Bringing Home the Bacon

How Does Slicing the Pork Affect the Electability and Fundraising of Congressional Candidates?

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Abstract

The growth of the federal budget deficit, the increasing national debt, and the resulting issues with the federal budget fueled a heated debate during the 2010 election. However, a significant portion of this debate was in regards to less than one percent of the total budget: earmarks. Many politicians from both parties campaigned heavily on reducing, or even eliminating, this extra spending. This leads one to question the significance of earmarks in the American political system, and more specifically, their effects on the reelection of a member of Congress. Using empirical analysis of newly available data, I examine the effects that earmarks have on the electability of incumbent members of Congress. Also, given the importance of campaign finance in elections, I analyze the effects of earmarks on the amount of money raised by incumbent members of Congress. The results indicate that 2010 voter behavior was determined by key political variables such as district voting preferences and vulnerability, not earmarks. This study finds that earmark expenditures, although a contentious issue, did not have a statistical influence on either reelection odds or the ability for an incumbent to finance their campaign in the 2010 election.

I.   Introduction

In his 2010 State of the Union Address, President Obama said, "If a bill comes to my desk with earmarks inside, I will veto it" (Green, 2010). Both Democrats and Republicans echoed this sentiment across the country in the 2010 election season that followed. Given the emphasis placed on earmarks, one would expect that eliminating them would significantly reduce the size of the federal budget. However, that is not the case. Earmarks, in total, make up less than one percent of the federal budget directly controlled by Congress (Sullivan, 2010). This statistic is surprising for many because of the emphasis placed on earmarks within the larger debate about the federal budget and deficit reduction during the 2010 election cycle. The disproportionate amount of attention given to earmark spending relative to the larger federal budget leads one to question the role of earmarks in the political process. The answer to this may be that even though they are relatively small, earmarks still have an impact on not only the ability for incumbent members of the U.S. House of Representatives to fund their campaigns, but also their likelihood of being reelected.

An earmark is special legislation inserted into a bill that directs federal money to a particular local project that is not necessarily related to the over-all bill itself. It is the way in which members of Congress direct federal resources (U.S. tax dollars) to specific regions of the country. Until recently, reliable data on earmark spending has been virtually unavailable. In 2007, Congress passed new disclosure rules requiring members to identify every earmark that they sponsored (Stratmann, 2010). This change came after Congressman Randy Cunningham of California was convicted and sent to prison for taking bribes in exchange for passing certain

defense appropriations earmarks. The 111th Congress (January 2009 to January 2011) is the first full session of Congress in which earmark data was required to be disclosed. Combined with data from the 2010 General Election, it is finally possible to take comprehensive look at the influence earmark spending has on campaign finance and elections. This is important because it is now possible to answer the question of whether or not our politicians spend federal money in a way that directly influences their own future electoral prospects.

Since this new earmark data was made available, a handful of related works have been published that examine whether or not earmarks influence political behavior. Many of them limit the scope of their research to specific types of earmarks opposed to a more comprehensive analysis. Additionally, they do not control for economic variables that could have in influence on the election. Finally, regional characteristics are not necessarily taken into account. Different geographic regions in the United States have different dominant industries, resources, and values systems. These differing characteristics might motivate politicians to bring home earmarks that match the specific tastes and preferences of the districts they represent. These factors, as well as relevant political variables are controlled for in this study.

A similar study by Levitt and Snyder (1997) examines the impact that bringing home federal money had on the electoral results for members of Congress. They find that an additional $100 per capita in spending is worth two percent of the popular vote. However, Levitt and Snyder analyzed all federal spending. This paper only looks at earmarks. Earmarks are a special type of federal spending in that they are discretionary funds that get targeted to smaller, more localized areas of the country. Unlike a vast majority of federal spending, politicians, essentially, get to pick and choose where and how earmark money gets spent. One could expect political significance associated with earmark allocation because earmarks entail federal

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spending within a congressperson's district that goes beyond what may already be expected by the constituents, such as Medicare funding or farm subsidies. However, at the same time, one could also question whether or not the voting public is able to recall all of the earmarks, or lack thereof, that their congressperson brought home when they are casting their vote.

One author's findings, Stone (2008), suggest that earmarks may not have any positive electoral implications. In her book, *The Samaritan's Dilemma: should Government Help Your Neighbor?*, she finds that even though a democracy can be considered, "A pact to help each other" (Stone, 2008, p. 292), many Americans neglect this notion. Instead, the prevailing American sentiment is that if a group or individual wants something accomplished, they must accomplish it on their own (Stone, 2008, p.281-292). This could imply that with respect to earmarks, voters may not give any precedence to the federal money their incumbent congressperson brought home to help fund district-specific initiatives.

Implementing ordinary least squares and logit regression analysis, the results show that earmark spending does not have a noticeable impact on campaign contributions to incumbent members of the U.S. House of Representatives, or a noticeable influence on their likelihood of being reelected. This paper is structured in a way that first reviews related literature, then analyzes the preliminary data and builds models for both campaign fundraising and incumbent re-electability. Finally, the results are presented, analyzed, and interpreted.

II.   Review of the Literature

Political outcomes are not necessarily easy to predict. Political behavior, in particular, involves a number of human factors that can be difficult to quantify. Social scientists nonetheless have built a variety of empirical models to explain what factors influence campaign contributions and election results. To date, there are only a handful of academic articles which

examine earmarks specifically. This is because reliable data on earmark expenditures has only recently been made available.

This study is most similar to Stratmann (2010). Stratmann tests the effect that earmark sponsorship in 110th Session of Congress (2007-2008) had on the likelihood of a legislator being reelected. The dependent variable in his model is the percentage of the popular vote that the incumbent candidate received in the general election. This is modeled as a function of the natural logarithm of the total dollar value of earmarks sponsored by a member of the U.S. House of Representatives (House). Stratmann's results imply doubling the earmarks an incumbent brought home increases that incumbent's vote share 5% to 6.8%, or 1% for every increase of $10 million. His results also show that incumbents benefit more from earmark sponsorship closer to the election than from the actual earmark money that had already been spent in the district. In other words, earmark sponsorship close to an election improves the likelihood of being elected more so than actually bringing the money home (Stratmann, 2010).

Stratmann's model has an intuitive design with results that are easy to interpret. However, there are also ways in which the model can be improved upon in future research. First, vote percentage is not necessarily the best way in which to measure electoral outcome. Other studies, such as Carey, Neimi and Powell (2000), propose that using a dummy variable to denote a win or a loss is better. The percentage outcome of an election is determined by a number of factors that are difficult to control for, such as the type of people that show-up to vote. Besides that, the margin of victory does not matter nearly as much as simply winning the election. Whether a candidate wins by 30% of the vote or 0.3%, the election outcome is the same and should be treated as such in an analysis of electability.

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Furthermore, Stratmann only assesses the total dollar amount of sponsored earmarks and does not take different types of earmarks into account. Only analyzing the total dollar amount of earmarks assumes that certain types of earmarks, like those for agriculture projects, have the same effect on incumbent electability as earmarks for military projects. Additionally, Stratmann does not control for regional differences. Ignoring regional differences presumes that those agriculture and military earmarks have the same impact in the inner city as they do in the rural countryside. This is contrary to the results found by Besley and Case (1995). Their non-earmark related study illustrates that geographical region matters with respect to policy decisions. Besley and Case (1995) explains that policy decisions made by states are influenced by policies implemented by their neighboring states. Thus, controlling for regional differences may be an important part of an empirical model that attempts to explain political behavior.

Another study, Rocca and Gordon (2010) also shows that political behavior is influenced by geographic characteristics. Their results indicate that as the percentage of veterans increase in a district, so did defense-oriented earmarks and defense-oriented PAC contributions. The same held true if there was a military base within the district. Surprisingly, however, the percentage of military personnel in the district did not appear to be a significant influence. This shows that the composition of the electorate matters when it comes to earmark spending. Rocca and Gordon's research only analyzes one type of earmark expenditure (defense-orientated earmarks). This leaves further room for inquiry as to how other types of earmarks are allocated and how they impact incumbent electability.

Martin (2010) tests the effect earmarks have on the voting behavior of House members. Martin's results show that as earmarks increase, a legislator's apparent willingness to vote in-line with their home district's preferences decrease. For example, in a Democrat-controlled House of

Representatives, for every additional earmark dollar that a Republican member brought home, the more likely that said Republican was to vote for other Democrat bills. Although that Republican's constituents may want him or her to vote against the Democrats' bills, the Democrats are the ones who allow that Republican to bring home earmark money. This causes the Republican in question to increase his or her willingness to side with the opposing party who controls the legislative agenda, than with their own constituents. This phenomenon also became more common in as incumbent tenure increased in the sample. Like Stratmann (2010) and Rocca and Gordon (2010), Martin's study does not address various types of earmarks and the effects that they may have on a district or regional level.

Engstrom and Vanberg (2007) examines whether or not party leaders allocate earmarks to advance the over-all electoral goals of the party. Their results show that in both chambers of Congress, the majority party members received more earmarks than their counterparts in the minority. Additionally, they find that there was a strong relationship between electorally vulnerable members and the number of earmarks that they received. This suggests that party leadership targets earmarks to their party's most vulnerable members. Thus controlling for the vulnerability of a candidate is important in an empirical model that relates to political behavior. Finally, by looking only at the number of earmarks sponsored Engstrom and Vanberg essentially assume that a $100,000 earmark for water conservation has the same value as a $7,100,000 earmark for a military operations facility. This does not take into account the tastes and preferences in different regions across the country.

All four of these studies seem to assume that economic conditions do not influence voter behavior. Their models do not control for economic variables that could have an impact on election outcomes or campaign contributions, such as per-capita income and unemployment rate.

Furthermore, they also appear to ignore the money spent to influence the election result. None of the models include variables to control for money spent by non-campaign groups, or even the campaigns themselves. With as much money that is spent in American politics, one would imagine that money spent during a campaign would have some impact on the election results. Controlling for these additional factors may show that the significance of earmarks found in previous research is simply a coincidence because the models may have suffered from an omitted variable bias.

This study builds upon the work that has already been done with respect to this newly available earmark data. Unlike previous literature, it controls for differences in voting behaviors across regions of the country, factors in various measures of earmarks, and includes important economic variables that could impact voter behavior. Like the previous studies, it still controls for political important factors. However, by including various regional and earmark specifications, as well as key economic variables, it provides a more comprehensive look at how earmarks impact incumbent campaign contributions and electability across congressional districts in the United States.

III.   Data

Data Sources

The data for this study came from a number of sources. Data on earmarks were obtained from the 2009-2010 Taxpayers for Common Sense (TCS) Earmark Database compiled by the Taxpayers for Common Sense (Tax, 2011). Their database contains a comprehensive listing of all of the earmarks sponsored in both chambers of Congress and includes descriptive information for each earmark.

Campaign finance data came from the Federal Election Commission (FEC) (House, 2011). They provide data on campaign contributions with respect to individuals, PACs, parties and candidates, as well as total campaign disbursements.

Economic data was gathered from two sources. State quarterly unemployment rates came from the U.S. Department of Labor's Bureau of Labor Statistics (Databases, 2011). Quarterly state personal income, measured as the sum of all income received by individuals living within the state, was obtained from the U.S. Department of Commerce's Bureau of Economic Analysis (Bureau, 2011).

The U.S. House of Representatives website provided the political data for individual members of Congress (State, 2011). This included their tenure, party, and gender. State population data was gathered from the U.S. Department of Commerce's Census Bureau (American, 2011). The Cook Political Report published the Cook Partisan Voting Index (Cook, 2011). This index measures the partisan tendencies of all congressional districts. Finally, data on political spending from outside sources was compiled by the Center for Responsive Politics (Outside, 2011). This data included the sum of the non-campaign funds spent both against, and in support of, congressional candidates.

Sample Specification

This study only analyzes the U.S House of Representatives (House). If the U.S. Senate were included in this study, additional control variables would have to be included in the statistical models. These additional variables would be needed to control for differences in the size of each Senator's constituency, the staggered nature of the elections in which only one-third of the Senate membership are elected at one time, as well as additional time spent in office (six-year terms opposed to two). The House, on the other hand, is comprised of members who

represent roughly the same number of constituents, are elected at the same time, and serve for the same number of years. Also, unlike the Senate, there are only two parties represented in the membership. Representatives are either Republicans or Democrats; there are no third-party incumbents serving in the House.

Incumbent House members were dropped from the sample if they did not run for reelection in 2010. Members who did not run for reelection would not have campaign contribution data for a House race in 2010, and their earmarks would not necessarily be transferable to the individual who ran in their place. Also excluded were any members who did not serve a full two-year term. There were ten members who were sworn in after the 111th Congress began. This handful of representatives was eliminated because they did not have the same amount of time in office as the rest of the sample, which could have had an impact on their ability to request or sponsor earmarks.

The remaining 383 members left in the sample were assigned a dummy variable for party (Republican or Democrat), officeholder gender (male or female), and one of nine geographic regional classifications, as shown in Figure 1. Besley and Case (1995) supports the significance of geography. The study shows that political policy preferences in an electoral district mirror those of their neighboring districts. Their study examined tax-setting and incumbent vote seeking as a "yardstick competition." They found that voters make comparisons between tax rates in neighboring electoral jurisdictions and tend to vote in-line with those neighboring jurisdictions. This suggests that regional political preferences do exist and should be controlled for in a political model.

Spline regression variables were generated for tenure to highlight changes in incumbent performance, behavior, and abilities given the length of a member's time in office. The knots

were placed at 8 and 21 years and were chosen based on changes in the shape of the probability density curve of tenure as shown in Figure 2.

