

The Political Economy of the U.S. Auto Industry Crisis*

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Abstract

We examine how ideology, special interests - measured by campaign contributions from automotive manufacturers and unions - and constituent interests - measured by employment in domestic and foreign automotive plants at the congressional district level - may have influenced U.S. Congress voting behavior on the Auto Industry Financing and Restructuring Act of 2008 (AIFRA). House representatives from districts with high employment in domestic (foreign) automakers plants are more (less) likely to vote in favor of AIFRA, and the response is stronger in more competitive districts. Moreover, higher campaign contributions from the Big Three (GM, Chrysler, Ford) are associated with an increased likelihood of voting in favor of AIFRA. Retiring representatives are affected by constituent interests, but not by financial contributions, and representatives with the best college education vote on purely ideological grounds. In the Senate, voting behavior is more ideological, with weak response to constituent interests and negligible impact of campaign contributions.

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1 Introduction

How do politicians vote? Do they simply express their ideological position? Or do the economic interests of the communities they represent (or of their campaign contributors) dictate their vote? An influential body of research in political science and political economy suggests that politicians primarily vote their own ideological preferences (e.g., Kau and Rubin [1979, 1993], Bernstein [1989], Poole and Rosenthal [1996], and Lee, Moretti, and Butler [2004]). An alternative view argues that politicians respond to both constituent and special interest pressure in order to increase their probability of reelection (e.g., Stigler [1971], Kalt and Zupan [1984], Peltzman [1985], and Mian et al. [2010]). Testing empirically the validity of these claims has proven difficult, since legislators preferences are usually not independent from the ones of their constituent and special interests (Kalt and Zupan [1990], Levitt [1996]): a conservative constituency is more likely to elect a conservative representative and the National Rifle Association is more likely to lobby a Republican member of Congress.

In this paper, we make progress in addressing these issues, focusing on one of the most controversial pieces of legislation proposed during the recession of the late 2000s. In December 2008, after multiple requests of government financial aid by the chief executives of General Motors and Chrysler, the U.S. Congress considered, and eventually rejected, the Auto Industry Financing and Restructuring Act (AIFRA), a bill meant to provide \$14 billion in emergency loans to U.S. automakers.

This bill has four prominent characteristics that makes it a useful empirical laboratory to disentangle the effects of economic interests and politician ideology on voting behavior. One advantage, relative to a substantial majority of existing congressional voting studies, is that winners and losers from the legislation are well specified (Peltzman [1984], [1985]). While the bill has a clear ideological nature (as it promotes government intervention in private markets), it has specific winners that can be identified empirically. AIFRA provides an expected net transfer to U.S. automakers on the brink of bankruptcy and (at least in the short term) to those communities that host a domestic auto plant or satellite activities. On the other hand, communities with foreign plants (which do not get government aid and are direct competitors of American producers) or no plants are net losers (because they have fiscal burden without the benefits of jobs saving). In our analysis, we refer to the stakes of the U.S automakers as special interests and to the ones of voters in different communities as constituents interests.

Another advantage with respect to the existing literature¹ is the availability of data that allow us to precisely measure these constituents and special interests. The data include zip code level information on plant location and workforce of all automakers (domestic or foreign) with manufacturing facilities in the U.S., which we use to construct the employment in domestic or foreign automakers at the congressional district level (our primary measure of constituent interest for AIRFA). Our data set also includes information on the campaign contributions that a representative received in the 2006-08 congressional cycle from the Big Three (General Motors, Chrysler, Ford) Political Action Committees (PACs) and from the United Auto Workers (an American labor union), which is our measure of special interest. Following the political science literature, we measure ideology using DW-Nominate scores (Poole and Rosenthal [1985], [1997], and [2007]). In our data, the level of employment in automotive plants and the level of campaign contributions are both orthogonal to ideology among members of Congress, allowing us to empirically separate the influence of ideology from economic interests. Our data also include detailed information on each politician's personal characteristics (sex, age, quality of their college education, personal income, and last occupation before entering Congress), which provide a proxy of a representative's valence. We use these variables (especially, whether a politician is an alumnus of an Ivy League school) to ask an important question that has been largely neglected by the existing literature: do representatives of different valence respond differently to constituent and special interests?

A third advantage of focusing on this piece of legislation is that the final version of the bill was voted in rapid succession in the House and in the Senate and that, in both chambers, the vote was not along purely ideological or party lines (see Table 1 for a detail of the voting patterns). Contrary to most of the literature (which focuses on either the House or the Senate), we are thus in a position to ask whether representatives from the two chambers respond in a different way to economic interests.

The last important feature of this bill is that it was voted during the *lame duck session* of the 110th Congress, after the elections of November 2008 but before the turnover determined by the electoral results (the inauguration of the 111th Congress was on January 3rd 2009). This institutional setting has largely been ignored by the literature² but provides a useful

¹An exception is Mian et al. [2010] who were the first ones to measure constituent interest with highly geographically disaggregated data in their analysis of Congress voting behavior on the American Housing Rescue and Foreclosure Prevention Act of 2008 and the Emergency Economic Stabilization Act of 2008.

²For exceptions, see Poole and Rosenthal [1997, 220-21], Goodman and Nokken [2004], Nokken [2007], and Jenkins and Nokken [2008].

context to study the conflicting bases of representatives' voting behavior: for exiting members, the electoral connection is effectively severed, while for returning members, the electoral connection is still in place (even if the next elections are almost two years in the future).

In sum, we find strong evidence that constituent interests, special interests, and ideology affect a politician's voting choice. Representatives from districts with high employment in domestic (foreign) automakers plants are more (less) likely to vote in favor of the AIRFA, and this result is not driven by ideological preferences or politician's type. Representatives are more likely to respond to automotive employment by voting in favor of AIFRA if their district is closely contested or if it is pivotal in presidential elections. This is consistent with the hypothesis that representatives are responding to constituent interests because of electoral pressure. Moreover, higher campaign contributions from the Big Three and from the auto workers union are associated with an increased likelihood of voting in favor of AIFRA. This result is robust to the inclusion of politician ideology, the fraction of the electorate employed by the automotive industry, and census demographic controls. However, we estimate that campaign contributions tilted the vote in favor of the bill for only 7 representatives. For all the remaining supporters of the bill, ideology and constituents interest would have given enough incentives to vote in favor of the bill, absent any concern of raising money. In the House, retiring representatives and politicians with an Ivy League degree (which we consider a proxy for valence) respond somewhat differently to economic interests: lame ducks are responsive to constituent interests but not to financial contributions, and Ivy League alumni vote on purely ideological grounds. Finally, voting behavior in the Senate is more ideological than in the House, with weak response to constituent interests and negligible impact of campaign contributions.

The rest of the paper proceeds as follows. The next section provides background on AIFRA. Section 3 presents the data and summary statistics. Section 4 presents the empirical model. The results on voting in the House appear in Section 5, while voting in the Senate is studied in Section 6. The last section concludes.

2 The Legislative Response to the Auto Industry Crisis

In this section, we describe the legislation that was proposed in Congress to rescue GM and Chrysler from bankruptcy.³ Before describing the details of the bill, it is important to emphasize the magnitude of the automotive sector crisis and its potential impact on the American manufacturing system. In the fall of 2008 all auto-related industries and after-market service businesses employed approximately 3.1 million people in the United States and the total number of Big Three employees, parts-supplier employees and car-dealer employees was approximately 1.6 million.⁴

The Auto Industry Financing and Restructuring Act of 2008 (H.R. 7321) is legislation originally meant to provide \$14 billion in emergency loans to eligible U.S. automakers. As a condition of the loans, participating firms would have had to restructure their business operations and one or more administrators (or car czars) would have been appointed to oversee the loans and decide over the feasibility of the plans proposed by the firms or the need to enter Chapter 11 bankruptcy.

