

**THE IMPACT OF POLITICAL ACTION COMMITTEE DONATIONS
ON THE WAY MEMBERS OF THE
HOUSE OF REPRESENTATIVES VOTE**

by

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A thesis submitted to the Faculty of the University of Delaware in partial fulfillment of
the requirements for the degree of Master of Science in Economics

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ABSTRACT

This thesis examines the relationship between Political Action Committee donations and the way Members of the House of Representatives vote. To do this analysis, I analyze twelve bills from the past twelve years. In determining what relationship exists between these two, I conduct two different regressions for each bill. With the regression results, I am able to determine how much money will cause the probability of voting to approach 100%. I am also able to show how the party of the Member of Congress affects their likelihood to vote based on different levels of contributions. My analysis demonstrates a clear relationship between contributions and votes by Members of Congress.

Chapter 1

INTRODUCTION

In the middle of the financial regulatory bill debate in 2009, several Members of Congress¹ went directly from the debate on the floor to fundraisers thrown by lobbyists for the financial institutions that the Members were voting to regulate (Lipton & Lichtblau, 2010). Although the debate on this issue is wide reaching, very little econometric analysis has been done to examine whether or not there is a connection between donations by Political Action Committees and the way that Members vote on specific bills. This paper provides a look into this system of political donations and the impact these donations might have on voting behavior in the House of Representatives.

To undertake this analysis, an understanding of past research on this issue as well as why this issue is important needs to be understood. Next, an explanation of the data collection method will be examined. The data for this analysis covers the 106th to 111th Congresses.² These donations were used to see if there was a relationship between donations and the way that Members voted on twelve bills that became law

¹ From this point on, a Member of Congress will be called a Member and Members of Congress will be called Members.

² The data from the 111th Congress covers votes and donations made from January 6, 2009 through June 6, 2010.

during that time period. To run the analysis, two different probit regressions were run on each bill. The first predicts which industry group is influencing how Members vote, while the second predicts the probability of a yes vote based on region, political party, and donation levels. These analyses show that, through their monetary contributions, PACs have an impact on House Members' voting behavior. I conclude by addressing the limitations of this paper and avenues for future research in this area.

1.1 Theory of Vote Influence

To be a successful candidate for the United States House of Representatives requires large amounts of money. To raise this money, candidates have two main sources of funding, either individuals or political committees. To raise money from these two sources requires large amounts of time and money, which is in very limited supply during a campaign. While there are lots of individuals who can give to campaigns, very few of those able to give, do. One of the successful ways for campaigns to raise money from individuals is through contacting the individual directly. This happens in the form of direct mail campaigns or internet solicitations. Both of these consist of sending out thousands of letters or emails that say what your Member did for you recently and that you should give them money so that they can do more for you in the future. While a campaign might send out a thousand of these solicitations, the campaign will most likely only get a small handful back with a donation check inside (Cho, 2007).

One of the other main sources of funding that most campaigns have to draw money from is political committees (Schroedel, 1986). These can either be Party Committees or Political Action Committees (PACs). PACs are multicandidate, which means that they give to multiple campaigns and are usually not limited to donating to one party. This gives PACs an opportunity to try and convince multiple candidates that the Committee's issue area is important. An important way for the PACs to convince candidates that the PAC approves of them is through donations. Without money to run a campaign, a candidate will not be able to win an election.

For the 2009-2010 campaign cycle, PACs were able to give \$5,000 to a candidate per election. This means \$5,000 for the primary and \$5,000 for the general election. This can be compared to individuals who are limited to \$2,400 per election (Commission). The question that I address in this paper is whether these donations from PACs influence how Members of Congress vote. While it is illegal for a Member of Congress to accept a donation and then vote a certain way because of that donation, the problem is in finding out if this is happening. In order to do this, empirical analysis of data is necessary.

With over 6,000 PACs donating money to candidates over the past 12 years, there are many different PACs that are each trying to push their own agenda (OpenSecrets). It is only through analysis that an understanding of the relationship between donations and the way Members vote can be understood. Once this relationship is understood, the voters can have a clear understanding of whether or not

their Representatives are voting in their interests or in the interests of the organizations that give money.

Chapter 2

LITERATURE REVIEW

2.1 Political Science Review

The literature on this subject that is written by political scientists is not focused as much on empirical data and modeling, but on the theoretical impact of donations and voting. One article that does this is by Thomas Brunell. Brunell analyzed whether donations from corporate and labor PACs differed by political party and incumbency status. In doing so, Brunell was able to prove that there is a statistically significant relationship between PACs and the party and incumbency status of Candidates.

Another article, this one by J.R. Schroedel, shows that there is clear proof of a relationship between contributions and co-sponsorship. Schroedel examined financial legislation and found a clear relationship between co-sponsorship and donations. Co-sponsorship is when a Member of Congress attaches his or her name to the bill, indicating that he or she publicly supports the bill and will help the bill become law. Schroedel found that this relationship is dependent on the amount of media attention that was placed on the bill. When the public's attention was focused on other issues, there was a stronger relationship between contributions and co-sponsorship (Schroedel, 1986). While these researchers have published articles that point to a

relationship, others have published findings that no such relationship exists; (Wawro, 2001; Wright, 1990).

2.2 Economic Review

There are two main articles that address the issue of PAC vote influencing from an economic standpoint, David Abler's (1991) "Campaign Contributions and House Voting on Sugar Legislation" and Jonathan Brooks, et al's (1998) "Political Action Committee Contributions and U.S. Congressional Voting on Sugar Legislation." Both of these articles are very similar in that they deal with one or two pieces of legislation and focus on the votes of Committees of the House of Representatives.

The article by Abler uses a simultaneous equation approach to examine how contributions affect votes on two amendments to the 1985 farm bill. This approach allows Abler to incorporate contributions pre- and post-vote that impact the voting of Members and to identify the propensity of support for a piece of legislation as a function of campaign contributions and other exogenous variables. The first amendment that Abler examines is an anti-sugar motion that would have lowered the loan rate. The second is an anti-dairy motion that would have reduced the amount of the milk price support that farmers receive. Both bills were defeated. Abler found that neither sugar nor dairy PACs were able to buy support for their legislation from Members who were already predisposed to vote against them. Abler was able to conclude that "the entire association between money and voting appears to operate

through the election of those predisposed to support sugar or dairy programs” (Abler, 1991). Abler goes on to say that if there were stronger bans on donations from PACs then in the long run there would be fewer Members who were predisposed to support sugar or dairy legislation.

Brooks uses a probit-tobit system of equations to specify his regression. The data for Brooks’s experiment comes from three different amendments that reduced the price of sugar. These were all amendments to the omnibus farm legislation in 1985 and 1990. The new information that Brooks brings to the discourse on campaign donations affecting voting is that Brooks uses donations from PACs that support or oppose the sugar legislation. Brooks found that for pro-sugar PACs, an additional \$1,000 in donations elicits an 11% increase in the likelihood of a yes vote for House Members and a 7% increase for members of the Senate. This can be compared to a \$1,000 donation by pro-sweetener PACs that increase the probability of an anti-sugar vote by 40% for House Members and 8% for members of the Senate (Brooks, 1998). With such a large impact of donations for Members of the House, more research is needed to fully understand the relationship. From all of this, Brooks is able to conclude that pro-sugar and sweetener PACs were able to influence and buy support for their beliefs in Congress.

2.3 The Need for a Broad Inquiry into the Impact of PAC Donations on Voting Behavior

While focusing on how committees voted can provide an understanding of how contributions played a role in shaping how a bill is formed; a look at the final passage vote provides a better view of how PACs can influence law. There are lots of bills that get introduced in the House of Representatives. A small fraction of those bills make it out of committee and are put in front of the whole House. Another small fraction of those bills will be passed by both the House and Senate and signed into law. It is only the bills that are signed into law that can actually affect anyone.

