging and the alignment hypotheses. In the first series of tests, we focus on the first prediction and study how debt decisions relate to subsequent campaign fundraising. Consistent with the vote pledging hypothesis, we show that indebted politicians raise 14.13 percent more funds in subsequent elections compared to debt-free politicians. Additional funds come from individuals and from PACs that represent different special interest groups. When we decompose PAC contributions by the identity of PAC sponsors, we find that additional funds come from corporate, party, labor, trade, membership, and non-connected committees. Thus, we find little evidence that certain types of PACs specialize in supporting indebted politicians. We dig deeper and show that the extra campaign funds come primarily from indebted politicians reaching out to a greater number of PACs (as opposed to larger contributions from the existing PACs), although we also find that labor and trade PACs give larger donations to indebted politicians. The results are stronger for Democrats and for House candidates, especially for labor PAC contributions. In all regressions, we control for candidate, election year, and state \times election year fixed effects as well as a host of candidate-election cycle control variables. These fixed effects and controls help absorbing macro- or state-level time trends, and any time-invariant candidate characteristics. Thus, all identification in our tests comes from the within-politician changes in fundraising behavior over time.³

A possible concern of our analysis is that debt financing may be endogenous. We address this concern in several ways. First, we lag the explanatory debt financing variable by one period in the estimations to minimize reverse causality concerns. Second, we include candidate and state \times election year fixed effects that help absorbing time invariant candidate characteristics and any state-level trends and shocks. Finally, we use an instrumental variable (IV) and estimate IV regressions. The instrument we use is the interaction term between the number of candidates that ran in the same election when a specific candidate takes on debt and the average 30 years mortgage rate. The intuition for this instrument is that more candidates during the election campaign imply a tougher competition, so that candidates will need more money to run a campaign. At the same time, more candidates will be competing for the same election funds. As a result, a candidate is

³ Our regressions include 1,451 unique politicians, 505 of whom (34.8%) switch between the indebted and debt-free status at least once during our sample period.

more likely to borrow. This mechanism should be stronger when interest rates are low, because the demand for debt is typically higher during those times. We show that the results in the paper are robust to IV regressions using the instrumental variable.

In the second series of tests, we turn to the second prediction of the vote pledging and the alignment hypotheses and study the impact of debt decisions on future legislative decisions. Using three independent legislative settings to minimize concerns about data mining and the generality of our conclusions, we show that indebted politicians' voting behavior is consistent with the predictions of the vote pledging hypothesis and does not match well the predictions of the alignment hypothesis. These results hold using both OLS and IV regressions.

The first setting that we analyze is legislator voting on labor-related legislation. We show that indebted politicians are much more likely to vote pro-labor if they receive political contributions from labor unions compared to debt-free politicians. This behavior is particularly pronounced in non-election years, presumably when it is easier for lawmakers to avoid undue attention from local constituents. The analysis for non-election years is based on politicians' votes on 252 labor-related bills, and the results imply that an indebted politician is expected to vote pro-labor on 6.7 additional bills for every one-standard deviation increase in labor contributions, compared to 4.2 additional bills for a debt-free politician. We go further and show that this is not simply a local constituency effect (i.e., labor PACs contributing funds to politicians who represent Congressional Districts (CDs) with a heavy presence of organized labor). On the contrary, the higher sensitivity of labor voting to labor contributions for indebted politicians is concentrated in CDs with *low* labor unionization, which is inconsistent with the alignment hypothesis.

We next turn to analyzing voting decisions on trade-related legislation. Using similar methodology, we show that indebted politicians vote significantly less pro-trade if they receive campaign funds from labor and corporate PACs and significantly more pro-trade if they receive funds from trade PACs. The trade-voting results are strong and show that, of the 189 bills considered, indebted politicians are expected to change their votes on as many as 11.7 bills for every standard deviation increase in contributions from labor, corporate, or trade PACs, compared to 8.1 bills for debt-free politicians. In further tests, we show that the results cannot be explained by the local constituency effect. Indebted politicians are just as sensitive in their trade voting decisions to labor contributions if they represent low or high labor unionization CDs and there is no evidence that indebted politicians who represent CDs that are more likely to be hurt by trade are less likely to vote pro-trade. In the last test, we take a closer look at corporate contributions and

show that indebted politicians are much less likely to vote pro-trade if they receive political contributions from industries that are more likely to be hurt by foreign trade.

The last setting that we consider is legislator voting on finance-related legislation. Following Stratmann (2002), we focus on the voting behavior of indebted and debt-free politicians on two similar pieces of legislation both dealing with the repeal of the 1933 Glass-Steagall Act. The first vote that we analyze is the roll call vote on the Barnard Amendment (considered as part of the 1991 Financial Institutions Safety and Consumer Choice Act (H.R. 6)) that would have allowed banks to enter the insurance and investment banking business. The bill was supported by the banking industry but opposed by the insurance and investment companies and was rejected by a 200-216 vote on October 31, 1991. The second vote is the roll call vote on the 1998 Financial Services Act (H.R. 10) that removed all remaining barriers preventing banks from affiliating with insurance and investment companies. The bill, opposed by the banking industry (because many of its provisions were viewed as a step backward by the banks) but supported by the insurance and investment companies was passed by a 214-213 margin on May 13, 1998. We study whether politicians who take on debt during the 1991-1998 period are more likely to switch their votes as a function of political contributions received from banks or insurance / investment companies compared to debt-free politicians. We find strong evidence of the vote switching behavior, especially for indebted politicians. The results are consistent with the vote pledging hypothesis but are difficult to interpret under the alignment hypothesis because the composition of the local constituency remains largely fixed between the votes.

The results in this paper make three contributions to the existing literature. First, we provide novel evidence on the financing patterns of political campaigns. We know of no other paper that has investigated this question previously. Our results show that debt constitutes an important source of funding of U.S. political campaigns, and, when carried over from prior campaigns, changes politicians' incentives and legislative decisions. More generally, these results shed new light on how debt financing decisions affect incentive conflicts in politics. As such, our paper is related to the large literature on agency relationships, especially inside firms, and on the role that debt financing plays in affecting different firm stakeholders (see, e.g., Myers (1977), Jensen and Meckling (1976), Jensen (1986), Ross (1977)).

Second, our paper contributes to the growing literature on the interrelation between politics and finance. Much of this literature focuses on whether political connections (e.g., Fisman (2001), Faccio (2004), Goldman, Rocholl, and So (2009)) or campaign contributions (e.g., Cooper, Gulen,

and Ovtchinnikov (2009), Akey (2014), Ovtchinnikov and Pantaleoni (2012)) matter for firm value, and on the channels through which political connections affect firm value (e.g., Duchin and Sosyura (2011), Amore and Bennedsen (2012), Correia (2012), Akey (2014)). Other recent papers show how political connections and networks matter for legislators' votes (e.g., Cohen, Diether, and Malloy (2013), Cohen and Malloy (2014)). The contribution of our paper is to demonstrate that the presence of debt financing and the associated agency considerations are a crucial element for understanding legislators' choices.

Third, our research adds to the political science literature that analyzes the effects of political contributions on legislative outcomes (see e.g., Ansolabhere, de Figueiredo, and Snyder (2003) and Stratmann (2005) for excellent reviews)). Based on our reading of the literature, there is no clear consensus to date whether outside money matters for legislative outcomes, with some papers finding a positive association between the two while other papers (often using more sophisticated econometric techniques) finding no correlation between money and votes. The results in our paper underscore the importance of taking into account debt-induced incentives when studying the relation between money and votes. We show that when those incentives are taken into account, those politicians who have greater incentives to trade votes for money indeed are much more sensitive in their voting decisions to contributions received from special interest groups.

The paper proceeds as follows. Section I provides an overview of the institutional details and the rules that govern debt financing in political campaigns. Section II describes the data and presents the descriptive statistics. Section III presents the results of future fundraising choices of indebted politicians. Section IV presents the results on the voting tests. Section V concludes.

I. Institutional details

Debt is a major source of campaign financing. Figure 1 shows that candidate and outside loans to political campaigns total \$1.9 billion in 2014 dollars over the period 1983 – 2014 preceded only by individual contributions that total \$11.2 billion.

Debt as a source of funding exceeds corporate contributions, trade, membership, and organization in health field (T/M/H) contributions, labor contributions, candidate contributions, and non-connected organizations' contributions. Debt also exceeds the amount of independent

expenditures (for and against candidates) and all communication cost expenditures.⁴ Clearly, debt is a major source of campaign financing. We therefore ask what the consequences are of debt financed campaigns for future campaign fundraising, for legislators' incentives and ultimately for their decision-making while in office. To do so, we first describe the campaign finance regulations that govern the issuance and repayment of debt made by political candidates. We then discuss the incentives that indebted politicians have to repay the existing debt from prior campaigns.

< Insert Figure 1 about here >

A. *Campaign finance regulations governing the issuance and repayment of debt*

The relevant campaign finance rules are summarized in the Code of Federal Regulations, Title 11, Subchapter A, Part 116, "Debts Owed by Candidates and Political Committees". Political candidates are allowed to make unlimited political contributions and/or loans to personal political campaigns. Campaigns are also allowed to borrow funds from outside organizations subject to contribution limits set by the Federal Election Commission.

The loans must be repaid in accordance with the procedure as described in the above regulation. Outside debt may be repaid from contributions to the candidate or the candidate's authorized committee before, on, or after the election date provided that contributions are clearly made for the purpose of loan repayment. There is no cap on the maximum amount of outside debt that can be repaid, even after the election date. The rules are somewhat different as regards loans made by political candidates to their personal political campaigns. The passage of the Bipartisan Campaign Reform Act of 2002 (also known as the McCain-Feinhold Bill) introduced a limit on the repayment of a candidate loan. Specifically, the passage of the law limits the repayment of a candidate's personal loan to \$250,000 from contributions made to the candidate or any authorized committee of the candidate after the election.⁵ That is, similar to outside loans, candidate loans of \$250,000 or less may be repaid from contributions to the candidate or the candidate's authorized committee before, on, or after the election date provided that contributions are clearly made for the purpose of loan repayment. For candidate loans *in excess* of \$250,000, however, the candidate's authorized committee may repay the entire loan amount by contributions made to the candidate or

⁴ Campaigns differ significantly in the way they are financed. Some campaigns are financed almost exclusively with individual contributions, while others rely heavily on debt. Section III describes the financing patterns in detail.

⁵ See H.R.2356 – Bipartisan Campaign Reform Act of 2002.

the candidate's authorized committee only *before or on* the election date. The authorized committee may repay up to \$250,000 by contributions received after the election date. For the remaining balance, the authorized campaign may use the cash on hand at the election date to pay off the candidate loan. The payment must be made within 20 days of the election, during which time the difference between the personal loan in excess of \$250,000 and the cash on hand used to pay off the personal loan must be reported as the contribution by the candidate. Any balance remaining after all payments are made is either lost by the candidate if she loses the election or is carried over into future election cycles.

Table 1 summarizes these regulations with two simple examples. We consider a typical House of Representatives campaign, which relies on \$53,889 in total debt on average and a typical Senate campaign, which relies on \$365,573 in total debt on average. Because the average amount of debt in a typical House campaign is below the \$250,000 threshold, authorized House campaigns may raise money before, on, or after elections to pay off the debt. Winning candidates may carry any unpaid debt from a given election cycle into future election cycles.

< Insert Table 1 about here >

In contrast, the average Senate campaign relies on more than \$250,000 in debt, so the entire \$365,573 of average borrowing may be repaid in full only from contributions received before or on the date of the election. After the election, the \$115,573 in excess of \$250,000 may be paid off with remaining cash on hand or, for winning candidates, carried over into future election cycles. If a Senate campaign has \$65,514 of cash on hand at the end of the campaign (this is the amount of cash on hand at campaign end for a Senate campaign in the 75th percentile of the distribution), it may use up to that amount to pay off the debt within 20 days of the election. Winning candidates may carry over the remaining \$50,059 into future election cycles. Losing candidates, however, forego the collection of the remaining funds. The write off is treated as a candidate contribution to the campaign.

B. Incentives to repay debt

If debt is to have any relation with legislator's future fundraising and legislative behavior, there must exist strong explicit and / or implicit incentives to repay debt in the future. Those incentives are quite clear in case of outside debt or when a politician pledges personal collateral

for the loan. We argue that in addition to such explicit incentives, indebted politicians also face implicit incentives to repay prior debt as quickly as possible. The argument is best summarized by the following quote:

“Campaign debt should be eliminated as quickly as possible after Election Day. Prompt debt reduction not only demonstrates viability on your part as a candidate, but it also speaks to your leadership ability. The very first step is the courage to ask for a check. Without grasping the necessity of asking for contributions, you will never win another election” (in “Winning Elections: Political Campaign Management, Strategy & Tactics”, p. 305).

The above argument is essentially Ross (1977) in reverse. Indebted politicians can signal their quality by raising funds as quickly as possible to repay the existing debt. Note also that because, by law, indebted politicians have to specifically notify potential donors that the money will be used to repay debt from the prior campaign, such fundraising is more difficult, which in turn serves as a stronger signal of the politician’s quality. Given the explicit and implicit incentives to pay off the existing debt, we next ask how prior debt relates to politicians’ future fundraising and legislative behavior.

II. Data and descriptive statistics

We begin our analysis by first describing our data sources and the construction of the relevant variables. Given the novelty of the data, we then present detailed cross-sectional and time-series univariate analyses on the prevalence of debt in Congressional campaigns. The last two subsections focus on the motivation behind campaigns’ decisions to issue debt and on the sources of debt funds.

A. Data sources

Our sample consists of all U.S. House of Representatives and Senate election campaigns for the period 1983 – 2014. Although campaign financing data goes back to 1979, no data on candidate and outside loans to political campaigns is available prior to 1983. The sample is an intersection of several campaign files maintained by the Federal Election Commission (FEC). For each political campaign, we first obtain data from the FEC *Summary Files* on total campaign fundraising and expenditures. We use the FEC *Post-Election Cycle Summary Files* for the period 1983 – 2006 and the *Current All Candidates Summary Files* for the period 2006 – 2014 to obtain data on total campaign receipts, transfers to and from authorized committees, total campaign

disbursements, beginning and ending campaign cash, total individual contributions, total candidate and other loans and loan repayments, and total debts owed by the campaign at campaign end. We also record candidate name, status (incumbent, challenger, or open race candidate), sought-after public office, the state and district for which the candidate is running, the candidate's party affiliation, and the election outcome. The sample consists of 21,946 House and Senate campaigns with non-missing data on total campaign fundraising and expenditures.

Next, we merge the summary data with the sample of political contributions made by Political Action Committees (PACs) over our sample period. The PAC contributions data is from the FEC *Contributions to Candidates from Committees Detailed Files* and contains 4,292,583 contributions made by all FEC-registered PACs to the above 21,946 campaigns. We follow the FEC methodology and categorize all PACs into eight distinct groups based on the sources of their political contributions: (1) corporations, (2) party committees, (3) labor organizations, (4) trade associations, (5) membership organizations, (6) non-connected organizations, (7) super-PACs, and (8) other, which includes cooperatives and corporations without capital stock.⁶ The data on PAC sponsors is from the FEC *Committee Master Files* and includes identifying information for 51,946 unique PACs and their sponsoring organizations. For each contribution source, we further group all political contributions into one of five contribution types: (1) hard money contributions (FEC transaction type codes "24K" and "24Z"), (2) independent expenditures for a candidate (code "24E"), (3) independent expenditure against a candidate (code "24A"), (4) communication cost for a candidate (code "24F"), and (5) communication cost against a candidate (code "24N"), thereby creating 40 separate contribution source/type pairs. Each pair details the total amount of political contributions received by a given campaign from a given source and of a given type.

In the final step, we obtain for all winning campaigns data on the politician's committee assignments and party rankings on each serving committee in the upcoming Congressional session. This data is from Charles Stewart's Congressional Data Page.⁷ Our final sample consists of 21,946 House and Senate campaigns with sufficient election outcome data for 6,708 winning and 9,231 losing campaigns.

⁶ FEC explicitly identifies corporations (FEC interest group category "C"), labor organizations (category "L"), trade associations (category "T"), membership organizations (category "M"), cooperatives (category "V"), and corporations without capital stock (category "W") in the Committee Master Files. We identify party committees and super-PACs from the FEC committee type codes (we use codes "Y" and "X" to identify party committees and code "O" to identify super-PACs). We categorize all remaining PACs as non-connected organizations.

⁷ We thank Charles Stewart III for generously providing this data on his website http://web.mit.edu/17.251/www/data_page.html.

B. Descriptive statistics

Figure 1 describes the sources of campaign financing during the 1983 – 2014 period covered by our study. Corroborating a well-documented fact in the campaign financing literature (see, e.g., Theilmann and Wilhite (1989), Ansolabehere, de Figueiredo, and Snyder (2003), Cooper, Gulen, and Ovtchinnikov (2010)), individual contributions represent by far the largest source of funding for political campaigns. Individuals collectively contributed \$11.2 billion to political campaigns over our sample period. Remarkably, at \$1.9 billion or 10.6 percent of total campaign financing, debt represents the second largest source of funds, significantly exceeding corporate contributions (\$1.2 billion), trade, membership, and health organizations (T/M/H) contributions (\$910 million), independent expenditures (\$703 million) and labor contributions (\$700 million). Despite its clear importance in political campaigns, the academic literature has been surprisingly silent on the role of debt in politicians' future fundraising and political decision-making.

< Insert Figure 1 about here >

Table 2 breaks campaign finance totals down to the campaign level. The results in panel A show that an average campaign borrows \$87,137 in 2014 dollars over our sample period. Campaigns raise more from personal and outside loans than from corporations (\$52,940 on average), T/M/H organizations (\$41,487), independent expenditures (\$32,016), and labor organizations (\$31,876). Remarkably, almost half of all political campaigns (46.75 percent) in our sample rely on some form of debt financing, and, conditional on borrowing funds, campaigns borrow almost one out of every three dollars of total money raised (31.79 percent). Most of campaign debt comes in the form of candidate loans to their own campaigns, although one in twelve campaigns (8.24 percent) borrows from outside sources, such as banks. Outside borrowing contributes 10.57 percent of total campaign receipts.

The majority of political campaigns with borrowed funds do not repay debt at the end of the campaign, but carry it over into future election cycles. Three quarters of political campaigns that borrow funds have debt outstanding at campaign end. What is even more surprising is that almost one in five campaigns (18.29 percent) has enough cash on hand to retire the existing debt at campaign end but choose not to do it. Importantly, once carried over, campaigns do not let debt linger on but actively work on its retirement. The average debt maturity is less than three years in

our sample (2.72 years), which, when compared to the average campaign life (unreported 6.98 years), shows that campaigns rely significantly on future campaign funds to pay off prior campaign debt.

< Insert Table 2 about here >

There appear few meaningful differences in the use of debt across Republican and Democrat campaigns in columns 2 and 3 as well as across the House and the Senate campaigns in columns 4 and 5. We do find that Democrats and House candidates are less likely to rely on candidate loans and, conditional on borrowing, borrow less in nominal dollars and as a percentage of total raised funds. Despite being statistically significant, however, the results appear economically trivial. We also find that candidates from both parties and both chambers are equally likely to carry over existing debt into future campaigns, although both Democrats and House candidates are less likely to retire existing debt if they have enough cash on hand. Consistent with this, House candidates have debt with significantly longer average maturity. However, the differences are economically small.

In contrast, we find significant differences in the use of debt by incumbent politicians' campaigns compared to challenger and open race candidates' campaigns. In columns 6-8, incumbents as a group are significantly less dependent on debt financing compared to challengers and open race candidates. Incumbents collectively raised a mere \$118 million in debt financing over our sample period, compared to \$897 million each for challengers and open race candidates. This is not a result of fewer incumbents in our sample. Rather, incumbents on average raise significantly less debt (\$17,615 for incumbents compared to (\$86,812 and \$182,335 for challengers and open race candidates, respectively). Compared to incumbent campaigns, challenger and open race campaigns are five times more likely to borrow funds from their own candidates and twice more likely to borrow from outside sources. Moreover, relative to incumbent campaigns, indebted challenger and open race campaigns are four times more reliant on own candidate debt financing and almost three times more reliant on outside debt for campaign funds. These differences are substantial and show that debt in political campaigns is concentrated among newcomer politicians.