Earmarks were classified into ten types according to bill in which they were included. Alphabetically, they are:

- Agriculture, Rural Development, and Food and Drug Administration (FDA)
- Commerce, Justice, and Science
- Defense
- Energy and Water
- Financial Services
- Homeland Security
- Interior
- Labor, Health and Human Services (HSS), and Education
- Military Construction
- Transportation, Housing, and Urban Development.

The "Defense," "Homeland Security," and "Military Construction" earmark variables were consolidated into one variable, "Defense and Homeland Security Related Earmarks," because they all are for similar projects.

Preliminary Data Analysis

Preliminary analysis of the raw data suggest that: a) the incumbent's party, b) whether or not they represent a vulnerable district, c) their gender, and d) the geographical region of their district are important determinants of the amount of campaign contributions they receive and their ability to win reelection. A variety of differences are observed when the earmark descriptive statistics at the aggregate level are compared to those for the smaller specifications or "slices of pork." These differences suggest that simply analyzing earmarks in terms of the total or aggregate amount is insufficient. Additional analysis of earmarks in terms of the types of earmarks that members of Congress bring home appears to be essential to a comprehensive analysis of their electoral impact.

When it comes to campaign contributions, Democratic incumbents were more successful at receiving PAC contributions in 2010, as Table 1 shows. At the national level, Democrats averaged 25% more PAC contributions compared to Republicans. Both Democrat and Republican incumbents in vulnerable districts received roughly the same amount of PAC contributions (see Table 2). A district is considered "vulnerable" if: a) the district does not have a dominant partisan preference (a partisan voting index between -1 and 1), or b) the incumbent is of a political party opposite that of the district that he or she represents. When compared to safe districts, both vulnerable Democrats and Republicans took in almost twice the amount of PAC contributions as their safer counterparts.

Gender comparisons indicate that male incumbents average an additional 10% in PAC contributions compared to females. However, respect to both gender and party, male Democrats received the most, followed by female Democrats, then male Republicans, and lastly female Republicans.

Democrats in the 2010 Election were also slightly more successful at receiving contributions from individuals (see Table 3). Nationally, Democratic incumbents averaged $828,094, while Republicans averaged $807,809. When individual contributions were separated between vulnerable and safe districts, vulnerable Democrats averaged about 12% more contributions that vulnerable Republicans. It is interesting that "safe" Democrats, on the other hand, averaged about 12% fewer contributions than "safe" Republicans (see Table 4).

In terms of gender, female incumbents averaged 15% more individual contributions compared to males. Republican women averaged the most, followed by Democratic men, then Democratic women, with Republican men averaging the least. These differences in the raw contribution data may indicate that gender plays a role in soliciting certain campaign funds.

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The purpose of all of these campaign contributions, in theory, is to help the candidate who received the funds to win reelection. Individuals and PACs donate to political campaigns, in general, to help influence the outcome of the election. The reelection outcomes are shown in Table 5. Only one incumbent Republican in the sample lost his reelection bid. The percentage of Democratic incumbents who won reelection, however, varied greatly across the sample. When broken down by geographic region, there were very different electoral outcomes for the Democrats. The reelection outcomes ranged from 57% reelected to 97% reelected across the various regions. This further suggests that the physical area in which a person lives may have an influence on which candidate they vote for.

Among the vulnerable districts, only 32.3% of vulnerable Democrats won reelection, compared to 96.3% of "safe" democrats (see Table 6). This implies that the vulnerability of a district also has an impact on electoral outcomes.

A similar percentage of men and women were reelected, about 86% of each gender. However, within the Democratic Party, female Democrats fared slightly better than their male counterparts, 81% of Democratic women were reelected compared to 77% of Democratic men.

This study examines the impact of earmarks on campaign contributions and electoral outcomes. In terms of total earmark dollar amounts, Democrats at the national level averaged more than Republicans, as shown in Table 7. This comparison is the same between Democrats and Republicans in both vulnerable and safe districts, as Table 8 shows. However, Republican incumbents in vulnerable districts averaged more earmarks than Republicans in safer districts, while vulnerable Democrats averaged fewer earmarks than their safer counterparts. With respect to gender, female Democrats averaged the most earmark dollars, while female Republicans

brought home the least. Male Democrats brought home less than Democratic women, but more than Republican men. Republican men also brought home more than Republican women.

When earmarks were disaggregated by type, differences were observed between Republican and Democrat members, male and female members, vulnerable and safe districts, as well the geographic regions (see Appendix tables A & B). The degree at which the earmark data differs between the various specifications may suggest that non-earmark political variables, which are much more consistent in the sample, better indicate incumbent campaign contributions and the odds of an incumbent being reelected. Furthermore, the variability in the raw earmark data implies a need to concentrate and account for different types of earmarks. This also suggests that political factors may influence earmark spending in various areas. Thus political variables appear to be important to control for in the model.

It is also interesting to note that regardless of whether the variable in question is PAC contributions, individual contributions, electoral outcome, or total earmark dollar amounts, similar relationships exist among particular geographic regions. In general, the Sagebrush, Southwest and Farm Belt Regions, show similar relationships in their raw data, although the magnitudes may differ slightly. This is also true for the Deep South and Mid-Atlantic regions as a group, as well as the Midwest, Great Lakes, New England and West Coast regions. This suggests that the mere geographic region in which a candidate is running for election has an impact on the contributions they receive and their electoral outcome.

IV. Empirical Specification

To examine the full impact of earmarks on electability, two empirical models must be constructed. The first is a model with respect to campaign contributions for incumbent candidates in the U.S. House of Representatives (House). One could imagine the possibility of a

member of Congress directing earmark money back to the district with the hopes of receiving campaign contributions in return. After all, a lack of campaign funds can be an obstacle if one is trying to win an election. The second model is with respect to the probability of a House incumbent being reelected. Once again, it could be expected that that a member of Congress directs earmark money home with the foresight that it may give constituents an incentive to vote for his or her reelection. These two models could also be related. An increase in contributions could result in an increase in electability.

Earmark Influence on Campaign Contributions

To estimate the impact earmarks had on campaign contributions in the 2010 General Election, the following function was estimated using ordinary least squares (OLS):

$$[CONTRIBUTIONS_i] = \alpha + \beta E_i + \gamma P_i + \delta \mathcal{X}_i + \varepsilon_i.$$

CONTRIBUTIONS$_i$ represent incumbent campaign contributions in the ith district and are specified in three different ways. The first specification is total campaign contributions, which encompasses all contributions that an incumbent's congressional campaign received from all sources for the 2010 General Election. The second contribution specification is Political Action Committees (PACs), which are contributions from non-party, non-campaign affiliated, political groups (*Federal*, 2008). These PACs could be sponsored by a myriad of interests, like corporations or labor groups. The third specification for contributions is individual campaign contributions, which includes only contributions donated by individual people. Finally, *E* corresponds with the economic variables, *P* refers to the political variables, and $\mathcal{X}$ embodies the various earmark specifications by amount and type.

The Federal Election Commission has five classifications of campaign contributions. They are contributions from PACs, contributions from individuals, contributions given by

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political parties, contributions given by the candidates, and an "other" category that captures unique contributions that do not necessarily fall within the definitions of the other four categories. Figure 3 shows the breakdown of the average total campaign contributions for each region with respect to these five campaign contribution categories. Individual and PAC contributions account for almost all of the campaign contributions in each region of the sample. The other three FEC contribution categories, political party, candidate and "other" contributions, are minuscule by comparison. They are not analyzed individually for that reason. This study looks at contributions from PAC and individual contributions separately because together they account for over 95% of total contributions, on average, and one could imagine that the motivations behind an individual person contributing to a campaign are quite different from those of a large political organization.

The economic control variables (*E*) consist of the by-state quarterly unemployment rate and by-state quarterly per-capita income for the second quarter of 2010. Data from this particular time period was chosen because it was the economic information available to voters at the time when they made their voting decisions. To normalize the differences in population across states, the state personal income variable was divided by that state's population to create a per-capita state personal income variable[1].

The political variables (*P*) include the spline for tenure, the dummy variable that indicates Republican Party, the partisan voting index, the dummy variable that indicates a vulnerable seat or a toss-up district, as well as the dummy variables that control for the differences across the nine specified geographic regions. Of the nine regions, the Midwest was dropped to serve as the base case. It was chosen because it is in the middle of the country and is traditionally stereotyped as being "politically moderate" or "average."

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[1] Data at the district level would be preferred. However, at the time of this study it was not readily available.

The partisan voting index (PVI) is a discrete variable measuring how strongly a congressional district leans in favor of one political party. The larger the magnitude of the PVI, the stronger the district leans toward one party. For example, if two districts have a PVI of 25, one in favor of the Democratic Party and the other in favor of the Republican Party, the Democratic-leaning district would lean as strong to the Democratic Party as the other would to the Republican Party. The PVIs were modified so that the "Democrat-leaning" index values were expressed as negative numbers. This was done so that the PVI could be interpreted as one variable, opposed to one variable for how "Democrat" a district is and another for how "Republican." This single variable in the sample ranged from -41 to +29, with a zero-value indicating that the district did not lean toward one party or the other. As the value of the PVI variable increases, the district becomes less Democratic and more Republican with respect to voting preferences. Additionally, a "vulnerable district" dummy variable was created to identify "swing" districts and the most vulnerable incumbents. This is defined as a district with a PVI of one, negative one, zero, or a district in which the incumbent was of the opposite political party as what the PVI indicated. In other words, to be classified as a "vulnerable district," either the district is a "swing" district (PVI of one, negative one, or zero), or the incumbent has opposite partisan preferences of the district that he or she represents[2].

For each specification of $CONTRIBTUIONS_i$, the model is estimated multiple times. The estimations use various measures of the earmark variable, X. They include:

- The total dollar amount of all earmarks sponsored
- The average dollar amount per earmark sponsored
- The total number of earmarks

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[2] If an incumbent candidate is in a vulnerable district, it would be expected that more money would be contributed to and spent on their reelection campaign. Additionally, if an incumbent is vulnerable, he or she would likely spend more time and legislative resources to secure earmark money for their district. Thus, earmark money can be used as a proxy for effort.

- The total number of earmarks broken down by the eight types
- Each of the eight types of earmarks individually.

Estimating the equation multiple times with different specifications of the earmark variable enables the model to account for various ways in which earmarks, or "pork," is distributed, or "sliced," for a congressional district. ε_i represents the stochastic term, which is assumed to be an independent and identically distributed normal error. A Breusch-Pagan/Cook-Weisberg test for heteroskedasticity is performed for each regression. If heteroskedasticity is detected, the model is re-estimated to include a correction for robust errors.

Earmark Influence on Incumbent Re-electability

A logit model is used to estimate the impact earmark spending has on the odds of an incumbent member of the House being reelected. It is as follows:

$$L[WIN_i] = \alpha + \beta E_i + \gamma P_i + \delta X_i + \theta D_i + \lambda O_i + \mu_i$$

where WIN_i is a dichotomous variable which is equal to one if the incumbent candidate won reelection, and zero otherwise. $E, P,$ and X correspond with the same economic, political and earmark variables as in the previous $CONTRIBUTIONS_i$ function. Additionally, the variable D represents the total disbursements of the incumbent House member's reelection campaign. In other words, it is the total amount of money spent by the campaign to win the election. Finally, O is the variable for net outside spending. It is defined as the difference between the amount of money spent by outside sources in support of the incumbent candidate and against the incumbent candidate.

O is included because in every election there are various outside sources that may have an impact on the outcome. These sources could include labor unions, special interest groups or grassroots organizations. These outside sources spend money, independent of the candidate, to influence the election outcome in line with their views. To create a measure of outside spending

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that is easier to compare across congressional districts, the variable for outside spending against the incumbent was subtracted from the spending in favor of the incumbent. This captures the net amount of outside money spent to influence an election's outcome. A negative value would represent more money being spent against the incumbent, while a positive value represents more outside money being spent in support of the incumbent.

μ_i represents the stochastic term. Given that the dependent variable is dichotomous, it is assumed to follow a logistic distribution and be symmetrically distributed around zero.

V.   Results

The following subsections discuss the results of both the OLS regressions that estimate campaign contributions and the logit regressions that estimate the odds of incumbents winning reelection. These results are related to one another, and thus have to be discussed together. This section begins with an analysis of earmarks with respect to their influence on both PAC and individual campaign contributions. Next, the political factors are examined, and then the economic factors. Finally, the net outside spending variable included in the reelection odds model is interpreted. Table 9 shows the estimation results for PAC contributions, Table 10 the estimation results for individual contributions, and Table 11 the results for the estimation with respect to the odds of being reelected. Total Contributions was also one of the specifications for the *CONTRIBUTIONS$_i$* variable that was estimated. The total contribution results are not be discussed here because the relationship between PAC and individual contributions are not only more interesting, but combined, these two differing contribution sources make up, on average, over 95% of total contributions. For the interested reader, the total contribution results are reported in Table 12.

Earmarks

      Earmarks showed no statistical impact on an incumbent House member's ability to raise campaign funds or the likelihood that he or she was reelected. This was regardless of how the "pork" was "sliced[3]," by: (a) total amount (Column 1, Tables 9 and 10), (b) per-unit dollar amount (Column 2, Tables 9 and 10), or (c) type of earmark (Columns 4-9, Tables 9 and 10). The results disprove the stereotype advanced by popular press and political pundits that politicians use taxpayer-funded earmarks to influence their future electoral prospects. This can be further explained by analyzing previous research on Political Action Committees (PACs) and lobbying efforts.