Looking at bills that did not become law limits the results those economists can claim, for those bills never affect the industries that the PACs represent. The only way that these types of examinations can be valid is through saying that the PACs were blocking the bills from being considered. These types of examinations can show some influence of PACs over Members of Congress, but there are more ways that Members can block legislation as opposed to shepherding the legislation through Congress. The anonymous hold and the amendment process are two of the ways that Members of Congress can slowdown or halt the legislative process if they are influenced by a PAC.

Another reason why I am using those bills that became law is that there is a larger pool of Members of Congress to draw from. This is because I am not limiting the data to just one committee, which may only have fifty Members. By using votes of the whole House, I am increasing the number of data points. The larger the sample

size in the regression, the less issue that I will have with outliers causing issues with my econometrics.

The articles by Abler and Brooks set up their regressions in ways that are not necessary for my data. Abler uses a simultaneous equation probit, which does not apply to the data that I have gathered. Abler uses this method because his data has been separated into pre- and post-vote. His use of a simultaneous equation probit method is valid because he needs to account for contributions pre-vote affecting the way a Member of Congress votes and contributions coming as a result of the vote. The data that I have covers contributions both pre- and post-vote, so a simultaneous equation system is not necessary. Because my data does not easily allow for me to use the vote date to break apart contributions into pre- and post-vote, I do not need to worry about whether or not the contribution came before or after the vote, I only need to worry about did the contribution influence the vote.

Brooks uses a probit-tobit system, which is also not necessary for my data. This type of system is needed when there is a selection process that determines whether or not the contribution totals are known. I do not have to worry about this because the FEC website has data for all of the contributions to all of the Members that I am examining. This sort of probit-tobit system of analysis could be useful if I was interested in examining the likelihood of donations coming to a Member based on their voting, but I am not focusing on that.

Chapter 3

METHODS

To showcase the method that I used in my analysis, I will explain all of the steps that I followed using the example of the bill 106-S900. This will show the steps undertaken for data gathering, the databases created, regressions that were run, the results, and the conclusions that can be drawn from my regressions. In focusing on one bill, to showcase what I did, hopefully the steps that I have undertaken will be clear.

3.1 Bill Summary

The bills that were used in this experiment were taken from the complete list of all bills that were signed into law by the President. The bills that I examined cover the 106th through 111th Congresses. In selecting the bills, three criteria was used, the first is that the bills had to have become public law. The second is that there had to be an identifiable industry that was affected by the bill. The identifiable industry is the industry of importance that will be used in the analysis of my regressions. The third criterion was that the bill had to have been voted on by a roll call vote that links an individual Member of Congress with a yes or no vote. There are other votes in the House that are determined on a voice vote where there is no way to determine how individual people voted. The first bill that I selected for examination is the Gramm-

Leach-Bliley Act. This bill was from the 106th Congress and was Senate bill S900.³

For those who are unfamiliar with the bill 106-S900, here is a brief description of the major points of the bill.

3.1.1 106th Congress – S.900

S900 is the “Gramm-Leach-Bliley Act.” This bill repeals certain aspects of the Glass-Steagall Banking Act of 1933. The bill removes the prohibitions against any Federal Reserve member bank from affiliating with a bank that is principally engaged in securities activities. It also removes the prohibitions from not allowing any person who is an employee of a securities related firm from also being an employee of a Federal Reserve member bank. The bill allows for financial holding companies to become institutions that engage in financial activities. This can be accomplished either through acquisitions or through the financial holding company entering the financial activities market (Congress). The industry of importance for this bill is the Finance industry group.

3.2 Steps Undertaken to Run the Regressions

3.2.1 Data Collection

The data for this experiment comes mainly from two sources; the Federal Election Commission’s (FEC) website and Opensecrets.org.⁴ The FEC data allows me

³ Bills can be drafted in either the House of Representatives or the Senate. Regardless of where the bill was drafted, it must be voted on in both Chambers of Congress. Having a bill with an S abbreviation, only means that the bill was drafted in the Senate, by a Senator.

to track all donations from Political Action Committees to individual Members. There are three different databases that were created using data from the FEC: the Congress, Contribution, and Committee databases. These three were needed, because the FEC data was split into these groups. To connect them each Member and PAC was assigned a unique number. The Contribution database shows the PAC number, donation amount, and a Member number. It was only through using all three databases, could I connect a donation from a PAC to a Member.

3.2.2 Congress Database

The Congress database has all of the members from the 106th to 111th Congress. The database shows which Members were in each Congress. S900 is from the 106th Congress, so the Members that were used were those who were in the 106th and 107th Congress. This allows for the regressions to be run on those Members who were successful in their campaigns for Congress. This allows me to not use those Members who either did not run for Congress, were defeated in an election, or who died in office.⁵ My reason for only wanting to use those Members who were

⁴ I choose Opensecrets.org because I was looking for a nationally accepted non-partisan website that would divide up PACs into industry group and sub-groups. I believe that I have found this in Opensecrets.org. My goal was to be able to use someone else's division of PAC's into groups. While it would have been better to have found a non-partisan governmental website that would divide the PACs into groups and sub-groups, I was unable to find a list that the government provides.

⁵ My reason for only wanting to use those Members who were successful in their campaign for office is that this would limit any outliers that I would have in terms of Members not receiving donations but still voting. My assumption for the paper is that Members are influenced in their voting because of the donations, so if they are not

successful in their campaign for office is to limit any possible outliers. This removes all Members who were not receiving donations but still voting. My assumption for my thesis is that Members are influenced in their voting because of the donations.

Therefore, if they are not going to win reelection, then they most likely do not care about the donations they receive. When I remove all Members who did not win reelection, there are 387 out of a possible 435 Members who are valid data points.

3.2.2.1 Variables

For each Member, I have data that allows me to create variables for the region they are from, political party, and the way that they voted on every bill.

3.2.2.1.1 Region

To divide up the Country, I created nine regions. The nine regions that I used were Mountain, Mid-Atlantic, North East, North West, South East, South West, Plains, West, and Mid-West. These regions were designed to not just be a political distinction but also to group states by industries and philosophical beliefs.⁶ This was done so that the regions provide explanatory power that moves beyond just politics and allows for differences in the philosophical make-up of the people from the different regions. When the regions are used in a regression, a 1 indicates that the Member is from that region and a 0 indicates that a Member is not from that region. In

going to win reelection, then they most likely do not care about how many donations they receive.

⁶ See Appendix for complete list of all states and their specific region

running the regressions, I decided to leave out the West region to avoid the dummy variable trap.

3.2.2.1.2 Party

To define the political party of the Member, I decided that a 1 indicates a Democrat and a 0 indicates a Republican.

3.2.2.1.3 Vote

When looking at the votes of the Members, I defined a yes vote to be a 1 and a no vote to be 0. This means that in any probabilities that I run, the closer the probability is to a 1, signifies that the Member is leaning about voting yes and the closer it is to 0 means that the Member is leaning towards voting no.

3.2.2.2 Example

To illustrate what these variables mean during the 106th Congress, I use the example of Congressman Mike Castle. Congressman Castle was a Republican Representative from the Mid-Atlantic region who voted yes on the bill. This means that he would have a 1 for his region (Mid-Atlantic), a 0 for his party (Republican) and a 1 for his vote (Yes).

3.2.3 Committee Database

The Committee database has lists of all 6,607 PACs that gave to a Member during the six Congresses in question. Along with its unique ID number, the Committee database also classifies each PAC into an industry group and an industry

sub-group. There are 13 industry groups and 89 industry sub-groups.⁷ The names of the groups and most of the classifications of the PACs come from the website Opensecrets.org. For those PACs that were not in Opensecrets.org, I manually assigned them to an industry group and sub-group. For these PACs, I used the name of the PAC to determine its industry and sub-industry. An example of the classification structure is that in the finance industry group, there are nine industry subgroups.