Finally, the results in Panel A of Table 2 show that incumbents differ from other candidates in their treatment of existing debt. Incumbents are much more likely to carry existing debt into future campaigns even if they have enough cash on hand to retire it. As a result, the average debt

maturity in incumbent political campaigns is two to three times longer than the average debt maturity in challenger and open race campaigns.

Panels B and C of Table 3 dig deeper and present the results separately for winning and losing campaigns. Most challengers and open race candidates lose Congressional elections, so debt may have little impact on future fundraising and political decision-making if it is concentrated among losing campaigns. Panel B presents the results for winning campaigns; panel C presents the results for losing campaigns.

The results show that debt is present in both types of campaigns, although it is more concentrated in losing campaigns. For every dollar of debt in political campaigns, 26.5 cents (or \$377 million in total) is raised by winning campaigns and 73.5 cents (or \$1.048 billion in total) is raised by losing campaigns. Our interpretation of this result is that despite higher concentration among losers, winning politicians do bring substantial amounts of debt into public office. Compared to losing campaigns, winning campaigns are less likely to raise debt, either from own candidates or outside sources, and, conditional on borrowing funds, winning campaigns borrow less in nominal dollars and as a percentage of total raised. Winning campaigns are less likely to pay off debt at campaign end even if they have enough cash on hand to do it, which results in average debt maturities that are significantly longer compared to those of losing campaigns.

In addition to studying the concentration of debt among incumbents, challengers, and open race candidates in winning and losing elections, we also analyze debt concentration in more and less expensive campaigns. We sort all campaigns into quintiles based on total funds raised and report debt characteristics separately for each quintile. Table A.1 of the Online Appendix shows that, at \$1.3 billion or 69.5 percent of the total, the most expensive campaigns indeed account for the bulk of the debt issues. However, we find that with the exception of the least expensive campaigns, campaigns are significantly *less* likely to rely on debt and, conditional on borrowing, borrow significantly *less* as a percentage of total raised funds as they become more expensive. Debt is actually more widespread and is a more important source of funding in less expensive campaigns.

Turning to time-series evidence, Figure 2 analyzes intertemporal patterns in debt financing of political campaigns. Panel A shows that debt financing has grown significantly over our sample period from a total of \$43 million in the 1983-1984 election cycle to a peak of \$234 million in the 2009-2010 cycle before declining to \$204 million in the 2011-2012 cycle and \$105 million in the 2013-2014 cycle. Panel B, which tracks the average amount of debt per political campaign, closely

mirrors the results in panel A. In panel C, there is a slight decline in the propensity of political campaigns to use debt, either from candidates or outside sources, but the changes appear economically trivial. However, the results in panel F show that, conditional on borrowing, campaigns have actually increased the proportion of total funds raised through debt, and the increase is particularly pronounced for outside loans. In 1984, indebted campaigns borrowed on average 26 percent of total funds from candidates and nine percent from outside sources. Those percentages increased to 37 and 18 percent, respectively, by the end of our sample period. Indebted campaigns are significantly more indebted today compared to the early 1980s. The results in panels D and E also show that campaigns today are much more likely to carry over existing debt into future campaigns even if they have enough cash on hand to pay it off at campaign end, which results in longer average debt maturities in recent political campaigns.

< Insert Figure 2 about here >

Overall, the results in this section show that debt is a major source of financing of political campaigns and that its importance has grown over time.

C. Campaign debt: signaling or market failure?

The univariate evidence above points to two potential explanations for why politicians take on debt to finance their (re)election campaigns. The first explanation is that of market failure whereby challenger and open race campaigns are forced to take on debt because information asymmetry and moral hazard problems make regular contributions from outside special interest groups prohibitively expensive.⁸ The second is a signalling explanation, under which newcomer politicians take on debt to signal their type to three potential sets of constituents. The first set of constituents is local voters, and newcomer politicians take on debt to signal that they will not be beholden to special interest groups if elected into office. The second set of constituents is potential campaign opponents, and newcomer politicians issue debt to signal their quality to deter potential entry into the election race (Ross (1977)). The third set of constituents is outside special interest groups, and newcomer politicians again issue debt to signal their quality but in this case to attract more outside campaign funds.

⁸ See Diamond (1984) and Diamond (1991), among others, for an analysis of a similar issue of public vs. private debt financing for startup firms.

A key difference between the market failure and the signalling explanations is in the timing of debt issues relative to when (and if) outside funds are raised. Since the need to signal arises early on in the life of a campaign, signalling politicians are expected to take on debt early in the campaign lifecycle, before funds from outside special interest groups are secured. Conversely, the market failure explanation predicts that debt is issued at later campaign stages when other campaign funds have already been raised and spent. To shed light on the two explanations, Figure 3 analyzes the timing of debt issues relative to outside fundraising from special interest groups. Panel A tracks fund raising from special interest groups in event time preceding the election month. Panel B tracks debt issues.

< Insert Figure 3 about here >

The timing results are consistent with the market failure explanation. Relative to the timing of fundraising from outside special interest groups, debt is issued later in the campaign lifecycle, when contributions from outside sources, especially from corporate and trade PACs, decline considerably. Only 6.8% of all campaigns in our sample issue debt in the first half of the event window in figure 3, compared to 15.1% of campaigns with debt issues in the second half of the event window. The opposite is true for fundraising from corporate and trade PACs, with majority of funds from those sources received in the first half of the (re)election campaigns. The results also show that only 14 out of 1,116 debt issuing campaigns in our sample (1.25%), issue debt before raising money from any outside special interest groups. Coupled with the evidence in panel A that campaigns raise substantial amounts from outside sources, the evidence in Figure 3 is inconsistent with the signalling explanation. It appears, therefore, that debt is issued when campaigns are unable to secure the necessary funds from outside special interest groups.

D. Where does the cash for candidate loans come from?

The final question that we address before turning to analyzing the relation between campaign debt and subsequent fundraising and legislative behavior is related to the sources of funds used to finance campaign loans. There are different ways in which a candidate can finance her campaign with a candidate loan. Table 3 presents two scenarios. In the first scenario, the candidate can use her personal funds (cash) to make a loan to her campaign. In this case, the liability side of the personal balance sheet remains unchanged, and the candidate loan represents a change in the

composition of the asset side. The consequence is that the candidate holds a claim on the future cash flows of his political campaign. Compared to making a personal contribution to his campaign, the politician maintains the option to pay himself back later. We check how often candidates convert candidate loans into campaign contributions. It happens very infrequently. We have 9,708 politician-cycles where politicians lend money to their own campaign. In only 37 instances, the politician converts at least a portion of his own loan to the campaign into a campaign contribution. In only 11 cases, the entire loan is converted into a campaign contribution. These numbers suggest that the loans remain on the balance sheet of the politician most of the time until they are repaid.

< Insert Table 3 about here >

An example of the first scenario is the Democratic House Representative Grace Napolitano.⁹ She assumed office in January 1999, representing the 34th district of California. During the election campaign in 1998, she provided several loans totaling \$220,000 to her own campaign. The cash for these loans came from her own funds. Interestingly, she then started charging an interest rate of 18% on those candidate loans. That is, she used campaign contributions to pay for the interest on her loans. Over the years, she collected more than \$200'000 in interest. By the end of 2010, she had repaid the loans with contributions that she had received from other sources.

In the second scenario, the candidate takes out a personal loan, and then uses (part of) the capital from the personal loan to make a loan to her campaign. In this case, the personal balance sheet of the politician increases by the amount of the bank loan. As in the first scenario, the candidate holds a claim on the future cash flows of his political campaign. A case in point for this type of arrangement is Eric Crawford, the U.S. Representative for Arkansas' first congressional district. He wins the general election in 2010 and assumes office in January 2011. During the campaign in 2010, he takes out a loan with Heritage Bank on March 30, 2010, pledging a certificate of deposit as a collateral. On the same day, he lends \$70,000 to his own campaign. The campaign repays the loan on October 19 2010. He then lends again \$70,000 to his own campaign, but this time charging interest on the loan. On November 22, 2010, he collects \$7,400 in interest and

⁹ The data for this and the next example come from FEC filings and from the financial disclosure reports that candidates are obliged to file with the Office of the Clerk of the House of Representatives. The reports are available at: http://clerk.house.gov/public_disc/financial.aspx

principal from his campaign. At the end of the year, he sells the certificate of deposit to pay off the personal loan, and the political campaign still has a loan outstanding of \$66,200. In this example, Crawford uses personal collateral to take out a personal loan, and then uses the proceeds from the personal loan to make a loan to his own campaign.

What is common to both scenarios is that the candidate holds a claim on the cash flows of her political campaign. To increase the probability of repayment, both scenarios have the potential to affect the incentives of how politicians raise future funds and make decisions while in office.

III. Fund raising of indebted politicians

In this section, we analyze how indebted candidates raise funds in future political campaigns. A potential concern with this analysis is that candidates can choose how to finance their campaigns. As a result, debt financing is endogenous. We therefore first discuss these endogeneity issues and explain what we do to minimize the concerns. Next, we analyze if indebted candidates raise more funds compared to debt-free counterparts in subsequent elections. Finally, we investigate which interest groups provide most of the funding for indebted politicians.

A. Endogeneity of debt financing

The goal of the analysis in this paper is to show how debt financing affects subsequent fundraising and voting decisions of legislators. The main explanatory variable in the analysis is an indicator variable set to one for politicians with positive debt outstanding from prior campaigns and zero otherwise (we call this dummy variable $Debtholder_{jt-1}$). A potential concern of the analysis is that the debtholder dummy is endogenous. We identify two possible sources of endogeneity. First, the analysis may be subject to a simultaneity bias. That is, a candidate's debt financing may be simultaneously determined in equilibrium with the amount of future fundraising. Second, some unobserved omitted variable may affect both the debt financing and the amount of future funds raised, giving rise to an omitted variable bias.

We do several things to address these endogeneity concerns. First, we lag the explanatory debtholder dummy by one election period to reduce concerns of a simultaneity bias. Second, in all our tests we control for observable time-varying candidate characteristics, for unobservable time-invariant candidate fixed effects, and for state \times election year fixed effects. Controlling for candidate fixed effects is important in this setting because if candidate characteristics are important determinants of debt financing decisions, and if these do not vary over time, the candidate fixed

effects help controlling for these unobservable determinants. Consequently, the interpretation of the results is based on a within candidate change in debt financing over time. The state×election year fixed effects help absorbing any other time and location specific shocks affecting all candidates in a given state at a given point in time.

Finally, we rely on an instrumental variable for the debtholder dummy and estimate two-stage least squares regressions. The instrument we use is the interaction term between the number of candidates that ran in the same election when a specific candidate takes on debt and the average 30 years mortgage rate. The intuition for this instrument is as follows. In elections with more candidates, the competition is tougher, and candidates will need more money to run a campaign. Consequently, a candidate is more likely to borrow. This effect is stronger when interest rates decrease, because the demand for debt typically increases during those times.

The instrumental variable needs to satisfy both the relevance and the exclusion conditions. The relevance condition stipulates that the instrumental variable should be relevant in explaining observed debt financing. We can test this condition by regressing the debtholder dummy on the instrumental variable and all the other exogenous variables (including fixed effects) of the second stage. The first column of Table 4 shows the estimation results of the first stage regression. The coefficient on the instrumental variable (*Candidates* × *Int. rate*) is positive and statistically significant at the one percent level. The effect is also economically significant: A one-standard deviation increase (0.089) in *Candidates* × *Int. rate* is associated with an increase in the debt holder dummy of $1.1382 \times 0.089 = 0.101$. Accordingly, in elections with more competitors, candidates have a significantly higher likelihood of using debt financing. Consistency of IV estimation requires that the instrument be sufficiently strong, meaning that it must correlate strongly with the troublesome endogenous variable. In the first column of Table 4, the Kleinbergen-Paap Wald F-statistic is high with a value of 202.55, which exceeds the critical values. Thus, weak identification is unlikely to be a major concern.

The exclusion condition requires that the instrument affects the outcome variable only through its effect on the endogenous variable. In other words, the instrument *Candidates* × *Int. rate* should only affect future fundraising through its effect on the debtholder dummy. While this condition is not testable, we think that it is economically plausible. A tougher competition (because of more candidates) during the election campaign will make the candidate's campaign more expensive. At the same time, more candidates will be competing for the same election funds, so that the candidate will face financing constraints. As a result, a candidate will have to rely more

on debt financing. He will do so even more when interest rates are low. We cannot think of reasons why candidates in elections with more competitors are systematically different from candidates in elections with few competitors. Therefore, we think that it is unlikely that the instrument affects future fundraising through another channel than the candidate’s debt.

B. Differences in fund raising between indebted and debt-free politicians

In this section we investigate how the presence of debt financing in a political campaign relates to future campaign fund raising. Specifically, we ask whether candidates with debt from previous campaigns raise more money or money from different sources in subsequent elections. If indebted politicians need to repay the debt, we expect them to raise more funds from *other* sources in the future. To investigate this hypothesis, we estimate the following model¹⁰:

$$\log(Total^m)_{jt} = \alpha_j + \alpha_t + \beta(Debtholder)_{jt-1} + \gamma X_{jt} + \varepsilon_{jt}, \quad (1)$$

where $\log(Total^m)_{jt}$ is the natural logarithm of the money raised by politician j from source m ($m = \{\text{Beginning cash, Total receipts, Individual contributions, PAC contributions, Net debt issues, Total non-debt disbursements, Ending cash}\}$) at time t , $Debtholder_{jt-1}$ is an indicator variable set to one for politicians with positive debt outstanding from prior campaigns and zero otherwise. α_j and α_t are politician and year fixed effects, respectively. X_{jt} is a vector of control variables that includes (i) the percentage of votes received in the general election in the prior campaign, (ii) the current politician rank in the Congressional chamber, (iii) a vector of indicator variables for each Congressional committee that a politician sits on, and (iv) state×year fixed effects. The coefficient of interest is β . It captures, in percentages, the difference in funds raised between politicians with and without debt from the previous campaign. We cluster the standard errors at the politician level.

< Insert Table 4 about here >

Panel A of Table 4 shows the coefficient on $Debtholder_{jt-1}$ from OLS regressions for the different subsamples. In column 2, for instance, the coefficient on $Debtholder_{jt-1}$ is negative and

¹⁰ Panel A of Table A.2 in the Online Appendix shows average campaign totals for politicians with no debt in prior campaigns and totals for indebted politicians. Indebted politicians generate more total receipts, receive more PAC contributions, have less cash, and retire more debt in subsequent campaigns.

significant, suggesting that politicians with debt from the previous campaign have lower levels of cash at the beginning of the campaign compared to politicians without debt. The coefficient on $Debtholder_{jt-1}$ is significantly positive for total receipts (column 3), individual contributions (column 4), PAC contributions (column 5), and total non-debt disbursements (column 7). In other words, politicians with debt from the previous campaign raise more receipts overall, more money from individuals, and more money from PACs. Politicians with debt also spend more money on campaign-related expenditures, such as campaign rallies, candidate advertising, and get-out-the-vote efforts. The economic magnitudes of these estimates are large. Indebted politicians raise 11.91% more from individuals in subsequent elections, 14.27% more from PACs, and 14.13% more overall funds compared to politicians without debt. Indebted politicians also issue significantly less debt (column 6). Overall, this pattern is consistent with the vote pledging hypothesis, which states that indebted candidates raise money from other sources to repay the campaign debt.¹¹

It is important to stress that these estimations include time and candidate fixed effects, control variables, and state×year fixed effects. With this setting, we focus on within candidate changes in fundraising over time and control for time-invariant candidate characteristics that could be related to fundraising behavior. The time fixed effects absorb shocks affecting all politicians equally. The state×year fixed effects allow controlling for economic conditions in a given state and year that could be correlated with both the candidates' indebtedness and the amount of money they can raise in a political campaign.

Panel B of Table 4 shows the coefficient on $Debtholder_{jt-1}$ for the same specifications, but this time estimated with two-stage least squares using our instrument. The results largely confirm the results from the OLS estimations. Importantly, the coefficient on $Debtholder_{jt-1}$ is positive and significant for total receipts (0.1977) and PAC contributions (0.2759). For PAC contributions, the coefficient doubles in magnitude, suggesting an even stronger effect of debt financing on funds raised from special interest groups compared to the OLS results. Overall, the findings show that the presence of debt significantly affects politician's future fundraising behavior.

¹¹ The Table A.3 of the Online Appendix shows results of these OLS regressions for the split between House and Senate candidates, and the split between Democrats and Republicans. The results across these subsamples largely mirror the results of the full sample.

C. *Fundraising from Political Action Committees*

The results in Table 4 suggest that candidates with debt raise more funds from PACs in subsequent elections (column 5 in Panel A of Table 4). In Table 5, we refine the analysis to understand from which interest groups these PAC contributions come from. Specifically, we split PAC contributions by source (corporate, party, labor, trade, membership, non-connected, super PACs, and other) and by type (hard money, independent expenditures, and communication costs). We estimate the specification (1) and replace the dependent variable with the logarithm of money raised from PACs split by source or type.¹²

< Insert Table 5 about here >

Panel A of Table 5 presents the OLS coefficients of the $Debtholder_{jt-1}$ dummy. The coefficient on $Debtholder_{jt-1}$ is positive and statistically significant for corporate, party, labor, trade, membership, non-connected, and other PACs. In other words, indebted candidates receive significantly more contributions from those PACs compared to debt-free politicians. The results are also economically significant. For instance, the coefficient on $Debtholder_{jt-1}$ is 0.1337 in column 2 for corporate PACs, implying that politicians with debt receive 13.37% more from corporate PACs compared to politicians without debt. Similarly, indebted politicians raise 14.34% more money from labor PACs compared to politicians without debt (column 4).

Panel B reports the IV estimates. The coefficients on the $Debtholder_{jt-1}$ dummy are positive and significant for corporate, party, labor, trade, and non-connected PACs, strongly supporting the results from the OLS estimations. For the type of PAC contributions, we observe that the coefficient on $Debtholder_{jt-1}$ is positive and statistically significant for communication costs for the candidate. That is, candidates with debt from prior campaigns raise more in the form of communication costs compared to politicians without debt. Overall, these results are consistent

¹² Table A.2 of the Online Appendix reports the average amounts raised in each subsample for candidates with no debt from prior campaigns and for indebted politicians. On average, indebted candidates have significantly higher contributions from party, labor, trade, and non-connected PACs compared to candidates with no debt. Table A.4 shows the estimation results for the split between House and Senate candidates, and the split between Democrats and Republicans.

with the vote pledging hypothesis and suggest that politicians with debt intensify efforts to raise more money from special interest groups so that they can pay off their debt.¹³

IV. Voting decisions of indebted politicians

In this section, we analyze how legislative behavior of indebted politicians differs from that of their debt-free counterparts. Specifically, we analyze whether indebted politicians exhibit a heightened sensitivity of their voting decisions to political contributions received from the affected special interest groups. Evidence in the affirmative would be consistent with the vote pledging hypothesis. To minimize any concerns about data mining and the generality of our conclusions, we analyze indebted politicians' voting decisions in three distinct settings. In the first series of tests, we focus on voting on labor-related legislation. In the second series of tests, we analyze voting on trade-related legislation. In the third test, we switch to analyzing votes on the financial services legislation. To preview the results, in all three tests, we provide strong support for the vote pledging hypothesis. We find limited support for the alignment hypothesis.