On December 10, 2008, the House approved the auto-bailout bill by a 237-to-170-vote margin. With the House bill unlikely to pass the Senate, supporters of an auto industry bill in the Senate attempted to use the Alternative Minimum Tax Relief Act (H.R. 7005), which had already passed the House in September 2008, as a so-called “shell” bill for a different version of the auto industry bill. However, negotiators in the Senate were unable to reach a compromise on a new proposed version of the auto bill and the plan failed when the Senate rejected cloture by a vote of 52-35 on December 11, 2008. See Table 1 for details on the voting patterns.

On December 19, 2008, George W. Bush used his executive authority to channel funds from the Emergency Economic Stabilization Act of 2008 (that were originally directed only to the financial industry) to the automotive industry and announced that the U.S. government would give loans of \$17.4 billion to U.S. automakers GM and Chrysler. In the months that

³Ford never asked for cash assistance from the government. Before the recession began, it had set aside \$25 billion for a turnaround fund that helped it weather the plunge in sales that affected all car companies when the economy went into sharp decline in the fall of 2008. Ford, however, did lobby for assistance to its competitors, arguing that a collapse of either GM or Chrysler could put its suppliers out of business and create a domino effect. For this reason, as explained in the following section, we use employment in all Big Three plants as a proxy for constituent interests and contributions from all Big Three firms as a proxy for special interests.

⁴Source: Alliance for American Manufacturing

followed, Ford found that it was able to stand on its own, but General Motors and Chrysler both ended up filing for bankruptcy after receiving billions in federal aid. A slimmed-down General Motors emerged from bankruptcy as a shadow of the manufacturing titan it had been. The federal government holds nearly 61 percent of the new company, with the Canadian government, a health care trust for the United Auto Workers union and bondholders owning the balance. Its market share has also fallen to 20 percent, as rivals have profited from its troubles, down from 51 percent at the peak of the company's dominance. Its sales outside the United States now almost equal its domestic sales. Chrysler was forced into the arms of Fiat, which took over management of the company along with a 20 percent stake. The United Auto Workers became the company's largest shareholder, with the federal government holding shares as well.

3 Data

We use three sets of data: data on employment in the auto sector, data on financial contributions from the auto industry, and data on members of Congress.

Data on plant locations and employment in the auto sector come from yearly production reports filed by the automakers (and available on their websites).⁵ We compute the number of auto workers at the district level (for the analysis of the vote in the House) and at the state level (for the Senate) by the nationality of the employer.⁶ We consider all manufacturing plants (for motor vehicles, equipment, and parts). When a plant is a joint venture between two or more automakers (e.g. the plant in Flat Rock, MI used by both Mazda and Ford), we assign employees proportionally using the units produced in 2008 for each make as weights. Regarding the match between plants and congressional districts, we use the ZIP codes of the municipality where the plant is located and assign the employees of the plant to all districts in those ZIP codes. For instance, we match the 1478 employees of the Ford plant in Sharonville, OH with the representatives of the first, second, and eight congressional districts of Ohio, whose boundaries overlap the ZIP 45241. Figures 1 and 2 give a sense of the distribution of

⁵The complete list with location and workforce for all automotive manufacturing plants active in the U.S. as of December 2008 is available from the author.

⁶The domestic automakers are The Big Three, i.e. GM, Chrysler and Ford. The foreign automakers with production facilities in the U.S. are the Japanese Toyota, Honda, Nissan, Mazda, Mitsubishi, Subaru, Hino, and Isuzu, the Korean Hyundai and Kia, and the German Mercedes-Benz and BMW.

plants and workforce across districts. In December 2008, the Big Three facilities were located almost exclusively in the Midwestern states (around 80% of the total workforce employed by Ford, GM and Chrysler was in Michigan, Ohio, and Indiana), while around half of the employees of foreign automakers worked in the South (Kentucky, Tennessee, Missouri, South Carolina, Georgia, Texas).

The second main set of data covers campaign contributions by special interest groups. Financial contributions for campaign and lobbying received by members of the 110th Congress from the automotive industry and unions are well documented on the Center for Responsive Politics (CRP), a nonpartisan and nonprofit organization that directly collects the information from the Federal Election Commission political contributions reports.⁷ Figures 3 and 4 show the distribution of campaign contributions across representatives.

The last set of data pertains to representatives and senators. These data include party affiliation, the first dimension of DW-Nominate representative ideology scores, which are increasing in “conservatism” (Poole and Rosenthal [1985], [1997], [2007]), personal income, and three measures of electoral competitiveness: vote margins in the November 2008 House elections (not the elections that elected the members of the 110th Congress but the ones held one month before passage), vote margins at the district and at the state level between the two presidential candidates in November 2008, and the Cook Partisan Voter Index, a measurement of how strongly a congressional district or state leans towards one political party compared to the nation as a whole.⁸ The margins in the 2008 House elections tell us the level of competition faced by the current legislators that were reelected to the 111th Congress a month before the vote on the bill (we address in the empirical analysis the issue of those representatives that were not reelected). On the other hand, the margins between Obama and McCain in 2008 and the CPVIs (which are based on an historical series of presidential elections data) are broader measures of the ideological affiliation of a district/state that abstracts from any incumbency advantage or campaign effort by the current representative and can capture the strategic importance of the district/state for the two parties (in other words, the “pivotality or “swinginess” of a district/state).

⁷See <http://www.opensecrets.org> and <http://www.fec.gov/disclosure.shtml>

⁸For each congressional district the index is derived by averaging the results from the prior two presidential elections and comparing them to national results. In a district with a CPVI score of R+2, Republican presidential candidates received 2 percentage points more votes than the national average; likewise, a CPVI score of D+3 shows the Democrats received 3 percentage points more votes than the national average. The CPVI is available online at <http://www.cookpolitical.com>.

Finally, for the members of the House of representatives, our data also include personal characteristics from the Congressional Biographical Directory: tenure in Congress, sex, age, last occupation before entering Congress and details on their college education (whether they completed a BA degree or not, and, in the former case, whether they got their degree from an Ivy League school, another private school, or a state school).

Tables 2 and 3 presents summary statistics.

4 Empirical Model

4.1 Baseline

We derive and estimate a reduced-form model that examines the determinants of politicians voting behavior on AIFRA. Legislators care both about the policy outcome and their individual vote, since voters in their constituency may reward or punish them according to their voting record. Following Snyder [1991] and Mian, Sufi, and Trebbi [2010], we describe the preferences of a representative i over her vote on a particular bill v as follows:

$$U_i = \theta f(v_i) + g(v_i) + \varepsilon_i^v$$

where the function f maps the Yes/No vote into a unidimensional ideological preference space and g maps the vote into a reelection probability. The parameter θ converts ideological gain/losses into increments of reelection probabilities and ε_i^v is a random preference component. Following a random utility approach, the representative decision implies that the choice of a Yes vote ($v = 1$) follows:

$$\Pr(v_i = 1) = \Pr(\theta f(1) - f(0) + g(1) - g(0)) > \varepsilon_i^0 - \varepsilon_i^1$$

We assume $f(v_i) = -ID_i * v_i$ and $g(v_i) = (\beta_1 * CI_i * v_i) + (\beta_2 * SI_i * v_i)$. In these equations, ID_i indicates the (unidimensional) ideological position of the representative from congressional district i as approximated by the DW-Nominate first dimension score, CI_i indicates a proxy for constituent interest in congressional district i , and SI_i a proxy for special interest support. The reelection probability is positively affected by the ability to convince voters that the

member caters to their interests (CI) and campaign spending, determined by the ability to attract special interest contributions (SI). The choice of a Yes vote simplifies to:

$$\Pr(v_i = 1) = \Pr(-\theta ID_i + \beta_1 CI_i + \beta_2 SI_i) > \varepsilon_i^0 - \varepsilon_i^1 \quad (1)$$

which can be directly estimated, given distributional assumptions on $(\varepsilon_i^0 - \varepsilon_i^1)$. We use (1) to test $\beta_1 = \beta_2 = 0$ in order to discriminate between purely ideological voting (Poole and Rosenthal [1996, 1997]) and economic incentives in congressional voting ([Peltzman [1984], Kalt and Zupan [1984]). The specification in (1) allows us to estimate whether, for a given ideological aversion to the bill (ID_i), constituent interests (CI_i) and special interests (SI_i) are strong enough to tilt the representatives vote in favor of the bill.