Table 1 – Subgroups that are in the Industry Group

Industry Group	Industry Subgroup
Finance	Accountants
	Commercial Banks
	Credit Unions
	Finance/Credit Companies
	Insurance
	Misc
	Real Estate
	Savings and Loans
	Securities and Investment

3.2.4 Contribution Database

The contribution database shows each PAC donation to a Member in each election cycle. Each PAC and Member was assigned a unique identification number. This allows me to track in a given Congress what PACs gave to a Member. This is

⁷ See Appendix for complete list of all industry groups and sub-groups.

useful for when I want to run my regressions because I can add up all of the money that finance PACs gave to an individual Member or even more specifically how much money real estate PACs gave to Members in the 106th Congress.

3.3 Regressions

The regressions that were run were split into two different groups. The first level of regression is looking at the industry groups and is trying to determine which industry group is statistically significant. The second level of regressions is dealing with the industry sub-groups. This regression is trying to determine the probability of a yes vote.

3.3.1 Level One Regression

The level one regression is designed to determine if there is an industry that has a statistically significant impact on the way a Member votes. I used a probit regression because of the binary nature of the dependent variable. The Member can either vote yes or no. The probit model is also very useful because it limits the probabilities to between 0 and 1. For the bill S900 the equation that I used is;

Equation 1 – Level 1 Regression Equation

$$\text{Prob (Vote}_{106}\text{S900}=1|X) = \Phi (B_0 + B_1\text{party} + B_2M + B_3\text{MA01}^8 + B_4\text{MW} + B_5\text{NE} + B_6\text{NW} + B_7P + B_8\text{SE} + B_9\text{SW} + B_{10}\text{Agribusiness} + B_{11}\text{Communications} + B_{12}\text{Construction} + B_{13}\text{Defense} + B_{14}\text{Energy and Natural Resources} + B_{15}\text{Finance} +$$

⁸ In Eviews, the letters MA stand for something other than Mid-Atlantic so the Mid-Atlantic region is now called MA01

Equation 1 cont.

$$B_{16}\text{Health} + B_{17}\text{Ideological} + B_{18}\text{Labor} + B_{19}\text{Lawyers and Lobbyists} + B_{20}\text{Misc} + B_{21}\text{Other} + B_{22}\text{Transportation})$$

For this regression the industry group variables are the amount of combined donations that the Member received from all of the PACs that are in that industry group. Once I ran the level one regression, I was looking for the industry groups that were significant at the 10% level. Ideally, I was looking for the industry group to be significant that was the industry of importance. For the bill S900, the finance industry group was significant at the 10% level and was the industry of importance. The results of the level one regression for the bill S900 can be seen below.

106 – S900

Finance statistically significant

```
probit(h) VOTE_106_S900 M MA01 MW NE NW P SE SW PARTY
AGRIBUSSINESS COMMUNICATIONS CONSTRUCTION DEFENSE
ENERGY NATURAL RESOURCES FINANCE HEALTH IDEOLOGICAL LABOR
LAWYERS_AND_LOBBYISTS MISC OTHER TRANSPORTATION C
```

Table 2 – EViews output from Level 1 Regression for Bill S900

Dependent Variable: VOTE_106_S900
Method: ML - Binary Probit (Quadratic hill climbing)
Date: 02/23/11 Time: 13:53
Sample (adjusted): 1 387
Included observations: 387 after adjustments
Convergence achieved after 8 iterations
QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
M	-0.556717	0.591555	-0.941106	0.3467
MA01	1.164003	0.562208	2.070415	0.0384
MW	0.103839	0.285809	0.363314	0.7164
NE	0.388517	0.276510	1.405074	0.1600
NW	0.438210	0.443255	0.988618	0.3229
P	-0.009352	0.385202	-0.024278	0.9806

Table 2 cont.

SE	0.964828	0.320318	3.012097	0.0026
SW	-0.228639	0.373218	-0.612616	0.5401
PARTY	-1.302636	0.312659	-4.166319	0.0000
AGRIUSSINESS	-1.16E-05	3.32E-06	-3.501823	0.0005
COMMUNICATIONS	-1.50E-06	5.70E-06	-0.262978	0.7926
CONSTRUCTION	1.91E-05	1.44E-05	1.330312	0.1834
DEFENSE	7.13E-06	6.43E-06	1.108093	0.2678
ENERGY_NATURAL_RESOURCES	-8.79E-06	6.17E-06	-1.424269	0.1544
FINANCE	1.82E-05	3.94E-06	4.627707	0.0000
HEALTH	-1.19E-05	2.84E-06	-4.187248	0.0000
IDEOLOGICAL	1.71E-07	2.44E-06	0.070289	0.9440
LABOR	7.00E-07	2.61E-06	0.268243	0.7885
LAWYERS_AND_LOBBYISTS	4.50E-06	1.77E-05	0.253827	0.7996
MISC	1.54E-05	8.39E-06	1.830865	0.0671
OTHER	1.62E-06	4.80E-06	0.337144	0.7360
TRANSPORTATION	-2.55E-06	8.13E-06	-0.313777	0.7537
C	0.652509	0.285641	2.284364	0.0224
<hr/>				
McFadden R-squared	0.332901	Mean dependent var	0.790698	
S.D. dependent var	0.407337	S.E. of regression	0.342560	
Akaike info criterion	0.803348	Sum squared resid	42.71446	
Schwarz criterion	1.038603	Log likelihood	-132.4478	
Hannan-Quinn criter.	0.896632	Restr. log likelihood	-198.5429	
LR statistic	132.1902	Avg. log likelihood	-0.342242	
Prob(LR statistic)	0.000000			
<hr/>				
Obs with Dep=0	81	Total obs	387	
Obs with Dep=1	306			
<hr/>				

poff

To understand this regression output, an example is necessary. If I make some assumptions, then I can predict the probability of voting based on a Republican from the Mid-Atlantic region. The main assumption that I need to make, in order to allow for an easy equation, is that only the finance industry group gives to the Member in question. With this assumption, I can next show what happens to the probability of voting if I vary the contributions made by the finance industry group. If I define that

the finance group gives zero, \$10,000, and \$50,000 contributions then I have the following three equations.⁹

Equation 2 – Example Level 1 Equation with Zero Contributions

$$\begin{aligned} \bar{Pr}(Vote_{106_S900} = 1|X) = \\ \Phi(\widehat{C} + \widehat{Party} + \widehat{MA01} + \widehat{Finance}) = \Phi(.652509 + -1.302636 * 0 + \\ 1.164003 + (1.82 * E^{-5} * (0))) = .877789 = 87.8\% \end{aligned}$$

Equation 3 – Example Level 1 Equation with \$10,000 Contribution

$$\begin{aligned} \bar{Pr}(Vote_{106_S900} = 1|X) = \Phi(.652509 + -1.302636 * 0 + 1.164003 + \\ (1.82 * E^{-5} * (10,000))) = .910915 = 91.1\% \end{aligned}$$

Equation 4 – Example Level 1 Equation with \$50,000 Contribution

$$\begin{aligned} \bar{Pr}(Vote_{106_S900} = 1|X) = \Phi(.652509 + -1.302636 * 0 + 1.164003 + \\ (1.82 * E^{-5} * (50,000))) = .981055 = 98.1\% \end{aligned}$$

This shows that when the contribution level is zero, the Member is likely to vote yes for the legislation. As the dollars of contribution increase, the probability that the Member will vote yes increases. As the contribution level increases from zero to

⁹ To see the code that I used to calculate this, please look in the appendix.

\$10,000, the probability of voting yes increased about 3%. When contributions were increased to \$50,000, the probability increased 10%. While at zero contributions, the Member was highly predisposed to vote yes, with contributions, the PACs are able to increase the probability of voting.