A. Labor voting

Our first set of experiments analyzes indebted politicians' voting patterns on labor-related legislation. We follow a standard methodology in the political science literature (Ansolabehere, et al. (2003)) and examine the effects of political contributions on roll call votes cast by indebted and debt-free members of Congress. Our dependent variable is the roll call voting score computed by the American Federation of Labor – Congress of Industrial Organizations (AFL-CIO) for the period 2000 – 2014. Similar to many interest groups, AFL-CIO identifies 15 – 30 bills in each Congressional session that it considers especially important to its interests and computes the percentage of times that each lawmaker votes with the group.¹⁴ The voting score, ranging from 0 to 100, is computed for each lawmaker-Congressional session and tracks a politician's alignment with the views of the Federation of Labor.

¹³ In Table A.5 of the Online Appendix, we investigate further whether candidates raise money from a larger number of PACs or larger amounts from existing PACs. We find that indebted politicians are successful in significantly increasing the number of PAC contributors compared to politicians without debt. Moreover, politicians with debt from prior campaigns receive significantly larger contributions from labor and trade PACs compared to politicians without debt.

¹⁴ For example, on April 30, 2014, the Senate voted on S.2223 (Minimum Wage Fairness Act) that would have increased the federal minimum wage from \$7.25 to \$10.10 by 2016. The bill was rejected by the 54-42 margin.

We estimate models that relate the labor voting score of each politician to political contributions received from labor, trade, and corporate PACs as well as the interactions of those contributions with the debtholder indicator:

$$LVS_{jt} = \alpha_j + \alpha_t + \alpha D_{jt-1} + \sum_m \beta C_{jt}^m + \sum_m \gamma C_{jt}^m \times D_{jt-1} + \delta X_{jt} + \varepsilon_{jt} \quad (2)$$

LVS_{jt} is the labor voting score for politician j in Congressional session t , α_j and α_t are politician and Congressional session fixed effects, respectively, D_{jt-1} is an indicator variable set to one if politician j has positive debt outstanding from the prior campaign and zero otherwise, C_{jt}^m is the logarithm of the proportion of politician j 's total campaign financing raised from Labor, Trade, and Corporate PACs ($m = \{\text{Labor, Trade, Corporate}\}$), and X_{jt} is a vector of control variables that includes (i) the percentage of votes received by politician j in the prior general election, (ii) politician j 's current political rank in the Congressional chamber, (iii) a vector of indicator variables for each Congressional committee assignment awarded to politician j , (iv) politician j state-Congressional session fixed effects, and (v) and controls for other contributions received.

The coefficient of interest is γ , which measures the incremental sensitivity of indebted politicians' voting decisions to political contributions received from labor and other PACs. Under the vote pledging hypothesis, the γ coefficient is expected to be positive. Note that a positive γ coefficient may also be consistent with the alignment hypothesis if labor PACs contribute more to politicians who represent Congressional Districts (CDs) with a heavier presence of organized labor.

Table 6 presents the results. Panel A presents the OLS results, and panel B presents the IV results. Consistent with prior studies (e.g., Kau and Rubin (1981), Saltzman (1987), Wilhite and Theilmann (1987), Neustadtl (1990)), the results in panel A models 1 and 4 show that political contributions from labor unions are associated with higher labor voting scores, although the effect is economically not that strong. A one standard deviation increase in labor contributions (0.092 in log proportion of total funds raised) is associated with a 1.7% increase in the labor voting score. Compared to the mean labor voting score of 53.59% in our sample, the results are marginal. In models 2, 3 and 4, we find no relation between trade or corporate political contributions and labor voting. The remaining columns present the results separately for election and non-election years. The positive relation between labor contributions and labor voting is more significant in election years.

< Insert Table 6 about here >

The next three rows present the incremental sensitivity of labor voting decisions to PAC contributions for indebted politicians. Consistent with the vote pledging hypothesis, the positive and significant coefficient on the interaction of labor contributions with the debtholder indicator shows that indebted politicians are significantly more sensitive in their labor voting decisions to labor contributions compared to their debt-free counterparts. A one-standard deviation increase in labor contributions is associated with a 1.7% (2.7%) increase in the labor voting score of debt-free (indebted) politicians. The differences are even stronger in non-election years when the same increase in labor contributions produces a 0.8% increase in the labor voting score of debt-free politicians and a 2.9% increase in the labor voting score of indebted politicians. To put these numbers in perspective, the AFL-CIO labor voting scores are computed based on lawmakers' votes on a total of 252 bills in the House and the Senate in non-election years during our sample period. This means that an indebted politician is expected to vote pro-labor on 6.7 additional bills for every one-standard deviation increase in labor contributions, compared to 4.2 additional bills for debt-free politicians. These differences are economically meaningful. We repeat the analysis separately for House and Senate members and for Democrats and Republicans. The results, presented in Table A.6 in the Online Appendix, show that the relation between labor contributions and labor voting for indebted politicians is concentrated among House members in non-election years and among both Democrats and Republicans (especially during election years).

Turning to IV estimates in panel B, the results are quite similar to those in panel A. Indebted politicians are significantly more sensitive in their labor voting decisions to contributions received from labor PACs compared to debt-free politicians. The differences are especially significant in non-election years. Interestingly, the negative coefficient on the instrumented debtholder indicator implies that indebted politicians on average vote significantly less pro-labor, and this effect is concentrated in non-election years.

The results in Table 6, while certainly consistent with the vote pledging hypothesis, cannot yet be used to rule out the alignment hypothesis. It is possible that labor PACs simply target indebted politicians who represent CDs with a heavier presence of organized labor, in which case, the positive coefficient on the interaction of labor PAC contributions with the debtholder indicator simply reflects the increased supply of labor contributions to indebted politicians and the latter's alignment with local constituents in their voting decisions. To examine this possibility formally,

we perform the following test. We partition all CDs into labor unionization terciles, with CDs with the lowest labor unionization rates placed in tercile one and CDs with the highest labor unionization rates placed in tercile three.¹⁵ Under the alignment hypothesis, we expect the increased sensitivity of labor voting decisions to labor contributions for indebted politicians to be stronger in higher labor unionization CDs. Figure 3 shows the geographic distribution of low and high labor unionization CDs across the U.S. in 2010 (the results are similar in other years).

< Insert Table 7 about here >

Table 7 presents the results of estimating equation (2) separately for politicians representing low and high labor unionization CDs. Panel A presents the OLS results, and panel B presents the IV results. Several results stand out. First, the coefficient on the debtholder indicator is never significant in OLS or IV estimates, which means that indebted politicians on average vote no differently on labor legislation compared to their debt-free counterparts. This evidence is inconsistent with the alignment hypothesis. Also inconsistent with the alignment hypothesis, the results in panel A show that indebted politicians are significantly more sensitive to labor contributions but only in low labor unionization CDs. In high unionization CDs, the relation is actually the opposite (although insignificant), which also runs against the alignment hypothesis. In terms of economic magnitudes, a one-standard deviation increase in labor contributions is associated with a 0.3% decrease in the labor voting score of debt-free politicians from low unionization CDs and a much higher 3.4% increase in the labor voting score of indebted politicians from the same areas. The difference is economically significant. The IV results in panel B are economically similar, although the differences between indebted and debt-free politicians are statistically insignificant. We repeat our analysis splitting the sample into election and non-election years and obtain similar results (available upon request).

In sum, the labor voting tests show that indebted politicians are significantly more sensitive in their labor voting decisions to political contributions from labor unions. The relation is much

¹⁵ Labor unionization data at the industry level is from Hirsch and Macpherson (2003). We use the U.S. Census County Business Patterns data to calculate the total industry employment for each U.S. county, and the total number of employees who are members of labor unions based on Hirsch and Macpherson labor unionization data. The county employment and labor unionization data is then mapped into Congressional Districts (CDs) using the centroid methodology in Ovtchinnikov and Pantaleoni (2012). The labor unionization rate at the CD level is computed as the ratio of total employees who are members of labor unions to total employees.

stronger for politicians representing low labor unionization CDs, which is inconsistent with the alignment hypothesis. The results are consistent with the vote pledging hypothesis.

B. Trade voting

Our second set of tests focuses on trade-related legislation. We adopt the same methodology as in section IV.A and estimate models that relate the trade voting score of each politician to contributions received from labor, trade, and corporate PACs as well as their interactions with the debtholder indicator. The trade voting score is computed similarly to the labor voting score using roll call voting data on trade relevant legislation tracked by the U.S. Chamber of Commerce for the period 2007 – 2014. As in section IV.A, we are interested in whether indebted politicians exhibit increased sensitivity in their trade voting decisions to contributions received from labor, corporate and, especially, trade PACs.

Table 8 presents the results.¹⁶ Consistent with prior studies (see, ex., Ansolabehere, et al. (2003)), there is no robust relation between trade voting and contributions received from labor and trade PACs for debt-free politicians. The coefficients on labor and trade PAC contributions in the first two rows are largely insignificant and show no consistent sign across specifications and across time periods. Interestingly, we do find a positive and significant coefficient on corporate contributions in row three, and the magnitude of the coefficient implies that a one-standard deviation increase in corporate contributions is associated with a 4.2% increase in the trade voting score of debt-free politicians. This result is inconsistent with the evidence in Ansolabehere, et al. (2003) who show no relation between corporate contributions and trade voting scores.

The results in the next four rows are much stronger and show that indebted politicians vote fundamentally differently on trade-related legislation compared to their debt-free counterparts. First, the positive and significant coefficient on the debtholder indicator implies that indebted politicians on average vote significantly more pro-trade compared to debt-free politicians. The point estimate in model 4 indicates that indebted politicians have an 11% higher trade voting score on average, which, when compared to an unconditional mean trade voting score of 63.17% in our sample, is economically quite significant. Second, the significant coefficients on the interactions of contributions from labor, trade, and corporate PACs with the debtholder indicator show that indebted politicians are significantly more sensitive in their trade voting decisions to contributions

¹⁶ In the interest of space, we present the results from OLS regressions and note that the results from IV regressions are qualitatively similar. The IV results are available upon request.

received from those interest groups. Specifically, indebted politicians are significantly less likely to vote pro-trade if they receive contributions from labor and corporate PACs and significantly more likely to vote pro-trade if they receive contributions from trade PACs. The results are similar across election and non-election years. In terms of economic significance, a one-standard deviation increase in labor and corporate contributions in model 4 decreases the trade voting score of indebted politicians by 6.2% and 4.0%, respectively, while the same magnitude increase in trade contributions increases the trade voting score by 3.4%. These numbers imply that of the 189 bills used by the U.S. Chamber of Commerce to calculate trade voting scores in our sample, an indebted politician is expected to vote anti-trade on 11.7 and 7.6 additional bills for every one-standard deviation increase in labor and corporate contributions, respectively, and pro-trade on 6.4 additional bills for every one-standard deviation increase in trade contributions. Compared to the 0.9%, 0.7% and 4.2% change in the trade voting score of debt-free politicians for the same magnitude increase in labor, trade, and corporate contributions, respectively, the results for indebted politicians are economically significant. The subsample analysis for House and Senate members and for Democrats in Republicans, presented in table A.7 in the Online Appendix, shows that the effects documented in table 8 are concentrated among House members and, for corporate PAC contributions, among both Democrats and Republicans.

< Insert Table 8 about here >

We next proceed as in section IV.A to analyze the possibility that the above results reflect the local constituency effect, i.e. the tendency of special interest groups to target politicians who are naturally predisposed to vote pro- or anti-trade because of the local constituents' preferences. We conduct two sets of tests. First, we go back to our partitioning of politicians into those representing low labor unionization CDs and high unionization CDs. It is possible that the particularly negative relation between labor contributions and trade voting scores for indebted politicians comes from politicians in high labor unionization CDs who are more likely to hold anti-trade positions and who are also more likely to receive more funds from labor PACs. This behavior would be consistent with the alignment hypothesis. The results in the first three columns of Table 9 show that this is not the case. First, there is no evidence that indebted politicians who represent high labor unionization CDs are less likely to vote pro-trade as shown by the positive and insignificant coefficient on the debtholder indicator in row 7. Second, the incremental sensitivity

of indebted politicians' trade voting decisions to contributions from labor PACs varies randomly across the labor unionization terciles and is actually insignificant in the high labor unionization CDs.

< Insert Table 9 about here >

In the second test, we split politicians based on whether they represent constituents who are more or less likely to oppose foreign trade legislation. Under the alignment hypothesis, indebted politicians should vote pro-trade only if they represent areas less hurt or areas that benefit the most from trade. To test this prediction, we partition all CDs into trade opposition terciles, with CDs with the lowest expected opposition to trade placed in tercile one and CDs with the highest expected opposition placed in tercile three.¹⁷ We then estimate the relation between PAC contributions and trade voting separately for each tercile.

The results in the last three columns of Table 9 show that indebted politicians representing low and high trade opposition CDs are just as likely to support trade legislation as their debt-free counterparts as evidenced by an insignificant coefficient on the debtholder indicator. This evidence is inconsistent with the alignment hypothesis. Interestingly, we do find that indebted politicians in low trade opposition CDs are more likely to vote pro-trade if they receive contributions from trade PACs. This evidence may be interpreted as consistent with the alignment hypothesis if politicians in low trade opposition CDs are more likely to vote pro-trade and, because of their support for trade legislation, are more likely to receive contributions from trade PACs. In its entirety, the results offer only mixed evidence in support of the alignment hypothesis. As in section IV.A, we repeat our analysis splitting the sample into election and non-election years and obtain similar results (available upon request).

In the last set of tests in this section, we take a closer look at corporate contributions and relate them to trade voting for indebted and debt-free politicians. At first blush, the results in table 8, which show a negative relation between corporate contributions and trade voting for indebted

¹⁷ The expected trade opposition is based on shipping cost data used as a proxy for import competition in Barrot, Loualiche, Plosser, and Sauvagnat (2017). Similar to our methodology for calculating the CD labor unionization, we use the U.S. Census County Business Patterns data to calculate the total industry employment for each U.S. county. We then use the industry shipping cost data to calculate the weighted (by employment) average shipping cost for each county. The county shipping cost data is mapped into CDs using the centroid methodology in Ovtchinnikov and Pantaleoni (2012). CDs with the lowest (highest) shipping costs are areas that are most (least) sensitive to import penetration and, therefore, are expected to be the most (least) opposed to foreign trade legislation. We thank Barrot, Loualiche, Plossner, and Sauvagnat for giving us the shipping cost data.

politicians, may seem counterintuitive. However, as we show in table 10, this relation is concentrated among those contributing firms that are more likely to be hurt by foreign trade.

Based on the existing literature (see, e.g., Bain (1956), Sutton (1991), Barrot et al. (2016)), we use four different proxies to sort firms into those that are more and less likely to be negatively impacted by foreign trade. We use the industry shipping costs, HHI, and the ratios of R&D-to-sales and advertising expenditures-to-sales as proxies for opposition to foreign trade, with lower values for each variable implying a more negative expected impact from foreign trade and, therefore, higher opposition to foreign trade legislation. We sort all industries into terciles based on the values of each proxy and calculate total contributions made by industry firms in each tercile. We then estimate the relation between total tercile contributions and the trade voting score for indebted and other politicians (the rest of the variables are unchanged).

< Insert Table 10 about here >

The results in Table 10 show that the negative relation between corporate contributions and the trade voting score for indebted politicians is concentrated in low shipping cost, low HHI, low R&D, and low advertising expenditure industries. There is some evidence that the negative correlation between corporate contributions and trade voting is also present in high shipping cost and high advertising expenditure industries, although the results are economically and statistically weaker. Given that low shipping cost, low HHI, low R&D, and low advertising expenditure industries are more likely to be hurt by trade, we interpret this evidence as consistent with the vote pledging hypothesis. The results are stronger in non-election years, perhaps because it is easier for indebted politicians to avoid constituent scrutiny in non-election years.

Overall, the results in this section provide strong support for the vote pledging hypothesis. Coupled with the evidence on labor voting in section IV.A, the results lend further credence that indebted politicians trade voting favors in return for contributions from the affected special interest groups. We continue to find little evidence for the alignment hypothesis.

C. *Financial services voting*

Our final test focuses on finance-related legislation. We follow Stratmann (2002) and analyze the likelihood that indebted politicians change their votes on finance-related legislation as a function of contributions received from various financial services firms between the votes.

Stratmann (2002) provides a detailed description of the institutional setting, so here we just highlight the main features of the experiment. The focus of the test is on the voting behavior of indebted and debt-free politicians on two very similar pieces of finance legislation dealing with the repeal of the 1933 Glass-Steagall Act, which limited the activities of commercial banks to the benefit of insurance and investment companies. The first vote analyzed is the roll call vote on the Barnard Amendment (considered as part of the 1991 Financial Institutions Safety and Consumer Choice Act (H.R. 6)) that would have allowed banks to enter the insurance and investment banking business. The bill was supported by the banking industry but opposed by the insurance and investment companies. It was rejected by a 200-216 vote on October 31, 1991. The second vote analyzed is the roll call vote on the 1998 Financial Services Act (H.R. 10) that removed all remaining barriers preventing banks from affiliating with insurance and investment companies. The bill, opposed by the banking industry (because many of its provisions were viewed as a step backward by the banks) but supported by the insurance and investment companies was passed by a 214-213 margin on May 13, 1998.

Given that the two bills were quite similar in their intended objectives but differed in how the bank and insurance/investment lobby approached them, Stratmann (2002) analyzes whether politicians were influenced by contributions received from both sides and were more likely to switch their votes, either from the pro-insurance to the pro-banking position or vice versa, as a function of contributions received from the affected interest groups between the votes. This test is particularly attractive because all identification in the model comes from politicians who switch their votes, so the results cannot be explained by such time invariant factors as the political ideology or party affiliation of the voting politician. Consistent with the hypothesis that politicians trade votes in return for contributions, the results in Stratmann (2002) show that politicians are more likely to switch their votes to the pro-insurance/investment company position if they received contributions from insurance and investment companies. Conversely, politicians are more likely to switch their votes to the banking position if they received contributions from the banks.

< Insert Table 11 about here >

We extend the Stratmann (2002) test to include an interaction term between contributions received from banks and insurance/investment companies and the debtholder indicator variable. The latter takes a value of one for all politicians who accumulate positive debt during the period

between the votes and zero otherwise. Thus, we are testing whether, compared to their debt-free counterparts, politicians who become indebted during the 1991-1998 period are even more likely to switch their votes if they receive contributions from banks or insurance/investment companies.¹⁸

The results are presented in Table 11. In the first three columns, we reproduce the results in Stratmann (2002). We confirm that politicians are more likely to switch their votes to the pro-insurance / investment company position if they receive contributions from insurance and investment companies and more likely to switch their votes to the pro-banking position if they receive contributions from banking interests. Importantly, in the last three columns we find that this effect is significantly amplified for indebted politicians. The results are especially strong for investment and banking contributions and show that indebted politicians, relative to their debt-free counterparts, are even more likely to switch their votes if they receive contributions from those special interests. These results provide strong support for the vote pledging hypothesis. Because we control for politician fixed effects (which include the composition of the local constituency), the results cannot be explained by the alignment hypothesis.¹⁹

V. Conclusions

This paper is the first empirical paper to explore the incentives and implications of debt financing of U.S. political campaigns. We show that debt is an important source of finance of political campaigns and significantly distorts the decision making of indebted politicians. We show that indebted politicians build reputation by catering favorable policy positions to special interest groups that then, in turn, provide campaign funds for reelection and to pay down the existing debt. The results have far reaching policy implications regarding the financing of political campaigns.

¹⁸ Due to the presence of interaction terms, we employ the Linear Probability Model (LPM) for this test.

¹⁹ In unreported tests, we confirm that the local constituency of voting politicians does not change significantly between 1991 and 1998. The proportion of local CD employment in the banking, insurance, and investment industries is very stable during the sample period. Stratmann (2002) reports similar findings.

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Figure 1
Sources of campaign financing, 1983 – 2014

This figure shows the aggregate amounts of campaign financing by source. The sample consists of all U.S. House of Representatives and Senate election campaigns for the period 1983 – 2014. All numbers are in million USD.