      Column 1 in Table 9 shows that for every $1 million dollar increase in total earmark dollars, incumbents could expect an average increase of $60 of PAC contributions. However, this result is not statistically significant. In fact, in regards to PACs, earmarks appear to have no statistical impact on the amount of contributions to incumbent congressional campaigns. A study by Hall and Wayman (1990) indicates that the way in which a representative votes is less important than their willingness to advance the PAC's ideology. PACs do not have legislative resources of their own, thus they contribute to like-minded Congressmen and women to encourage them to allocate their legislative resources in line with the PACs interests (Hall and Wayman, 1990). Beyond this, earmarks do not matter. After all, a PAC is traditionally larger than any individual congressional district, thus it would be expected that the money that

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[3] Tables 9, 10, 11, and 12 show some variables that change from statistical significance depending on how the earmark variable was specified. This always occurred when the Financial Services earmark variable was included as an explanatory variable in the campaign contribution specifications. This variable consistently had a positive slope coefficient. The significance of this particular earmark variable could be due to the difficult economic situation that the country was in during the 111th Congress and the large amount of attention that bills pertaining to financial services received. Neither the campaign contribution models nor the reelection likelihood model had any coefficient sign changes between the different specifications of the regressions. The occasional change to statistical significance for a variable given a change in the earmark specification could simply be attributed to district tastes and preferences that research simply is not able to adequately quantify at this time.

members of Congress bring home to their particular districts does impact the amount of money that they receive from PACs.

In a related study, Hall and Deardorff (2006) show that when lobbying activities are controlled for, PAC contributions are shown to have little direct effect on a legislator's effort. Securing earmarks does take legislator effort. They further find that PACs contribute the most to lawmakers who already agree with them, rather than those who are undecided. Rather than working to influence as many lawmakers as possible, PACs appear to purchase lobbying access to encourage already issue-friendly legislators to advance their agenda in Congress (Hall and Deardorff, 2006). In other words, PACs support members of Congress who have the same agenda. Since PACs are not the representative's constituents, the earmark money a member of Congress brings home is likely of little direct importance to them.

Wright (1990) finds that lobbying efforts, not campaign contributions best explain congressional voting behavior. Wright's study indicates that PAC contributions are simply a good indicator of a future lobbying behavior. PAC contributions do not "buy votes" in Congress. Instead, they appear to purchase access to the politicians for the PAC's lobbyists (Wright, 1990). Politicians cannot use earmarks to entice PACs to contribute to their campaigns. Rather, politicians need to make time for the PAC's lobbyists after they are elected in order to continue receiving PAC contributions.

With respect to individual contributions, earmarks also did not prove to be statistically significant for all but one specification. Previous work by Gimpel, Lee and Kaminski (2006), sheds light on this result. They study the sources of campaign contributions across the country and find that although regional voting trends may exist, there is a donor base in practically every neighborhood for both political parties. In other words, regardless of how much money an

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incumbent brings back to the district, there will still be supporters in that district to contribute to the incumbent's campaign. By providing evidence that earmarks do not have a statistically significant impact on individual contributions, this study complements the findings of Gimpel, Lee and Kaminski. Their research shows that candidates can find at least some campaign contributions from individuals anywhere. This study shows that earmarks do not necessarily encourage any additional contributions from individuals.

Earmarks also do not have a statistical impact on the likelihood of an incumbent member of Congress being reelected. In light of what was found above, it follows that if earmarks do not appear to influence political behavior in terms of campaign contributions, they are likely not to influence political behavior at the ballot box.

Political Factors

Both Partisan Voting Index (PVI) and the vulnerable district variable were statistically significant with positive coefficients for the PAC, individual and total contribution specifications. Besley and Case (1995) support this result. They show that incumbent behavior reflects voter tastes and preferences instead of the incumbent's choices having an influence on voter behavior. The more partisan a district leans, the larger the support base is likely to be for one particular political party. This makes it easier for a candidate who fits that district's tastes and preferences to collect contributions. Recall that the PVI variable was constructed so that as the PVI increased the district leaned more in favor of the Republican Party. The positive PVI coefficient is interpreted as roughly a $17,000 increase in total campaign contributions for every degree that a district becomes more Republican[4]. This interpretation reflects how well the Republicans did in the 2010 Election. After all, only one incumbent Republican in the sample lost his reelection bid.

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[4] Roughly $10,000 and $6,000 increase in PAC and individual contributions, respectively.

The positive coefficient on the vulnerable district variable indicates that candidates who appeared to have a more difficult reelection bid received more contributions, on average, than candidates in safer districts. As Besley and Case (1995) point out, voters in a district are able to recognize how well a candidate matches the district's tastes and preferences. When an incumbent does not fit the district's views, this too can likely be recognized. If this is the case, the individuals and groups that want to keep the ill-fitting incumbent in office are likely to increase their contributions to provide additional assistance in the reelection campaign.

Although PVI was a significant variable for contributions, it was not significant in the reelection odds model. This result is expected. The incumbent was already elected at least once, which means that he or she is already sufficiently aligned with the views of the voters. As long as the district's party preferences remain relatively the same between the 2008 and 2010 elections, one would imagine that it would not further work to increase or decrease their odds of retaining the office[5]. Vulnerable District did, however, make an incumbent's reelection roughly 0.05 times less likely. These districts are highly competitive because either the incumbent's ideology does not necessarily match that of the district, or the voter preferences in the district do not lean toward any particular party. Given the apparent ease at which a district seems to elect those whom best represent their ideals, being a candidate that does not necessarily agree with the district he or she represents would most likely be put at a disadvantage.

Both the contribution and reelection odds models showed interesting results with respect to tenure. In the total and individual campaign contribution models, tenure has a negative, statistically significant coefficient for members who served less than eight years. Newer members of Congress do not have as long of a voting record as the members with a longer tenure

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[5] This study only offers a snapshot of the 2010 General Election. It would be interesting for further study to see how PVI impacts election likelihoods over multiple elections that span a substantial period of time.

(serving more than eight years). This may make it more difficult for contributors to ascertain how the member may vote or what their political views actually are, making individual contributors, in particular, more hesitant to donate to their campaigns.

If a member serves longer than eight years, however, there appears to be no statistical impact on the ability to earn individual campaign contributions. Members with a longer tenure have been in office long enough for donors to have, in general, a good idea of who they are and where they stand on particular issues. This, perhaps, makes donors more comfortable because they actually know who it is that their money is going to support.

No tenure variable is shown to be statistically significant when PAC contributions are the dependent variable. It is not surprising. As previously explained, PACs are primarily concerned with ideology and support for their lobbying efforts. A member of Congress' ability to do this is not necessarily dependent on how long they have been in office.

With respect to an incumbent's likelihood of being reelected, tenure of less than eight years has a positive, statistically significant coefficient. This indicates that newer members are approximately 1.62 times more likely to win reelection. Like the contribution results, this could be due to how well the electorate knows the candidate. The newer members of Congress do not have as large of a voting record as longer serving members. Voters, being less familiar with the newer members, may have an easier time voting for their reelection. This may run contrary to conventional wisdom, however, it could also be the case that voters are more likely to vote for a lesser known or lesser experienced incumbent, opposed to a challenger who, comparatively, may have no previous legislative reputation and even less experience as an officeholder. Also, at the same time, incumbents who have served less than eight years may not have been in office long enough attract the kind of attention that could alienate some of their electorate.

Finally, with respect to geographical regions, the Southwest and the Deep South were both statistically significant for PAC contributions. Gimpel, Lee and Kaminski (2006) also shed light on these findings. Their study shows that Democrats tend to do better at collecting campaign funds from groups and in more densely populated areas of the country. Not only are the Southwest and Deep South areas less densely populated, they have conservative leaning PVIs. Thus, it is not surprising that incumbents from the Southwest and the Deep South receive roughly $165,000 and $145,000 less in PAC contributions, respectively.

Economic Factors

The unemployment rate was not shown to be statistically significant. This could simply because statewide data was used. This is because unemployment rate varies across the different districts within a state. The positive, statistically significant coefficient for the per-capita income variable with respect to total and individual contributions, however, is not surprising. As average income increases, it follows that the income available to give to campaigns would also increase.

Net Outside Spending

The net outside spending variable was used to capture the money that was spent by non-campaign interests in favor of the incumbent candidate. The estimation shows that for every $100 increase in net outside spending in favor of the incumbent, they become roughly ten times more likely to win reelection. This is because the incumbent is benefiting from additional money and support that they do not have to use their campaign resources to obtain, and to which their opponent does not necessarily have access.

VI.   Conclusion

Using newly available data on congressional earmarks, this study offers a comprehensive analysis of how earmarks impacted the campaign contributions received by incumbent members of the United States House of Representatives in 2010. It also looks at how earmarks affected the likelihood that they would win their reelection bid. The findings suggest that the impact of earmarks on contributions or reelection odds is insignificant.

This study reinforces previous research on campaign contributions and election outcomes. The difference is that this research is done with respect to earmarks. The findings indicate that, in general, earmarks are not statistically significant when included in a model of campaign contributions or reelection likelihood. However, like the previous research, the political factors that were controlled for did show statistical significance.

After controlling for political factors, this study finds that in the 2010 election cycle a district's PVI and its vulnerability had a significant influence on contributions from both political action committees (PACs) and individuals. The raw data indicates that incumbents in vulnerable districts receive, on average, more campaign contributions. This is also expressed in the OLS regression results. They show that vulnerable district incumbents average roughly $312,000 more in PAC contributions, and $240,000 more in individual contributions. Additionally, with respect to the election outcomes, the raw data indicates a difference between vulnerable and safe districts. Only about 42% of candidates in vulnerable districts were reelected, while the rate in safe districts was 98%. This 56% disparity in the raw data is reflected in the logit reelection likelihood estimation results, which indicate that district vulnerability has a negative impact on an incumbent's reelection odds.

Previous research and the raw data indicate that Democrats are more successful in obtaining contributions from PACs and in areas of the country that have a higher population density. This is reinforced by the PAC contribution estimation results. These results indicate a negative, statistically significant coefficient on the political party dummy variable (which identifies Republicans), as well as also show that incumbents in less densely populated regions (the Southwest and Deep South) receive fewer PAC contributions.

The tenure of an incumbent had an interesting influence on individual contributions and the likelihood of reelection. The individual contribution estimation results show that incumbents who served less than eight years received roughly $57,000 less, on average, than their colleagues with greater tenure. Given how relatively new they are to the office, individual contributors may be less willing to donate because of a lack of familiarity with the candidate's background and views. That being said, with respect to the likelihood of being reelected, there were positive odds associated with serving less than eight years. Voters may be more likely to vote for a less-experienced incumbent because they are not as familiar with the incumbent's views or their smaller voting record. Longer serving incumbents, on the other hand, may have been in office long enough to alienate, or at least lose favor with, some voters, that perhaps makes their reelection odds less certain.

This study, unlike the previous, also controls for economic variables. The results show that the per-capita income coefficient is positive and statistically significant for both individual and total contributions. Essentially, this indicates that as income for individuals increase, their disposable income likely increases as well. When people have additional disposable income, they have more money to contribute to political campaigns. The fact that per-capita income is also significant for the total contribution estimations should be expected because individual

contributions make up a large percentage of total contributions. After all, as individual

contributions increase, total contributions naturally increase as well.

Finally, net outside spending was included in the logit reelection likelihood estimations.

The positive coefficient associated with the odds ratio indicate that as more non-campaign

money was spent in favor of the incumbent candidate, without any additional money being spent

on the challenger, the likelihood that the incumbent would be reelected increased. The improved

odds are likely because net outside spending captures the difference between outside spending on

the incumbent and outside spending on the challenger. As the magnitude of the variable

increases, the disparity between money spent on the incumbent increases, giving them an

additional financial advantage.

With respect to earmark variables, the results of this study differ from the previous

research done specifically on earmarks and federal spending. Previous studies did find some

significant relationships between earmarks, campaign contributions, and electoral outcomes.

This is understandable, however, given that the previous that research did not account for a

number of factors. For example, the previous studies did not control for economic variables.

These variables need to be included because economic circumstances have an impact on how

individuals spend their money, and our politicians make decisions that have a great impact on

those economic circumstances. This study also uses the PVI, a better measure for identifying

district voting preferences and vulnerable districts. Both the PVI and vulnerable district

indication are needed in the model to help differentiate between the types of constituents in the

district and the political climate. After all, the raw data indicate that politicians tend to send

extra money to vulnerable districts in which the incumbent may need more electoral assistance.

Finally, the wide degree of variance in the descriptive statistics of the earmark variables suggests

that they need to be disaggregated into "slices" and analyzed at both the aggregate and disaggregated levels for a comprehensive analysis, as this study does.

This study also invites further inquiry as to the incentives behind politicians putting forth the effort to bring home "pork." If the earmarks politicians bring home do not impact their fundraising ability or reelection likelihoods, it leads one to question as to why they have any motivation to bring home earmarks at all. It could be the case that earmarks are brought home by politicians for reasons other than soliciting campaign contributions or improving their electability. Perhaps earmarks are a way for politicians to boost their egos, or perhaps to compensate for not doing other official activities, such as constituent outreach or legislative activates. It could be the case that politicians may not have to hold has many town hall meetings, march in as many parades, be as active on congressional committees, or author as much important legislation if they bring home enough "pork" to their constituents.