3.3.2 Level Two Regressions

The level two regressions are used to determine how the variables affect the probability of a Member to vote yes or no. This regression will determine which industry sub-group was statistically significant. If there were multiple sub-group industries that were significant at the 10% level, I chose the sub-group industry that had the highest coefficient. That meant that the chosen sub-group's money would have the greatest impact on the probability of how Members voted. Choosing the sub-group with the largest coefficient allows me to focus my analysis on the sub-group that will have the largest impact on the voting of Members. For the bill S900, the equation that I used is;

Equation 5 – Level 2 Regression Equation

$$\text{Prob (Vote_106_S900=1|X)} = \Phi (B_0 + B_1\text{party} + B_2M + B_3\text{MA01} + B_4\text{MW} + B_5\text{NE} + B_6\text{NW} + B_7P + B_8\text{SE} + B_9\text{SW} + B_{10}\text{accountants} + B_{11}\text{commercial_banks} + B_{12}\text{credit_unions} + B_{13}\text{finance_credit_companies} + B_{14}\text{insurance} + B_{15}\text{misc} + B_{16}\text{real_estate} + B_{17}\text{savings_and_loans} + B_{18}\text{securities_and_investmen})$$

This equation yielded the following output in Eviews.

```

probit(h) vote_106_s900 c party m ma01 mw ne nw p se sw
accountants commercial_banks credit_unions
finance_credit_companies insurance misc real_estate
savings_and_loans securities_and_investmen

```

Table 3 – Eviews Output from Level 2 Regression for the Bill S900

Dependent Variable: VOTE_106_S900
 Method: ML - Binary Probit (Quadratic hill climbing)
 Date: 02/24/11 Time: 08:49
 Sample (adjusted): 1 387
 Included observations: 387 after adjustments
 Convergence achieved after 6 iterations
 QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.548755	0.252699	2.171578	0.0299
PARTY	-1.138857	0.205684	-5.536931	0.0000
M	-0.423860	0.550075	-0.770550	0.4410
MA01	1.246297	0.584853	2.130956	0.0331
MW	0.146937	0.290805	0.505277	0.6134
NE	0.637826	0.280877	2.270839	0.0232
NW	0.647229	0.462443	1.399586	0.1616
P	0.184303	0.409413	0.450163	0.6526
SE	0.915584	0.329080	2.782251	0.0054
SW	-0.831146	0.412404	-2.015367	0.0439
ACCOUNTANTS	-8.94E-07	1.27E-05	-0.070650	0.9437
COMMERCIAL_BANKS	7.47E-05	2.20E-05	3.404184	0.0007
CREDIT_UNIONS	2.67E-05	3.67E-05	0.727439	0.4670
FINANCE_CREDIT_COMPANIES	2.19E-05	3.10E-05	0.707647	0.4792
INSURANCE	1.39E-06	7.06E-06	0.197159	0.8437
MISC	-3.50E-05	8.30E-05	-0.421250	0.6736
REAL_ESTATE	0.000170	6.13E-05	2.770194	0.0056
SAVINGS_AND_LOANS	-2.26E-05	7.38E-05	-0.305953	0.7596
SECURITIES_AND_INVESTMEN	-2.83E-05	1.51E-05	-1.879115	0.0602
McFadden R-squared	0.328206	Mean dependent var	0.790698	
S.D. dependent var	0.407337	S.E. of regression	0.346913	
Akaike info criterion	0.787493	Sum squared resid	44.28840	
Schwarz criterion	0.981834	Log likelihood	-133.3799	
Hannan-Quinn criter.	0.864554	Restr. log likelihood	-198.5429	
LR statistic	130.3261	Avg. log likelihood	-0.344651	
Prob(LR statistic)	0.000000			
Obs with Dep=0	81	Total obs	387	
Obs with Dep=1	306			

As you can see there were two different sub-groups that were significant once this regression was run, the commercial banks and real estate sub-groups. In order to pick the sub-group that I will analyze I looked at the coefficients and from those you can see that the real estate sub-group has the larger coefficient. The interpretation of these coefficients is the same as before, the regions and party variables are still dummy variables that come into play where appropriate and the industry sub-group variables are the collective total amount of money that was given to an individual Member by the entire sub-group industry. For this regression, I am still assuming that the Member is a Republican from the Mid-Atlantic region. The contribution levels, this time are 0, the average contribution that the sub-group made to all Members, and \$10,000. These assumptions yield the following equations.¹⁰

Equation 6 – Example Level 2 Equation with Zero Contributions

$$\begin{aligned} \widehat{Pr}(Vote_{106_S900} = 1|X) = \\ \Phi(\widehat{C} + \widehat{Party} + \widehat{MA01} + \widehat{Real_Estate}) = \Phi(.548755 + -1.138857 * 0 + \\ 1.246297 + (.000170 * 0)) = .963677 = 96.4\% \end{aligned}$$

¹⁰ To see the code that I used in this calculation, please look in the appendix.

Equation 7 – Example Level 2 Equation with Average Contributions

$$\widehat{Pr}(Vote_{106_S900} = 1|X) = \Phi(.548755 + -1.138857 * 0 + 1.246297 + (.000170 * 2,626.98)) = .987485 = 98.7\%$$

Equation 8 – Example Level 2 Equation with \$10,000 Contribution

$$\widehat{Pr}(Vote_{106_S900} = 1|X) = \Phi(.548755 + -1.138857 * 0 + 1.246297 + (.000170 * 10,000)) = .999761 = 99.98\%$$

As you can see here, with zero contributions, the Member was highly predisposed to voting yes. When the contributions are increased, the probability still rises.

The second part of the level two regressions is to see how the probability of voting changes as I change the contribution level. Because I have chosen to focus on the real estate sub-group industry, I needed a way to focus the analysis only on the real estate sub-group but still take into account the other sub-groups. The way that I have decided to do this is to assume, that for the purposes of this regression, all other sub-groups will give their average contribution levels. In making this assumption, I allow for the other sub-groups to have an impact on the probability of voting, but this still allows me to focus on one particular sub-group. For the bill S900, I calculated the average contribution level of donations from the sub-group industries to all Members for the 106th Congress as;

Table 4 – Average Contributions from Finance Industry Group

Sub-group	Average contribution
Accountants	7,328.15
Commercial_banks	11,751.5
Credit_unions	3,062.22
Finance_credit_companies	5,667.85
Insurance	14,738.5
Misc	914.6434
Real_estate	2,626.98
Savings_and_loans	1,406.55
Securities_and_investmen	6957.636

This allows me to turn to the predictive aspect of the analysis. In the predictive analysis, there are two different levels of analysis that I want to examine. The first aspect is to see how, with average contribution levels from all of the sub-groups, the party and region variables influence the probability of a vote. The second aspect of analysis is to look at the real estate sub-group and to see what happens when I change the levels of contribution that I am assuming that the Members receive. To do this, I chose the following contribution levels; \$5,000, \$10,000, \$15,000, \$20,000, \$30,000, \$40,000, \$50,000, \$0, and the average for the sub-group.

For both parts of the analysis I am looking to see how close the predicted probability of voting is to either 0 or 1.¹¹ If the probability approaches 0 then the donations were trying to get the Member to vote no, however, if the probability

¹¹ It is important to remember that I have previously defined that 1 is a yes vote and 0 is a no vote.

approaches 1 then the donations were trying to get the Member to vote yes. The table that I created for the bill S900 is below. As you can see for this bill, the probability of voting yes kicked in at around \$15,000-\$20,000.

Table 5 – Regression Output to Show Probabilities

Variable	Dem	Rep
Mountain	0.606218	0.920484
Mid-Atlantic	0.973788	0.998960
Mid-West	0.799622	0.976099
North-East	0.908432	0.993245
North-West	0.909969	0.993420
Plains	0.809930	0.978126
South-East	0.946183	0.997000
South-West	0.445195	0.841598
West	0.755950	0.966539
5000	0.863489	0.987291
10000	0.974102	0.998978
15000	0.997393	0.999958
20000	0.999865	0.999999
30000	1.000000	1.000000
40000	1.000000	1.000000
50000	1.000000	1.000000
0	0.597713	0.917171
Ave	0.755950	0.966539

This table allows me to see what impact PACs have over the voting of Members.