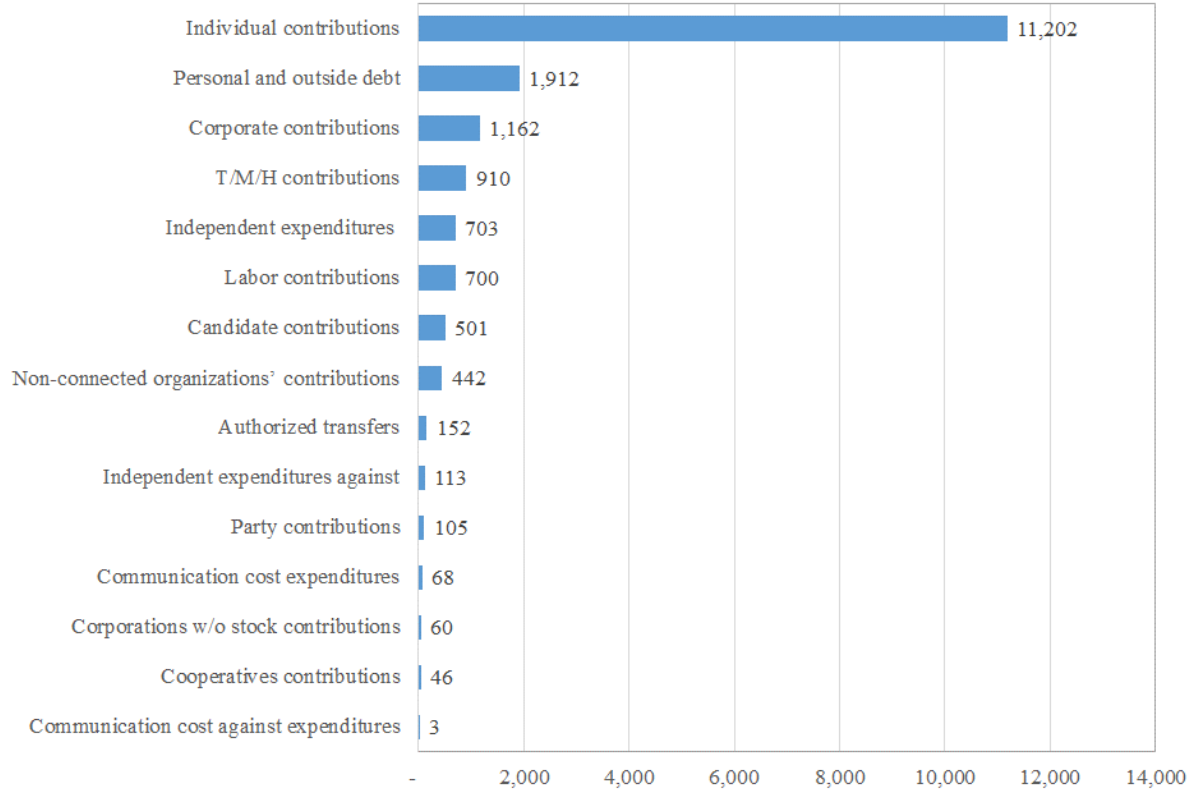
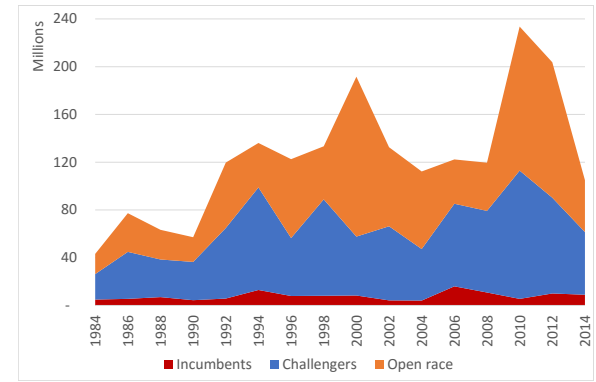
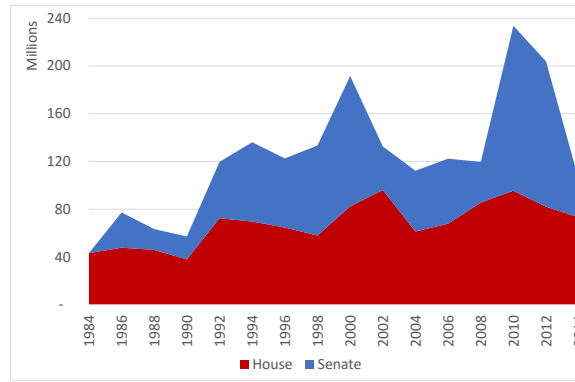
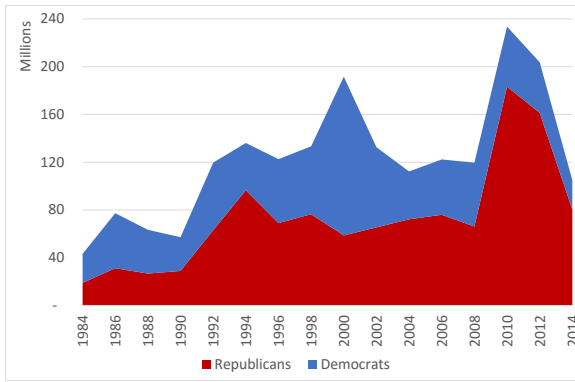
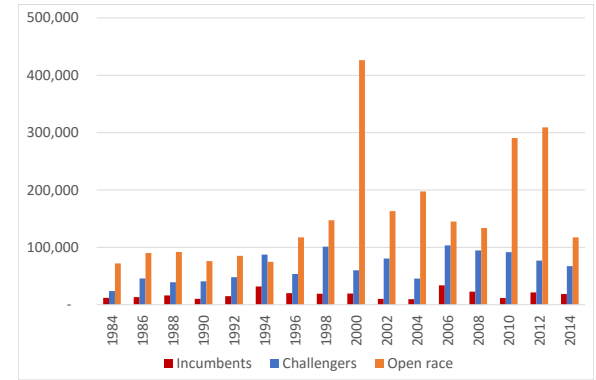
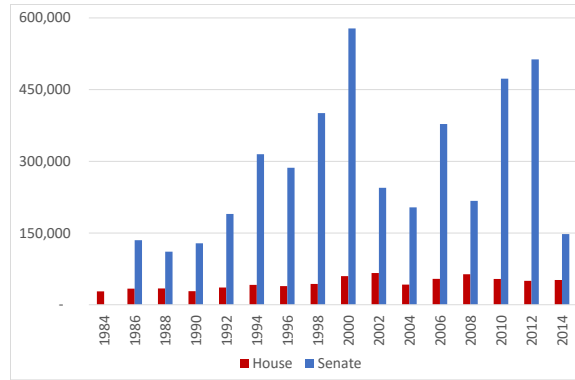
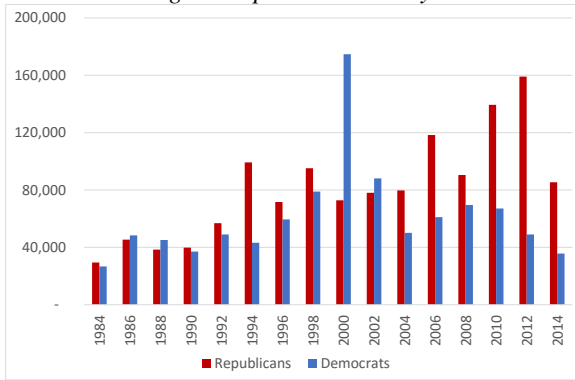


Figure 2
Debt in political campaigns – descriptive statistics, 1983 – 2014

Panel A: Total debt



Panel B: Average debt per candidate/cycle



Panel C: % candidates with personal (solid) and other (dashed) debt issues

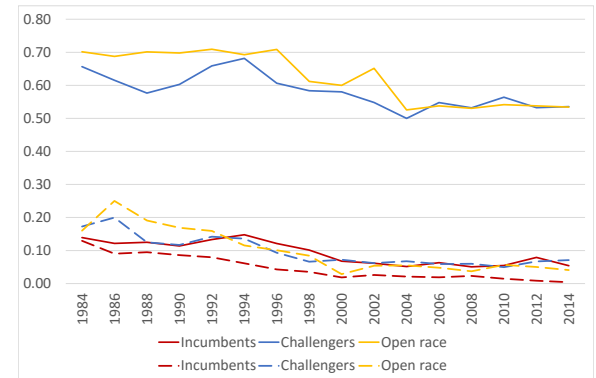
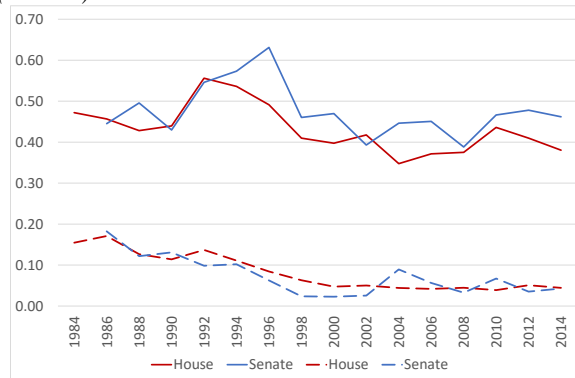
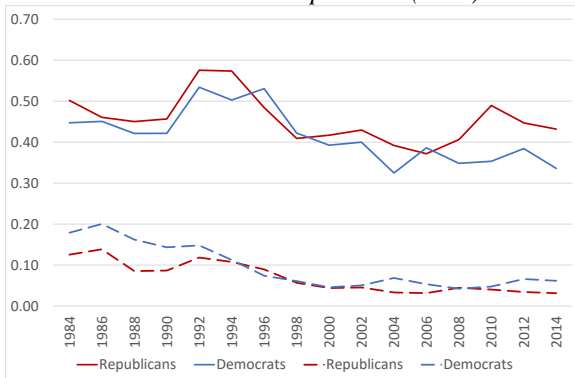
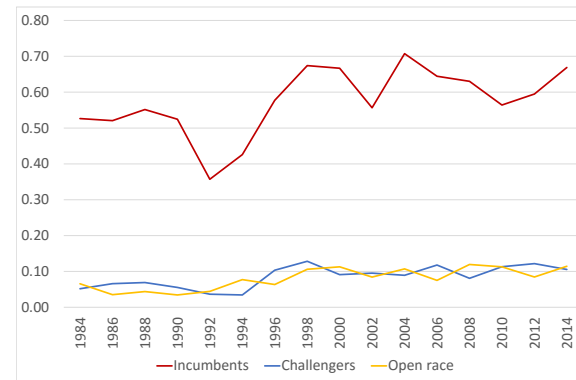
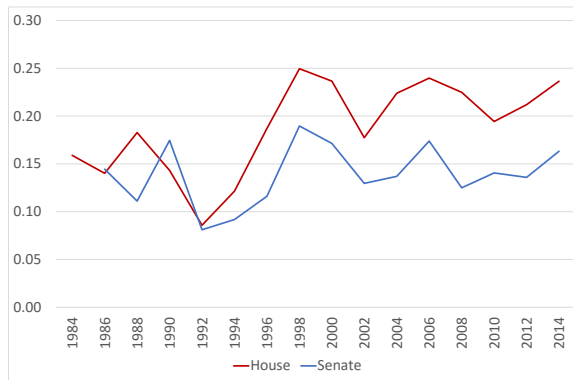
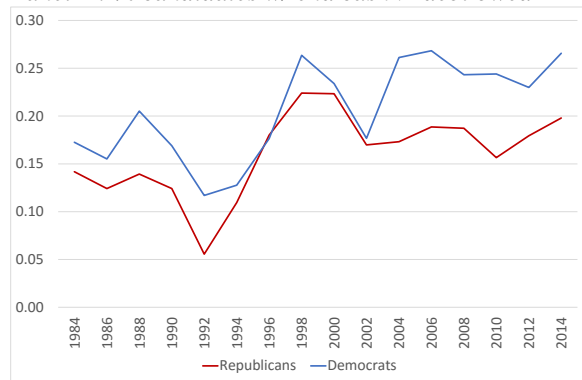
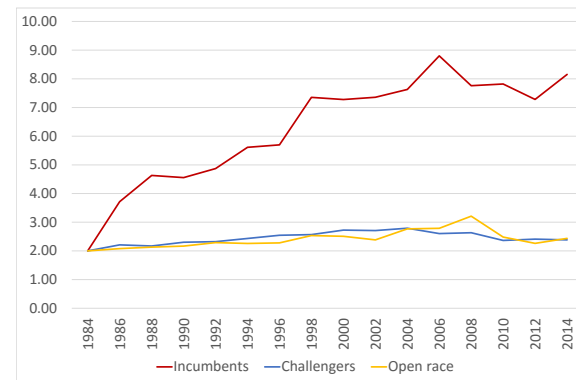
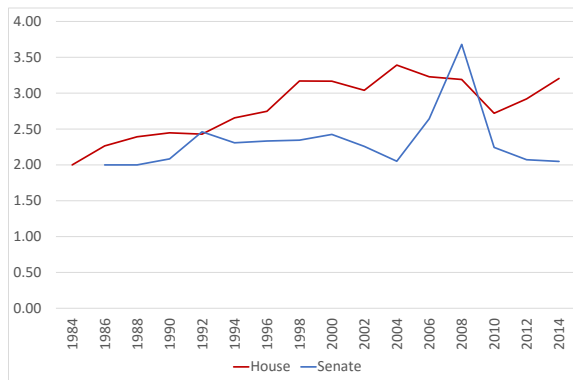
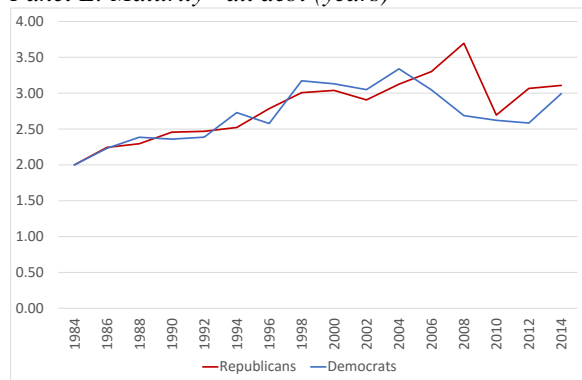


Figure 2 – continued

Panel D: % candidates w/ end cash > debt owed



Panel E: Maturity - all debt (years)



Panel F: Personal (solid) and other (dashed) debt / total receipts

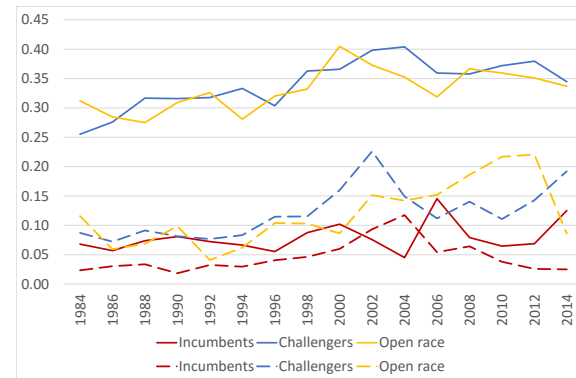
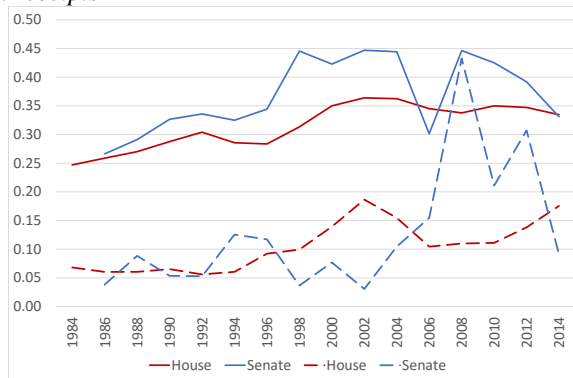
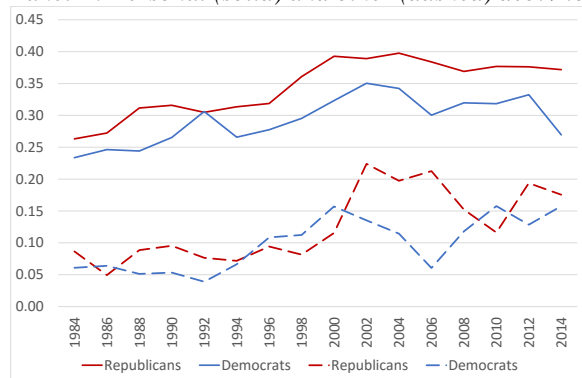
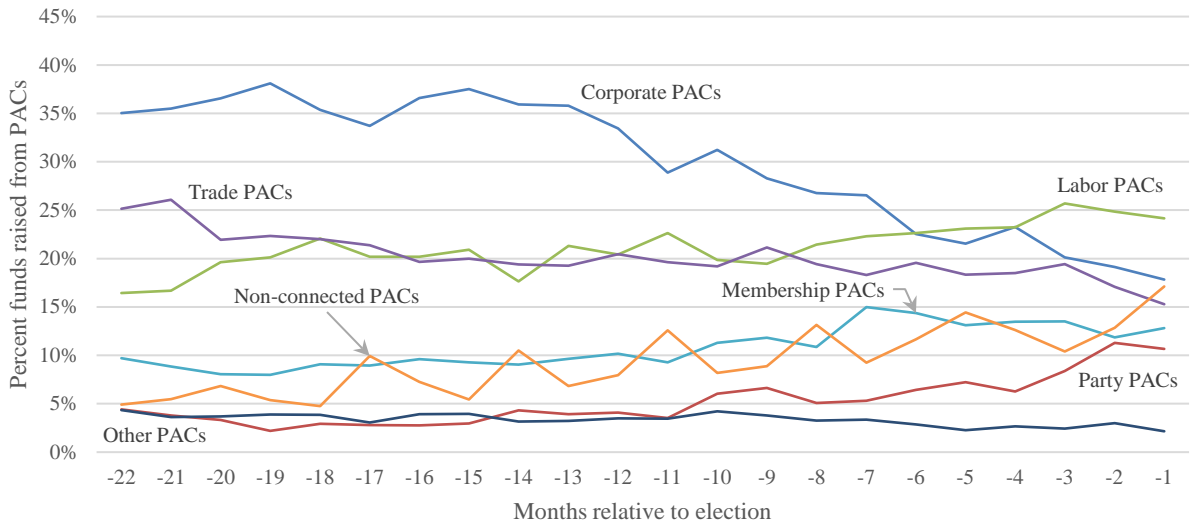


Figure 3
Timing of campaign fundraising, 1983 – 2014

This figure summarizes the sources of campaign funds leading up to each election. Panel A shows the average percentage of funds that political campaigns raise from various Political Action Committees (PACs). Panel B shows the percentage of political campaigns that borrow funds in each month leading up to each election. The sample consists of all U.S. House of Representatives and Senate election campaigns for the period 1983 – 2014.