Finally, due to the lack of data for multiple sessions of Congress, this study can only provide a snapshot of what influenced the 2010 General Election results. Based on this study, it does not appear that our politicians spend federal earmark money in a way that directly influences their own future electoral prospects, and even if they tried, there is additional evidence that they would not receive any significant benefit from doing so. However, after additional earmark data from future sessions of Congress is available, the apparent insignificance of earmarks may prove to only be true for a unique set of circumstances. For example, earmark expenditures may be found to only be insignificant in midterm election years, or when the country is experiencing economic difficulties. This additional research, however, has to wait until at least after the 2012 Election, if not later, in order to build on this early analysis of the political implications associated with earmark spending.
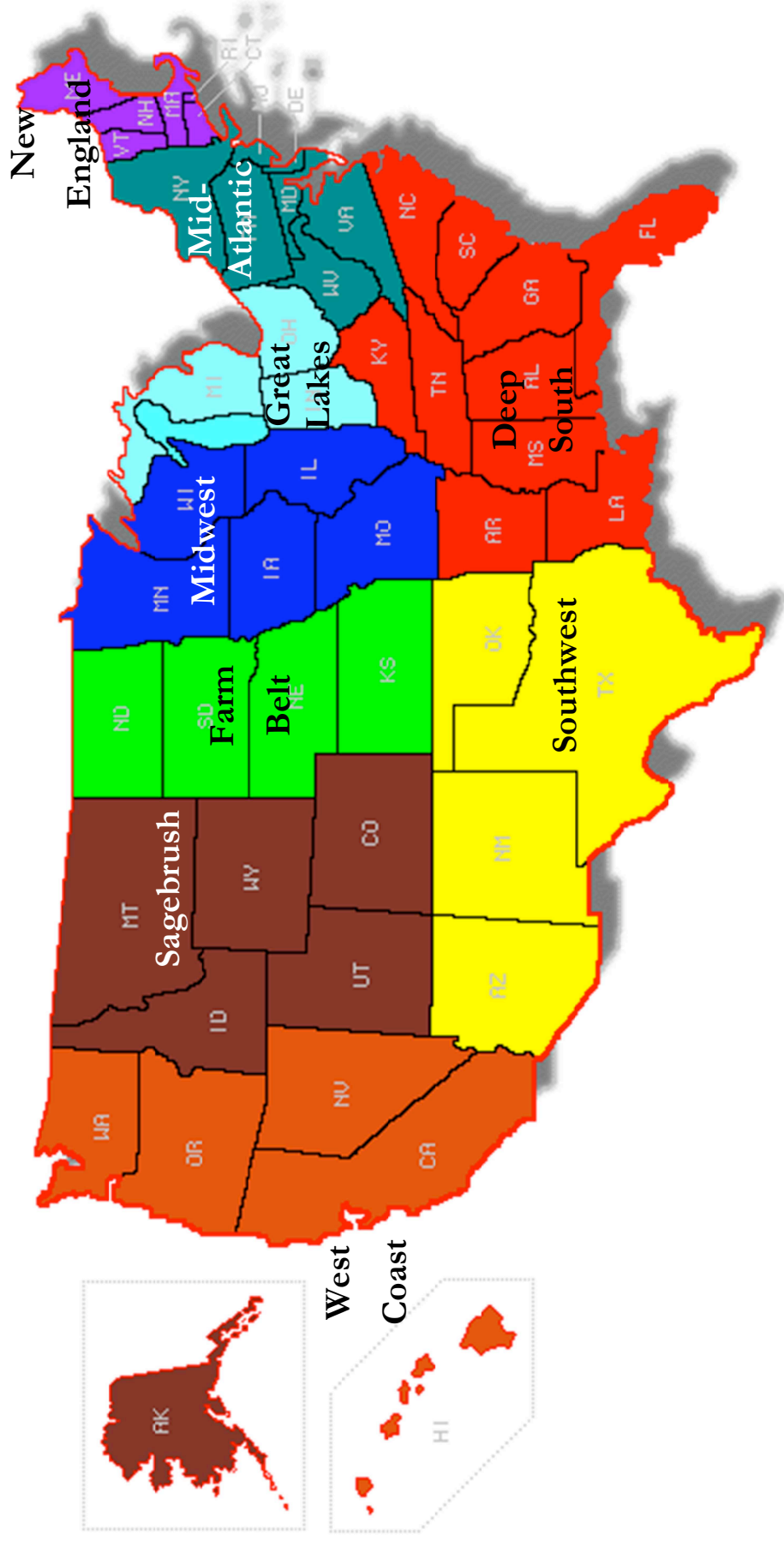
Figure 1: Regional Classifications

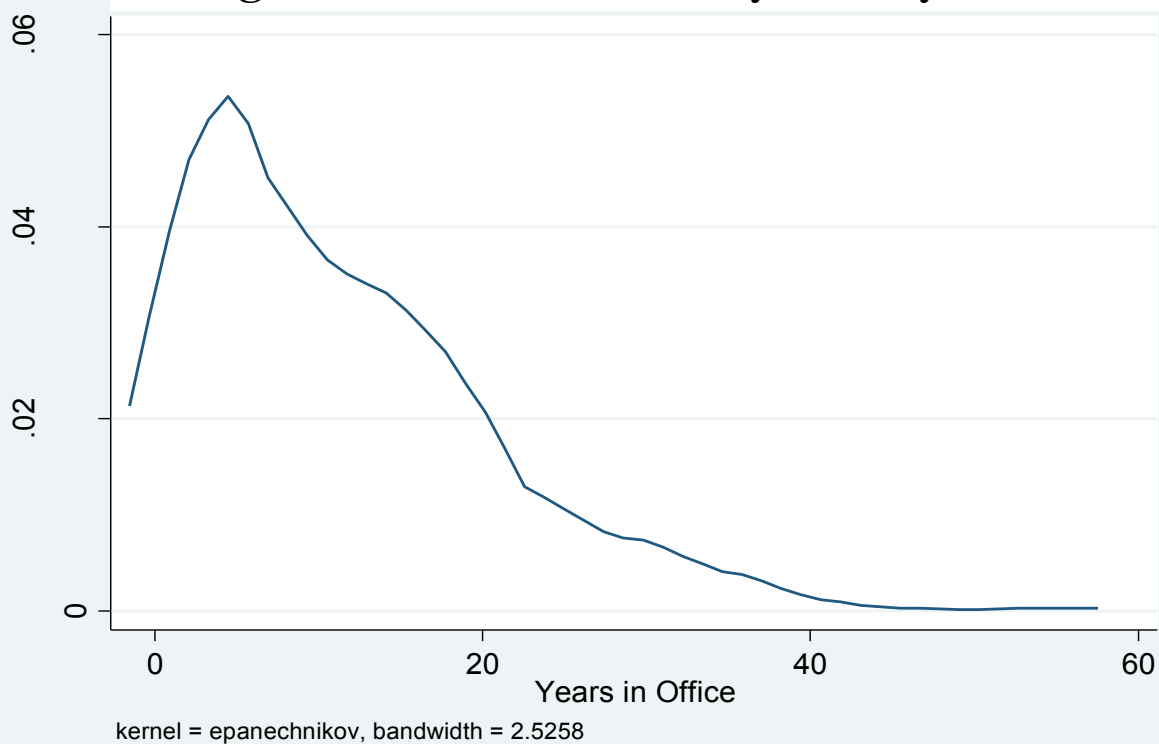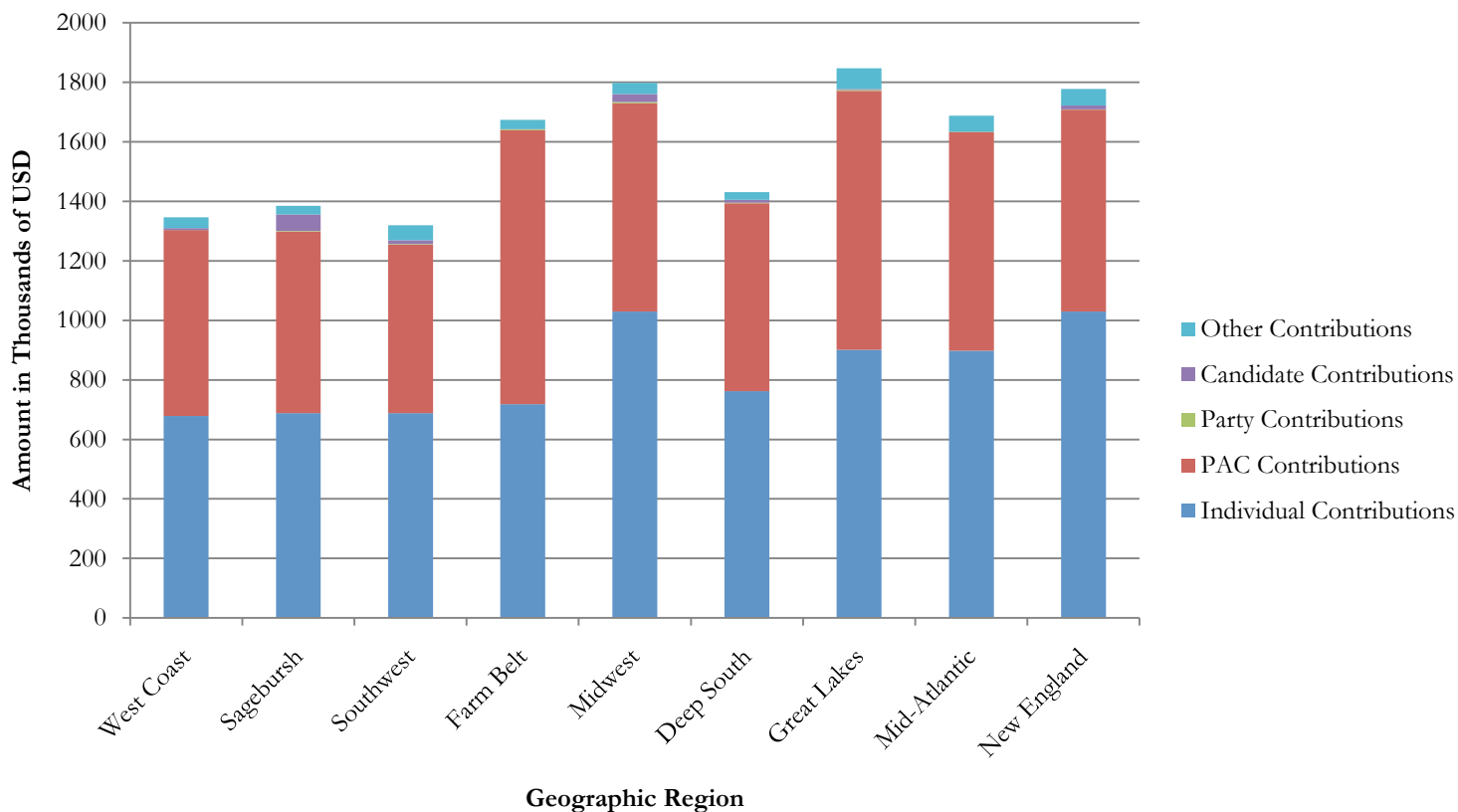# Figure 2: Tenure Probability Density Curve

kernel = epanechnikov, bandwidth = 2.5258

Figure 3: Regional Campaign Contributions

	Table 1: Campaign Contributions from Political Action Committees (PACs) (in Thousands of USD)					
	Variable	Observations	Mean	Std. Dev.	Min.	Max.
Nationwide	**National**	383	678.735	404.159	0.000	2,857.030
	Democrat	228	738.923	396.045	2.000	2,857.030
	Won	178	653.508	374.664	2.000	2,857.030
	Lost	50	1,043.001	314.205	456.917	1,999.179
	Republican	155	590.200	400.903	0.000	2,690.870
	Won	154	591.339	401.960	0.000	2,690.870
	Lost	1	414.870	•	414.870	414.870
Regional	**West Coast**	66	625.019	300.355	98.350	1,548.100
	Democrat	43	621.499	300.824	101.150	1,548.100
	Won	42	612.464	298.507	101.150	1,548.100
	Lost	1	1,000.980	•	1,000.980	1,000.980
	Republican	23	631.600	306.116	98.350	1,260.328
	Sagebrush	15	609.209	439.498	2.000	1,480.000
	Democrat	7	903.658	492.910	2.000	1,480.000
	Won	4	776.142	655.580	2.000	1,480.000
	Lost	3	1,073.680	91.221	997.445	1,174.746
	Republican	8	351.566	124.508	168.450	524.574
	Southwest	46	565.974	291.511	29.670	1,331.740
	Democrat	21	658.312	285.774	217.050	1,331.740
	Won	15	571.273	257.330	217.050	1,082.680
	Lost	6	875.908	248.414	585.367	1,331.740
	Republican	25	488.411	278.482	29.670	1,175.517
	Farm Belt	6	921.149	644.835	141.250	1,999.179
	Democrat	2	1,582.819	588.821	1,166.460	1,999.179
	Lost	2	1,582.819	588.821	1,166.460	1,999.179
	Republican	4	590.314	373.688	141.250	1,036.627
	Midwest	45	700.559	337.904	233.579	1,523.711
	Democrat	27	716.372	354.066	269.517	1,523.711
	Won	20	580.054	273.292	269.517	1,223.749
	Lost	7	1,105.853	260.390	862.501	1,523.711
	Republican	18	676.839	320.624	233.579	1,290.546
	Deep South	75	631.397	361.279	9.000	2,157.840
	Democrat	34	810.674	411.731	348.005	2,157.840
	Won	23	739.470	421.647	348.005	2,157.840
	Lost	11	959.553	363.664	456.917	1,790.162
	Republican	41	482.729	227.238	9.000	1,021.400
	Won	40	484.425	229.870	9.000	1,021.400
	Lost	1	414.870	•	414.870	414.870
	Great Lakes	35	870.389	578.603	134.764	2,690.870
	Democrat	20	837.845	395.844	134.764	1,515.276
	Won	13	724.059	416.044	134.764	1,394.016
	Lost	7	1,049.161	264.309	704.744	1,515.276
	Republican	15	913.780	772.565	237.820	2,690.870
	Mid-Atlantic	76	733.935	473.705	0.000	2,857.030
	Democrat	55	761.647	463.168	114.250	2,857.030
	Won	43	663.252	459.779	114.250	2,857.030
	Lost	12	1,114.231	269.274	657.686	1,513.085
	Republican	21	661.356	504.605	0.000	2,449.528
	New England	19	677.986	343.551	242.184	1,474.021
	Democrat	19	677.986	343.551	242.184	1,474.021
	Won	18	688.096	350.590	242.184	1,474.021
	Lost	1	495.994	•	495.994	495.994
	Republican	0	•	•	•	•
Gender	**Male**	314	692.339	420.321	0.000	2,857.030
	Democrat	175	771.728	407.595	2.000	2,857.030
	Republican	139	592.388	416.148	0.000	2,690.870
	Female	69	616.827	315.705	98.350	1,548.100
	Democrat	53	630.603	336.494	101.150	1,548.100
	Republican	16	571.194	237.526	98.350	914.437