4.2 Empirical Proxies

Our data set provides reasonably precise empirical measures for constituent and special interests. As described in Section 2, the bill was meant to support domestic automakers only (GM, Chrysler and Ford), whereas in the U.S. there is a relevant presence of foreign automakers manufacturing plants. It is reasonable to assume that constituencies that host a domestic auto plant are net beneficiaries of the bill (at least in the short term), while constituencies with foreign plants or no plants are net losers (because they have to support the fiscal burden of it without the benefits in terms of jobs saving). For this reason, our main empirical proxies for constituent interests are the number of workers in domestic and foreign automotive plants at the district and state level. In all specifications, our measures of special interest influence is campaign donations from the automotive industry and from the Auto United Workers.

Table 4 presents correlations between the key right hand side variables in our analysis. Panel A shows that in the House there is no correlation between the automotive employment and the ideology score of the representatives. In other words, the impact of the automotive sector crisis is orthogonal to variation in political ideology. The same is true for financial contributions from the Big Three and from the UAW. This is a useful feature of our data that we exploit to identify the impact of constituent interests and special interests on politicians voting behavior. On the other hand, in the Senate there is a weak but significant correlation between ideology and employment and between ideology and contributions. Panel B shows that more conservative representatives have a negative correlation with domestic

employment (-0.145) and contributions from unions (-0.315), and a positive correlation with foreign employment (0.207) and contributions from automakers (0.185). This means that our identification strategy for the Senate is not as sharp as it is for the House.

5 Results

5.1 Voting Behavior in the House of Representatives

In this section, we empirically estimate (1) to examine the determinants of representatives voting patterns on AIFRA. Table 1 presents voting patterns by political party. Even if an overwhelming majority of Democrats (205 out of 237) voted in favor and most Republicans (150 out of 197) voted against, there is a considerable number of “rebels” in both parties. This gives us an important source of variation that will help us to disentangle the impact of constituent and special interests from ideology and political party affiliation. This constitutes an important advantage of our work with respect to similar legislative studies that are limited to the analysis of variation within a single party.⁹

5.1.1 Baseline Results

Table 5 presents linear probability regression estimates of the effect of automotive employment and campaign contributions from the auto industry on voting patterns.¹⁰ In Column 1 we use as only regressor the total employment in the automotive sector at the district level. The coefficient is not statistically different from zero, suggesting that the number of workers, regardless of the nationality of the employer, does not affect politicians’ behavior. As discussed in Section 3, however, a more sensitive test of the impact of constituent interests comes from disaggregating employment data in domestic and foreign employment. Column 2 uses these two variables as regressors. The estimates of 0.018 for employment in

⁹For example, Mian et. al. [2010] in their analysis of voting behavior on legislations related to the U.S. mortgage default crisis of 2008, focus exclusively on House Republicans. This is because in the House, Democrats voted unanimously in favor of the two bills examined.

¹⁰All marginal effects reported in the analysis are almost identical in both qualitative and quantitative significance if we use a probit maximum likelihood specification in place of a linear probability specification. The use of a linear probability model in congressional voting is discussed formally in Heckman and Snyder [1997].

a Big Three plant and -0.039 for employment in a foreign automaker plant are statistically significant at the 1% level. This implies that a one standard deviation increase in domestic employment leads to a 4.77% increase in the likelihood of voting for AIFRA, while a one standard deviation increase in foreign employment decreases the same likelihood of 5.38%.

The estimates in Column 3 show the importance of ideology and party affiliation: being one standard deviation more conservative decreases the likelihood of supporting the bill by around 36 percentage points. Despite the explanatory power of ideology (the R^2 of the regression increases from 0.019 to 0.534), the estimate of domestic employment is identical with the inclusion of the DW nominate ideology score (the effect of foreign employment, instead, is dampened, but it remains significant at the 10% level). In other words, the effect of constituent interests on voting patterns is largely orthogonal to the effect of ideology.

Column 4 also includes two measures of special interest: campaign contributions from Chrysler, GM and Ford and contributions from the UAW. Representatives seem to be sensitive to campaign contributions, especially from domestic automakers: an additional donation of \$10,000 from the Big Three increases the likelihood of voting in favor of AIFRA of 14%. On the other hand, adding campaign contributions washes out the effect of domestic employment (while the effect of foreign employment is unchanged). This happens because campaign contributions from the Big Three and domestic employment are collinear (as highlighted by the cross-correlations in Table 4): representatives from districts with big auto plants are more likely to be targeted by domestic automakers. The representative who got the highest amount of money from the Big Three PACs in 2008 (\$56,500) was the Republican Joe Knollenberg, from the 9th Michigan district, home of three plants (in Livonia, MI, Orion, MI, and Pontiac, MI) that employed 8656 workers and were among the first targets for closure in case of GM bankruptcy or restructuring.

This suggest us to be cautious in the interpretation of these result. As Stratmann [2002, 346] emphasizes, “if interest groups contribute to legislators who support them anyway, a significant correlation between money and votes does not justify the conclusion that money buys votes. In this case the positive correlation arises because the same underlying factors that cause a group to contribute to a legislator also cause a legislator to vote in the group’s interest.” To better assess the impact of money on the vote, we use the estimates in Column (4) of Table 5 to calculate the predicted probability of voting for the bill for each representative. A representative is predicted to support the bill if his predicted probability of

voting yes is higher than 50%. In the actual vote, 237 of the 433 representatives voted for the bill. Using the coefficients in Column (4), including the effect of campaign contributions, we predict 238 votes. Without campaign contributions, would enough representative change their vote to overthrow the outcome? When we replicate the computation above, setting the amount received from the Big Three and from the UAW to zero, we get 231 predicted votes. The marginal difference that money made on the vote can thus be said to be on the order of only 7 votes. Since 218 votes were required for passage, subtracting 7 votes would make no difference. Campaign contributions, although significantly correlated with support for the bill, do not seem to have played a crucial role.

Finally, Column 5 presents estimates from a robustness test that includes census demographic characteristics.

5.1.2 Electoral Competition Interaction with Constituent and Special Interests

Why are representatives sensitive to constituent and special interests? Can we say something about the mechanism behind the finding of the previous section? One possibility is that representatives are responding to the need of their constituencies and their contributors due to electoral pressure. If this is true, then the effect of constituent interest on voting behavior should be stronger in more competitive districts. To test this hypothesis we add to our baseline model a measure of electoral competition and its interaction with constituents and special interests. In Table 6, the measures of electoral competition are the margin of victory in the Congressional elections held in November 2008, the margin between the two presidential candidates in November 2008 and the Partisan Voter Index. We focus in particular on districts where the margin between the two (congressional or presidential) candidates or the PVI is less than 10%. We create indicator variables for competitive districts and then interact the competitive district indicator variable with employment levels, ideology, and campaign contributions. As the results demonstrate, the effect of constituent interests is stronger in competitive districts. The interaction effect is particularly strong when competitive is measured as the margin of victory in Congressional elections. In all cases, the quantitative effects are strong, with coefficients on the interaction terms between 300% and 400% of the level. The effect of constituent interests on voting patterns is three or four times as high in close races. Regarding campaign contributions the results are more ambiguous but when the interaction terms are significant (for contributions from domestic automakers in Columns (5)

and (6)) the effects are strong.