Panel A: Percentage of campaign funds raised from PACs prior to election



Panel B: Percentage of campaigns that borrow funds prior to election

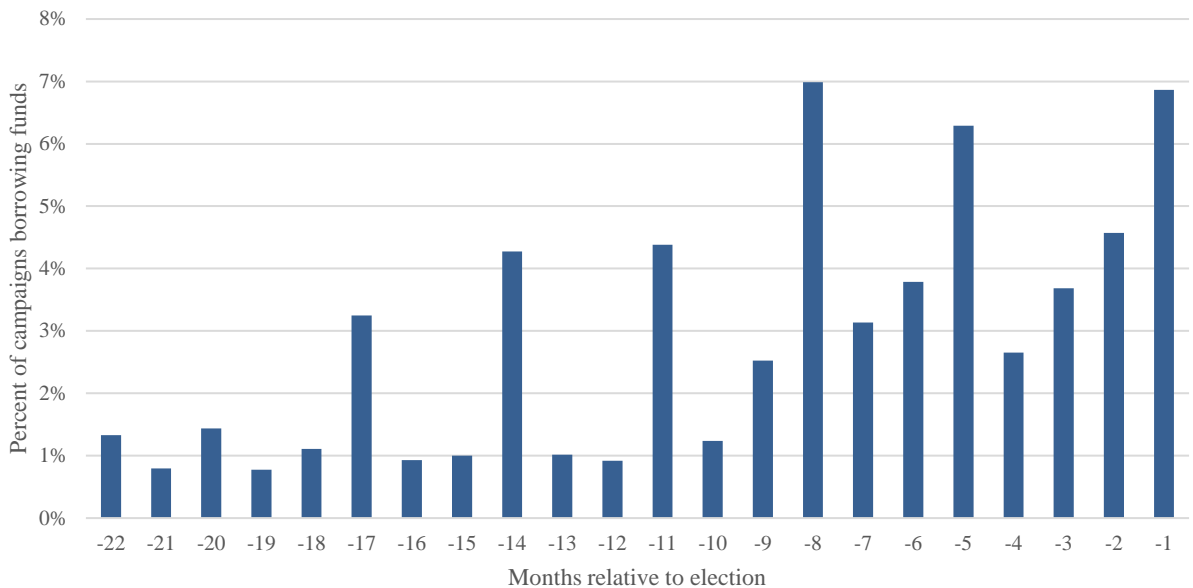


Figure 4
Labor unionization terciles and locations of indebted politicians, 2010

This figure shows the geographic distribution of low and high labor unionization Congressional Districts across the U.S. in 2010 (the results are similar in other years). Darker shaded Congressional Districts are districts with larger workforce in labor unions. Cities designated by red dots are hometowns of indebted politicians.

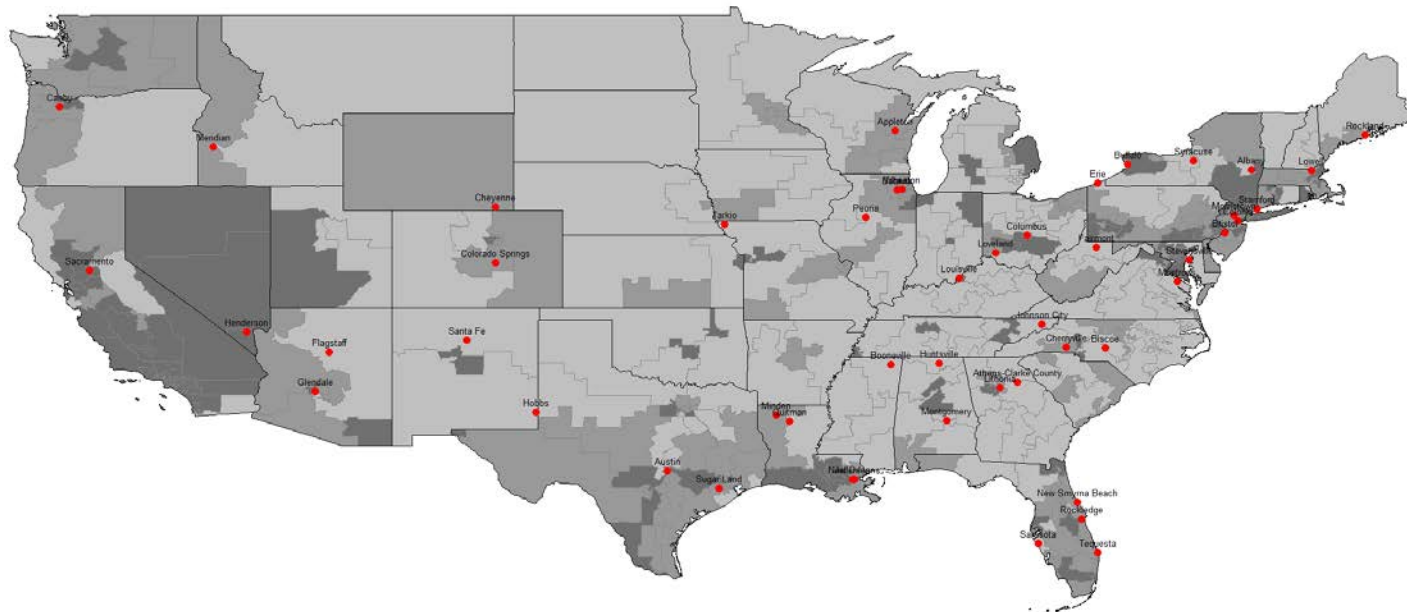


Table 1
Campaign finance law provisions regarding candidate loans made to personal political campaigns: Example

This table presents an example of how loans made by political candidates to personal political campaigns can be repaid. Candidate loans of \$250,000 or less may be repaid from contributions to the candidate or the candidate’s authorized committee before, on, or after the election date provided that contributions are clearly made for the purpose of loan repayment. For candidate loans in excess of \$250,000, however, the candidate’s authorized committee may repay the entire loan amount by contributions made to the candidate or the candidate’s authorized committee only *before or on* the election date. The authorized committee may repay up to \$250,000 by contributions received after the election date. For the remaining balance, the authorized campaign may use the cash on hand at the election date to pay off the candidate loan.

	Amount borrowed < \$250,000		Amount borrowed > \$250,000	
	Before or on election	After election	Before or on election	After election
Personal loan (\$)	53,889	53,889	365,573	365,573
Amount in excess of \$250,000 (\$)	0	0	115,573	115,573
Maximum loan repayment with designated contributions (\$)	53,889	53,889	365,573	250,000
Cash on hand at election end (\$)				65,514
Maximum loan repayment with cash on hand (w/n 20 days of election) (\$)				65,514
Minimum debt carried over into future elections (\$)				50,059

Table 2
Debt descriptive statistics, 1983 – 2014

This table shows descriptive statistics for debt financing used in political campaigns. The sample consists of all U.S. House of Representatives and Senate election campaigns for the period 1983 – 2014.

Variable	All	Candidate party		Candidate chamber		Candidate status		
		Rep	Dem	House	Senate	Incumbents	Challengers	Open race
<i>Panel A: All campaigns</i>								
Total debt (\$ billions)	1.912	1.128	0.785	1.056	0.856	0.118	0.897	0.897
Average debt per candidate/cycle (\$)	87,137	98,617	74,655 ^b	53,889	365,573 ^a	17,615	86,812 ^a	182,335 ^a
Candidates w/ debt issues (%)	46.75	48.19	44.97	46.30	49.97	12.52	60.84 ^a	64.92 ^a
Candidates w/ personal debt issues (%)	43.99	45.93	41.72 ^b	43.55	47.27 ^c	9.31	58.23 ^a	62.69 ^a
Candidates w/ outside debt issues (%)	8.24	6.97	9.46	8.27	7.36	4.70	9.76 ^a	9.95 ^b
Candidates w/ debt outstanding at campaign end (%)	40.72	41.90	38.94	40.34	43.44	6.78	53.35 ^a	56.22 ^a
Conditional on debt > 0								
Candidates w/ end debt > 0 (%)	75.73	75.77	75.65	75.65	76.28	74.03	76.94	74.50
Candidates w/ end cash > debt owed (%)	18.29	16.08	20.74 ^a	18.87	14.00 ^a	57.78	8.58 ^a	7.85 ^a
Maturity - all debt (years)	2.72	2.78	2.65	2.77	2.33 ^a	6.36	2.42 ^a	2.36 ^a
Maturity - personal debt (years)	2.64	2.72	2.56	2.70	2.25 ^a	6.22	2.37 ^a	2.32 ^a
Maturity - other debt (years)	2.56	2.55	2.61	2.61	2.17 ^b	4.03	2.29 ^a	2.52 ^a
Debt / total receipts (%)	31.79	34.39	29.01 ^a	31.16	36.89 ^a	7.67	34.36 ^a	33.49 ^a
Candidate debt / total receipts (%)	32.02	34.51	29.28 ^a	31.42	37.32 ^a	7.87	34.12 ^a	33.17 ^a
Outside debt / total receipts (%)	10.57	12.32	9.80	10.28	12.81	4.37	12.02 ^a	11.65 ^a
N	21,946	11,431	10,515	19,605	2,341	6,689	10,335	4,922

Table 2 - continued

Variable	Candidate party			Candidate chamber		Candidate status		
	All	Rep	Dem	House	Senate	Incumbents	Challengers	Open race
<i>Panel B: Winning campaigns</i>								
Total debt (\$ billions)	0.377	0.157	0.220	0.184	0.193	0.093	0.107	0.177
Average debt per candidate/cycle (\$)	56,198	49,386	62,365	29,411	418,354	16,354	284,384	270,916
Candidates w/ debt issues (%)	21.10	21.39	20.57	22.29	16.52	14.52	60.74	59.79
Candidates w/ personal debt issues (%)	17.51	17.88	16.71	18.16	14.20	10.56	57.37	57.15
Candidates w/ outside debt issues (%)	6.68	5.37	7.29	7.06	3.10	5.30	17.24	13.35
Candidates w/ debt outstanding at campaign end (%)	15.47	14.87	15.50	16.23	12.91	8.58	50.44	49.83
Conditional on debt > 0								
Candidates w/ end debt > 0 (%)	80.66	80.72	82.48	79.91	91.95	71.98	95.02	91.11
Candidates w/ end cash > debt owed (%)	50.14	46.50	53.17	50.49	44.32	62.28	19.27	18.54
Maturity - all debt (years)	4.43	4.37	4.61	4.51	3.37	5.94	2.59	2.41
Maturity - personal debt (years)	4.32	4.30	4.51	4.40	3.20	5.88	2.45	2.41
Maturity - other debt (years)	3.51	3.19	3.12	3.53	2.00	3.90	3.11	2.11
Debt / total receipts (%)	10.76	12.39	8.97	10.37	14.77	7.99	15.59	13.71
Candidate debt / total receipts (%)	11.74	13.48	9.63	11.29	16.15	8.41	15.53	13.71
Outside debt / total receipts (%)	4.09	5.66	2.69	4.05	4.65	4.54	3.65	2.23
N	6,708	3,187	3,521	6,246	462	5,678	377	653
<i>Panel C: Losing campaigns</i>								
Total debt (\$ billions)	1.048	0.625	0.423	0.590	0.458	0.016	0.579	0.453
Average debt per candidate/cycle (\$)	113,544 ^a	133,037 ^a	93,306	71,014 ^a	497,280	46,819 ^a	90,708 ^a	181,101
Candidates w/ debt issues (%)	62.99 ^a	63.94 ^a	62.18 ^a	63.08 ^a	61.44 ^a	27.70 ^a	63.19	68.01 ^b
Candidates w/ personal debt issues (%)	60.38 ^a	61.62 ^a	59.32 ^a	60.55 ^a	58.31 ^a	23.69 ^a	60.56	65.51 ^b
Candidates w/ outside debt issues (%)	10.14 ^c	8.82 ^b	11.39 ^c	10.13 ^c	9.53 ^b	8.82	10.09 ^c	10.40
Candidates w/ debt outstanding at campaign end (%)	55.40 ^a	56.15 ^a	54.70 ^a	55.56 ^a	53.31 ^a	18.73 ^b	55.49	59.32 ^b
Conditional on debt > 0								
Candidates w/ end debt > 0 (%)	78.87	78.31	79.31	78.70	80.46 ^a	85.25 ^b	79.98 ^a	74.17 ^a
Candidates w/ end cash > debt owed (%)	9.21 ^a	8.92 ^a	9.53 ^a	8.94 ^a	12.13 ^a	27.73 ^a	8.99 ^a	6.83 ^a
Maturity - all debt (years)	2.43 ^a	2.50 ^a	2.37 ^a	2.45 ^a	2.13	7.68	2.37	2.36
Maturity - personal debt (years)	2.39 ^a	2.47 ^a	2.32 ^a	2.42 ^a	2.11	6.70	2.34	2.35
Maturity - other debt (years)	2.29 ^b	2.61	2.25 ^a	2.31 ^b	2.17	4.13	2.19	2.31
Debt / total receipts (%)	31.17 ^a	32.62 ^a	29.63 ^a	30.97 ^a	31.86 ^a	7.19	31.23 ^a	31.84 ^a
Candidate debt / total receipts (%)	30.88 ^a	32.59 ^a	29.47 ^a	30.69 ^a	31.84 ^a	7.81	31.01 ^a	31.55 ^a
Outside debt / total receipts (%)	9.61 ^a	10.47 ^a	9.41 ^a	9.47 ^a	10.20 ^c	1.67 ^b	9.88 ^a	9.27 ^a
N	9,231	4,702	4,529	8,310	921	348	6,382	2,501

Table 3
Examples of how politicians finance their campaign with a loan

This table shows two scenarios how politicians can finance their political campaign with a personal loan. In the first scenario, the politician uses personal funds (cash) to fund the loan to his campaign. In the second scenario, the politician takes out a personal loan (using personal collateral) and then uses the proceeds from the personal loan to fund the loan to his campaign.

Scenario 1:	
Assets	Liabilities
-Cash	
Other assets	
Campaign loan	Equity
	Personal equity
Total assets	Total liabilities + equity

Scenario 2:	
Assets	Liabilities
Cash	Bank loan
Other assets	
Campaign loan	Equity
	Personal equity
Total assets	Total liabilities + equity

Table 4
Campaign fundraising for indebted and debt-free politicians, 1986 – 2014

The estimated model in Panel A is

$$\log(Total^m)_{jt,m=\{\text{Beginning cash, Total receipts, Individual contributions, PAC contributions, Debt issues, Debt retirement, Total disbursements, Ending cash}\}} = \alpha_j + \alpha_t + \beta(Debtholder)_{jt-1} + \gamma X_{jt} + \varepsilon_{jt},$$

where a_j and a_t are politician and year fixed effects, $Debtholder_{jt-1}$ is an indicator variable set to one for politicians with positive debt outstanding from the prior campaign and zero otherwise, and X_{jt} is a vector of control variables that includes (i) the percentage of votes received in the general election in the prior campaign, (ii) the current politician rank in the Congressional chamber, (iii) a vector of indicator variables for each Congressional committee that a politician sits on, and (iv) state-year interaction fixed effects. SE's are adjusted for heteroskedasticity and clustered by politician. ^{a, b, c} designate significance at 1%, 5%, and 10% levels, respectively. The sample consists of all U.S. House of Representatives and Senate election campaigns for the period 1983 – 2014.

Variable	First stage	Beginning cash	Total receipts	Individual contributions	PAC contributions	Net debt issues	Total non-debt disbursements	Ending cash
<i>Panel A: OLS</i>								
Debtholder		-1.8199 ^a (0.0711)	0.1413 ^a (0.0321)	0.1191 ^a (0.0348)	0.1427 ^a (0.0344)	-0.9886 ^a (0.1775)	0.0712 ^b (0.0280)	-0.2808 ^a (0.0712)
General votes		1.4910 ^a (0.1725)	-0.2583 ^a (0.0889)	-0.2923 ^b (0.1209)	-0.3033 ^a (0.1049)	-0.3489 (0.3707)	-0.1894 ^b (0.0830)	0.7850 ^a (0.1914)
Congressional rank		0.0156 (0.0183)	-0.0395 ^a (0.0142)	-0.0396 ^b (0.0154)	-0.0357 ^b (0.0160)	-0.0127 (0.0479)	-0.0233 ^b (0.0114)	-0.0071 (0.0184)
Committee controls		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Politician FE		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Election FE		Yes	Yes	Yes	Yes	Yes	Yes	Yes
State × Election FE		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²		0.706	0.615	0.663	0.683	0.713	0.736	0.577
N		5,280	5,310	5,306	5,288	5,320	5,320	5,252
<i>Panel B: IV</i>								
Debtholder		-3.4264 ^a (0.2623)	0.1977 ^b (0.0806)	0.1417 (0.1017)	0.2759 ^a (0.1037)	-1.6384 ^a (0.5687)	0.0196 (0.0830)	-1.0927 ^a (0.2222)
General votes	-0.3991 ^a (0.0445)	0.5623 ^a (0.2038)	-0.2414 ^b (0.0980)	-0.3182 ^b (0.1341)	-0.2601 ^b (0.1057)	-0.7100 ^c (0.3966)	-0.2446 ^a (0.0841)	0.4524 ^b (0.1992)
Congressional rank	0.0007 (0.0043)	-0.0076 (0.0172)	-0.0505 ^a (0.0132)	-0.0598 ^a (0.0172)	-0.0481 ^a (0.0169)	-0.0402 (0.0456)	-0.0301 ^a (0.0104)	-0.0253 (0.0177)
Candidates × Int. rate	1.1382 ^a (0.0799)							
Committee controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Politician FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Election FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State × Election FE	No	No	No	No	No	No	No	No
Adj. R ²	0.470	0.633	0.621	0.636	0.678	0.701	0.736	0.553
N	5,438	5,438	5,471	5,468	5,446	5,481	5,481	5,414
F-statistic	202.55							

Table 5
Fundraising from PACs for indebted and debt-free politicians, 1986 – 2014

The estimated model is

$$\log(Total^m)_{jt,m=\{\text{Corporate, Party, Labor, Trade, Members, Non-connected, Other, Hard money, Independent exp. for, Independent exp. against, Comm. cost for, Comm. cost against}\}} = \alpha_j + \alpha_t + \beta(Debtholder)_{jt-1} + \gamma X_{jt} + \varepsilon_{jt},$$

where a_j and a_t are politician and year fixed effects, $Debtholder_{jt-1}$ is an indicator variable set to one for politicians with positive debt outstanding from the prior campaign and zero otherwise, and X_{jt} is a vector of control variables that includes (i) the percentage of votes received in the general election in the prior campaign, (ii) the current politician rank in the Congressional chamber, (iii) a vector of indicator variables for each Congressional committee that a politician sits on, and (iv) state-year interaction fixed effects. Panel C reports β coefficients. SE's are adjusted for heteroskedasticity and clustered by politician. ^{a, b, c} designate significance at 1%, 5%, and 10% levels, respectively.