Table 2: Campaign Contributions from Political Action Committees (PACs)
(in Thousands of USD)

Variable	Observations	Mean	Std. Dev.	Min.	Max.
Vulnerable Districts	78	993.392	317.908	364.695	1,999.179
Democrat	65	1,005.664	306.210	456.917	1,999.179
Won	21	937.284	240.750	572.727	1,480.000
Lost	44	1,038.300	330.492	456.917	1,999.179
Republican	13	932.033	378.855	364.695	1,729.417
Won	12	975.130	360.886	364.695	1,729.417
Lost	1	414.870	•	414.870	414.870
Safe Districts	305	598.265	384.391	0.000	2,857.030
Democrat	163	632.554	377.903	2.000	2,857.030
Won	157	615.550	373.561	2.000	2,857.030
Lost	6	1,077.474	162.941	868.724	1,326.070
Republican	142	558.905	389.316	0.000	2,690.870
Won	142	558.905	389.316	0.000	2,690.870
Lost	0	•	•	•	•

	Variable	Observations	Mean	Std. Dev.	Min.	Max.
Nationwide	**National**	383	819.884	889.940	44.420	12,959.900
	Democrat	228	828.094	629.055	44.420	4,661.840
	Won	178	700.515	499.973	44.420	2,865.404
	Lost	50	1,282.275	812.776	270.649	4,661.840
	Republican	155	807.809	1,175.169	108.235	12,959.900
	Won	154	802.360	1,177.037	108.235	12,959.900
	Lost	1	1,646.875	•	1,646.875	1,646.875
Regional	**West Coast**	66	678.544	402.464	44.420	1,963.000
	Democrat	43	637.046	404.814	44.420	1,963.000
	Won	42	615.841	384.793	44.420	1,963.000
	Lost	1	1,527.638	•	1,527.638	1,527.638
	Republican	23	756.128	395.043	181.849	1,726.001
	Sagebrush	15	688.891	647.336	109.576	2,486.579
	Democrat	7	1,017.031	811.943	298.921	2,486.579
	Won	4	551.038	493.047	298.921	1,290.582
	Lost	3	1,638.355	774.433	969.021	2,486.579
	Republican	8	401.769	266.690	109.576	853.062
	Southwest	46	688.878	474.623	156.762	2,313.468
	Democrat	21	835.530	625.402	197.329	2,313.468
	Won	15	691.573	583.228	197.329	2,286.026
	Lost	6	1,195.422	628.076	520.837	2,313.468
	Republican	25	565.690	248.616	156.762	1,068.387
	Farm Belt	6	718.436	246.564	411.402	1,011.806
	Democrat	2	957.723	76.485	903.640	1,011.806
	Lost	2	957.723	76.485	903.640	1,011.806
	Republican	4	598.793	205.219	411.402	818.940
	Midwest	45	1,029.649	1,903.118	83.138	12,959.900
	Democrat	27	727.784	519.946	83.138	2,249.054
	Won	20	579.918	408.096	83.138	1,347.097
	Lost	7	1,150.259	602.490	457.655	2,249.054
	Republican	18	1,482.446	2,932.395	108.235	12,959.900
	Deep South	75	762.313	735.078	130.183	4,661.840
	Democrat	34	794.993	802.523	145.767	4,661.840
	Won	23	572.535	274.396	145.767	1,149.469
	Lost	11	1,260.133	1,268.025	396.196	4,661.840
	Republican	41	735.212	683.105	130.183	4,262.589
	Won	40	712.420	675.835	130.183	4,262.589
	Lost	1	1,646.875	•	1,646.875	1,646.875
	Great Lakes	35	901.387	961.587	151.178	5,574.712
	Democrat	20	819.664	570.177	151.178	2,072.974
	Won	13	637.746	488.767	151.178	2,030.832
	Lost	7	1,157.511	588.927	270.649	2,072.974
	Republican	15	1,010.352	1,334.955	268.627	5,574.712
	Mid-Atlantic	76	898.346	624.454	133.925	3,080.066
	Democrat	55	948.899	659.384	133.925	3,080.066
	Won	43	807.257	534.620	133.925	2,123.731
	Lost	12	1,456.452	826.830	624.232	3,080.066
	Republican	21	765.944	512.760	162.983	2,624.718
	New England	19	1,029.946	725.730	263.217	2,865.404
	Democrat	19	1,029.946	725.730	263.217	2,865.404
	Won	18	1,026.620	746.621	263.217	2,865.404
	Lost	1	1,089.819	•	1,089.819	1,089.819
	Republican	0	•	•	•	•
Gender	**Male**	314	788.782	656.518	44.420	5,574.712
	Democrat	175	836.530	640.356	44.420	4,661.840
	Republican	139	728.668	673.822	108.235	5,574.712
	Female	69	961.422	1,562.179	117.120	12,959.900
	Democrat	53	800.239	595.218	117.120	2,486.579
	Republican	16	1,495.340	3,072.314	274.885	12,959.900

Table 4: Campaign Contributions from Individuals (in Thousands of USD)

Variable	Observations	Mean	Std. Dev.	Min.	Max.
Vulnerable Districts	78	1,119.065	711.527	229.307	4,661.840
Democrat	65	1,142.064	748.079	229.307	4,661.840
Won	21	867.617	541.641	229.307	2,286.026
Lost	44	1,273.050	801.330	270.649	4,661.840
Republican	13	1,004.069	496.716	322.614	1,821.713
Won	12	950.502	477.978	322.614	1,821.713
Lost	1	1,646.875	•	1,646.875	1,646.875
Safe Districts	305	743.373	915.494	44.420	12,959.900
Democrat	163	702.891	527.325	44.420	3,080.066
Won	157	678.164	491.680	44.420	2,865.404
Lost	6	1,349.926	972.303	457.655	3,080.066
Republican	142	789.841	1,217.980	108.235	12,959.900
Won	142	789.841	1,217.980	108.235	12,959.900
Lost	0	•	•	•	•

Table 5: 2010 Incumbent Reelection Outcomes

	Variable	Observations	Percentage Reeelcted
Nationwide	**National**	383	87%
	Democrat	228	78%
	Republican	155	99%
Regional	**West Coast**	66	98%
	Democrat	43	98%
	Republican	23	100%
	Sagebrush	15	80%
	Democrat	7	57%
	Republican	8	100%
	Southwest	46	87%
	Democrat	21	71%
	Republican	25	100%
	Farm Belt	6	67%
	Democrat	2	0%
	Republican	4	100%
	Midwest	45	84%
	Democrat	27	74%
	Republican	18	100%
	Deep South	75	84%
	Democrat	34	68%
	Republican	41	98%
	Great Lakes	35	80%
	Democrat	20	65%
	Republican	15	100%
	Mid-Atlantic	76	84%
	Democrat	55	78%
	Republican	21	100%
	New England	19	95%
	Democrat	19	95%
	Republican	0	•
Gender	**Male**	314	87%
	Democrat	175	77%
	Republican	139	99%
	Female	69	86%
	Democrat	53	81%
	Republican	16	100%

Table 6: 2010 Incumbent Reelection Outcomes

Variable	Observations	Percentage Reeelcted
Vulnerable Districts	78	42%
Democrat	65	32%
Won	21	100%
Lost	44	0%
Republican	13	92%
Won	12	100%
Lost	1	0%
Safe Districts	305	98%
Democrat	163	96%
Won	157	100%
Lost	6	0%
Republican	142	100%
Won	142	100%
Lost	0	•

Table 7: Total Earmark Dollar Amount (in Millions of USD)

	Variable	Observations	Mean	Std. Dev.	Min.	Max.
Nationwide	**National**	383	60.621	80.208	0.000	529.984
	Democrat	228	72.725	84.959	0.000	529.984
	Won	178	75.627	86.102	0.000	529.984
	Lost	50	62.395	80.740	0.000	385.157
	Republican	155	42.817	69.157	0.000	460.987
	Won	154	41.805	68.220	0.000	460.987
	Lost	1	198.748	•	198.748	198.748
Regional	**West Coast**	66	62.263	79.729	0.000	529.984
	Democrat	43	76.624	92.872	2.250	529.984
	Won	42	77.759	93.695	2.250	529.984
	Lost	1	28.940	•	28.940	28.940
	Republican	23	35.413	34.036	0.000	101.495
	Sagebrush	15	62.533	69.541	0.000	196.429
	Democrat	7	45.208	41.761	0.000	107.769
	Won	4	64.768	44.258	10.192	107.769
	Lost	3	19.128	22.544	0.000	43.983
	Republican	8	77.692	87.260	0.000	196.429
	Southwest	46	59.998	80.228	0.000	350.429
	Democrat	21	101.045	99.651	4.735	350.429
	Won	15	111.432	114.135	4.735	350.429
	Lost	6	75.078	45.975	14.147	145.148
	Republican	25	25.518	32.873	0.000	130.884
	Farm Belt	6	117.399	139.370	16.800	338.055
	Democrat	2	292.549	64.356	247.042	338.055
	Lost	2	292.549	64.356	247.042	338.055
	Republican	4	29.824	17.750	16.800	56.000
	Midwest	45	43.797	43.592	0.000	152.083
	Democrat	27	52.087	43.652	0.000	152.083
	Won	20	47.373	37.387	0.000	136.963
	Lost	7	65.556	59.541	9.185	152.083
	Republican	18	31.362	41.607	0.000	139.629
	Deep South	75	82.660	107.031	0.000	460.987
	Democrat	34	89.501	102.834	0.000	429.272
	Won	23	85.969	102.017	0.000	429.272
	Lost	11	96.884	109.141	11.992	385.157
	Republican	41	76.987	111.337	0.000	460.987
	Won	40	73.943	111.014	0.000	460.987
	Lost	1	198.748	•	198.748	198.748
	Great Lakes	35	21.592	22.318	0.000	74.946
	Democrat	20	30.861	23.920	2.799	74.946
	Won	13	38.454	25.779	2.799	74.946
	Lost	7	16.760	11.222	6.179	33.179
	Republican	15	9.233	12.111	0.000	35.275
	Mid-Atlantic	76	62.227	80.573	0.000	332.405
	Democrat	55	75.369	90.268	4.284	332.405
	Won	43	90.009	97.057	4.284	332.405
	Lost	12	22.908	13.901	6.181	52.989
	Republican	21	27.806	25.013	0.000	89.500
	New England	19	55.319	42.103	6.772	163.102
	Democrat	19	55.319	42.103	6.772	163.102
	Won	18	53.891	42.848	6.772	163.102
	Lost	1	81.028	•	81.028	81.028
	Republican	0	•	•	•	•
Gender	**Male**	314	58.766	78.140	0.000	529.984
	Democrat	175	69.951	81.290	0.000	529.984
	Republican	139	44.685	71.824	0.000	460.987
	Female	69	69.063	89.146	0.000	429.272
	Democrat	53	81.884	96.366	2.250	429.272
	Republican	16	26.593	36.459	0.000	139.629

Table 8: Total Earmark Dollar Amount (in Millions of USD)

Variable	Observations	Mean	Std. Dev.	Min.	Max.
Vulnerable Districts	78	55.270	69.941	0.000	385.157
Democrat	65	56.027	72.121	0.000	385.157
Won	21	42.674	39.202	2.799	162.069
Lost	44	62.399	83.056	0.000	385.157
Republican	13	51.489	60.241	0.000	198.748
Won	12	39.218	42.699	0.000	140.804
Lost	1	198.748	•	198.748	198.748
Safe Districts	305	61.990	82.679	0.000	529.984
Democrat	163	79.384	88.897	0.000	529.984
Won	157	80.034	89.715	0.000	529.984
Lost	6	62.363	67.536	11.623	152.083
Republican	142	42.023	70.051	0.000	460.987
Won	142	42.023	70.051	0.000	460.987
Lost	0	•	•	•	•

Table 9: Political Action Committee (PAC) Campaign Contribution OLS Estimation Results++