5.1.3 Ideology Interaction with Constituent and Special Interests

Section 5.1.1 shows that constituent interests and special interests influence voting patterns on the AIRFA, even after controlling for politician ideology. In this section, we explore whether there is an interaction effect: are politicians that are ideologically extreme more or less sensitive to constituent and special interests? In Column 1 of Table 8, the interaction term between ideology and domestic employment is significantly positive. This implies that politicians with more conservative ideology are more responsive to higher endangered employment in their districts. In Column 2, we evaluate the trade-off between ideology and special interests. The coefficient estimate on the interaction term of ideology with automakers contributions is positive. This implies that conservative politicians are more responsive to campaign contributions in terms of their voting behavior on AIFRA. These results suggest that politicians who have an ideological bias against government intervention and that, absent any re-election concern, would oppose the bill, can change their vote when constituent and special interests strongly desire such intervention.

5.1.4 Education Interaction with Constituent and Special Interests

The results presented above suggest that politicians elected in more competitive districts are more responsive to constituent interests. One plausible explanation for this difference is reelection concerns. However, recent theoretical and empirical works (Shugart, Valdini, and Suominen [2005], Galasso and Nanninici [2011], Jacobson [1989], Atkinson, Enos, and Hill [2009]) show that parties allocate more qualified and better performing (that is, higher *valence*) politicians to the most contestable districts. If higher valence politicians are also more concerned about the welfare of their constituents (i.e. they have a higher motivation for public service), then the higher responsiveness of politicians from competitive districts can be due to a selection effect more than to reelection incentives. More generally, elected representatives do not only differ in terms of their ideological leanings and the characteristics of their constituency (the explanatory variables we used so far), but also in their personal background and in their abilities. Whether high-valence and low-valence politicians are subject to different incentives remains an open question (both theoretically and empirically),

with important implications for the role of elections and parties: is it important to select good politicians or what matters is to give politicians the right incentives?

Our rich data allows us to make a first step towards answering these important questions. We use the quality of representatives' college education, which captures the quality of formal human capital acquired, as a proxy for their valence¹¹. We label as high valence representatives all those who attended an Ivy League school (50 representatives out of 434), and we run the baseline regressions from Table 5 on the two subsets of observations (Ivy League vs. No Ivy League representatives). As additional controls, we use all the individual characteristics present in our data (age, sex, personal income, dummies for last occupation before Congress).

The results are presented in Table 8. The voting behavior of the representatives with the best education is significantly different than the behavior of the other representatives, but in an unexpected way. Columns (1) and (2) suggest that Ivy League alumni are not responsive to automotive employment in their district, nor to financial contributions from the Big Three PACs. Their vote is mainly determined by their ideological position (and, to a smaller extent, by union contributions). On the other hand, the results for the non-Ivy League alumni (presented in columns (3) and (4)) are similar to our baseline results when we pool all the House representatives together: they are responsive to automotive employment (both in domestic and foreign plants, with the expected sign), but the significance of the domestic employment coefficient disappears once we take into account the financial contributions from the Big Three and from the unions.

One possible explanation for why the Ivy League alumni are not sensitive to contributions might be that education is a proxy for wealth: the highly educated are sufficiently wealthy not to rely on contributions for their campaigns. This concern is justified by the fact that the average income of the Ivy League alumni is twice as much as the average income of the other representatives¹². We will explore this possibility when we analyze the interaction between personal income and constituent interests in Section 5.2 below.

¹¹There is not enough variation in the highest educational level attained (only 7 out of 434 representatives do not hold a college degree) to use it as a measure of valence.

¹²Notice, however, that the difference between the two averages is not statistically significant at the conventional levels (p-value > 0.1) according to the results of a t-test on the equality of means.

5.1.5 Voting Behavior of Lame Ducks

The vote on the bill took place in December 2008, right after the election of the 111th Congress in November 2008 and before the new Congress was inaugurated. Only 380 out of 434 representatives would come back to the House of Representatives in the 111th Congress and only two others run for another public office and won in November 2008 (Democrat Marc Udall, who won an open contest for the Colorado Senate seat, and Democrat Tom Udall, who defeated incumbent Steve Pierce for the New Mexico Senate seat). We further restrict our definition of *lame ducks* excluding the 4 representatives that lost in November 2008 but run for another major office (House of Representatives, Senate or Governor) in the following two years. This leaves us with 48 representatives who are going to retire from politics at the end of their term and are, thus, lacking any reelection incentive. As a consequence, these representatives might be less responsive to constituents and special interests.

To test this hypothesis, we run the baseline regressions from Table 5 on two different sets of observations, the returning members of Congress and the retiring ones. The results, presented in Table 9, are perhaps surprising. Retiring representatives seem to be sensitive to constituent interests, maybe even more than returning representatives (the coefficient of domestic automotive employment is higher and just as significant). On the other hand, financial contributions, have a strong impact on returning representatives but have no effect on lame ducks' vote. It is important to note that this result is not driven by a correlation between the amount of financial contributions received in the previous two years and the electoral success in the elections of November 2008: the two subsets of representatives do not differ significantly in terms of automotive employment and financial contributions received¹³.

5.2 Voting Behavior in the Senate

A few days after passing in the House, the bill went to the Senate where it did not survive filibustering: a cloture motion was rejected by a vote of 52-35, 8 votes short of the 60 required to proceed to consideration of the bill. The different fate of the bill in the Senate can be the consequence of this procedural institution that *de facto* requires a supermajority in one

¹³The difference between the automotive employment (in domestic and foreign automakers plants) and financial contributions (from the Big Three PACs and the automotive unions) in the two subsets (returning vs. retiring representatives) is not statistically significant at the conventional levels (p-value > 0.1) according to the results of a t-test on the equality of means.

of the two chambers. On the other hand, it is also possible that senators have different characteristics (in term of ideology, constituent interests and special interests) or that they respond differently than members of the House to the same interests. To test these hypothesis we estimate the same models from Section 5.1 in Tables 10, 11, and 12.

Table 10 shows the results of the baseline models. In Columns 3 and 4 - the richer specifications that include at the same time constituent interests, ideology and, in Column 4, special interests - we see that the variance in the voting decision is principally explained by the ideology score. The coefficient for employment in a Big Three plant is significant only at the 10% and all the other coefficients are not significant. Moreover, the level of competition in the state does not seem to make any difference (Table 11). Since ideology is the most important drive of voting in the Senate, it is interesting to see whether senators with different ideology scores respond differently to auto employment in the state of origin or campaign contributions. We explore this possibility in Table 12 using interaction terms. In Column 4 both the coefficient of domestic employment and its interaction with ideology are positive and significant at the 1% level. The coefficient of foreign employment is not distinguishable from zero but the interaction term is negative and significant at the 5% level. Similarly, the coefficient of campaign contributions from the UAW and its interaction with ideology are positive and significant, at the 5% and 1% level respectively. As in the House, this suggest that politicians who have have an ideological bias against the proposal on the table (conservatives, usually opposed to government intervention in the economy) can vote against their preferences when constituent and special interests highly benefit from such intervention.