Variable	Sources of PAC contributions								Types of PAC contributions				
	First stage	Corporate	Party	Labor	Trade	Members	Non-connected	Other	Hard money	Independent exp. for	Independent exp. against	Comm. cost for	Comm. cost against
<i>Panel A: OLS</i>													
Debtholder		0.1337 ^a (0.0351)	0.2483 ^b (0.1203)	0.1434 ^a (0.0515)	0.1583 ^a (0.0458)	0.1643 ^a (0.0503)	0.2589 ^a (0.0615)	0.1527 ^a (0.0407)	0.1893 ^a (0.0548)	0.1722 (0.1802)	-0.1995 (0.1410)	0.3785 ^b (0.1603)	-0.1422 ^b (0.0622)
General votes		-0.0864 (0.1231)	-1.4940 ^a (0.4039)	-0.1085 (0.1486)	-0.1765 (0.1274)	-0.4730 ^a (0.1477)	-0.5256 ^a (0.1932)	-0.0709 (0.1295)	-0.1240 (0.1785)	-2.5916 ^a (0.5343)	-0.76226 ^b (0.3068)	-0.2664 (0.4609)	-0.0019 (0.1515)
Congressional rank		-0.1247 (0.0972)	-0.0059 (0.0488)	-0.0279 (0.0178)	-0.0224 (0.0180)	-0.0403 ^c (0.0232)	0.0034 (0.0184)	-0.0486 ^a (0.0147)	-0.0829 ^a (0.0299)	-0.0432 (0.0566)	0.0102 (0.0472)	-0.0487 (0.0460)	-0.0121 (0.0222)
Committee controls		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Politician FE		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Election FE		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State × Election FE		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²		0.754	0.342	0.831	0.659	0.650	0.678	0.630	0.566	0.435	0.332	0.286	0.297
N		5,233	3,641	4,827	5,240	5,204	5,116	5,005	5,320	5,320	5,320	5,320	5,320
<i>Panel B: IV</i>													
Debtholder		0.3284 ^a (0.1057)	1.0109 ^a (0.3542)	0.5043 ^a (0.1591)	0.3185 ^a (0.1053)	0.1191 (0.2402)	0.7433 ^a (0.2099)	0.1518 (0.1299)	0.1258 (0.1417)	1.1811 ^b (0.5834)	0.5882 (0.4032)	1.2889 ^a (0.4757)	-0.1588 (0.1563)
General votes	-0.3996 ^a (0.0450)	-0.0546 (0.1149)	-1.0723 (0.4234)	0.0169 (0.1504)	-0.1380 (0.1284)	-0.5914 ^a (0.1860)	-0.4629 ^b (0.1932)	-0.1917 (0.1258)	-0.3063 ^c (0.1742)	-1.9016 ^a (0.5667)	-0.0172 (0.3377)	-0.2252 (0.4754)	-0.0119 (0.1628)
Congressional rank	0.0019 (0.0044)	-0.0332 ^b (0.0159)	0.0089 (0.0477)	-0.0088 (0.0169)	-0.0361 ^b (0.0183)	-0.0692 ^a (0.0237)	-0.0112 (0.0182)	-0.0511 ^a (0.0117)	-0.1324 ^a (0.0343)	-0.0449 (0.0552)	0.0474 (0.0495)	-0.1083 ^b (0.0434)	-0.0010 (0.0203)
Candidates × Int. rate	1.1107 ^a (0.0804)												
Committee controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Politician FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Election FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State × Election FE	No	No	No	No	No	No	No	No	No	No	No	No	No
Adj. R ²	0.477	0.736	0.306	0.809	0.652	0.634	0.651	0.613	0.541	0.373	0.272	0.234	0.269
N	5,384	5,384	3,827	4,993	5,390	5,346	5,249	5,138	5,481	5,481	5,481	5,481	5,481
F-statistic	190.60												

Table 6
Indebted politicians and labor voting, 2000 – 2014

This table shows coefficient estimates of the model

$$LVS_{jt} = \alpha_j + \alpha_t + \alpha D_{jt-1} + \sum_m \beta C_{jt}^m + \sum_m \gamma C_{jt}^m \times D_{jt-1} + \delta X_{jt} + \varepsilon_{jt}$$

LVS_{jt} is the labor voting score for politician j in Congressional session t , α_j and α_t are politician and Congressional session fixed effects, respectively, D_{jt-1} is an indicator variable set to one if politician j has positive debt outstanding from the prior campaign and zero otherwise, C_{jt}^m is the logarithm of the proportion of politician j 's total campaign financing raised from Labor, Trade, and Corporate PACs ($m = \{\text{Labor, Trade, Corporate}\}$), and X_{jt} is a vector of control variables that includes (i) the percentage of votes received by politician j in the prior general election, (ii) politician j 's current political rank in the Congressional chamber, (iii) a vector of indicator variables for each Congressional committee assignment awarded to politician j , (iv) politician j state-Congressional session fixed effects, and (v) controls for other contributions received. SE's are adjusted for heteroskedasticity and clustered by politician. ^{a, b, c} designate significance at 1%, 5%, and 10% levels, respectively

	All years				Non-election years				Election years			
	1	2	3	4	5	6	7	8	9	10	11	12
<i>Panel A: OLS</i>												
Labor	0.1823 ^a (0.0386)			0.1815 ^a (0.0415)	0.0817 ^c (0.0462)			0.0817 ^c (0.0499)	0.2741 ^a (0.0513)			0.2742 ^a (0.0518)
Trade		0.0206 (0.0484)		0.0502 (0.0728)		-0.0036 (0.0578)		0.0933 (0.0992)		0.0439 (0.0749)		-0.0032 (0.0851)
Corporate			-0.0423 (0.0287)	-0.0490 (0.0336)			-0.0864 ^b (0.0406)	-0.1043 ^b (0.0490)			-0.0083 (0.0393)	0.0028 (0.0442)
Labor × Debtholder	0.1073 ^b (0.0522)			0.1091 ^b (0.0544)	0.2488 ^a (0.0840)			0.2392 ^a (0.0825)	0.0195 (0.0658)			0.0227 (0.0712)
Trade × Debtholder		-0.0077 (0.0875)		-0.0139 (0.0927)		-0.1179 (0.1247)		-0.1059 (0.1340)		0.0695 (0.1135)		0.0793 (0.1291)
Corporate × Debtholder			-0.0121 (0.0575)	0.0146 (0.0591)			-0.1068 (0.0750)	-0.0381 (0.0766)			0.0356 (0.0793)	0.0158 (0.0935)
Debtholder	-0.0159 ^b (0.0077)	-0.0063 (0.0114)	-0.0055 (0.0115)	-0.0169 (0.0149)	-0.0305 ^a (0.0106)	0.0025 (0.0159)	0.0064 (0.0157)	-0.0120 (0.0197)	-0.0053 (0.0103)	-0.0125 (0.0149)	-0.0101 (0.0146)	-0.0170 (0.0188)
Other	0.0924 ^a (0.0340)	0.0654 ^b (0.0334)	0.0550 ^c (0.0323)	0.0882 ^a (0.0340)	0.0940 ^b (0.0402)	0.0742 ^c (0.0423)	0.0568 (0.0396)	0.0801 ^b (0.0399)	0.0860 ^b (0.0429)	0.0586 (0.0424)	0.0514 (0.0408)	0.0888 ^b (0.0424)
General votes	0.0281 ^c (0.0163)	0.00291 ^c (0.0161)	0.0289 ^c (0.0162)	0.0271 ^c (0.0165)	-0.0105 (0.0227)	-0.0071 (0.0226)	-0.0069 (0.0227)	-0.0118 (0.0229)	0.0630 ^a (0.0181)	0.0626 ^a (0.0177)	0.0626 ^a (0.0177)	0.0629 ^a (0.0182)
Congressional rank	0.0004 (0.0015)	0.0012 (0.0014)	0.0013 (0.0014)	0.0006 (0.0015)	-0.0001 (0.0022)	0.0003 (0.0022)	0.0007 (0.0022)	0.0005 (0.0023)	0.0006 (0.0017)	0.0017 (0.0017)	0.0016 (0.0017)	0.0005 (0.0017)
Committee controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Politician FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²	0.964	0.964	0.964	0.964	0.966	0.966	0.966	0.967	0.958	0.957	0.957	0.958
N	5,820	5,826	5,825	5,819	2,530	2,533	2,532	2,529	2,925	2,928	2,928	2,925

Table 6 - continued

	All years				Non-election years				Election years			
	1	2	3	4	5	6	7	8	9	10	11	12
<i>Panel B: IV</i>												
Labor	0.1139 ^a (0.0393)			0.1029 ^b (0.0422)	0.0346 (0.0440)			0.0395 (0.0535)	0.1866 ^a (0.0580)			0.1627 ^a (0.0569)
Trade		-0.0697 (0.0611)		-0.0979 (0.0889)		-0.1142 (0.0786)		-0.1870 (0.1305)		-0.0246 (0.0971)		-0.0017 (0.1166)
Corporate			-0.0788 ^b (0.0362)	-0.0759 ^c (0.0417)			-0.0987 ^c (0.0543)	-0.0910 (0.0654)			-0.0622 (0.0466)	-0.0693 (0.0577)
Labor × Debtholder	0.2206 ^c (0.1160)			0.3525 ^a (0.1363)	0.5276 ^a (0.1628)			0.6226 ^a (0.1972)	-0.0205 (0.1711)			0.1381 (0.2010)
Trade × Debtholder		0.6568 ^b (0.3013)		0.7210 ^b (0.3370)		0.9879 ^b (0.4773)		1.3190 ^b (0.5200)		0.4200 (0.3848)		0.1855 (0.4508)
Corporate × Debtholder			0.2666 (0.1745)	0.2200 (0.1924)			0.0644 (0.2452)	-0.0648 (0.2778)			0.4312 ^c (0.2440)	0.4660 (0.3027)
Debtholder	0.0064 (0.0221)	-0.0514 (0.0373)	-0.0101 (0.0260)	-0.11158 ^b (0.0510)	-0.0910 ^a (0.0341)	-0.1680 ^b (0.0674)	-0.0631 (0.0412)	-0.2419 ^a (0.0805)	0.0859 ^a (0.0323)	0.0355 (0.0483)	0.0296 (0.0319)	-0.0081 (0.0645)
Other	0.0736 ^b (0.0338)	0.0550 (0.0344)	0.0454 (0.0330)	0.0739 ^b (0.0371)	0.0703 ^c (0.0376)	0.0569 (0.0419)	0.0356 (0.0368)	0.0562 (0.0440)	0.0669 (0.0451)	0.0483 (0.0444)	0.0496 (0.0453)	0.0808 ^c (0.0478)
General votes	0.0413 ^b (0.0160)	0.0439 ^a (0.0154)	0.0423 ^a (0.0161)	0.0425 ^b (0.0166)	-0.0114 (0.0211)	-0.0045 (0.0213)	-0.0078 (0.0209)	-0.0092 (0.0220)	0.0860 ^a (0.0211)	0.0847 ^a (0.0202)	0.0845 ^a (0.0212)	0.0857 ^a (0.0220)
Congressional rank	0.0005 (0.0014)	0.0008 (0.0014)	0.0010 (0.0014)	-0.0002 (0.0016)	-0.0023 (0.0020)	-0.0029 (0.0022)	-0.0019 (0.0021)	-0.0032 (0.0025)	0.0027 (0.0018)	0.0034 ^b (0.0017)	0.0031 ^c (0.0017)	0.0020 (0.0018)
Committee controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Politician FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State × Year FE	No	No	No	No	No	No	No	No	No	No	No	No
Adj. R ²	0.961	0.960	0.960	0.959	0.963	0.961	0.963	0.960	0.951	0.951	0.950	0.949
N	5,851	5,857	5,856	5,850	2,546	2,549	2,548	2,545	2,942	2,945	2,945	2,942

Table 7

Indebted politicians and labor voting, 2000 – 2014; Subsample analysis for more and less unionized CDs

This table shows coefficient estimates of the model

$$LVS_{jt} = \alpha_j + \alpha_t + \alpha D_{jt-1} + \sum_m \beta C_{jt}^m + \sum_m \gamma C_{jt}^m \times D_{jt-1} + \delta X_{jt} + \varepsilon_{jt}$$

LVS_{jt} is the labor voting score for politician j in Congressional session t , α_j and α_t are politician and Congressional session fixed effects, respectively, D_{jt-1} is an indicator variable set to one if politician j has positive debt outstanding from the prior campaign and zero otherwise, C_{jt}^m is the logarithm of the proportion of politician j 's total campaign financing raised from Labor, Trade, and Corporate PACs ($m = \{\text{Labor, Trade, Corporate}\}$), and X_{jt} is a vector of control variables that includes (i) the percentage of votes received by politician j in the prior general election, (ii) politician j 's current political rank in the Congressional chamber, (iii) a vector of indicator variables for each Congressional committee assignment awarded to politician j , (iv) politician j state-Congressional session fixed effects, and (v) controls for other contributions received. We estimate the model separately for terciles based on the unionization of Congressional Districts (CD). We partition all CDs into labor unionization terciles, with CDs with the lowest labor unionization rates placed in tercile one and CDs with the highest labor unionization rates placed in tercile three.

	Panel A: OLS			Panel B: IV		
	Labor unionization terciles			Labor unionization terciles		
	Low Unionization	2 nd Tercile	High Unionization	Low Unionization	2 nd Tercile	High Unionization
Labor	-0.0314 (0.1404)	0.0909 (0.1024)	0.2898 ^c (0.1503)	0.1145 (0.1385)	0.0861 (0.0735)	0.3916 ^c (0.2167)
Trade	0.2884 ^c (0.1514)	-0.0492 (0.2013)	-0.1258 (0.2083)	0.3714 ^c (0.1915)	-0.1621 (0.1768)	0.1244 (0.2031)
Corporate	-0.0854 (0.0902)	-0.2370 ^a (0.0822)	-0.1203 (0.1035)	-0.1779 ^c (0.0986)	-0.0911 (0.0591)	-0.3672 ^c (0.2196)
Labor × Debtholder	0.4054 ^b (0.2018)	0.1396 (0.2070)	-0.2701 (0.2587)	0.4524 (0.3473)	-0.0583 (0.3436)	-0.5693 (1.4386)
Trade × Debtholder	-0.01852 (0.2753)	-0.1819 (0.3259)	0.0893 (0.3846)	-0.4916 (0.5848)	1.0710 (1.1845)	0.1000 (2.4272)
Corporate × Debtholder	-0.0532 (0.2668)	0.0985 (0.1851)	0.1504 (0.2851)	0.4041 (0.7735)	-0.1010 (0.5168)	0.4815 (2.5852)
Debtholder	-0.0157 (0.0516)	0.0042 (0.0640)	-0.0218 (0.0465)	-0.0043 (0.1172)	-0.0014 (0.1201)	0.0164 (0.2969)
Other	0.1347 ^c (0.0798)	-0.1377 (0.1142)	0.3795 ^a (0.1268)	0.2222 ^a (0.0689)	-0.0658 (0.0828)	0.2341 ^c (0.1296)
General votes	0.0863 ^b (0.0416)	0.0465 (0.0409)	0.0663 (0.0418)	0.0845 ^b (0.0378)	0.0864 ^b (0.0391)	0.0430 (0.0427)
Congressional rank	0.0058 ^c (0.0035)	0.0078 (0.0050)	-0.0081 ^b (0.0032)	0.0023 (0.0037)	0.0042 (0.0044)	-0.0063 (0.0048)
Committee controls	Yes	Yes	Yes	Yes	Yes	Yes
Politician FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
State × Year FE	Yes	Yes	Yes	No	No	No
Adj. R ²	0.957	0.962	0.966	0.949	0.958	0.960
N	1,285	1,210	1,050	1,438	1,383	1,197

Table 8
Indebted politicians and trade voting, 2007 – 2014

This table shows coefficient estimates of the model

$$TVS_{jt} = \alpha_j + \alpha_t + \alpha D_{jt-1} + \sum_m \beta C_{jt}^m + \sum_m \gamma C_{jt}^m \times D_{jt-1} + \delta X_{jt} + \varepsilon_{jt}$$

TVS_{jt} is the trade voting score for politician j in Congressional session t , α_j and α_t are politician and Congressional session fixed effects, respectively, D_{jt-1} is an indicator variable set to one if politician j has positive debt outstanding from the prior campaign and zero otherwise, C_{jt}^m is the logarithm of the proportion of politician j 's total campaign financing raised from Labor, Trade, and Corporate PACs ($m = \{\text{Labor, Trade, Corporate}\}$), and X_{jt} is a vector of control variables that includes (i) the percentage of votes received by politician j in the prior general election, (ii) politician j 's current political rank in the Congressional chamber, (iii) a vector of indicator variables for each Congressional committee assignment awarded to politician j , (iv) politician j state-Congressional session fixed effects, and (v) controls for other contributions received. SE's are adjusted for heteroskedasticity and clustered by politician. ^{a, b, c} designate significance at 1%, 5%, and 10% levels, respectively. The sample consists of all U.S. House of Representatives and Senate election campaigns for the period 2000 – 2014.

	All years				Non-election years				Election years			
	1	2	3	4	5	6	7	8	9	10	11	12
Labor	-0.0846 (0.0917)			-0.1049 (0.0860)	0.0390 (0.0993)			0.3013 (0.0998)	-0.2073 ^c (0.1226)			-0.2403 ^b (0.1112)
Trade		0.1970 (0.1560)		-0.1130 (0.1510)		0.1833 (0.1464)		0.0026 (0.1553)		0.2047 (0.2084)		-0.2503 (0.2030)
Corporate			0.3068 ^a (0.0891)	0.3639 ^a (0.0973)			0.2033 ^b (0.1009)	0.2188 ^c (0.1170)			0.4221 ^a (0.1226)	0.5344 ^a (0.1350)
Labor × Debtholder	-0.5255 ^a (0.1814)			-0.5779 ^a (0.1561)	-0.3618 ^c (0.1976)			-0.4153 ^b (0.1781)	-0.6899 ^a (0.2403)			-0.7431 ^a (0.2336)
Trade × Debtholder		0.0469 (0.2318)		0.6912 ^b (0.2695)		-0.1187 (0.2582)		0.5452 ^c (0.3102)		0.2222 (0.3367)		0.8620 ^b (0.3736)
Corporate × Debtholder			-0.4181 ^a (0.1186)	-0.7054 ^a (0.1488)			-0.4765 ^a (0.1329)	-0.6917 ^a (0.1679)			-0.3632 ^b (0.1812)	-0.7315 ^a (0.2109)
Debtholder	0.0490 ^a (0.0162)	0.0142 (0.0255)	0.0876 ^a (0.0247)	0.1099 ^a (0.0257)	0.0179 (0.0177)	0.0072 (0.0284)	0.0751 ^a (0.0268)	0.0886 ^a (0.0285)	0.0804 ^a (0.0242)	0.0204 (0.0377)	0.1007 ^a (0.0378)	0.1313 ^a (0.0440)
Other	0.0548 (0.0519)	0.0918 ^c (0.0548)	0.1132 ^b (0.0368)	0.0927 ^c (0.0550)	0.1250 ^b (0.0558)	0.1452 ^b (0.0581)	0.1496 ^b (0.0577)	0.1455 ^b (0.0601)	-0.0128 (0.0729)	0.0401 (0.0754)	0.0814 (0.0741)	0.0450 (0.0766)
General votes	0.1135 ^a (0.0367)	0.0995 ^a (0.0362)	0.0996 ^a (0.0004)	0.1173 ^a (0.0367)	0.1291 ^a (0.0346)	0.1205 ^a (0.0345)	0.1237 ^a (0.0352)	0.1355 ^a (0.0351)	0.0998 ^b (0.0498)	0.0797 ^c (0.0493)	0.0765 (0.0497)	0.1015 ^b (0.0496)
Congressional rank	-0.0092 ^b (0.0045)	-0.0096 ^b (0.0045)	-0.0099 ^b (0.0044)	-0.0100 ^b (0.0043)	-0.0145 ^a (0.0050)	-0.0149 ^a (0.0051)	-0.0149 ^a (0.0050)	-0.0149 ^a (0.0049)	-0.0038 (0.0061)	-0.0042 (0.0061)	-0.0047 (0.0059)	-0.0049 (0.0058)
Committee controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Politician FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²	0.847	0.847	0.848	0.850	0.849	0.848	0.850	0.851	0.822	0.820	0.823	0.826
N	3,213	3,219	3,219	3,213	1,415	1,418	1,418	1,415	1,403	1,406	1,406	1,403

Table 9

Indebted politicians and trade voting, 2007 – 2014; Subsample analysis for more and less unionized and trade opposition CDs

This table shows coefficient estimates of the model

$$TVS_{jt} = \alpha_j + \alpha_t + \alpha D_{jt-1} + \sum_m \beta C_{jt}^m + \sum_m \gamma C_{jt}^m \times D_{jt-1} + \delta X_{jt} + \varepsilon_{jt}$$

TVS_{jt} is the trade voting score for politician j in Congressional session t , α_j and α_t are politician and Congressional session fixed effects, respectively, D_{jt-1} is an indicator variable set to one if politician j has positive debt outstanding from the prior campaign and zero otherwise, C_{jt}^m is the logarithm of the proportion of politician j 's total campaign financing raised from Labor, Trade, and Corporate PACs ($m = \{\text{Labor, Trade, Corporate}\}$), and X_{jt} is a vector of control variables that includes (i) the percentage of votes received by politician j in the prior general election, (ii) politician j 's current political rank in the Congressional chamber, (iii) a vector of indicator variables for each Congressional committee assignment awarded to politician j , (iv) politician j state-Congressional session fixed effects, and (v) controls for other contributions received. We estimate the model separately for terciles based on the unionization and trade opposition of Congressional Districts (CD). SE's are adjusted for heteroskedasticity and clustered by politician. ^{a, b, c} designate significance at 1%, 5%, and 10% levels, respectively.