Variable	Earmark Specification								
	Total Dollar Amount	Per-Unit Dollar Amount	Number	Disaggregated Total Amount~	Defense & Homeland Security Related	Energy & Water	Financial Services~	Interior	Labor, HSS, & Education
Total Earmark Dollar Amount+	0.064 (0.26)								
Average Per-Earmark Dollar Amount+		-1.089 (0.29)							
Total Number of Earmarks			-0.312 (0.25)						
Agriculture, Rural Development and FDA Earmarks+				-3.396 (0.50)					
Commerce, Justice, & Science Earmarks+				-6.375 (0.86)					
Defense and Homeland Security Related Earmarks+				-0.037 (0.17)	-0.068 (0.15)				
Energy & Water Earmarks+				0.578 (1.33)		0.434 (0.82)			
Financial Services Earmarks+				9.405 (2.00)*			9.250 (2.04)*		
Interior Earmarks+				0.541 (0.09)				-1.091 (0.12)	
Labor, HSS, & Education Earmarks+				-0.548 (0.84)					-0.850 (1.21)
Transportation, Housing, & Urban Development Earmarks+				0.026 (0.06)					
Political Party	-196.230 (3.24)**	-198.481 (3.30)**	-199.958 (3.30)**	-198.296 (3.49)**	-198.327 (3.30)**	-199.707 (3.32)**	-181.602 (3.26)**	-198.694 (3.29)**	-209.259 (3.45)**
Gender	-57.648 (1.12)	-57.641 (1.12)	-57.528 (1.12)	-50.635 (1.23)	-56.698 (1.10)	-56.579 (1.10)	-51.906 (1.31)	-57.971 (1.12)	-56.179 (1.09)
Partisan Voting Index	6.895 (3.23)**	6.818 (3.20)**	6.841 (3.21)**	6.609 (3.40)**	6.868 (3.22)**	6.959 (3.27)**	6.672 (3.55)**	6.859 (3.22)**	6.570 (3.07)**
Vulnerable District	312.426 (5.53)**	310.995 (5.50)**	312.960 (5.53)**	320.452 (6.07)**	312.258 (5.53)**	310.576 (5.50)**	325.351 (6.22)**	312.170 (5.53)**	309.901 (5.50)**
Tenure < 8 Years	7.313 (0.77)	7.297 (0.76)	7.872 (0.82)	8.330 (0.91)	7.470 (0.78)	7.615 (0.80)	6.094 (0.70)	7.630 (0.80)	9.126 (0.95)
Tenure 8 < 21 Years	4.154 (0.74)	4.153 (0.74)	4.153 (0.74)	2.975 (0.43)	4.145 (0.73)	3.851 (0.68)	4.128 (0.61)	4.116 (0.73)	3.220 (0.57)
Tenure > 21 Years	2.564 (0.41)	2.780 (0.44)	2.743 (0.44)	2.615 (0.34)	2.769 (0.44)	2.944 (0.47)	1.089 (0.14)	2.666 (0.43)	3.691 (0.59)
Unemployment Rate	23.063 (1.41)	23.455 (1.43)	22.495 (1.36)	21.719 (1.23)	23.059 (1.41)	21.838 (1.33)	27.747 (1.79)	22.705 (1.37)	21.434 (1.31)
Per-Capita Income++	0.223 (0.04)	0.527 (0.09)	0.386 (0.06)	-1.256 (0.23)	0.467 (0.08)	0.137 (0.02)	-0.929 (0.17)	0.396 (0.07)	0.478 (0.08)
West Coast Region	-79.028 (0.89)	-79.724 (0.90)	-75.415 (0.84)	-52.403 (0.62)	-78.119 (0.88)	-71.372 (0.80)	-86.769 (1.15)	-76.064 (0.83)	-71.635 (0.81)
SageburSh Region	-120.984 (1.09)	-117.271 (1.06)	-116.426 (1.05)	-116.771 (1.31)	-117.928 (1.06)	-117.580 (1.06)	-119.708 (1.38)	-115.484 (1.01)	-117.132 (1.06)
Southwest Region	-164.529 (2.06)*	-160.590 (2.01)*	-161.686 (2.03)*	-172.222 (2.64)**	-161.889 (2.03)*	-160.973 (2.02)*	-182.500 (2.90)**	-161.971 (2.03)*	-158.307 (1.99)*
Farm Belt Region	251.494 (1.46)	270.570 (1.53)	259.205 (1.52)	271.143 (1.42)	258.820 (1.52)	245.239 (1.43)	269.121 (1.41)	257.587 (1.51)	286.855 (1.67)
Deep South Region	-146.724 (1.81)	-140.676 (1.76)	-139.708 (1.74)	-149.004 (2.21)*	-140.621 (1.74)	-147.590 (1.85)	-164.823 (2.54)*	-141.064 (1.75)	-136.941 1.72
Great Lakes Region	85.765 (0.89)	83.777 (0.87)	86.244 (0.90)	86.758 (0.75)	85.468 (0.89)	92.680 (0.96)	69.129 (0.63)	86.804 (0.90)	-83.814 0.87
Mid-Atlantic Region	39.201 (0.51)	38.305 (0.49)	40.858 (0.52)	45.971 (0.64)	38.957 (0.50)	45.177 (0.58)	30.651 (0.45)	39.481 (0.51)	36.673 (0.47)
New England Region	3.066 (0.03)	-0.751 (0.01)	3.425 (0.03)	39.110 (0.40)	1.431 (0.01)	9.627 (0.08)	22.464 (0.23)	2.056 (0.02)	1.080 (0.01)
Constant	464.191 (1.62)	454.449 (1.58)	468.572 (1.62)	536.298 (2.04)*	457.078 (1.59)	473.865 (1.65)	469.970 (1.93)	462.415 (1.61)	477.929 (1.67)
Observations	383	383	383	383	383	383	383	383	383
R-squared	0.23	0.23	0.23	0.28	0.23	0.24	0.28	0.23	0.24

The t-statistic is reported in parentheses below The coefficient.
~Denotes estimation includes robust errors to correct for heteroskedasticity
* denotes significant at 5%; ** denotes significant at 1%
+ denotes variable scaled to millions; ++ denotes variable scaled to thousands
NOTE: Only five of the eight regressions for the individual types of earmarks are reported in this table, for the remaining three, see Table C in the Appendix.

Table 10: Individual Campaign Contribution OLS Estimation Results++

Variable	Earmark Specification								
	Total Dollar Amount	Per-Unit Dollar Amount	Number	Disaggregated Total Amount	Defense & Homeland Security Related	Energy & Water	Financial Services	Interior	Labor, HSS, & Education
Total Earmark Dollar Amount+	-0.405 (1.15)								
Average Per-Earmark Dollar Amount+		-8.067 (1.89)							
Total Number of Earmarks			-3.551 (1.32)						
Agriculture, Rural Development and FDA Earmarks+				-10.745 0.90					
Commerce, Justice, & Science Earmarks+				-12.372 (1.27)					
Defense and Homeland Security Related Earmarks+				-0.577 1.25	-0.711 1.54				
Energy & Water Earmarks+				-0.262 (0.32)		-0.488 (0.61)			
Financial Services Earmarks+				4.75 (2.94)**			4.205 (3.01)**		
Interior Earmarks+				5.62 (0.42)				-3.791 (0.33)	
Labor, HSS, & Education Earmarks+				-0.935 (1.05)					-1.277 (1.51)
Transportation, Housing, & Urban Development Earmarks+				0.704 (0.68)					
Political Party	-67.696 (0.56)	-60.584 (0.50)	-79.446 (0.69)	-72.679 (0.59)	-60.575 (0.50)	-54.753 (0.44)	-49.281 (0.40)	-59.269 (0.48)	-73.689 (0.61)
Gender	228.447 (1.05)	224.975 (1.04)	225.27 (1.04)	239.442 (1.06)	234.106 (1.06)	225.905 (1.04)	229.313 (1.05)	224.808 (1.03)	228.641 (1.05)
Partisan Voting Index	10.159 (2.96)**	10.133 (2.99)**	10.238 (2.99)**	10.199 (2.89)**	10.534 (3.08)**	10.291 (3.00)**	10.324 (3.03)**	10.418 (3.06)**	9.978 (2.91)**
Vulnerable District	235.545 (2.32)*	230.14 (2.27)*	248.318 (2.53)*	245.803 (2.43)*	240.152 (2.39)*	239.6 (2.38)*	243.993 (2.42)*	238.367 (2.36)*	234.721 (2.33)*
Tenure < 8 Years	-56.464 (2.69)**	-58.928 (2.73)**	-53.131 (2.63)**	-55.393 (2.52)*	-57.691 (2.71)**	-57.693 (2.70)**	-58.177 (2.73)**	-57.038 (2.64)**	-55.078 (2.61)**
Tenure 8 < 21 Years	-1.511 (0.14)	-1.195 (0.11)	-1.112 (0.10)	-2.37 (0.21)	-1.213 (0.11)	-1.049 (0.10)	-1.365 (0.13)	-1.413 (0.13)	-2.732 (0.25)
Tenure > 21 Years	1.295 (0.12)	1.417 (0.13)	1.432 (0.13)	3.003 (0.26)	1.638 (0.15)	0.306 (0.03)	-0.107 (0.01)	0.595 (0.06)	2.144 (0.19)
Unemployment Rate	-3.557 (0.07)	-0.339 (0.01)	-9.617 (0.18)	-10.191 (0.19)	-3.218 (0.06)	-2.061 (0.04)	-1.273 (0.03)	-4.578 (0.09)	-5.825 (0.12)
Per-Capita Income++	27.792 (2.38)*	27.648 (2.38)*	26.55 (2.32)*	26.199 (2.24)*	27.421 (2.35)*	26.979 (2.34)*	26.083 (2.28)*	26.683 (2.33)*	26.807 (2.34)*
West Coast Region	-290.765 (1.45)	-301.753 (1.48)	-257.203 (1.36)	-247.707 (1.18)	-288.37 (1.44)	-301.585 (1.45)	-297.169 (1.47)	-284.635 (1.36)	-282.99 (1.42)
Sagebursh Region	-523.236 (1.44)	-528.531 (1.45)	-513.656 (1.43)	-561.129 (1.43)	-531.322 (1.45)	-539.514 (1.46)	-538.873 (1.47)	-527.55 (1.40)	-536.165 (1.46)
Southwest Region	-321.894 (1.14)	-321.968 (1.14)	-327.25 (1.16)	-341.632 (1.15)	-330 (1.16)	-336.996 (1.17)	-344.527 (1.20)	-333.893 (1.16)	-329.24 (1.15)
Farm Belt Region	-511.449 (0.99)	-452.582 (0.90)	-529.985 (1.03)	-505.044 (0.96)	-535.517 (1.03)	-535.728 (1.03)	-544.21 (1.04)	-549.157 (1.05)	-505.392 (0.97)
Deep South Region	-217.112 (1.03)	-227.9 (1.08)	-208.943 (1.03)	-196.231 (0.93)	-221.111 (1.05)	-237.245 (1.12)	-252.827 (1.18)	-237.139 (1.08)	-234.137 (1.10)
Great Lakes Region	-66.818 (0.25)	-76.127 (0.28)	-54.384 (0.21)	-63.829 (0.23)	-63.295 (0.24)	-72.533 (0.27)	-71.7 (0.27)	-59.34 (0.22)	-66.655 (0.25)
Mid-Atlantic Region	-230.23 (0.74)	-234.055 (0.75)	-207.769 (0.69)	-232.445 (0.72)	-229.345 (0.74)	-235.88 (0.75)	-232.726 (0.75)	-227.251 (0.73)	-232.421 (0.75)
New England Region	-165.345 (0.48)	-168.224 (0.49)	-128.547 (0.38)	-133.835 (0.38)	-151.403 (0.44)	-163.077 (0.47)	-143.968 (0.42)	-150.721 (0.43)	-153.836 (0.45)
Constant	251.22 (0.44)	241.597 (0.42)	381.597 (0.62)	383.933 (0.62)	253.142 (0.44)	264.096 (0.46)	284.778 (0.49)	289.708 (0.50)	307.547 (0.53)
Observations	383	383	383	383	383	383	383	383	383
R-squared	0.11	0.11	0.11	0.12	0.11	0.11	0.11	0.11	0.11

The t-statistic is reported in parentheses below the coefficient.　　　　All estimations include robust errors to correct for heteroskedasticity

* denotes significant at 5%; ** denotes significant at 1%　　　　+ denotes variable scaled to millions; ++ denotes variable scaled to thousands

NOTE: Only five of the eight regressions for the individual types of earmarks are reported in this table, for the remaining three, see Table D in the Appendix.