3.4 Other Bills

In order to understand the influence of PACs on Members beyond just the 106th Congress and the Senate bill S900, I chose eleven other bills where I would also conduct my analysis. The procedure used to analyze the bills is the same as above.

To understand what the bills are that I chose, I now give a brief description of the other eleven bills.

3.4.1 106th Congress

3.4.1.1 H.R. 1664

H.R. 1664 is the “Emergency Steel Loan Guarantee and Emergency Oil and Gas Guaranteed Loan Act of 1999.” This bill provides for both the Steel and Oil and Gas industries, the ability to receive loans from the Federal Government. The loans that are made available to these industries have set limits on the length of the loan and on the amount of money that can be borrowed as a loan. To pay for these loans, the bill specifies that the money come from other agencies administrative and travel accounts (Congress). This bill affects the steel and oil and gas industries and therefore the industries of importance are the Misc and Energy/Natural Resources industry groups.

3.4.2 107th Congress

3.4.2.1 H.R. 1

H.R. 1 is the “No Child Left Behind Act of 2001.” This bill sets standards for the assessment of students through yearly testing. It increases the amount of information that parents are told about their child’s school performance and teacher quality. This bill also sets up guidelines for students to transfer from failing schools to other non-public schools. Also included in this bill are guidelines for how money can

be spent on certain programs undertaken by local school districts (Congress).

Education is in the Other industry group.

3.4.2.2 H.R. 2646

H.R. 2646 is the “Farm Security and Rural Investment Act of 2002.” This bill directs the Secretary of Agriculture to allow farmers to choose one of four calculation methods for determining the amount of base acres. This only applies to covered commodities, such as wheat, corn, grain sorghum, and upland cotton. H.R. 2646 also directs the Secretary of Agriculture to determine how much a farm needs to produce of a certain crops. Finally, this bill sets the payment rates that farmers will receive for the covered commodities (Congress). This bill covers agriculture and is in the Agribusiness industry group.

3.4.3 108th Congress

3.4.3.1 H.R. 1417

H.R. 1417 is the “Copyright Royalty and Distribution Reform Act of 2004.” This bill changes how copyright arbitration will be dealt with. To do this, the bill establishes the title of Copyright Royalty Judge (CRJ). The CRJ has the authority to determine royalty rates for copyrighted material. Also included in the functions of the CRJ is the authority to determine who receives the royalties (Congress). The music industry is in the Communications industry group.

3.4.4 109th Congress

3.4.4.1 S. 397

S. 397 is the “Protection of Lawful Commerce in Arms Act.” This bill deals with the legal issues of gun manufacturers or sellers being sued. The bill protects the gun companies from having a civil liability action being brought against them in federal court. The gun companies are not liable for any type of damages. This bill allows civil action in cases where the gun company violated laws. The bill requires that secure gun storage or safety devices be used by the owner of a gun (Congress). The gun rights industry is in the Ideological industry group.

3.4.4.2 S. 2120

S. 2120 is the “Milk Regulatory Equity Act of 2005.” This bill subjects Class I milk handlers, which includes producers-handlers, to milk uniform and minimum price requirements. This requirement only holds for milk handlers who sell more than three million pounds of milk in a month. The bill specifies that the regulation of milk prices does not hold for handlers in states with their own minimum prices for raw milk purchases (Congress). The dairy industry is in the Agribusiness industry group.

3.4.5 110th Congress

3.4.5.1 H.R. 802

H.R. 802 is the “Maritime Pollution Prevention Act of 2008.” This bill amends current legislation to adopt new international law about pollution from ships. The standards for ship pollution apply to ships in United States territorial waters. Also

included in this bill are requirements for the Environmental Protection Agency to issue certificates to ships to show that they are in compliance with the new standards. There are also requirements that there be appropriate facilities to receive ozone depleting substances at US ports and terminals (Congress). The sea shipping industry is in the Transportation industry group.

3.4.5.2 H.R. 4040

H.R. 4040 is the “Consumer Product Safety Improvement Act of 2008.” This bill requires that any children’s product that contains more than a specified amount of lead to be a banned hazardous substance. This does not cover those products where the technology is not feasible to limit the amount of lead. There are also exclusions for those products where the materials used will not result in human absorption of lead. Also included in this bill are guidelines for more stringent limit on the amount of lead that is acceptable in paint (Congress). This bill falls under the Health industry group.

3.4.6 111th Congress

3.4.6.1 H.R. 627

H.R. 627 is the “Credit Card Accountability Responsibility and Disclosure Act of 2009.” This bill affects how the credit card industry increases the fees that it charges and the annual percentage rate (APR) that is for a credit card. The credit card company is required to notify consumers 45 days prior to the effective date of any increase or significant changes in the terms of the agreement. The bill only allows a

credit card company to increase its APR or fees under strict guidelines. Also included in this bill are provisions for the APR to decrease if sufficient conditions are met (Congress). The credit card industry is in the Finance industry group.

3.4.6.2 S. 1147

S. 1147 is the “Prevent All Cigarette Trafficking Act of 2009 or PACT Act.” This bill revises the way that taxes are collected in regards to cigarettes and smokeless tobacco. In the bill are requirements for the tobacco tax reporting requirements to be applied to the sale or advertising of smokeless tobacco products and people who ship cigarettes and smokeless tobacco products. There are also requirements for sellers of tobacco products to register with the Attorney General. The other requirements that this bill imposes are for the sellers of tobacco to comply with specifications about who tobacco can be sold to and what needs to go on a cigarette package (Congress). The Cigarette industry is in the Agribusiness industry group.

3.5 Differences from 106-S900

To a large extent, these eleven bills followed the same exact procedure as the bill 106-S900, however for four of the bills, there were differences in the procedure used. For the bill 110-HR802, when I ran the probit regression for the first level regression, I got an error message of “Triangular Matrix too small or Source Matrix is asymmetric.” Because of this error message, I decided to use a linear probability model. I ran into the same error message when I ran the second level regression for

this bill as well. So once again, I used the linear probability model instead of the probit model.

For the bills 107-HR1 and 111-S1147, I ran into a problem when I ran the second level regressions. Both of these bills had the industry group energy and natural resources as the most significant after I ran the first level regression. However, when I ran the second level regression for both of these bills, I got an error message of “A Singular Covariance Matrix.” This error message seemed specific to the energy and natural resources industry group, so instead of using this group, I decided to use the second most significant industry group. For the bill 107-HR1 it was the construction industry and for the bill 111-S1147 it was the communications industry group. Both of these industry groups were still within the 10% significance level.

For the bill 111-S1147 there was also the added problem of when I ran the second level regression, there was no industry sub-group that was significant. I also ran into this problem with the bill 110-HR4040. For both of these bills, this problem simply meant that I was unable to make predictions as to how the probability of Members voting changes with contribution levels. This is because I was unable to select which industry sub-group to analyze.

Chapter 4

RESULTS

4.1 Level One Regressions

The results for the first level of regressions provide an opportunity to break the twelve bills into two distinct groups. The groups are those bills where the industry of importance was statistically significant and those bills where a non-industry of importance was statistically significant. The bills where the industry of importance was statistically significant are 106-S900, 107-HR2646, 107-HR3763, 109-S2120, 110-HR802, and 111-HR627. The bills where a non-industry of importance was statistically significant are 106-HR1664, 107-HR1, 108-HR1417, 109-S397, 110-HR4040, and 111-S1147. In determining why the bills are broken into these groups, there is no clear distinction that can be made. Of the six bills where the industry of importance was significant, the industry group that was significant was the Finance, Agribusiness, or the Transportation the industry group. The Agribusiness industry group was also the significant industry for one other bill where the industry of importance was not significant. This means that the industry itself does not determine whether or not the industry of importance was significant. No other distinction seems to be forthcoming in determining which industry is significant, except that it is likely

that it is the individual bill that ultimately determines which industry plays a significant role.