	Labor unionization terciles			Trade opposition terciles		
	Low Unionization	2 nd Tercile	High Unionization	Low Opposition	2 nd Tercile	High Opposition
Labor	-0.0723 (0.4236)	0.1277 (0.1275)	-0.0303 (0.5302)	-0.2202 (0.2579)	0.0938 (0.5042)	-0.1654 (0.1366)
Trade	0.0965 (0.3857)	-0.4179 (0.4559)	-0.2776 (0.8833)	0.0699 (0.2555)	-0.5289 (0.5170)	0.8526 ^c (0.5100)
Corporate	0.4248 (0.2938)	0.5373 ^c (0.2898)	0.4294 ^c (0.2190)	0.8005 ^a (0.2591)	0.2299 (0.2828)	0.1609 (0.1723)
Labor × Debtholder	-0.0059 (0.6179)	-0.6211 ^c (0.3479)	-0.3933 (1.2181)	0.3565 (0.7524)	-0.9401 ^b (0.4297)	-0.7000 (0.6087)
Trade × Debtholder	-0.3966 (0.7685)	1.6707 ^b (0.7886)	1.5322 (6.9685)	1.6943 ^b (0.7951)	1.3940 (1.1641)	-1.9405 ^b (0.8159)
Corporate × Debtholder	-0.5815 (0.4342)	-0.7925 ^b (0.3475)	-1.1822 (1.8225)	-1.1986 ^b (0.4766)	-1.1680 ^c (0.6021)	0.5406 ^b (0.2177)
Debtholder	0.1903 ^a (0.0688)	0.0625 (0.0812)	0.0171 (0.3208)	0.0854 (0.0869)	0.0814 (0.0741)	0.0793 (0.0828)
Other	0.1628 (0.2088)	0.0772 (0.1351)	-0.3302 (0.2533)	0.3381 (0.2335)	-0.2506 ^c (0.1354)	0.1060 (0.1112)
General votes	0.1272 (0.1051)	-0.0035 (0.1294)	0.0714 (0.1151)	0.0363 (0.0810)	0.0941 (0.0706)	-0.0207 (0.0993)
Congressional rank	-0.0150 (0.0115)	-0.0134 (0.0132)	-0.0074 (0.0085)	-0.0051 (0.0114)	-0.0385 ^b (0.0147)	0.0085 (0.0108)
Committee controls	Yes	Yes	Yes	Yes	Yes	Yes
Politician FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
State × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²	0.711	0.811	0.806	0.730	0.820	0.838
N	731	701	480	705	590	654

Table 10

Indebted politicians and trade voting, 2000 – 2014; Corporate contributions from firms more and less affected by foreign trade

This table shows coefficient estimates of the model

$$TVS_{jt} = \alpha_j + \alpha_t + \alpha D_{jt-1} + \sum_m \beta C_{jt}^m + \sum_m \gamma C_{jt}^m \times D_{jt-1} + \delta X_{jt} + \varepsilon_{jt}$$

TVS_{jt} is the trade voting score for politician j in Congressional session t , α_j and α_t are politician and Congressional session fixed effects, respectively, D_{jt-1} is an indicator variable set to one if politician j has positive debt outstanding from the prior campaign and zero otherwise, C_{jt}^m is the logarithm of the proportion of politician j 's total campaign financing raised from Labor, Trade, and Corporate PACs ($m = \{\text{Labor, Trade, Corporate}\}$), and X_{jt} is a vector of control variables that includes (i) the percentage of votes received by politician j in the prior general election, (ii) politician j 's current political rank in the Congressional chamber, (iii) a vector of indicator variables for each Congressional committee assignment awarded to politician j , (iv) politician j state-Congressional session fixed effects, and (v) controls for other contributions received. We sort all industries based on industry shipping costs, HHI, and the ratios of R&D to sales and advertising expenditures to sales into terciles and calculate total contributions made by industry firms in each tercile. We then estimate the relation between the trade voting score and total tercile contributions for indebted and other politicians.

	All years				Non-election years				Election years			
	SHCOST	HHI	R&D	ADV	SHCOST	HHI	R&D	ADV	SHCOST	HHI	R&D	ADV
Low	0.6543 ^a (0.1757)	0.5676 ^a (0.1864)	0.3856 (0.3190)	0.1266 (0.4416)	0.4201 ^c (0.2173)	0.3125 ^c (0.1728)	0.3965 (0.3202)	-0.0037 (0.4408)	1.0047 ^a (0.3605)	0.9428 ^a (0.2416)	0.1735 (0.4757)	0.0834 (0.7342)
Medium	0.0853 (1.6002)	0.2638 (0.2056)	0.3172 (0.2490)	0.2881 ^c (0.1630)	-0.6535 (1.6177)	0.2519 (0.2615)	0.1509 (0.1929)	0.2307 (0.2228)	0.3482 (2.1377)	0.2487 (0.3892)	0.8704 (0.5364)	0.4907 ^c (0.2791)
High	5.0141 ^a (1.6754)	0.0006 (0.4699)	0.5184 ^a (0.1734)	0.7527 ^a (0.2377)	4.0113 ^b (1.8385)	-0.1031 (0.5024)	0.2634 (0.2119)	0.3982 (0.2540)	5.7203 ^b (2.2563)	0.1177 (0.6194)	0.8503 ^a (0.3155)	1.1399 ^a (0.3196)
Low × Debtholder	-0.8690 ^b (0.4398)	-1.6554 ^a (0.4184)	-2.1359 ^a (0.6076)	-2.4646 ^a (0.8582)	-0.8515 ^c (0.4961)	-1.8806 ^a (0.5410)	-1.9777 ^b (1.0058)	-3.3173 ^a (1.0693)	-0.9720 (0.6140)	-1.4872 ^a (0.5118)	-2.2411 ^a (0.6900)	-1.6053 (0.9996)
Medium × Debtholder	0.7257 (2.6404)	0.5739 (0.6132)	-0.4820 (0.8462)	-0.1140 (0.2946)	0.3460 (2.6238)	0.9121 (0.7239)	-0.2283 (0.9778)	-0.0589 (0.3816)	1.5284 (3.6511)	0.2308 (0.9158)	-0.9395 (1.2663)	-0.2417 (0.4014)
High × Debtholder	-5.3301 ^c (3.0383)	-2.1555 (2.8521)	-0.6153 (0.4926)	-1.6612 ^a (0.3457)	-7.2369 ^b (3.2775)	-1.4455 (3.6880)	-0.8118 (0.5547)	-1.4794 ^a (0.4984)	-3.1340 (4.3058)	-2.6808 (3.7208)	-0.4487 (0.6556)	-1.8653 ^a (0.4370)
Adj. R ²	0.850	0.850	0.850	0.850	0.851	0.852	0.851	0.852	0.825	0.826	0.826	0.826
N	3,213	3,213	3,213	3,213	1,415	1,415	1,415	1,415	1,403	1,403	1,403	1,403

Table 11
Indebted politicians and voting on financial services legislation, 1991, 1998

This table shows estimates from a linear probability model where the dependent variable equals one if a politician votes pro-insurance/investment and zero if a politician votes pro banking. All models include time and politician fixed effects. The model is adapted from Stratmann (2002). SE's are adjusted for heteroskedasticity and clustered by politician. ^{a, b, c} designate significance at 1%, 5%, and 10% levels, respectively.

Sources of contributions	Unconditional results			Results for indebted and other politicians		
	1	2	3	4	5	6
Insurance PACs	4.9617 ^a (1.1979)			5.0099 ^a (1.1987)		
Investment PACs	1.3212 ^c (0.7038)			1.0899 (0.6979)		
Banking PACs	-2.6037 (2.1222)	-3.8456 ^c (2.0823)		-2.1003 (2.2451)	-3.4517 (2.2173)	
Insurance and investment PACs		2.3065 ^a (0.4692)			2.1635 ^a (0.4645)	
Insurance and investment minus banking PACs			2.0950 ^a (0.4080)			1.9972 ^a (0.4038)
Insurance PACs × Debtholder				-0.8898 (20.4799)		
Investment PACs × Debtholder				11.0054 ^b (4.4421)		
Banking PACs × Debtholder				-15.9953 ^a (5.5798)	-13.4256 ^a (4.3446)	
Insurance and investment PACs × Debtholder					8.3692 ^a (1.9760)	
Insurance and investment minus banking PACs × Debtholder						5.6546 ^a (1.9129)
R ²	0.128	0.110	0.105	0.154	0.133	0.120
N	226	226	226	226	226	226

Online Appendix for “Debt in political campaigns“

Alexei V. Ovtchinnikov

Philip Valta

This Online Appendix presents additional empirical analyses:

Section A presents additional results for our baseline empirical specifications.

Section A
Additional baseline results

Table A.1
Debt descriptive statistics by candidate total receipts ranking, 1983 – 2014

This table shows descriptive statistics for debt financing used in political campaigns. We sort all campaigns into quintiles based on total funds raised and report debt characteristics separately for each quintile. The sample consists of all U.S. House of Representatives and Senate election campaigns for the period 1983 – 2014.

Variable	Candidate total receipts quintile ranking				
	Low	2	3	4	High
Total debt (\$ billion)	0.013	0.083	0.223	0.265	1.329
Average debt per candidate/cycle (\$)	2,918	18,909 ^a	50,692 ^a	60,432 ^a	302,741 ^a
Candidates w/ debt issues (%)	42.83	64.70 ^a	56.40 ^a	35.11 ^a	37.74
Candidates w/ personal debt issues (%)	39.98	62.11 ^a	54.20 ^a	32.27 ^a	33.84
Candidates w/ outside debt issues (%)	6.67	10.38 ^b	8.69	7.03	9.04
Candidates w/ debt outstanding at campaign end (%)	36.68	56.99 ^a	50.08 ^a	29.62 ^a	32.10
Conditional on debt > 0					
Candidates w/ end debt > 0 (%)	60.92	73.57 ^a	79.48 ^a	82.03	85.78 ^c
Candidates w/ end cash > debt owed (%)	7.93	5.45 ^b	12.57 ^a	32.44 ^a	30.36
Maturity - all debt (years)	2.47	2.39	2.62 ^c	3.21 ^a	3.23
Maturity - personal debt (years)	2.48	2.34	2.58 ^b	3.06 ^a	3.04
Maturity - other debt (years)	2.21	2.26	2.75 ^c	2.80	3.60
Debt / total receipts (%)	47.27	36.05 ^a	28.84 ^a	22.12 ^a	21.76
Candidate debt / total receipts (%)	46.97	35.81 ^a	28.92 ^a	22.96 ^a	22.93
Outside debt / total receipts (%)	23.20	11.88 ^a	7.82 ^b	5.45	5.29
N	4,389	4,389	4,390	4,389	4,389

Table A.2
Campaign fundraising for indebted and debt-free politicians: Univariate results, 1986 – 2014

This table provides univariate comparisons of the total sources of funds for political campaigns for indebted and debt-free politicians. Panels A and C provide campaign totals for debt-free politicians. Panels B and D provide campaign totals for indebted politicians. ^{a, b, c} in panels B and D designate statistically significant differences in campaign totals between indebted and debt-free politicians at 1%, 5%, and 10% levels, respectively. The sample consists of all U.S. House of Representatives and Senate election campaigns for the period 1983 – 2014.

Politicians	Beginning cash (\$)	Total receipts (\$)	Individual contributions (\$)	PAC contributions (\$)	Net debt issues (\$)	Total non-debt disbursements (\$)	Ending cash (\$)	N																																																																																																																																																																																					
<i>Panel A: Debt-free politicians</i>																																																																																																																																																																																													
All	306,468	1,369,076	574,714	633,829	316	1,042,663	338,834	4,719																																																																																																																																																																																					
House	272,297	1,132,117	446,049	559,850	1,942	848,663	315,012	4,493																																																																																																																																																																																					
Senate	1,080,925	6,125,691	2,984,929	2,353,971	-15,780	4,828,014	901,616	226																																																																																																																																																																																					
Democrats	310,275	1,317,430	536,856	640,226	2,800	1,000,026	334,256	2,478																																																																																																																																																																																					
Republicans	303,162	1,413,018	613,332	633,775	-1,234	1,075,778	346,890	2,240																																																																																																																																																																																					
<i>Panel B: Indebted politicians</i>																																																																																																																																																																																													
All	91,073 ^a	2,042,953 ^b	870,123 ^c	853,847 ^b	-125,579 ^a	1,408,296	133,015 ^a	1,217																																																																																																																																																																																					
House	31,166 ^a	1,403,436 ^b	530,624	676,294 ^c	-112,500 ^a	908,305	100,306 ^a	1,128																																																																																																																																																																																					
Senate	1,196,234	10,453,760 ^a	5,422,219 ^a	3,439,324 ^c	-101,254	8,087,279 ^b	733,871	89																																																																																																																																																																																					
Democrats	86,641 ^a	2,045,737 ^b	917,194 ^c	882,810 ^c	-72,938 ^b	1,483,552 ^c	123,366 ^a	649																																																																																																																																																																																					
Republicans	99,759 ^a	2,064,380 ^b	892,928	866,107 ^c	-144,627 ^a	1,414,069	144,578 ^a	569																																																																																																																																																																																					
<table border="0" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Politicians</th> <th colspan="7">Sources of PAC contributions</th> <th colspan="5">Types of PAC contributions</th> </tr> <tr> <th>Corporate</th> <th>Party</th> <th>Labor</th> <th>Trade</th> <th>Members</th> <th>Non-connected</th> <th>Other</th> <th>Hard money</th> <th>Independent exp. for</th> <th>Independent exp. against</th> <th>Comm. cost for</th> <th>Comm. cost against</th> </tr> </thead> <tbody> <tr> <td colspan="13"><i>Panel C: Debt-free politicians</i></td> </tr> <tr> <td>All</td> <td>228,567</td> <td>28,812</td> <td>90,443</td> <td>151,792</td> <td>46,832</td> <td>39,016</td> <td>18,421</td> <td>556,513</td> <td>38,796</td> <td>31,665</td> <td>5,351</td> <td>288</td> </tr> <tr> <td>House</td> <td>202,505</td> <td>26,246</td> <td>87,834</td> <td>138,207</td> <td>41,161</td> <td>30,785</td> <td>16,924</td> <td>503,791</td> <td>29,390</td> <td>24,483</td> <td>4,164</td> <td>186</td> </tr> <tr> <td>Senate</td> <td>752,733</td> <td>171,135</td> <td>147,015</td> <td>439,827</td> <td>161,512</td> <td>217,229</td> <td>48,712</td> <td>1,619,073</td> <td>369,157</td> <td>328,716</td> <td>33,839</td> <td>3,187</td> </tr> <tr> <td>Democrats</td> <td>186,535</td> <td>32,542</td> <td>154,096</td> <td>127,767</td> <td>46,007</td> <td>32,825</td> <td>18,014</td> <td>547,617</td> <td>36,353</td> <td>45,651</td> <td>6,238</td> <td>518</td> </tr> <tr> <td>Republicans</td> <td>269,184</td> <td>31,043</td> <td>21,751</td> <td>175,832</td> <td>46,756</td> <td>44,275</td> <td>18,554</td> <td>556,459</td> <td>41,982</td> <td>28,483</td> <td>4,375</td> <td>28</td> </tr> <tr> <td colspan="13"><i>Panel D: Indebted politicians</i></td> </tr> <tr> <td>All</td> <td>226,745</td> <td>80,826^c</td> <td>121,461^a</td> <td>175,695^c</td> <td>62,858</td> <td>78,388^b</td> <td>19,574</td> <td>639,254^c</td> <td>93,502^a</td> <td>100,546</td> <td>13,533^a</td> <td>386</td> </tr> <tr> <td>House</td> <td>180,322</td> <td>69,533^c</td> <td>114,858^a</td> <td>150,057</td> <td>48,019</td> <td>57,599^b</td> <td>17,049</td> <td>546,168</td> <td>49,800^a</td> <td>69,969</td> <td>7,856^a</td> <td>282</td> </tr> <tr> <td>Senate</td> <td>785,502</td> <td>316,080</td> <td>272,346^c</td> <td>458,746</td> <td>237,317</td> <td>432,804</td> <td>51,024</td> <td>1,747,835</td> <td>796,986^a</td> <td>775,738</td> <td>113,832^a</td> <td>4,922</td> </tr> <tr> <td>Democrats</td> <td>170,169</td> <td>87,249</td> <td>215,705^a</td> <td>144,268^c</td> <td>60,472</td> <td>73,497^c</td> <td>18,935</td> <td>627,946^c</td> <td>92,194^b</td> <td>137,710</td> <td>19,405^a</td> <td>980</td> </tr> <tr> <td>Republicans</td> <td>290,106</td> <td>96,043</td> <td>21,591</td> <td>206,887</td> <td>63,246</td> <td>83,778^b</td> <td>20,169</td> <td>648,090</td> <td>104,062^a</td> <td>97,549</td> <td>9,421^a</td> <td>46</td> </tr> </tbody> </table>									Politicians	Sources of PAC contributions							Types of PAC contributions					Corporate	Party	Labor	Trade	Members	Non-connected	Other	Hard money	Independent exp. for	Independent exp. against	Comm. cost for	Comm. cost against	<i>Panel C: Debt-free politicians</i>													All	228,567	28,812	90,443	151,792	46,832	39,016	18,421	556,513	38,796	31,665	5,351	288	House	202,505	26,246	87,834	138,207	41,161	30,785	16,924	503,791	29,390	24,483	4,164	186	Senate	752,733	171,135	147,015	439,827	161,512	217,229	48,712	1,619,073	369,157	328,716	33,839	3,187	Democrats	186,535	32,542	154,096	127,767	46,007	32,825	18,014	547,617	36,353	45,651	6,238	518	Republicans	269,184	31,043	21,751	175,832	46,756	44,275	18,554	556,459	41,982	28,483	4,375	28	<i>Panel D: Indebted politicians</i>													All	226,745	80,826 ^c	121,461 ^a	175,695 ^c	62,858	78,388 ^b	19,574	639,254 ^c	93,502 ^a	100,546	13,533 ^a	386	House	180,322	69,533 ^c	114,858 ^a	150,057	48,019	57,599 ^b	17,049	546,168	49,800 ^a	69,969	7,856 ^a	282	Senate	785,502	316,080	272,346 ^c	458,746	237,317	432,804	51,024	1,747,835	796,986 ^a	775,738	113,832 ^a	4,922	Democrats	170,169	87,249	215,705 ^a	144,268 ^c	60,472	73,497 ^c	18,935	627,946 ^c	92,194 ^b	137,710	19,405 ^a	980	Republicans	290,106	96,043	21,591	206,887	63,246	83,778 ^b	20,169	648,090	104,062 ^a	97,549	9,421 ^a	46
Politicians	Sources of PAC contributions							Types of PAC contributions																																																																																																																																																																																					
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House	180,322	69,533 ^c	114,858 ^a	150,057	48,019	57,599 ^b	17,049	546,168	49,800 ^a	69,969	7,856 ^a	282																																																																																																																																																																																	
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Table A.3
Campaign fundraising for indebted and debt-free politicians: Subsample analysis, 1986 – 2014

The estimated model is

$$\log(Total^m)_{jt,m=\{\text{Beginning cash, Total receipts, Individual contributions, PAC contributions, Debt issues, Debt retirement, Total disbursements, Ending cash}\}} = \alpha_j + \alpha_t + \beta(Debtholder)_{jt-1} + \gamma X_{jt} + \varepsilon_{jt},$$

where a_j and a_t are politician and year fixed effects, $Debtholder_{jt-1}$ is an indicator variable set to one for politicians with positive debt outstanding from the prior campaign and zero otherwise, and X_{jt} is a vector of control variables that includes (i) the percentage of votes received in the general election in the prior campaign, (ii) the current politician rank in the Congressional chamber, (iii) a vector of indicator variables for each Congressional committee that a politician sits on, and (iv) state-year interaction fixed effects. The analysis is performed separately for House and Senate candidates and for Democrats and Republicans. The table reports the β coefficients separately for each subsample. SE's are adjusted for heteroskedasticity and clustered by politician. ^{a, b, c} designate significance at 1%, 5%, and 10% levels, respectively. The sample consists of all U.S. House of Representatives and Senate election campaigns for the period 1983 – 2014.