Table 11: Odds Ratio for Being Reelected in 2010 Logit Estimation Results

Variable	Earmark Specification								
	Total Dollar Amount	Per-Unit Dollar Amount	Number	Disaggregated Total Amount	Defense & Homeland Security Related	Energy & Water	Financial Services	Interior	Labor, HSS, & Education
Total Earmark Dollar Amount+	0.995 (1.34)								
Average Per-Earmark Dollar Amount+		0.962 (0.65)							
Total Number of Earmarks			1.002 (0.08)						
Agriculture, Rural Development and FDA Earmarks+				0.836 (1.58)					
Commerce, Justice, & Science Earmarks+				1.026 (0.15)					
Defense and Homeland Security Related Earmarks+				0.997 (0.37)	0.998 (0.33)				
Energy & Water Earmarks+				0.984 (2.17)*		0.984 (2.24)*			
Financial Services Earmarks+				11.368 (0.93)			3.637 (0.56)		
Interior Earmarks+				0.853 (1.05)				0.893 (0.92)	
Labor, HSS, & Education Earmarks+				1.007 (0.46)					0.991 (0.81)
Transportation, Housing, & Urban Development Earmarks+				1.019 (0.71)					
Political Party	33.358 (2.76)**	38.985 (2.74)**	36.962 (2.74)**	51.306 (2.73)**	36.709 (2.77)**	50.864 (2.84)**	38.441 (2.75)**	34.749 (2.72)**	34.073 (2.72)**
Gender	0.444 (0.93)	0.423 (1.01)	0.442 (0.97)	0.517 (0.72)	0.454 (0.93)	0.407 (1.04)	0.476 (0.88)	0.411 (1.04)	0.459 (0.92)
Partisan Voting Index	0.929 (1.54)	0.935 (1.45)	0.935 (1.45)	0.944 (1.20)	0.934 (1.46)	0.933 (1.55)	0.942 (1.32)	0.930 (1.51)	0.933 (1.49)
Vulnerable District	0.051 (3.70)**	0.055 (3.62)**	0.059 (3.61)**	0.050 (3.46)**	0.059 (3.62)**	0.046 (3.72)**	0.060 (3.59)**	0.064 (3.51)**	0.057 (3.64)**
Tenure < 8 Years	1.628 (3.22)**	1.612 (3.14)**	1.611 (3.14)**	1.642 (3.12)**	1.606 (3.12)**	1.609 (3.15)**	1.607 (3.12)**	1.641 (3.21)**	1.645 (3.21)**
Tenure 8 < 21 Years	0.850 (1.66)	0.845 (1.74)	0.845 (1.75)	0.853 (1.58)	0.849 (1.69)	0.844 (1.72)	0.844 (1.76)	0.844 (1.77)	0.839 (1.80)
Tenure > 21 Years	0.941 (0.70)	0.930 (0.90)	0.928 0.93	0.917 0.98	0.931 (0.90)	0.922 0.98	0.919 1.05	0.931 (0.90)	0.945 (0.64)
Campaign Disbursements++	1.000 (1.56)	1.000 (1.74)	1.000 (1.49)	1.000 (1.43)	1.000 (1.47)	1.000 (1.46)	1.000 (1.50)	1.000 (1.40)	1.000 (1.60)
Net Outside Spending	1.002 (2.66)**	1.002 (2.46)*	1.002 (2.64)**	1.002 (2.58)**	1.002 (2.59)**	1.002 (2.60)**	1.002 (2.64)**	1.002 (2.59)**	1.002 (2.60)**
Unemployment Rate	1.083 (0.30)	0.953 (0.16)	0.988 (0.05)	0.946 (0.22)	0.971 (0.11)	0.980 (0.08)	0.931 (0.27)	0.960 (0.16)	0.990 (0.04)
Per-Capita Income++	0.865 (1.55)	0.884 (1.21)	0.869 (1.55)	0.876 (1.46)	0.875 (1.49)	0.871 (1.53)	0.863 (1.63)	0.881 (1.42)	0.861 (1.63)
West Coast Region	12.120 (1.55)	8.707 (1.30)	8.607 (1.24)	46.427 (1.73)	9.612 (1.35)	5.370 (0.99)	8.745 (1.29)	15.537 (1.51)	10.558 (1.43)
Sagebursh Region	1.252 (0.15)	1.168 (0.10)	1.217 (0.13)	0.932 (0.04)	1.232 (0.14)	0.857 (0.10)	1.003 (0.00)	1.725 (0.33)	1.151 (0.09)
Southwest Region	1.710 (0.48)	1.493 (0.37)	1.439 (0.32	1.409 (0.27)	1.546 (0.40)	1.210 (0.17)	1.202 (0.16)	1.733 (0.49)	1.442 (0.34)
Farm Belt Region	0.517 (0.19)	0.520 (0.24)	0.282 (0.46)	0.336 (0.30)	0.306 (0.42)	0.399 (0.22)	0.245 (0.51)	0.382 (0.34)	0.410 (0.27)
Deep South Region	1.234 (0.18)	0.942 (0.05)	0.914 (0.07)	1.023 (0.02)	1.016 (0.01)	0.814 (0.17)	0.643 (0.35)	1.211 (0.16)	1.015 (0.01)
Great Lakes Region	1.258 (0.18)	1.249 (0.17)	1.356 (0.23)	1.104 (0.07)	1.390 (0.25)	0.747 (0.21)	1.222 (0.15)	1.548 (0.33)	1.303 (0.20)
Mid-Atlantic Region	2.159 (0.80)	2.126 (0.79)	2.096 (0.77)	1.038 (0.04)	2.098 (0.78)	1.623 (0.50)	1.958 (0.71)	2.056 (0.76)	2.273 (0.86)
New England Region	20.831 (1.51)	23.423 (1.60)	22.179 (1.61)	9.322 (1.12)	21.894 (1.60)	18.104 (1.41)	22.172 (1.61)	21.921 (1.60)	26.000 (1.68)
Observations	383	383	383	383	383	383	383	383	383

The z-statistic is reported in parentheses below the odds ratio.   + denotes variable scaled to millions; ++ denotes variable scaled to thousands

* denotes significant at 5%; ** denotes significant at 1%

NOTE: Only five of the eight regressions for the individual types of earmarks are reported in this table, for the remaining three, see Table E in the Appendix.

Table 12: Total Campaign Contribution OLS Estimation Results++

Variable	Earmark Specification								
	Total Dollar Amount	Per-Unit Dollar Amount	Number	Disaggregated Total Amount	Defense & Homeland Security Related	Energy & Water	Financial Services	Interior	Labor, HSS, & Education
Total Earmark Dollar Amount+	-0.466 (0.96)								
Average Per-Earmark Dollar Amount+		-10.878 (1.79)							
Total Number of Earmarks			-4.914 (1.30)						
Agriculture, Rural Development and FDA Earmarks+				-15.752 (0.99)					
Commerce, Justice, & Science Earmarks+				-21.223 (1.40)					
Defense and Homeland Security Related Earmarks+				-0.723 (1.23)	-0.929 (1.54)				
Energy & Water Earmarks+				0.276 0.27		-0.149 (0.15)			
Financial Services Earmarks+				14.000 (2.21)*			13.232 (2.22)*		
Interior Earmarks+				6.262 0.37				-6.532 (0.43)	
Labor, HSS, & Education Earmarks+				-1.520 (1.11)					-2.237 (1.79)
Transportation, Housing, & Urban Development Earmarks+				0.582 0.43					
Political Party	-249.196 (1.64)	-241.777 (1.57)	-268.020 (1.84)	-258.318 (1.25)	-241.604 (1.57)	-235.962 (1.52)	-213.166 (1.39)	-240.960 (1.55)	-266.286 (1.74)
Gender	141.415 (0.62)	137.055 (0.60)	137.398 (0.60)	158.772 0.67	149.063 (0.65)	139.262 (0.61)	147.389 (0.64)	136.078 (0.59)	142.733 (0.62)
Partisan Voting Index	16.895 (3.44)**	16.811 (3.46)**	16.947 (3.49)**	16.681 (3.34)**	17.347 (3.56)**	17.145 (3.52)**	16.918 (3.50)**	17.199 (3.53)**	16.429 (3.34)**
Vulnerable District	572.034 (4.16)**	564.271 (4.09)**	589.152 (4.39)**	589.220 (4.34)**	577.678 (4.22)**	575.302 (4.20)**	593.824 (4.36)**	575.522 (4.20)**	569.149 (4.15)**
Tenure < 8 Years	-55.847 (2.18)*	-58.954 (2.26)*	-50.981 (2.00)*	-53.485 (1.98)*	-57.281 (2.22)*	-57.135 (2.20)*	-59.077 (2.27)*	-56.216 (2.14)*	-52.769 (2.05)*
Tenure 8 < 21 Years	5.105 (0.29)	5.502 (0.31)	5.624 (0.32)	3.026 (0.17)	5.472 (0.31)	5.372 (0.31)	5.272 (0.30)	5.190 (0.30)	2.879 (0.16)
Tenure > 21 Years	4.100 (0.22)	4.401 (0.23)	4.449 (0.24)	5.947 (0.30)	4.655 (0.25)	3.221 (0.17)	1.053 (0.06)	3.286 (0.17)	5.997 (0.31)
Unemployment Rate	21.496 (0.38)	25.806 (0.45)	13.075 (0.22)	12.124 (0.20)	21.916 (0.38)	22.076 (0.39)	28.395 (0.50)	19.654 (0.34)	17.437 (0.30)
Per-Capita Income++	31.292 (2.13)*	31.317 (2.14)*	29.832 (2.04)*	26.199 (2.24)*	30.979 (2.10)*	30.109 (2.06)*	28.123 (1.95)	30.013 (2.06)*	30.231 (2.08)*
West Coast Region	-395.116 (1.68)	-409.400 (1.72)	-348.038 (1.51)	-317.297 (1.56)	-391.567 (1.67)	-400.703 (1.66)	-409.893 (1.74)	-383.014 (1.57)	-379.882 (1.62)
Sagebursh Region	-624.320 (1.59)	-628.468 (1.59)	-607.530 (1.57)	-657.255 (1.57)	-632.526 (1.61)	-642.084 (1.62)	-643.318 (1.63)	-623.092 (1.53)	-637.872 (1.62)
Southwest Region	-479.200 (1.57)	-476.631 (1.56)	-483.464 (1.59)	-504.02 (0.42)	-487.688 (1.59)	-495.222 (1.60)	-523.478 (1.69)	-492.150 (1.59)	-483.958 (1.57)
Farm Belt Region	-275.798 (0.46)	-188.897 (0.32)	-292.571 (0.49)	-256.3582 (1.50)	-301.311 (0.50)	-315.359 (0.53)	-302.939 (0.50)	-318.989 (0.53)	-242.334 (0.40)
Deep South Region	-384.359 (1.62)	-393.834 (1.65)	-367.067 (1.60)	-360.834 (0.09)	-385.586 (1.62)	-412.182 (1.73)	-445.542 (1.86)	-404.185 (1.65)	-398.769 (1.66)
Great Lakes Region	27.694 (0.07)	14.648 (0.04)	44.319 (0.12)	36.897 (0.60)	31.908 (0.08)	28.056 (0.07)	7.340 (0.02)	39.147 (0.10)	26.478 (0.07)
Mid-Atlantic Region	-222.701 (0.66)	-228.115 (0.68)	-191.918 (0.58)	-213.060 (0.29)	-221.746 (0.66)	-223.336 (0.65)	-233.145 (0.69)	-218.311 (0.65)	-227.317 (0.68)
New England Region	-182.787 (0.48)	-188.986 (0.49)	-134.593 (0.36)	-112.236 (0.38)	-166.398 (0.44)	-172.199 (0.44)	-138.915 (0.36)	-164.296 (0.43)	-169.671 (0.44)
Constant	663.079 (0.94)	644.396 (0.91)	836.785 (1.10)	882.125 (0.67)	661.091 (0.93)	691.392 (0.97)	711.061 (0.99)	712.873 (1.00)	744.388 (1.04)
Observations	383	383	383	383	383	383	383	383	383
R-squared	0.14	0.14	0.15	0.12	0.14	0.14	0.15	0.14	0.15

The t-statistic is reported in parentheses below the coefficient. All estimations include robust errors to correct for heteroskedasticity

* denotes significant at 5%; ** denotes significant at 1%   + denotes variable scaled to millions; ++ denotes variable scaled to thousands

NOTE: Only five of the eight regressions for the individual types of earmarks are reported in this table, for the remaining three, see Table F in the Appendix.

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Appendix

Table A: Disaggregated Earmark Variable Descriptive Statistics (In Milions of USD)

	Variable	Obs.	Agriculture, Rural Development & FDA	Commerce, Justice & Science	Defense & Homeland Security Related	Energy & Water	Financial Services	Interior	Labor, HSS, & Edcuation	Transportation, Housing & Urban Devleopment
			Mean of Earmark Variable							
Nationwide	**National**	383	1.303	1.742	17.309	14.627	0.966	1.072	69.444	9.785
	Democrat	228	1.573	2.029	18.438	13.680	1.318	1.257	98.997	13.672
	Won	178	1.564	2.169	17.024	12.467	1.663	1.282	50.968	16.508
	Lost	50	1.605	1.532	23.470	18.000	0.088	1.167	269.983	3.576
	Republican	155	0.906	1.319	15.649	16.020	0.450	0.800	25.971	4.066
	Won	154	0.900	1.301	15.551	15.124	0.451	0.802	25.686	4.068
	Lost	1	1.750	4.097	30.750	154.104	0.250	0.500	69.890	3.847
Regional	**West Coast**	66	2.079	1.797	18.680	12.251	0.092	1.592	65.786	7.243
	Democrat	43	2.711	2.132	22.477	11.191	0.101	2.165	64.816	8.755
	Won	42	2.776	2.104	22.752	11.344	0.104	2.216	41.645	8.753
	Lost	1	0.000	3.325	10.927	4.750	0.000	0.000	1,038.003	8.838
	Republican	23	0.895	1.171	11.582	14.234	0.074	0.521	67.598	4.416
	Sagebrush	15	1.075	0.920	17.421	10.227	0.135	3.036	129.948	20.457
	Democrat	7	0.294	0.589	5.975	5.314	0.114	2.336	267.814	29.272
	Won	4	0.000	0.664	5.400	5.475	0.150	1.100	277.471	50.285
	Lost	3	0.685	0.490	6.742	5.099	0.067	3.983	254.938	1.253
	Republican	8	1.758	1.209	27.436	14.526	0.153	3.649	9.315	12.745
	Southwest	46	1.113	1.675	11.838	10.970	2.232	0.779	41.629	18.457
	Democrat	21	1.927	1.766	15.310	16.583	4.650	1.110	91.030	33.986
	Won	15	1.090	1.809	10.231	15.931	6.434	0.935	71.084	42.612
	Lost	6	4.019	1.658	28.006	18.214	0.190	1.550	140.894	12.420
	Republican	25	0.430	1.598	8.922	6.254	0.200	0.501	0.133	5.413
	Farm Belt	6	2.486	1.278	26.651	32.830	0.092	1.240	117.684	3.167
	Democrat	2	2.779	3.833	62.639	94.699	0.150	3.470	297.832	6.288
	Lost	2	2.779	3.833	62.639	94.699	0.150	3.470	297.832	6.288
	Republican	4	2.340	0.000	8.657	1.896	0.063	0.125	27.611	1.606
	Midwest	45	0.833	0.753	7.418	18.377	0.118	0.249	59.753	2.296
	Democrat	27	0.862	0.804	8.877	18.844	0.117	0.280	94.401	2.016
	Won	20	0.665	0.667	7.959	14.387	0.137	0.230	39.162	2.087
	Lost	7	1.424	1.196	11.497	31.579	0.060	0.421	252.224	1.811
	Republican	18	0.790	0.676	5.230	17.675	0.119	0.203	7.782	2.715
	Deep South	75	1.546	2.160	33.265	30.440	0.953	1.185	32.436	2.830
	Democrat	34	1.918	2.347	35.558	23.828	0.400	1.449	64.928	3.547
	Won	23	1.863	2.216	28.439	22.304	0.525	1.273	48.269	4.229
	Lost	11	2.035	2.623	50.442	27.015	0.138	1.817	99.760	2.122
	Republican	41	1.236	2.005	31.364	35.923	1.412	0.966	5.492	2.235
	Won	40	1.223	1.952	31.379	32.969	1.441	0.977	3.882	2.195
	Lost	1	1.750	4.097	30.750	154.104	0.250	0.500	69.890	3.847
	Great Lakes	35	0.686	1.003	7.575	4.180	0.104	0.743	114.810	1.486
	Democrat	20	0.776	1.436	9.834	6.608	0.153	0.875	167.537	1.968
	Won	13	1.073	1.920	10.263	8.111	0.235	1.123	100.099	1.972
	Lost	7	0.225	0.536	9.036	3.817	0.000	0.414	292.780	1.961
	Republican	15	0.567	0.427	4.564	0.943	0.040	0.567	44.507	0.843
	Mid-Atlantic	76	1.102	2.349	12.509	8.115	2.303	0.865	96.759	21.455
	Democrat	55	1.300	2.752	13.039	9.932	3.166	0.867	110.982	27.249
	Won	43	1.324	3.305	14.046	11.908	4.030	1.014	22.829	34.229
	Lost	12	1.214	0.771	9.431	2.851	0.067	0.341	426.861	2.238
	Republican	21	0.583	1.293	11.121	3.356	0.043	0.857	59.509	6.279
	New England	19	0.966	2.133	20.327	3.459	0.179	1.304	62.694	5.079
	Democrat	19	0.966	2.133	20.327	3.459	0.179	1.304	62.694	5.079
	Won	18	1.020	2.031	19.385	3.533	0.189	1.365	53.923	5.222
	Lost	1	0.000	3.972	37.290	2.130	0.000	0.200	220.572	2.500
	Republican	0	•	•	•	•	•	•	•	•
Gender	**Male**	314	1.299	1.791	15.981	14.741	1.149	1.146	74.106	9.932
	Democrat	175	1.623	2.116	15.568	13.335	1.674	1.395	111.662	14.436
	Republican	139	0.891	1.382	16.503	16.512	0.488	0.834	26.823	4.261
	Female	69	1.321	1.518	23.352	14.109	0.135	0.731	48.227	9.116
	Democrat	53	1.408	1.742	27.915	14.821	0.141	0.801	57.180	11.151
	Republican	16	1.035	0.777	8.236	11.751	0.116	0.500	18.570	2.374