The most striking difference in voting behavior in the two chambers is the irrelevance of campaign contributions from the industry in the Senate. Why are senators—who receive, on average, similar campaign contributions from the domestic automakers¹⁴—less responsive to special interests than members of the House? One possibility is that senators, who have larger personal resources¹⁵, do not need to rely as much on external financial support for their campaign. To test this hypothesis we estimate a model with personal income and

¹⁴The average contributions to House Republicans, House Democrats and Senate Democrats are not statistically different than one another. The average of Republican senators is inflated by the high amount received by presidential candidate John McCain. Removing this observation makes the average for Republican senators indistinguishable from the averages for the other three groups. Notice, moreover, that removing this outlier does not change the estimates in Tables 10, 11 and 12

¹⁵The average personal income declared in 2008 by senators is almost three times as large as the average income of members of the House.

its interaction with campaign contributions. The estimates in Table 12 cannot confirm our hypothesis: even if the coefficients of the interaction terms have a negative sign they are not significantly different than zero. Moreover, these estimates exclude the possibility that the effect of education we found in Section 5.1.4 is due to personal income: if the best educated representatives in the House are not sensitive to contributions, this is not because they are wealthier.

6 Conclusions

In this paper, we examine congressional voting patterns on the Auto Industry Financing and Restructuring Act of 2008, a bill proposing to use taxpayers' money to bail U.S. automakers. In contrast to most previous congressional voting studies, we are able to isolate the effects of constituent and special interests from politician ideology on voting behavior and to examine differences in behavior between the two chambers of Congress and between representatives with different levels of income and education. Moreover, since the bill was voted during a "lame ducks session", we can exploit the stark variation in electoral incentives between returning representatives and retiring ones.

We find that, in the House, constituent interests strongly influence politician voting patterns on AIFRA with representatives being more likely to vote in favor of the legislation if their district has a high number of workers employed by the failing firms. A likely channel for the importance of constituent interests is electoral competition. In addition, special interest campaign contributions from the automotive industry are positively related to votes in favor of AIFRA. This result is robust to the inclusion of politician ideology, the fraction of the electorate employed by the automotive industry, and census demographic controls. However, campaign contributions were not crucial to determine the fate of the bill: were no money given to any politician, only 7 representatives would have changed their vote from yes to no, not enough to veto passage. In addition, the voting pattern of retiring politicians shows no sensitivity to campaign contributions but the same (or more) responsiveness to constituent interests.

We also demonstrate the importance of the trade-off between politician ideology and heightened constituent and special interests. While all politicians are influenced by constituent and special interests in their voting behavior, we find that the effect of constituent and special

interests is significantly higher for more conservative politicians. In the context of voting for a bill proposing government intervention in the economy, this finding suggests that politicians who have an ideological bias against the proposal on the floor are willing to compromise when their constituency would highly benefit from the bill or when special interests push for it.

Finally, we show that the vote of senators and of the best educated House representatives does not follow the same pattern: senators vote mainly on an ideological basis, are less responsive to constituent interests and are not influenced by contributions from the industry. Similarly, representatives who hold an Ivy League degree vote on purely ideological grounds.

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Table 1: Voting Patterns on the Auto Bailout Bill

Panel A: House Vote, 12/10/2008

	Democrats	Republican	Independents	Total
Voting "Yea"	204	33	0	237
Voting "Nay"	19	151	0	170
Abstained	11	16	0	27
Total	234	200	0	434

Panel B: Senate Vote, 12/11/2008

	Democrats	Republican	Independents	Total
Voting "Yea"	40	10	2	52
Voting "Nay"	4	31	0	35
Abstained	4	8	0	12
Total	48	49	2	99

Table 2: Summary Statistics, House

Panel A: House Democrats

Variable	Mean	Std. Dev.	Min.	Max.	N
Total Auto Employment	0.940	3.245	0	29.165	234
Domestic Auto Employment	0.688	2.931	0	29.165	234
Foreign Auto Employment	0.253	0.984	0	7.401	234
Margin '08 House	49.675	29.128	2	100	234
Margin '08 Presidential	30.889	21.695	1	90	234
Partisan Voter Index (PVI)	12.97	9.992	0	41	234
DW-NOM (1st dim.)	-0.364	0.146	-0.74	0.011	234
UAW Contributions	5.198	3.636	-2.6	13	234
Big Three Contributions	2.169	5.100	-0.25	47.5	234
Log(Personal Income)	13.415	1.665	8.923	19.316	196

Panel B: House Republican

Variable	Mean	Std. Dev.	Min.	Max.	N
Total Auto Employment	1.223	2.926	0	15.384	200
Domestic Auto Employment	0.801	2.288	0	14.28	200
Foreign Auto Employment	0.423	1.732	0	12.9	200
Margin '08 House	27.24	23.798	1	100	200
Margin '08 Presidential	15.5	12.615	0	54	200
Partisan Voter Index (PVI)	10.305	6.796	0	29	200
DW-NOM (1st dim.)	0.604	0.153	0.291	1.264	200
UAW Contributions	0.169	1.179	-1	11	200
Big Three Contributions	2.375	5.995	0	56.5	200
Log(Personal Income)	13.719	1.925	8.161	19.341	153

Table 3: Summary statistics, Senate

Panel A: Senate Democrats

Variable	Mean	Std. Dev.	Min.	Max.	N
Total Auto Employment	5.658	16.790	0	79.259	48
Domestic Auto Employment	4.899	15.962	0	77.81	48
Foreign Auto Employment	0.759	2.383	0	13.461	48
Margin '08 Presidential	17.47	10.312	0.13	45.26	48
Partisan Voter Index (PVI)	6.98	3.927	0	14	48
DW-NOM (1st dim.)	-0.399	0.122	-0.769	-0.072	48
UAW Contributions	1.179	2.562	-5	10.6	48
Big Three Contributions	2.677	5.447	0	20	48
Log(Personal Income)	14.652	2.201	8.987	19.184	45

Panel B: Senate Republican

Variable	Mean	Std. Dev.	Min.	Max.	N
Total Auto Employment	3.933	7.032	0	37.859	49
Domestic Auto Employment	1.87	4.471	0	24.398	49
Foreign Auto Employment	2.063	3.479	0	13.461	49
Margin '08 Presidential	14.324	8.698	0.13	32.24	49
Partisan Voter Index (PVI)	8.49	6.168	0	21	49
DW-NOM (1st dim.)	0.434	0.187	0.045	0.93	49
UAW Contributions	0.061	0.429	0	3	49
Big Three Contributions	4.009	6.242	0	24	49
Log(Personal Income)	14.567	1.770	10.609	19.161	39

Table 4: Cross-correlations

Panel A: House										
Variables	TotEmp	DomEmp	ForEmp	House	Pres	PVI	DWN	UAW\$	Big3\$	Inc
Total Auto Emp	1.000									
Domestic Auto Emp	0.896	1.000								
Foreign Auto Emp	0.525	0.093	1.000							
Margin '08 House	-0.063	-0.041	-0.062	1.000						
Margin '08 Presidential	-0.028	-0.003	-0.056	0.620	1.000					
Partisan Voter Index	-0.023	-0.011	-0.031	0.557	0.920	1.000				
DW-NOM (1st dim.)	0.044	0.012	0.077	-0.405	-0.453	-0.193	1.000			
UAW Contributions	0.053	0.062	-0.001	0.164	0.159	-0.006	-0.638	1.000		
Big Three Contributions	0.476	0.545	0.024	-0.032	-0.037	-0.050	0.032	0.087	1.000	
Personal Income	-0.048	-0.042	-0.029	-0.073	-0.055	-0.023	0.079	-0.088	-0.034	1.000