Politicians	Beginning cash	Total receipts	Individual contributions	PAC contributions	Net debt issues	Total non-debt disbursements	Ending cash
House	-1.8684 ^a (0.0722)	0.1284 ^a (0.0281)	0.1335 ^a (0.0339)	0.1433 ^a (0.0327)	-0.9817 ^a (0.1806)	0.0727 ^b (0.0281)	-0.3056 ^a (0.0730)
Senate	-0.6110 ^c (0.3133)	0.5152 (0.3653)	-0.0207 (0.3095)	0.4870 (0.3080)	-1.0892 (0.8748)	0.1299 (0.1821)	0.0207 (0.3449)
Democrats	-1.9734 ^a (0.1086)	0.1768 ^a (0.0413)	0.1752 ^a (0.0533)	0.1575 ^a (0.0441)	-1.2766 ^a (0.2595)	0.1181 ^a (0.0431)	-0.2330 ^b (0.1092)
Republicans	-1.6499 ^a (0.1097)	0.0568 (0.0468)	0.0553 (0.0531)	0.0641 (0.0553)	-0.6457 ^b (0.2671)	0.0419 (0.0437)	-0.3928 ^a (0.1100)

Table A.4
Fundraising from PACs for indebted and debt-free politicians: Subsample analysis, 1986 – 2014

The estimated model is

$$\log(Total^m)_{jt,m=\{\text{Corporate, Party, Labor, Trade, Members, Non-connected, Other, Hard money, Independent exp. for, Independent exp. against, Comm. cost for, Comm. cost against}\}} = \alpha_j + \alpha_t + \beta(Debtholder)_{jt-1} + \gamma X_{jt} + \varepsilon_{jt},$$

where α_j and α_t are politician and year fixed effects, $Debtholder_{jt-1}$ is an indicator variable set to one for politicians with positive debt outstanding from the prior campaign and zero otherwise, and X_{jt} is a vector of control variables that includes (i) the percentage of votes received in the general election in the prior campaign, (ii) the current politician rank in the Congressional chamber, (iii) a vector of indicator variables for each Congressional committee that a politician sits on, and (iv) state-year interaction fixed effects. The analysis is performed separately for House and Senate candidates and for Democrats and Republicans. The table reports the β coefficients separately for each subsample. SE's are adjusted for heteroskedasticity and clustered by politician. ^{a, b, c} designate significance at 1%, 5%, and 10% levels, respectively. The sample consists of all U.S. House of Representatives and Senate election campaigns for the period 1983 – 2014.

Politicians	Sources of PAC contributions							Types of PAC contributions				
	Corporate	Party	Labor	Trade	Members	Non-connected	Other	Hard money	Independent exp. for	Independent exp. against	Comm. cost for	Comm. cost against
House	0.1308 ^a (0.0349)	0.2810 ^b (0.1211)	0.1551 ^a (0.0522)	0.1724 ^a (0.0459)	0.1722 ^a (0.0501)	0.2750 ^a (0.0626)	0.1519 ^a (0.0422)	0.1959 ^a (0.0517)	0.2472 (0.1819)	-0.1818 (0.1395)	0.3510 ^b (0.1622)	-0.0805 (0.0602)
Senate	0.6641 ^c (0.3994)	-0.6747 (0.7798)	0.6527 ^c (0.3555)	0.2721 (0.2616)	0.1879 (0.3538)	0.1522 (0.2551)	0.1199 (0.1495)	0.4432 (0.6277)	0.8691 (1.0091)	0.7207 (0.9786)	0.9262 (0.8702)	-0.9336 ^c (0.5176)
Democrats	0.1420 ^a (0.0538)	0.3944 ^b (0.1726)	0.2020 ^a (0.0548)	0.1398 ^b (0.0593)	0.1637 ^b (0.0749)	0.2717 ^a (0.0925)	0.2071 ^a (0.0633)	0.2244 ^a (0.0763)	0.1268 (0.2329)	-0.2084 (0.1573)	0.2610 (0.2007)	-0.1395 (0.0855)
Republicans	0.0400 (0.0557)	0.1444 (0.2165)	0.1261 (0.1120)	0.1090 (0.0828)	0.0739 (0.0791)	0.2788 ^a (0.0975)	0.0274 (0.0682)	0.0102 (0.0955)	0.5396 ^c (0.3037)	-0.0870 (0.2424)	0.5876 ^b (0.2660)	0.0408 (0.0696)

Table A.5
Where do additional PAC contributions come from, 1986 – 2014?

The estimated model in Panel A is

$$\log\left(\frac{N_i^{\text{Contributing PACs}}}{N^{\text{PACs}}}\right)_{jt} = \alpha_j + \alpha_t + \beta(\text{Debtholder})_{jt-1} + \gamma X_{jt} + \varepsilon_{jt}.$$

The estimated model in Panel B is

$$\log\left(\frac{N_i^{\text{PACs with large contributions}}}{N^{\text{Contributing PACs}}}\right)_{jt} = \alpha_j + \alpha_t + \beta(\text{Debtholder})_{jt-1} + \gamma X_{jt} + \varepsilon_{jt},$$

where α_j and α_t are politician and year fixed effects, Debtholder_{jt-1} is an indicator variable set to one for politicians with positive debt outstanding from the prior campaign and zero otherwise, and X_{jt} is a vector of control variables that includes (i) the percentage of votes received in the general election in the prior campaign, (ii) the current politician rank in the Congressional chamber, (iii) a vector of indicator variables for each Congressional committee that a politician sits on, and (iv) state-year interaction fixed effects. Panel C reports β coefficients. SE's are adjusted for heteroskedasticity and clustered by politician. ^a, ^b, ^c designate significance at 1%, 5%, and 10% levels, respectively. The sample consists of all U.S. House of Representatives and Senate election campaigns for the period 1983 – 2014.

Politicians	Sources of PAC contributions								Types of PAC contributions				
	Corporate	Party	Labor	Trade	Members	Non-connected	Super PACs	Other	Hard money	Independent exp. for	Independent exp. against	Comm. cost for	Comm. cost against
<i>Panel A: More PACs?</i>													
All	0.0891 ^a (0.0256)	0.0497 ^b (0.0223)	0.0432 ^c (0.0247)	0.0461 ^b (0.0221)	0.1379 ^a (0.0264)	0.1507 ^a (0.0320)	0.3441 (0.3730)	0.0879 ^a (0.0236)	0.0757 ^a (0.0218)	-0.0051 (0.0310)	0.1103 ^b (0.0487)	0.0659 ^a (0.0252)	0.1004 (0.0719)
House	0.0925 ^a (0.0255)	0.0568 ^b (0.0223)	0.0539 ^b (0.0249)	0.0527 ^b (0.0224)	0.1466 ^a (0.02)	0.1551 ^a (0.0328)	0.3440 (0.3730)	0.0871 ^a (0.0244)	0.0792 ^a (0.0210)	-0.0011 (0.0312)	0.1102 ^b (0.0485)	0.0673 ^a (0.0258)	0.0467 (0.0715)
Senate	0.3187 ^c (0.1734)	-0.0580 (0.1468)	0.1007 (0.1383)	0.0720 (0.1528)	0.0230 (0.1592)	0.0208 (0.1420)	0.0000 (0.0001)	0.0528 (0.0961)	0.2440 (0.1826)	-0.1189 (0.1344)	0.0000 (0.0002)	0.0522 (0.1562)	0.9098 (0.6524)
Democrats	0.1049 ^a (0.0358)	0.0620 ^b (0.0301)	0.0866 ^a (0.0256)	0.0817 ^a (0.0278)	0.1664 ^a (0.0382)	0.2032 ^a (0.0448)	-0.3486 (0.6406)	0.1039 ^a (0.0341)	0.1025 ^a (0.0268)	-0.0466 (0.0341)	0.0065 (0.0606)	0.0877 ^a (0.0333)	0.1051 (0.0842)
Republicans	0.0144 (0.0368)	-0.0079 (0.0369)	-0.0450 (0.0521)	-0.0198 (0.0375)	0.0505 (0.0389)	0.0678 (0.0487)	-0.7393 ^c (0.4073)	0.0530 (0.0352)	0.0050 (0.0363)	0.0878 (0.0567)	0.2070 ^b (0.0891)	0.0903 ^b (0.0413)	-0.0409 (0.0910)
<i>Panel B: Larger PAC contributions?</i>													
All	0.0356 ^c (0.0218)	-0.1329 (0.0835)	0.1851 ^a (0.0388)	0.0448 ^b (0.0194)	0.0508 (0.0311)	0.0443 (0.0381)	-0.0841 (0.0794)	0.0405 (0.0302)	0.0501 ^a (0.0150)	-0.0129 (0.0589)	-0.0466 (0.0366)	-0.0514 (0.0443)	-0.0574 (0.0451)
House	0.0375 ^c (0.0226)	-0.1331 (0.0836)	0.1973 ^a (0.0357)	0.0445 ^b (0.0198)	0.0690 ^b (0.0322)	0.0286 (0.0388)	-0.0957 (0.0910)	0.0306 (0.0313)	0.0538 ^a (0.0149)	-0.0237 (0.0594)	-0.0468 (0.0367)	-0.0614 (0.0444)	-0.0581 (0.0477)
Senate	0.0359 (0.0794)	0.0001 (0.0002)	-0.1231 (0.1412)	-0.0089 (0.0641)	-0.0612 (0.1125)	0.2460 (0.1858)	0.0000 (0.0001)	-0.0242 (0.1131)	0.0807 (0.1165)	-0.0090 (0.1152)	0.0000 (0.0001)	-0.0274 (0.1638)	-0.0338 (0.1121)
Democrats	0.0419 (0.0347)	-0.1255 (0.1206)	0.1776 ^a (0.0434)	0.0703 ^b (0.0276)	0.0502 (0.0425)	0.0840 (0.0557)	-0.0914 (0.0887)	0.0770 ^c (0.0413)	0.0726 ^a (0.0204)	-0.0228 (0.0729)	0.0014 (0.0102)	-0.0698 (0.0508)	-0.0597 (0.0510)
Republicans	-0.0147 (0.0298)	0.0610 (0.1272)	0.2379 ^b (0.0950)	-0.0051 (0.0283)	0.0751 (0.0470)	0.1043 ^c (0.0615)	-0.0843 (0.0799)	0.0074 (0.0470)	0.0017 (0.0255)	0.0788 (0.2285)	-0.1337 ^b (0.0557)	-0.0446 (0.0410)	-0.0344 (0.0488)

Table A.6
Indebted politicians and labor voting, 2000 – 2014; Subsample analysis

This table shows coefficient estimates of the model

$$LVS_{jt} = \alpha_j + \alpha_t + \alpha D_{jt-1} + \sum_m \beta C_{jt}^m + \sum_m \gamma C_{jt}^m \times D_{jt-1} + \delta X_{jt} + \varepsilon_{jt}$$

LVS_{jt} is the labor voting score for politician j in Congressional session t , α_j and α_t are politician and Congressional session fixed effects, respectively, D_{jt-1} is an indicator variable set to one if politician j has positive debt outstanding from the prior campaign and zero otherwise, C_{jt}^m is the logarithm of the proportion of politician j 's total campaign financing raised from Labor, Trade, and Corporate PACs ($m = \{\text{Labor, Trade, Corporate}\}$), and X_{jt} is a vector of control variables that includes (i) the percentage of votes received by politician j in the prior general election, (ii) politician j 's current political rank in the Congressional chamber, (iii) a vector of indicator variables for each Congressional committee assignment awarded to politician j , (iv) politician j state-Congressional session fixed effects, and (v) controls for other contributions received. SE's are adjusted for heteroskedasticity and clustered by politician. ^{a, b, c} designate significance at 1%, 5%, and 10% levels, respectively. The sample consists of all U.S. House of Representatives and Senate election campaigns for the period 2000 – 2014.

	All years				Non-election years				Election years			
	House	Senate	Dem	Rep	House	Senate	Dem	Rep	House	Senate	Dem	Rep
Labor	0.2384 ^a (0.0501)	-0.0190 (0.0335)	0.1194 ^a (0.0369)	0.1100 (0.2352)	0.1584 ^b (0.0667)	-0.0314 (0.0320)	0.0742 (0.0452)	-0.2826 (0.2689)	0.3243 ^a (0.0595)	0.0006 (0.0472)	0.1564 ^a (0.0418)	0.7443 ^a (0.2378)
Trade	-0.0130 (0.0861)	0.0863 (0.1227)	-0.1061 (0.0995)	0.2137 ^b (0.1047)	0.1189 (0.1188)	0.1215 (0.1385)	0.0097 (0.1126)	0.3038 ^b (0.1192)	-0.1660 ^c (0.0932)	0.0268 (0.2075)	-0.1866 (0.1245)	0.0224 (0.1239)
Corporate	-0.0531 (0.0498)	0.0090 (0.0246)	0.0513 (0.0507)	-0.0731 (0.0655)	-0.1760 ^a (0.0672)	0.0466 (0.0387)	-0.0581 (0.0596)	-0.0732 (0.0943)	0.0737 (0.0586)	-0.0415 (0.0519)	0.1520 ^b (0.0620)	-0.0486 (0.0772)
Labor × Debtholder	0.0799 (0.0575)	-0.0943 (0.2651)	0.1933 ^b (0.0768)	0.7236 ^a (0.2310)	0.2891 ^a (0.0831)	0.2943 (0.4310)	0.1300 (0.0927)	0.7344 (0.4870)	-0.0694 (0.0729)	-0.2691 (0.3258)	0.2203 ^b (0.1052)	0.9363 ^a (0.2320)
Trade × Debtholder	0.0199 (0.0936)	-0.3731 (0.2317)	0.0875 (0.1492)	-0.0258 (0.1239)	-0.1612 (0.1351)	-0.5394 (0.3502)	0.2391 (0.2124)	-0.1530 (0.1775)	0.2043 (0.1340)	-0.3898 (0.3450)	0.0499 (0.1916)	0.0697 (0.1624)
Corporate × Debtholder	-0.0181 (0.0740)	0.0646 (0.0647)	-0.1093 (0.0882)	-0.0249 (0.0970)	0.1009 (0.0986)	-0.2333 ^a (0.0866)	-0.1891 ^c (0.0984)	-0.0679 (0.1281)	-0.1464 (0.0963)	0.2770 (0.0889)	-0.1560 (0.1204)	0.0077 (0.1169)
Debtholder	-0.0200 (0.0183)	0.0152 (0.0219)	-0.0503 ^b (0.0203)	-0.0053 (0.0243)	-0.0424 ^c (0.0242)	0.0355 (0.0329)	-0.0368 (0.0252)	0.0109 (0.0328)	-0.0030 (0.0215)	0.0086 (0.0291)	-0.0507 ^b (0.0250)	-0.0186 (0.0275)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Politician FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²	0.968	0.951	0.631	0.690	0.969	0.955	0.513	0.649	0.962	0.946	0.601	0.661
N	4,805	923	2,771	2,806	2,057	430	1,179	1,221	2,386	489	1,379	1,406

Table A.7
Indebted politicians and trade voting, 2007 – 2014; Subsample analysis

This table shows coefficient estimates of the model

$$TVS_{jt} = \alpha_j + \alpha_t + \alpha D_{jt-1} + \sum_m \beta C_{jt}^m + \sum_m \gamma C_{jt}^m \times D_{jt-1} + \delta X_{jt} + \varepsilon_{jt}$$

TVS_{jt} is the trade voting score for politician j in Congressional session t , α_j and α_t are politician and Congressional session fixed effects, respectively, D_{jt-1} is an indicator variable set to one if politician j has positive debt outstanding from the prior campaign and zero otherwise, C_{jt}^m is the logarithm of the proportion of politician j 's total campaign financing raised from Labor, Trade, and Corporate PACs ($m = \{\text{Labor, Trade, Corporate}\}$), and X_{jt} is a vector of control variables that includes (i) the percentage of votes received by politician j in the prior general election, (ii) politician j 's current political rank in the Congressional chamber, (iii) a vector of indicator variables for each Congressional committee assignment awarded to politician j , (iv) politician j state-Congressional session fixed effects, and (v) controls for other contributions received. SE's are adjusted for heteroskedasticity and clustered by politician. ^{a, b, c} designate significance at 1%, 5%, and 10% levels, respectively. The sample consists of all U.S. House of Representatives and Senate election campaigns for the period 2000 – 2014.

	All years				Non-election years				Election years			
	House	Senate	Dem	Rep	House	Senate	Dem	Rep	House	Senate	Dem	Rep
Labor	-0.1049 (0.0860)	-0.2973 (0.1176)	-0.1462 (0.0980)	0.2265 (0.4450)	-0.0850 (0.1290)	-0.2551 ^b (0.1088)	0.0076 (0.1388)	-0.5735 (0.4807)	-0.3612 ^b (0.1679)	-0.3408 ^b (0.1608)	-0.3179 ^a (0.1001)	1.0456 ^b (0.5233)
Trade	-0.1130 (0.1510)	-0.1861 (0.3471)	-0.0540 (0.1491)	0.1848 (0.1870)	0.0290 (0.2097)	-0.1172 (0.2989)	-0.0398 (0.1956)	0.4065 ^b (0.1934)	0.0242 (0.2581)	-0.2606 (0.4409)	-0.0992 (0.1635)	-0.0522 (0.2909)
Corporate	0.3639 ^a (0.0973)	0.3294 ^b (0.1387)	0.0832 (0.1209)	0.2929 ^a (0.1089)	0.1346 (0.1333)	0.2841 (0.1206)	0.1069 (0.1926)	0.1208 (0.1186)	0.4936 ^a (0.1530)	0.3742 (0.1757)	0.0596 (0.1248)	0.4716 ^a (0.1726)
Labor × Debtholder	-0.5779 ^a (0.1651)	-5.2802 ^a (1.2188)	-0.2046 (0.2439)	0.2102 (0.7767)	-0.4331 ^b (0.1905)	-4.6079 ^a (1.1492)	-0.1438 (0.3204)	0.4865 (0.9358)	-0.8142 ^a (0.2402)	-5.9105 ^a (1.5232)	-0.2587 (0.3578)	-0.0760 (0.9610)
Trade × Debtholder	0.6912 ^b (0.2695)	-1.0612 (1.1766)	0.6439 (0.6950)	0.1751 (0.2878)	0.4926 (0.3215)	-0.7624 (0.9789)	0.1469 (0.9991)	-0.1745 (0.2978)	0.5674 (0.3838)	-1.2079 (1.7397)	1.1823 (0.7729)	0.5324 (0.4246)
Corporate × Debtholder	-0.7054 ^a (0.1488)	0.4448 ^c (0.2629)	-0.5002 ^b (0.2348)	-0.3787 ^b (0.1520)	-0.6171 ^a (0.1701)	0.4266 ^c (0.2562)	-0.3292 (0.3561)	-0.2980 (0.1983)	-0.6875 ^a (0.2102)	0.4579 (0.3158)	-0.6806 ^b (0.2661)	-0.4698 ^b (0.2355)
Debtholder	0.1099 ^a (0.0257)	0.1096 ^c (0.0622)	0.0646 (0.0564)	0.0358 (0.0309)	0.0816 ^a (0.0294)	0.0770 (0.0548)	0.0590 (0.0677)	0.0448 (0.0323)	0.1591 ^a (0.0441)	0.1368 (0.0892)	0.0681 (0.0752)	0.0289 (0.0501)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Politician FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²	0.850	0.320	0.746	0.534	0.865	0.272	0.578	0.591	0.829	0.282	0.770	0.399
N	3,213	454	1,571	1,502	1,182	228	682	653	1,172	226	675	649