Table B: Disaggregated Earmark Variable Descriptive Statistics (In Milions of USD)

Variable	Obs.	Agriculture, Rural Development & FDA	Commerce, Justice & Science	Defense & Homeland Security Related	Energy & Water	Financial Services	Interior	Labor, HSS, & Edcuation	Transportation, Housing & Urban Devleopment
					Mean of Earmark Variable				
Vulnerable Districts	78	1.412	1.484	20.259	15.608	0.201	1.148	11.828	3.330
Democrat	65	1.456	1.493	20.495	15.142	0.207	1.224	12.544	3.466
Won	21	1.085	1.362	10.633	12.389	0.452	1.182	12.343	3.229
Lost	44	1.633	1.555	25.201	16.455	0.090	1.245	12.641	3.579
Republican	13	1.194	1.438	19.080	17.943	0.171	0.767	8.246	2.651
Won	12	1.147	1.217	18.107	6.596	0.164	0.790	8.646	2.551
Lost	1	1.750	4.097	30.750	154.104	0.250	0.500	3.450	3.847
Safe Districts	305	1.275	1.808	16.555	14.376	1.162	1.052	14.251	11.435
Democrat	163	1.619	2.243	17.617	13.098	1.761	1.269	24.040	17.742
Won	157	1.628	2.277	17.879	12.478	1.825	1.295	24.369	18.284
Lost	6	1.398	1.363	10.776	29.326	0.072	0.592	15.450	3.553
Republican	142	0.879	1.308	15.335	15.844	0.475	0.803	3.014	4.196
Won	142	0.879	1.308	15.335	15.844	0.475	0.803	3.014	4.196
Lost	0	•	•	•	•	•	•	•	•

Table D: Individual Campaign Contribution OLS Estimation Results++

Variable	Earmark Specification		
	Agriculture, Rural Development & FDA	Commerce, Justice & Science	Transportation, Housing & Urban Development
Agriculture, Rural Development and FDA Earmarks+	-14.446 (1.37)		
Commerce, Justice, & Science Earmarks+		-15.729 (1.58)	
Transportation, Housing, & Urban Development Earmarks+			0.371 (0.37)
Political Party	-72.008 (0.62)	-66.921 (0.55)	-53.683 (0.43)
Gender	226.455 (1.04)	223.423 (1.03)	228.405 (1.05)
Partisan Voting Index	10.576 (3.10)**	10.249 (3.00)**	10.499 (3.07)**
Vulnerable District	236.787 (2.35)*	233.592 (2.31)*	240.906 (2.40)*
Tenure < 8 Years	-56.262 (2.67)**	-55.515 (2.61)**	-57.831 (2.71)**
Tenure 8 < 21 Years	-1.472 (0.14)	-1.821 (0.17)	-1.325 (0.12)
Tenure > 21 Years	0.904 (0.08)	1.581 (0.15)	0.828 (0.08)
Unemployment Rate	-13.270 (0.25)	-6.679 (0.13)	-3.486 (0.07)
Per-Capita Income++	26.691 (2.33)*	26.620 (2.33)*	26.367 (2.33)*
West Coast Region	-244.802 (1.27)	-268.957 (1.34)	-293.387 (1.45)
Sageburst Region	-539.063 (1.46)	-531.874 (1.45)	-547.571 (1.47)
Southwest Region	-334.926 (1.17)	-319.532 (1.12)	-343.049 (1.18)
Farm Belt Region	-560.771 (1.07)	-545.979 (1.04)	-552.893 (1.05)
Deep South Region	-215.896 (1.05)	-211.746 (0.99)	-245.394 (1.14)
Great Lakes Region	-42.803 (0.16)	-52.191 (0.20)	-66.443 (0.25)
Mid-Atlantic Region	-228.866 (0.74)	-206.070 (0.67)	-233.223 (0.75)
New England Region	-159.083 (0.46)	-137.677 (0.40)	-149.342 (0.44)
Constant	376.267 (0.61)	316.453 (0.55)	292.206 (0.50)
Observations	383	383	383
R-squared	0.11	0.11	0.11

The t-statistic is reported in parentheses below the coefficient.
* denotes significant at 5%; ** denotes significant at 1%
+ denotes variable scaled to millions; ++ denotes variable scaled to thousands
All estimations include robust errors to correct for heteroskedasticity

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Table C: Political Action Committee (PAC) Campaign Contribution OLS Estimation Results++

Variable	Earmark Specification		
	Agriculture, Rural Development & FDA	Commerce, Justice & Science	Transportation, Housing & Urban Development
Agriculture, Rural Development and FDA Earmarks+	-1.845 (0.25)		
Commerce, Justice, & Science Earmarks+		-2.561 (0.29)	
Transportation, Housing, & Urban Development Earmarks+			-0.207 (0.34)
Political Party	-199.913 (3.30)**	-199.621 (3.31)**	-199.650 (3.31)**
Gender	-57.438 (1.11)	-57.945 (1.12)	-58.275 (1.13)
Partisan Voting Index	6.877 (3.23)**	6.830 (3.20)**	6.804 (3.19)**
Vulnerable District	311.900 (5.53)**	311.339 (5.51)**	310.399 (5.48)**
Tenure < 8 Years	7.647 (0.80)	7.814 (0.82)	7.643 (0.80)
Tenure 8 < 21 Years	4.117 (0.73)	4.056 (0.72)	4.109 (0.73)
Tenure > 21 Years	2.708 (0.43)	2.829 (0.45)	2.551 (0.41)
Unemployment Rate	21.781 (1.28)	22.508 (1.37)	23.081 (1.41)
Per-Capita Income++	0.398 (0.07)	0.387 (0.06)	0.575 (0.09)
West Coast Region	-72.389 (0.78)	-74.614 (0.83)	-78.643 (0.88)
Sageburst Region	-118.688 (1.07)	-117.542 (1.06)	-113.474 (1.01)
Southwest Region	-162.343 (2.04)*	-159.820 (2.00)*	-158.136 (1.96)
Farm Belt Region	256.049 (1.50)	258.062 (1.51)	259.380 (1.52)
Deep South Region	-139.251 (1.73)	-137.632 (1.69)	-141.216 (1.77)
Great Lakes Region	88.119 (0.91)	87.345 (0.91)	86.555 (0.90)
Mid-Atlantic Region	39.005 (0.50)	42.719 (0.54)	41.387 (0.53)
New England Region	0.523 (0.00)	3.817 (0.03)	-1.166 (0.01)
Constant	471.930 (1.62)	465.566 (1.62)	452.892 (1.58)
Observations	383	383	383
R-squared	0.23	0.23	0.23

The t-statistic is reported in parentheses below the coefficient.
* denotes significant at 5%; ** denotes significant at 1%
+ denotes variable scaled to millions; ++ denotes variable scaled to thousands

Table F: Total Campaign Contribution OLS Estimation Results++

Variable	Earmark Specification		
	Agriculture, Rural Development & FDA	Commerce, Justice & Science	Transportation, Housing & Urban Development
Agriculture, Rural Development and FDA Earmarks+	-18.741 (1.31)		
Commerce, Justice, & Science Earmarks+		-22.239 (1.32)	
Transportation, Housing, & Urban Development Earmarks+			-0.020 (0.02)
Political Party	-256.401 (1.73)	-250.991 (1.64)	-236.727 (1.52)
Gender	139.070 (0.61)	134.740 (0.59)	139.456 (0.61)
Partisan Voting Index	17.399 (3.59)**	16.957 (3.48)**	17.176 (3.53)**
Vulnerable District	573.292 (4.20)**	568.640 (4.14)**	574.636 (4.18)**
Tenure < 8 Years	-55.426 (2.15)*	-54.219 (2.08)*	-57.074 (2.20)*
Tenure 8 < 21 Years	5.134 (0.29)	4.628 (0.26)	5.273 (0.30)
Tenure > 21 Years	3.694 (0.20)	4.685 (0.25)	3.304 (0.17)
Unemployment Rate	8.874 (0.14)	17.043 (0.30)	21.666 (0.38)
Per-Capita Income++	30.025 (2.06)*	29.926 (2.05)*	30.037 (2.07)*
West Coast Region	-335.091 (1.42)	-363.571 (1.54)	-398.216 (1.69)
Sagebursh Region	-642.634 (1.62)	-632.550 (1.60)	-641.237 (1.60)
Southwest Region	-494.127 (1.60)	-472.308 (1.54)	-494.317 (1.58)
Farm Belt Region	-334.202 (0.55)	-314.602 (0.52)	-319.395 (0.53)
Deep South Region	-379.020 (1.63)	-370.018 (1.54)	-413.731 (1.71)
Great Lakes Region	58.484 (0.15)	47.717 (0.13)	30.688 (0.08)
Mid-Atlantic Region	-221.122 (0.66)	-188.881 (0.56)	-220.976 (0.65)
New England Region	-176.382 (0.46)	-146.752 (0.38)	-169.534 (0.45)
Constant	821.073 (1.07)	747.715 (1.04)	695.637 (0.97)
Observations	383	383	383
R-squared	0.14	0.14	0.14

The t-statistic is reported in parentheses below the coefficient.
* denotes significant at 5%; ** denotes significant at 1%
+ denotes variable scaled to millions; ++ denotes variable scaled to thousands
All estimations include robust errors to correct for heteroskedasticity

Table E: Odds Ratio for Being Reelected in 2010 Logit Estimation Results

Variable	Earmark Specification		
	Agriculture, Rural Development & FDA	Commerce, Justice & Science	Transportation, Housing & Urban Development
Agriculture, Rural Development and FDA Earmarks+	0.881 (1.35)		
Commerce, Justice, & Science Earmarks+		1.005 (0.03)	
Transportation, Housing, & Urban Development Earmarks+			1.013 (0.54)
Political Party	34.691 (2.75)**	36.711 (2.74)**	37.180 (2.76)**
Gender	0.465 (0.90)	0.441 (0.97)	0.454 (0.94)
Partisan Voting Index	0.934 (1.39)	0.934 (1.46)	0.938 (1.40)
Vulnerable District	0.056 (3.65)**	0.060 (3.60)**	0.063 (3.53)**
Tenure < 8 Years	1.620 (3.15)**	1.612 (3.15)**	1.612 (3.13)**
Tenure 8 < 21 Years	0.852 (1.66)	0.845 (1.75)	0.848 (1.72)
Tenure > 21 Years	0.941 (0.75)	0.928 (0.92)	0.931 (0.89)
Campaign Disbursements++	1.000 (1.51)	1.000 (1.46)	1.000 (1.46)
Net Outside Spending	1.002 (2.49)*	1.002 (2.62)**	1.002 (2.64)**
Unemployment Rate	0.871 (0.52)	0.978 (0.08)	0.977 (0.09)
Per-Capita Income++	0.885 (1.33)	0.872 (1.54)	0.874 (1.52)
West Coast Region	22.104 (1.66)	8.794 (1.26)	8.664 (1.29)
Sagebursh Region	1.167 (0.10)	1.217 (0.13)	1.089 (0.05)
Southwest Region	2.014 (0.61)	1.470 (0.35)	1.327 (0.26)
Farm Belt Region	0.276 (0.50)	0.291 (0.45)	0.275 (0.47)
Deep South Region	1.389 (0.27)	0.932 (0.06)	0.917 (0.07)
Great Lakes Region	1.771 (0.43)	1.359 (0.23)	1.379 (0.25)
Mid-Atlantic Region	2.054 (0.75)	2.101 (0.77)	1.956 (0.70)
New England Region	16.088 (1.48)	21.988 (1.60)	21.651 (1.60)
Observations	383	383	383

The z-statistic is reported in parentheses below the odds ratio.
* denotes significant at 5%; ** denotes significant at 1%
+ denotes variable scaled to millions; ++ denotes variable scaled to thousands