Panel B: Senate										
Variables	TotEmp	DomEmp	ForEmp	Pres	PVI	DWN	UAW\$	Big3\$	Inc	
Total Auto Emp	1.000									
Domestic Auto Emp	0.973	1.000								
Foreign Auto Emp	0.461	0.243	1.000							
Margin '08 Presidential	-0.144	-0.101	-0.214	1.000						
Partisan Voter Index	-0.152	-0.152	-0.055	0.697	1.000					
DW-NOM (1st dim.)	-0.083	-0.145	0.207	-0.193	0.194	1.000				
UAW Contributions	0.083	0.123	-0.122	0.049	-0.040	-0.315	1.000			
Big Three Contributions	0.163	0.139	0.151	-0.104	0.087	0.185	0.166	1.000		
Personal Income	-0.086	-0.076	-0.067	-0.007	-0.069	-0.110	0.086	-0.094	1.000	

Table 5: Voting Behavior in the House

	(1)	(2)	(3)	(4)	(5)
	Prob(voting yes)				
Total Employment	0.004 (0.007)				
Domestic Employment		0.018*** (0.006)	0.018*** (0.007)	0.001 (0.007)	0.000 (0.008)
Foreign Employment		-0.039*** (0.013)	-0.019* (0.010)	-0.019* (0.010)	-0.018* (0.010)
Ideology (DW-NOM)			-0.710*** (0.030)	-0.663*** (0.041)	-0.676*** (0.053)
Big Three Contributions				0.014*** (0.004)	0.014*** (0.004)
UAW Contributions				0.011* (0.006)	0.011* (0.006)
Constant	0.541*** (0.025)	0.546*** (0.025)	0.598*** (0.017)	0.544*** (0.027)	0.168 (0.555)
Census controls	NO	NO	NO	NO	YES
Observations	434	434	434	434	434
R-squared	0.001	0.019	0.535	0.557	0.567

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6: Voting Behavior in the House, The Impact of Electoral Competition

	(1)	(2)	(3)	(4)	(5)	(6)
	Prob(voting yes)					
Domestic Employment	0.013** (0.006)	0.010** (0.005)	0.008* (0.004)	0.002 (0.007)	0.004 (0.007)	0.007 (0.007)
Foreign Employment	-0.016 (0.013)	-0.024 (0.017)	-0.027 (0.020)	-0.019* (0.010)	-0.018* (0.010)	-0.019* (0.010)
Ideology (DW-NOM)	-0.699*** (0.032)	-0.719*** (0.033)	-0.724*** (0.036)	-0.647*** (0.042)	-0.670*** (0.044)	-0.704*** (0.047)
Competitive District	0.034 (0.074)	-0.028 (0.053)	0.010 (0.034)	0.180** (0.084)	-0.090 (0.095)	-0.048 (0.056)
(Dom Empl)*(Compet District)	0.050*** (0.017)	0.037*** (0.013)	0.035*** (0.011)			
(For Empl)*(Compet District)	0.000 (0.015)	0.012 (0.019)	0.016 (0.022)			
(Ideology)*(Compet District)	-0.250* (0.128)	0.028 (0.091)	0.009 (0.062)	-0.412*** (0.113)	0.096 (0.146)	0.074 (0.089)
Big Three Contributions				0.014*** (0.005)	0.008* (0.004)	0.003 (0.005)
UAW Contributions				0.012** (0.006)	0.011* (0.006)	0.005 (0.008)
(Big3 Contr)*(Compet District)				0.001 (0.006)	0.015** (0.007)	0.015** (0.006)
(UAW Contr)*(Compet District)				-0.031 (0.023)	0.005 (0.016)	0.012 (0.012)
Constant	0.600*** (0.018)	0.602*** (0.018)	0.588*** (0.020)	0.540*** (0.028)	0.555*** (0.029)	0.565*** (0.031)
Definition of Competitive	House Margin ≤10%	Pres Margin ≤10%	PVI ≤10%	House Margin ≤10%	Pres Margin ≤10%	PVI ≤10%
Observations	434	434	434	434	434	434
R-squared	0.544	0.542	0.544	0.561	0.564	0.565

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 7: Voting Behavior in the House, The Impact of Ideology

	(1)	(2)	(3)
	Prob(voting yes)		
Domestic Employment	0.021*** (0.006)	0.009 (0.006)	0.009 (0.006)
Foreign Employment	-0.026 (0.025)	-0.019* (0.010)	-0.032 (0.025)
Ideology (DW-NOM)	-0.739*** (0.029)	-0.713*** (0.042)	-0.722*** (0.042)
(Domestic Emp)*(Ideology)	0.032** (0.013)		0.016 (0.012)
(Foreign Emp)*(Ideology)	0.018 (0.042)		0.032 (0.041)
Big Three Contributions		0.009** (0.003)	0.010*** (0.003)
UAW Contributions		0.018** (0.009)	0.019** (0.009)
(Big Three Contr)*(Ideology)		0.022*** (0.006)	0.018** (0.007)
(UAW Contr)*(Ideology)		0.019 (0.021)	0.020 (0.021)
Constant	0.597*** (0.017)	0.544*** (0.028)	0.543*** (0.028)
Observations	434	434	434
R-squared	0.543	0.571	0.573

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 8: Voting Behavior in the House, The Impact of Education

	(1)	(2)	(3)	(4)
	Prob(voting yes)			
Domestic Employment	-0.001 (0.008)	0.012 (0.016)	0.021** (0.009)	-0.001 (0.010)
Foreign Employment	-0.088 (0.091)	-0.115 (0.086)	-0.018* (0.010)	-0.015 (0.010)
Ideology (DW-NOM)	-0.736*** (0.098)	-0.546*** (0.135)	-0.706*** (0.036)	-0.664*** (0.047)
Big Three Contributions		-0.023 (0.017)		0.016*** (0.004)
UAW Contributions		0.032** (0.013)		0.009 (0.006)
Constant	0.722 (0.444)	0.652 (0.460)	0.577*** (0.128)	0.506*** (0.126)
Subset	Ivy League	Ivy League	No Ivy	Non Ivy
Observations	50	50	384	384
R-squared	0.558	0.624	0.550	0.578

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 9: Voting Behavior in the House, Lame Ducks vs Returning Representatives

	(1)	(2)	(3)	(4)
	Prob(voting yes)			
Domestic Employment	0.014*** (0.006)	-0.001 (0.007)	0.084*** (0.017)	0.065* (0.033)
Foreign Employment	-0.015 (0.012)	-0.016 (0.012)	-0.026** (0.012)	-0.026** (0.012)
Ideology (DW-NOM)	-0.712*** (0.031)	-0.661*** (0.043)	-0.816*** (0.140)	-0.781*** (0.148)
Big Three Contributions		0.014*** (0.005)		0.007 (0.006)
UAW Contributions		0.012* (0.006)		0.019 (0.015)
Constant	0.594*** (0.017)	0.536*** (0.028)	0.639*** (0.085)	0.610*** (0.095)
Subset	Returning	Returning	Lame Ducks	Lame Ducks
Observations	386	386	48	48
R-squared	0.549	0.570	0.435	0.448

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 10: Voting Behavior in the Senate

	(1)	(2)	(3)	(4)
		Prob(voting yes)		
Total Employment	0.006*** (0.002)			
Domestic Employment		0.010*** (0.003)	0.004* (0.002)	0.004* (0.002)
Foreign Employment		-0.024 (0.016)	0.005 (0.011)	0.006 (0.011)
Ideology (DW-NOM)			-0.765*** (0.071)	-0.758*** (0.077)
Big Three Contributions				-0.003 (0.006)
UAW Contributions				-0.001 (0.019)
Constant	0.495*** (0.054)	0.525*** (0.056)	0.513*** (0.043)	0.522*** (0.048)
Observations	99	99	99	99
R-squared	0.026	0.060	0.491	0.492

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 11: Voting Behavior in the Senate, The Impact of Electoral Competition