Table 6 – Level 1 Results

	Bill	McFadden R2	N	Industry group of Significance
Industry of Importance Significant	106-S900	0.248609	387	Finance
	107-HR2646	0.213785	358	Agribusiness
	107-HR3763	0.479289	373	Finance
	109-S2120	0.150675	365	Agribusiness
	110-HR802	0.243331	350	Transportation
	111-HR627	0.532533	428	Finance
Industry of Non-Importance Significant	106-HR1664	0.269739	376	Defense
	107-HR1	0.218915	371	Construction
	108-HR1417	0.130449	390	Lawyers and Lobbyists
	109-S397	0.678842	371	Agribusiness
	110-HR4040	0.205507	373	Communications
	111-S1147	0.193757	413	Communications

As this table shows, the McFadden R^2 values range from .1305 to .6788. This seems to be very reasonable for a regression run on cross-sectional data. The three bills that are of note from these results are; 108-HR1417, 109-S397, and 111-S1147. Except for 109-S397, these regressions have only a small explanatory power. The bill 109-S397 is also of note because the regression provides 68% of the explanatory power of the factors that influence a vote. On the whole, these results are not that unexpected. For most of the bills, the regressions provide a reasonable size of the

explanatory power that determines how Members vote. The fourth column of this table shows the number of Members who were in each regression. The reason why the bills from the same Congress do not have the same number of Members is that not all members voted yes or no on the same legislation.¹²

4.2 Level Two Regressions

The level two regression results can be sorted into three groups. These groups are no longer based on what industry was significant but instead are based on whether or not all of the regions were valid variables and whether or not there was a statistically significant sub-group industry. The bills that had no issues when running the regressions are 106-HR1664, 106-S900, 107-HR2646, 107-HR3763, 109-S397, 109-S2120, and 111-HR627. The bills where there was a problem in the region dummy variables are 107-HR1, 108-HR1417, 110-HR802, 110-HR4040, and 111-S1147.¹³

¹² When Members vote in the House of Representatives, they can either vote yes, no, present, or not voting. I have only used those Members who have voted either yes or no.

¹³ When running the probit regressions for the level 2 regressions, there was an error message that appeared that said “Quasi-complete separation: MA01>0 perfectly predicts binary response success.” The problem is that for these bills there are regions where every Member from that region voted yes on the bill. This leads to the problem of multicollinearity because those region dummy variables perfectly predict the vote response. While on a practical term this is fine, for it means that those regions have a 1.000 probability of a yes vote, this causes problems for Eviews, I have dealt with this issue. What I did was to run the regressions without those regions where there is a perfect prediction. This should not bias the results of the probit for the other variables.

The bills 110-HR4040 and 111-S1147 had an additional problem when the probit regression was run. The problem was that there was no sub-group industry that was statistically significant. It is also important to remember that for the bill 110-HR802, there was the problem of not being able to run the level 2 regression as a probit. Instead, I ran a linear probability model for that bill. This means that for the bill 110-HR802, the predicted probabilities are not bound by 0 and 1. When running these regressions, I found the amount of money that was necessary to cause a yes or no vote. This allows for the interpretation of how easy it is to influence a vote in Congress.

Table 7 – Level 2 Results

Bill	Sub-group industry significant	Money for 100% probability of vote	Money leads to yes or no vote	Regions left out
106-HR1664	Aerospace	\$50,000	Yes	None
106-S900	Real Estate	\$20,000	Yes	None
107-HR2646	Crop Production	\$5,000	Yes	None
107-HR3763	Accountants	\$20,000	Yes	None
109-S397	Forestry and Forest Prod	\$30,000	Yes	None
109-S2120	Dairy	\$40,000	Yes	None
111-HR627	Savings and Loans	\$10,000	No	None
107-HR1	Construction Services	\$30,000	Yes	NW
108-HR1417	Misc	\$30,000	Yes	M, P

110-HR802 ¹⁴	Misc	\$10,000	Yes	M, NE, NW, P
110-HR4040	NA	NA	NA	M, MA01, NW, P
111-S1147	NA	NA	NA	MA01

This table shows the results for each of the twelve bills. The second column shows the sub-group industry that was statistically significant and had the highest coefficient.¹⁵ The third column shows the money level that was necessary to assure a yes or no vote. For each bill, if the coefficient was positive then it would lead to a yes vote and if the coefficient was negative, then it would lead to a no vote. This can be seen in the fourth column. The fifth column shows the regions that had to be left out of the regressions because of the perfect predictability that existed when running those regressions.

The next set of results that I examined for the second level regressions was a breakdown of Democrat versus Republican and how the probability of voting changed as you go from zero contributions from the selected sub-group to average contributions from the selected sub-group, and then to how much money was necessary to get the probability of voting to jump to near 0% or 100%.

¹⁴ This bill was run using the linear probability method which does not bind the predicted probabilities between 0 and 1. This means that it is possible to get probabilities over 1, which I did. While the interpretation of these probabilities is complicated, I am simply trying to point out that around \$10,000, the probability of voting yes gets close to 100%.

¹⁵ The sub-group industries were chosen to determine what was the least amount of money that was necessary to buy a vote. The sub-group industry with the largest coefficient but was still significant at the 10% level, allows for the examination of what is the minimum amount of money that is necessary to buy a vote.

Table 8 – Level 2 Results with Contribution Change

	Probability with Zero Contributions		Probability with Average Contributions		Average Level of Contributions	Contributions Necessary to make Vote Certain	
	Democrat	Republican	Democrat	Republican		Democrat	Republican
106-HR1664	0.645133	0.793971	0.771107	0.883087	\$6,422.00	\$50,000	\$50,000
106-S900	0.597713	0.917171	0.75595	0.966539	\$2,626.98	\$20,000	\$15,000
107-HR1	0.87431	0.778316	0.970012	0.933256	\$6,686.37	\$30,000	\$30,000
107-HR2646	0.651939	0.610219	0.745202	0.708427	\$5,629.93	\$5,000	\$5,000
107-HR3763	0.374631	0.97856	0.826297	0.999488	\$5,841.77	\$30,000	\$10,000
108-HR1417	0.846445	0.919731	0.899216	0.951448	\$2,629.75	\$30,000	\$30,000
109-S397	0.170223	0.947396	0.261286	0.973444	\$2,248.86	\$40,000	\$20,000
109-S2120	0.560432	0.622963	0.710276	0.76282	\$3,857.78	\$40,000	\$40,000
110-HR802	1.0852	0.845668	1.102845	0.863312	\$1,530.30	\$5,000	\$15,000
110-HR4040	NA	NA	NA	NA	NA	NA	NA
111-HR627	0.999189	0.644303	0.999068	0.62897	\$42.41	\$10,000	\$5,000
111-S1147	NA	NA	NA	NA	NA	NA	NA

As you can see, for all but three of the bills, Republicans were more likely than Democrats to vote for the bill without any donations or increase in donations. The other thing of note is that with zero or average levels of contributions, for most of the bills, there was a probability of voting yes of around 50-80%. Any probability around 50% shows that the Member was predisposed to neither voting yes nor no. Thus, from this table, I can show that especially for Democrats, an increase in donations from zero to the average level of contributions or from the average to \$20,000-\$50,000 will dramatically increase the likelihood that the Member will vote yes.

Chapter 5

CONCLUSIONS

Across these 12 bills, there are some interesting conclusions that can be drawn. The level two regressions show that, on average, a well placed ten to fifty thousand dollars to a Member from the right industry sub-group is able to influence a Member to either vote yes or no. This clearly shows a direct link between interest groups, mainly PACs, and votes in the House of Representatives. Furthermore, some of the bills, I have shown that without contributions from the selected sub-group industries, the Members were to a large extent not strong in their conviction to vote a certain way or were set to vote no on the legislation. This can be seen in the bills 109-S397 and 107-HR3763, where Democrats were predisposed to vote no but after donations decided to vote yes. This can also be seen in the bills 107-HR2646 and 109-S2120 where Members from both parties were not predisposed to vote a certain way. Once again, after donations, the Members decide to vote yes.

The largest shift in voting can be seen in 111-HR627, where Democrats were predisposed to vote yes with a 99.9% probability. However after only \$10,000 of donations, they shifted their vote to no. This goes to show that Members can be influenced to vote based not on what is best for their constituents, but instead on what is needed to raise money for reelection.

For those who claim that there is no link between contributions and votes, the difficulty is to find pieces of legislation that prove their point. If these 12 bills were considered a representative sample of all bills that were signed into law in the past 12 years, then 83.3% of all bills should show a relationship between PAC contributions and votes by Members. However, these twelve bills are not a representative, because of the large number of bills that are ceremonial based. A significant fraction of all bills that are signed into law are bills that rename a Post Office branch in some Member's district after a famous person from that district or to congratulate the newest sports champions. These types of bills would reduce the overall percentage of bills where vote influencing happens. However, for those bills of importance to industries, there are a large number of them that will have vote buying evident. Even if one were to assume that 30-40% of the bills signed into law have a relationship between contributions and votes, that number is alarmingly high. The question that everyone must answer for themselves is what percentage is deemed acceptable.

Chapter 6

LIMITATIONS

6.1 Method of Analysis

I believe that my method of analysis is sound because I am taking the data as given from a reputable source and using industry groups and sub-groups as defined by another reputable source. I try to not use any of my own biases in setting up the regressions. The only factor where I influenced the data was in setting up how I classified each state into its appropriate region. Beyond this factor, the only way that I have influenced the data in the regressions, is by limiting the variables that were used, to stay within the scope of a Master's Thesis.¹⁶

A possible area of criticism is in the system used to classify the PACs into their industry groups and sub-groups. To help alleviate any issues in the classification system, an outside reputable source that classified PACs into groups was found, Opensecrets.org. This is a reputable nonpartisan, nonprofit, independent group. From Opensecrets.org, five thousand classifications were found. This still left over a thousand that had to be hand classified into their appropriate groups and sub-groups.

¹⁶ See the section titled Future Possible Research for ideas on future research on this issue.

For those PACs where it was not clear where they belonged, the classification of other or misc was used.

6.2 Zero Contribution Probabilities

With zero contributions most of the bills have Democrats in the 50-80% probability range and Republicans in the 90% range. This can be seen in 106-S397, 107-HR3763, and 109-S397. For these bills, there was a distinct separation with zero contributions between the probability of voting yes for Democrats and Republicans. Because the Republicans have a high probability of voting with zero contributions, there is less of an impact from seeing that with contributions, the probability increases. For the Republicans, if there was a high probability to begin with, the PACs most likely would not give money simply to increase from 90-99 %. However, it is still interesting to see that there is a correlation between increased donations and increased likelihood in voting.

6.3 Free Will

For those who argue that my method of analysis is disregarding the fact that people vote of their own free will and that I am treating people as automatons, I would suggest that people look at the R^2 values of my regressions. The R^2 value is one measure of looking at how good the model is at predicting the dependent variable. In my regressions, I have R^2 values of .1 to .3. This means that I am only predicting 10 or 30% of the factors that influence votes. While I have one bill that has an R^2 value of .679, it is likely that that bill is an anomaly and that there are other factors that I am

picking up that allow for such a high R^2 value. For the most part, in being able to predict only 10 to 30% of the reason why people vote a certain way, still shows that PACs have influence. My analysis is simply showing that the donations, region, and political party influence the way Members vote.

Chapter 7

FUTURE POSSIBLE RESEARCH

7.1 Variables to Add

There are several options for future research on this topic. One option is to add more control variables to the regressions, this would correct for any omitted variable bias. Prior research on this topic used control variables that were not limited to region and party.

7.1.1 Political Ideology

If this research were to be continued, it would be interesting to add a control variable to control for political ideology. This could be accomplished by using a non-partisan group's ideology scores of Members. Adding this variable would correct for Members being ideologically predisposed to vote a certain way, as opposed to being influenced by donations. This would allow for Members to vote a certain way because of their ideological beliefs.

7.1.2 Philosophical Support

The ratings of Members that industries come up with would be another variable to add to this research. This would help get at the likelihood of the Member to support the legislation because of their philosophical or economic belief structures. Hopefully this variable would show how some Members support an industry on a

philosophical basis. Another way to possibly get at this variable of interest would be to ask the Members themselves which industries they support. This would not be as good, because Members might claim to support more industries than they actually do.

7.1.3 Member's Support

It might also be worthwhile to control the Member's support for the legislation over the course of the legislative process. If a Member sees that the legislation is overwhelmingly headed towards either passage or defeat, they might vote that way to be a part of the majority.

7.1.4 Opponent Funding

Adding a comparison variable that looks at the general election opponent that the Member faced might also correct any bias. One way that this could be done would be to use net contributions. This would allow for PACs that give more to the Member or the challenger which contrasts with PACs giving the same to both candidates. If PACs give the same to both candidates, then they are simply hedging their bets on who wins the election. With the added variable, it would be possible to control for the PACs hedging their bets.

7.1.5 Industry Percentage

An interesting variable to add to this analysis is the percentage of the industry groups and sub-groups out of all industries in the district. This could be taken one step farther and weight donations from PACs by the percent the represented industry out of total industries that exist in the district. This would allow for industries that are a large

percentage of the district to have more impact than industries with a small percent. This would be useful because industries that make up a large percent of the district have more employees and thus potentially a larger impact on the Member.

7.1.6 Weight the Contributions

Another variable that could be added to the regression would be to weight the contribution as a percent of total contributions received. This would allow for contributions that come in large chunks to have more of an impact, as opposed to lots of small donations that the Member might connect as coming from the same industry.

7.2 More Bills

Using more bills in the analysis would also be an avenue for future study. Prior research has been limited to no more than two or three bills. Vote buying is a serious problem, potentially pointing to government corruption. If this analysis were to be run on all bills that became law, then there would be more of an argument for understanding if there is vote buying.

7.3 Votes when Member is Leaving Office

Another possible avenue for future research would be to track those Members who were in Congress for at least two Congresses and left. If a Member is voting because of the donations that they received, it would be interesting to look at what happens if the Member is not running for reelection. What would be interesting to add to this would be the date that they announced that they were not running for reelection versus the date that they realized that they were not running

for reelection. In that interim time period, they would still be getting donations from PACs as if they were running for reelection but they would be voting with the knowledge that they do not need to money for reelection.

Chapter 8

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APPENDIX A: GROUP REGRESSIONS

106 – HR1664

Misc and Energy/Natural Resources but really Defense

probit(h) VOTE_106_hr1664 M MA01 MW NE NW P SE SW PARTY
 AGRIBUSSINESS COMMUNICATIONS CONSTRUCTION DEFENSE
 ENERGY_NATURAL_RESOURCES FINANCE HEALTH IDEOLOGICAL LABOR
 LAWYERS_AND_LOBBYISTS MISC OTHER TRANSPORTATION C

Dependent Variable: VOTE_106_HR1664

Method: ML - Binary Probit (Quadratic hill climbing)