	(1)	(2)	(3)	(4)
	Prob(voting yes)			
Domestic Employment	0.002** (0.001)	0.034 (0.027)	0.004** (0.002)	0.004 (0.002)
Foreign Employment	-0.016 (0.010)	-0.016 (0.014)	0.005 (0.012)	0.005 (0.011)
Ideology (DW-NOM)	-0.752*** (0.088)	-0.701*** (0.128)	-0.805*** (0.097)	-0.680*** (0.156)
Competitive State	0.023 (0.101)	0.115 (0.091)	0.124 (0.107)	0.110 (0.102)
(Dom Empl)*(Compet State)	0.035*** (0.012)	-0.031 (0.027)		
(For Empl)*(Compet State)	-0.014 (0.024)	0.029 (0.020)		
(Ideology)*(Compet State)	0.088 (0.184)	-0.078 (0.155)	0.051 (0.196)	-0.084 (0.180)
Big Three Contributions			0.001 (0.006)	-0.006 (0.008)
UAW Contributions			-0.015 (0.027)	0.009 (0.030)
(Big3 Contr)*(Compet State)			-0.010 (0.013)	0.003 (0.011)
(UAW Contr)*(Compet State)			0.038 (0.039)	-0.010 (0.040)
Constant	0.511*** (0.052)	0.422*** (0.074)	0.485*** (0.057)	0.443*** (0.089)
Definition of Competitive	Pres Margin ≤10%	PVI ≤10%	Pres Margin ≤10%	PVI ≤10%
Observations	99	99	99	99
R-squared	0.531	0.510	0.507	0.502

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 12: Voting Behavior in the Senate, The Impact of Ideology

	(1)	(2)	(3)
	Prob(voting yes)		
Domestic Employment	0.023*** (0.006)	0.004* (0.002)	0.024*** (0.006)
Foreign Employment	-0.004 (0.008)	0.007 (0.011)	-0.003 (0.008)
Ideology (DW-NOM)	-0.769*** (0.078)	-0.759*** (0.082)	-0.760*** (0.087)
(Domestic Emp)*(Ideology)	0.048*** (0.012)		0.049*** (0.012)
(Foreign Emp)*(Ideology)	-0.039** (0.017)		-0.037** (0.017)
Big Three Contributions		-0.003 (0.008)	-0.004 (0.008)
UAW Contributions		0.104** (0.043)	0.108** (0.043)
(Big Three Contr)*(Ideology)		-0.006 (0.014)	-0.006 (0.014)
(UAW Contr)*(Ideology)		0.243*** (0.079)	0.242*** (0.077)
Constant	0.508*** (0.042)	0.522*** (0.047)	0.517*** (0.046)
Observations	99	99	99
R-squared	0.532	0.506	0.549

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 13: House vs Senate, The Impact of Personal Income on Voting Behavior

	(1)	(2)
	Prob(voting yes)	
Domestic Employment	-0.002 (0.010)	0.006 (0.005)
Foreign Employment	-0.012 (0.011)	0.003 (0.012)
Ideology (DW-NOM)	-0.657*** (0.046)	-0.769*** (0.080)
Big Three Contributions	0.018 (0.040)	-0.005 (0.029)
UAW Contributions	0.044 (0.034)	0.173 (0.158)
Log(Personal Income)	-0.005 (0.013)	0.008 (0.028)
(Big Three Contr)*(Log(Personal Inc))	-0.001 (0.003)	0.001 (0.002)
(UAW Contr)*(Log(Personal Inc))	-0.002 (0.002)	-0.011 (0.011)
Constant	0.599*** (0.175)	0.409 (0.394)
Chamber	House	Senate
Observations	349	86
R-squared	0.592	0.520

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Figure 1: Employment in domestic automakers plants (in thousands of workers)

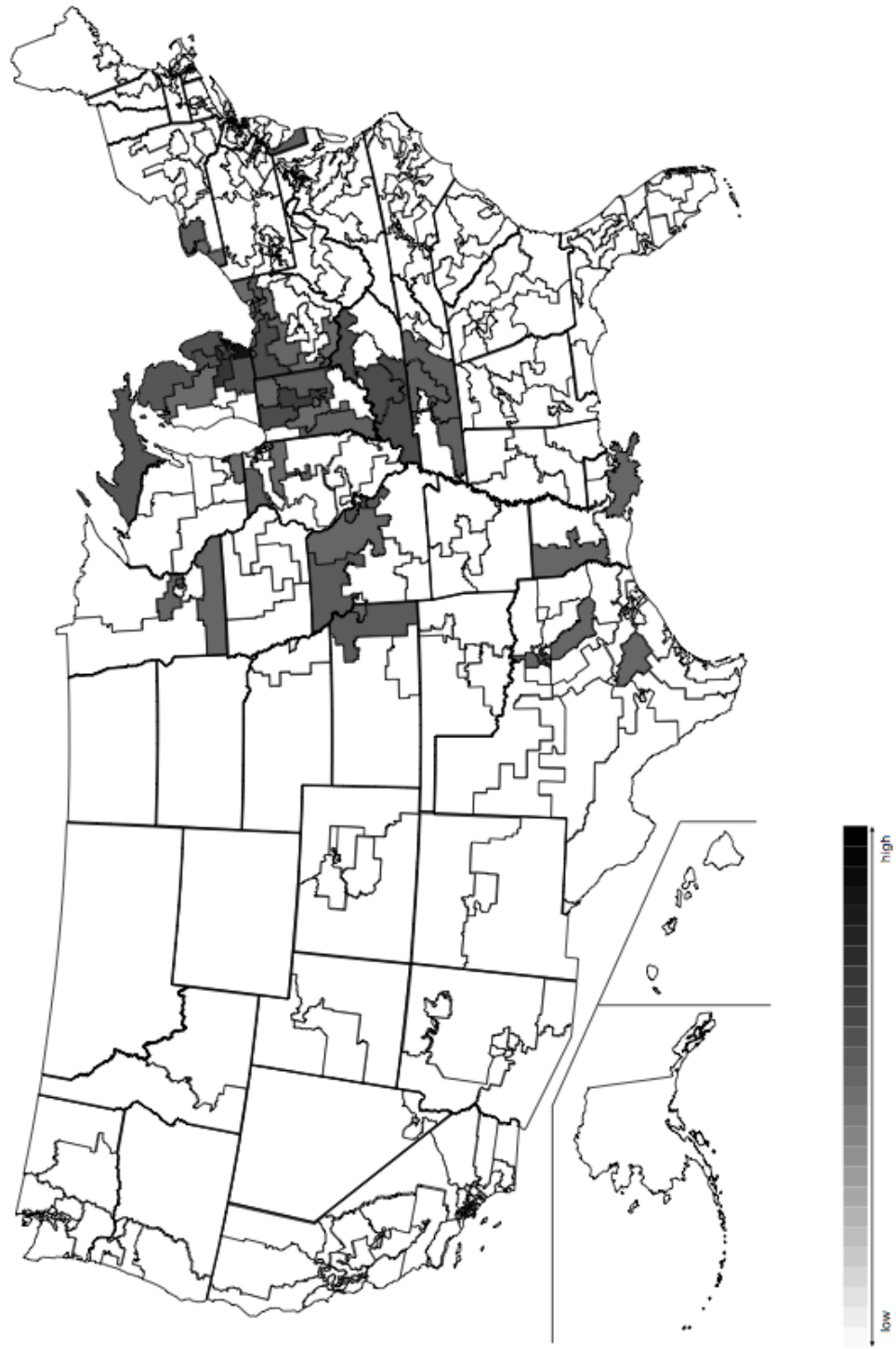


Figure 2: Employment in foreign automakers plants (in thousands of workers)

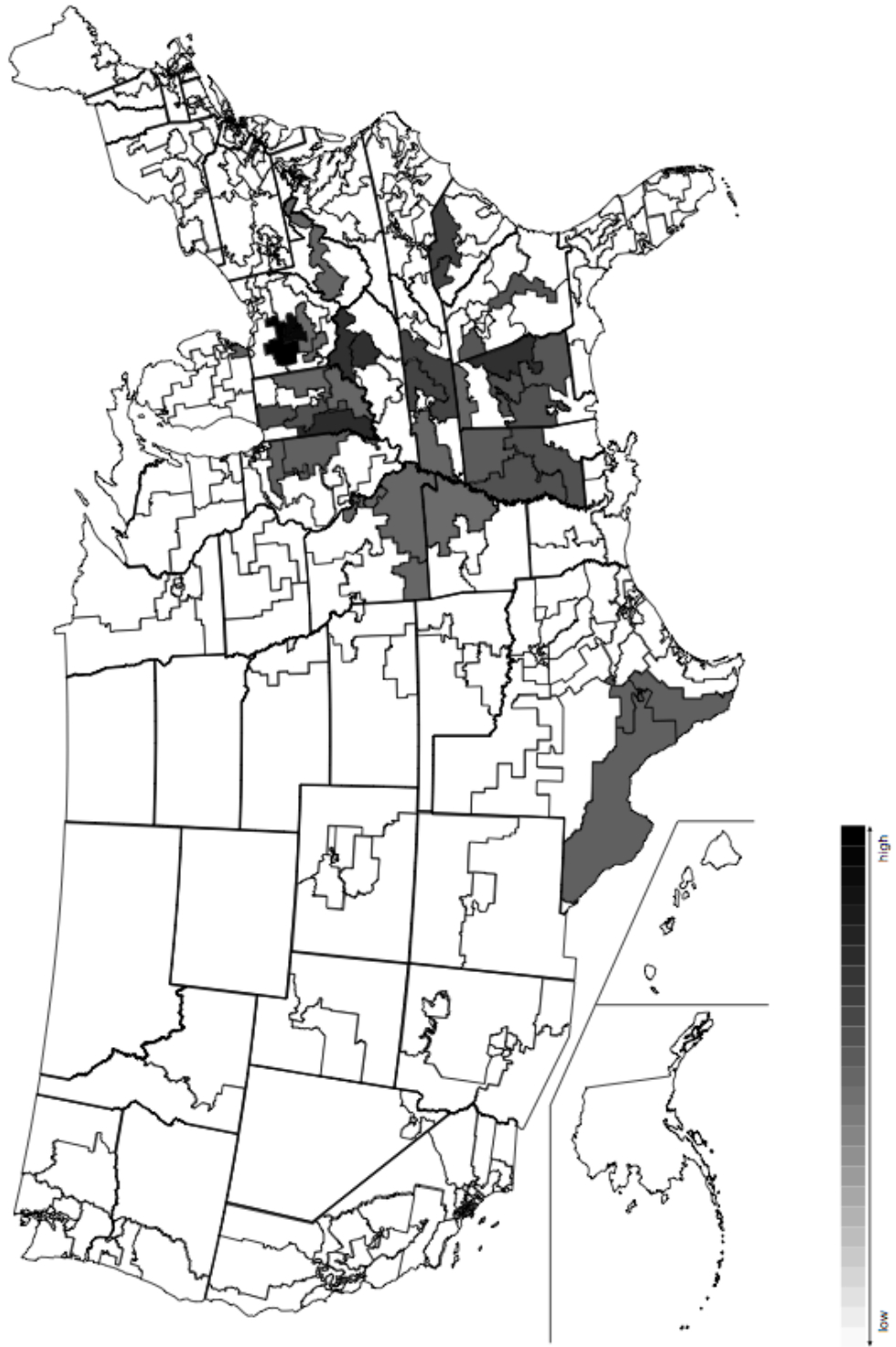


Figure 3: Campaign contributions from the United Auto Workers (in thousands of dollars)

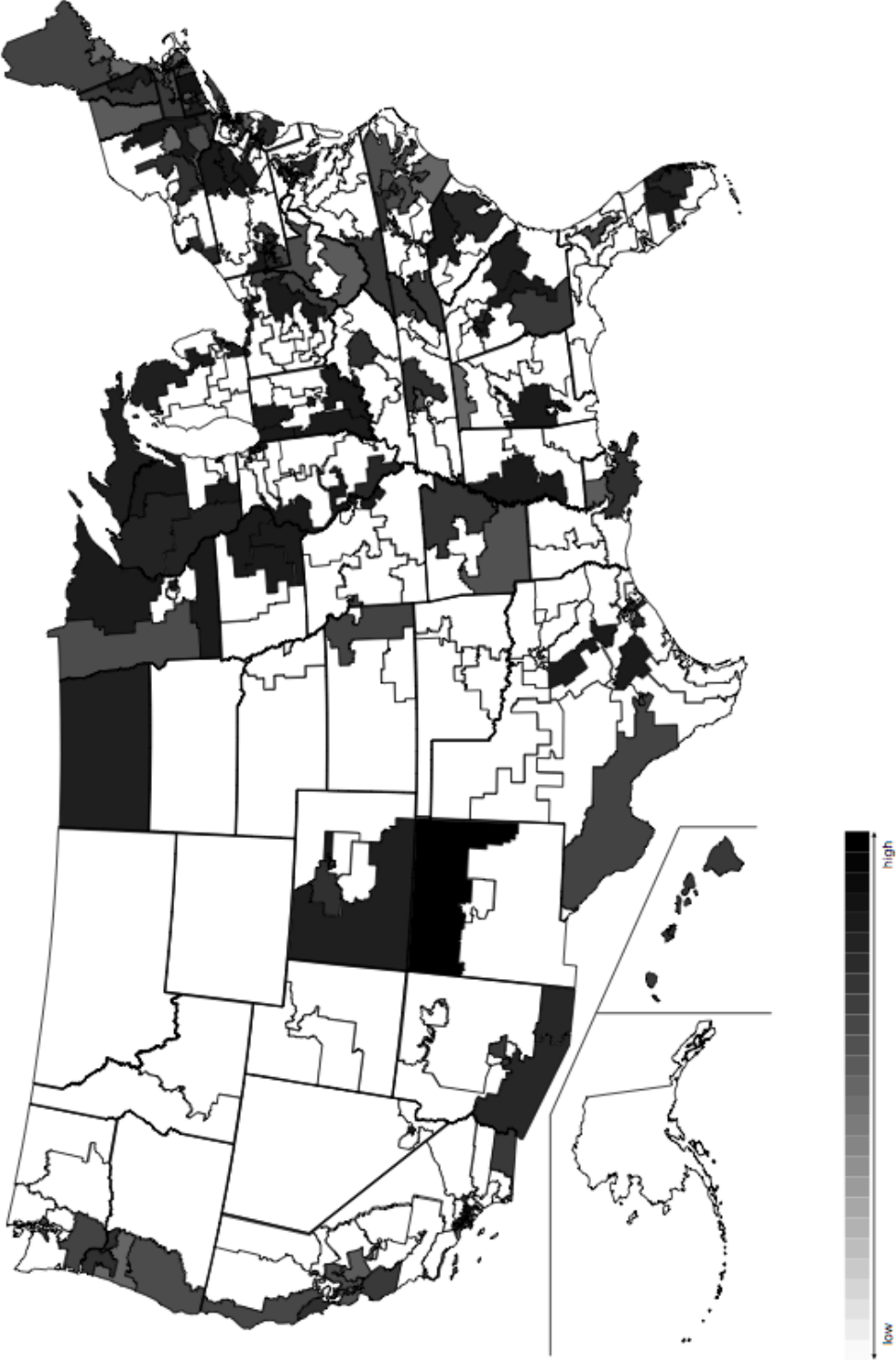


Figure 4: Campaign contributions from the Big Three (in thousands of dollars)