Date: 02/23/11 Time: 13:56

Sample (adjusted): 1 376

Included observations: 376 after adjustments

Convergence achieved after 8 iterations

QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
M	0.059311	0.509435	0.116426	0.9073
MA01	0.623770	0.493289	1.264511	0.2060
MW	-0.111514	0.279252	-0.399332	0.6896
NE	0.542940	0.284431	1.908861	0.0563
NW	-0.950240	0.390918	-2.430791	0.0151
P	-1.117049	0.374385	-2.983692	0.0028
SE	0.760701	0.302127	2.517819	0.0118
SW	-0.057764	0.359255	-0.160789	0.8723
PARTY	-0.660764	0.269481	-2.451985	0.0142
AGRIBUSSINESS	1.82E-05	6.06E-06	3.009406	0.0026
COMMUNICATIONS	2.60E-07	4.87E-06	0.053359	0.9574
CONSTRUCTION	4.66E-07	1.14E-05	0.040801	0.9675
DEFENSE	6.76E-05	1.32E-05	5.104500	0.0000
ENERGY_NATURAL_RESOURCES	1.23E-06	6.97E-06	0.176674	0.8598
FINANCE	2.61E-06	2.26E-06	1.154012	0.2485
HEALTH	2.13E-07	2.20E-06	0.096914	0.9228
IDEOLOGICAL	-4.00E-06	2.03E-06	-1.972400	0.0486
LABOR	5.52E-06	2.33E-06	2.366952	0.0179
LAWYERS_AND_LOBBYISTS	-3.54E-05	1.64E-05	-2.161102	0.0307
MISC	-5.21E-06	6.41E-06	-0.811858	0.4169
OTHER	7.50E-06	5.11E-06	1.469466	0.1417
TRANSPORTATION	-3.30E-06	7.11E-06	-0.464322	0.6424
C	0.154719	0.296910	0.521095	0.6023
McFadden R-squared	0.269739	Mean dependent var		0.750000
S.D. dependent var	0.433590	S.E. of regression		0.378807
Akaike info criterion	0.943643	Sum squared resid		50.65363
Schwarz criterion	1.184017	Log likelihood		-154.4049
Hannan-Quinn criter.	1.039063	Restr. log likelihood		-211.4380
LR statistic	114.0663	Avg. log likelihood		-0.410651
Prob(LR statistic)	0.000000			
Obs with Dep=0	94	Total obs		376
Obs with Dep=1	282			

poff

107 – HR1

Other but really Construction

probit(h) VOTE_107_hr1 M MA01 MW NE P SE SW PARTY
 AGRIBUSSINESS COMMUNICATIONS CONSTRUCTION DEFENSE
 ENERGY NATURAL RESOURCES FINANCE HEALTH IDEOLOGICAL LABOR
 LAWYERS AND LOBBYISTS MISC OTHER TRANSPORTATION C

Dependent Variable: VOTE_107_HR1

Method: ML - Binary Probit (Quadratic hill climbing)

Date: 02/23/11 Time: 13:59

Sample (adjusted): 1 371

Included observations: 371 after adjustments

Convergence achieved after 8 iterations

QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
M	-0.427966	0.514265	-0.832189	0.4053
MA01	-0.105107	0.430670	-0.244054	0.8072
MW	0.175657	0.322278	0.545047	0.5857
NE	0.624287	0.396840	1.573146	0.1157
P	-0.018617	0.455226	-0.040897	0.9674
SE	0.301954	0.345785	0.873242	0.3825
SW	-0.170157	0.384344	-0.442720	0.6580
PARTY	0.410283	0.340331	1.205544	0.2280
AGRIBUSSINESS	1.45E-06	4.06E-06	0.357313	0.7209
COMMUNICATIONS	2.56E-06	6.07E-06	0.421779	0.6732
CONSTRUCTION	2.52E-05	1.25E-05	2.017821	0.0436
DEFENSE	6.17E-06	5.08E-06	1.214145	0.2247
ENERGY_NATURAL_RESOURCES	1.93E-05	8.23E-06	2.348401	0.0189
FINANCE	2.86E-06	2.76E-06	1.035855	0.3003
HEALTH	2.91E-06	3.64E-06	0.801101	0.4231
IDEOLOGICAL	2.20E-06	2.15E-06	1.023915	0.3059
LABOR	3.85E-06	4.48E-06	0.859479	0.3901
LAWYERS_AND_LOBBYISTS	1.63E-05	2.20E-05	0.740560	0.4590
MISC	-1.22E-05	7.98E-06	-1.534819	0.1248
OTHER	-7.71E-06	1.01E-05	-0.762992	0.4455
TRANSPORTATION	-2.17E-06	8.63E-06	-0.251435	0.8015
C	-0.127066	0.318155	-0.399383	0.6896
McFadden R-squared	0.218915	Mean dependent var	0.894879	
S.D. dependent var	0.307124	S.E. of regression	0.287820	
Akaike info criterion	0.643788	Sum squared resid	28.91137	
Schwarz criterion	0.876015	Log likelihood	-97.42260	
Hannan-Quinn criter.	0.736021	Restr. log likelihood	-124.7273	
LR statistic	54.60930	Avg. log likelihood	-0.262595	
Prob(LR statistic)	0.000081			
Obs with Dep=0	39	Total obs	371	
Obs with Dep=1	332			

poff

107 – HR2646

Agribusiness statistically significant

Probit (h) VOTE_107_hr2646 M MA01 MW NE NW P SE SW PARTY AGRIBUSSINESS
 COMMUNICATIONS CONSTRUCTION DEFENSE ENERGY NATURAL RESOURCES FINANCE
 HEALTH IDEOLOGICAL LABOR LAWYERS_AND_LOBBYISTS MISC OTHER
 TRANSPORTATION C

Dependent Variable: VOTE_107_HR2646

Method: ML - Binary Probit (Quadratic hill climbing)

Date: 02/23/11 Time: 14:04

Sample (adjusted): 1 358

Included observations: 358 after adjustments

Convergence achieved after 8 iterations

QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
M	-0.482691	0.545871	-0.884259	0.3766
MA01	0.496803	0.374992	1.324836	0.1852
MW	0.190782	0.289886	0.658129	0.5105
NE	-0.275678	0.252498	-1.091805	0.2749
NW	-0.095743	0.416765	-0.229728	0.8183
P	0.392868	0.412464	0.952492	0.3408
SE	0.333188	0.298666	1.115589	0.2646
SW	-0.126263	0.324509	-0.389090	0.6972
PARTY	-0.031682	0.257642	-0.122970	0.9021
AGRIBUSSINESS	3.39E-05	9.32E-06	3.634532	0.0003
COMMUNICATIONS	-7.75E-06	4.54E-06	-1.707875	0.0877
CONSTRUCTION	-4.93E-06	3.08E-06	-1.600602	0.1095
DEFENSE	1.11E-06	3.84E-06	0.288609	0.7729
ENERGY_NATURAL_RESOURCES	2.45E-05	8.60E-06	2.850611	0.0044
FINANCE	-1.14E-06	1.91E-06	-0.596214	0.5510
HEALTH	-3.53E-06	2.65E-06	-1.334669	0.1820
IDEOLOGICAL	-5.33E-07	9.32E-07	-0.572020	0.5673
LABOR	2.35E-06	2.21E-06	1.061783	0.2883
LAWYERS_AND_LOBBYISTS	-5.59E-06	1.64E-05	-0.340721	0.7333
MISC	-5.91E-06	6.64E-06	-0.890245	0.3733
OTHER	3.39E-06	7.06E-06	0.479890	0.6313
TRANSPORTATION	-9.37E-06	4.88E-06	-1.920725	0.0548
C	0.190407	0.275226	0.691820	0.4891
McFadden R-squared	0.213785	Mean dependent var	0.695531	
S.D. dependent var	0.460826	S.E. of regression	0.412556	
Akaike info criterion	1.094913	Sum squared resid	57.01775	
Schwarz criterion	1.344221	Log likelihood	-172.9894	
Hannan-Quinn criter.	1.194063	Restr. log likelihood	-220.0281	
LR statistic	94.07745	Avg. log likelihood	-0.483211	
Prob(LR statistic)	0.000000			
Obs with Dep=0	109	Total obs	358	
Obs with Dep=1	249			

poff

107 – HR3763

Finance statistically significant

Probit(h) VOTE_107_hr3763 M MA01 MW NE NW P SE SW PARTY
 AGRIBUSSINESS COMMUNICATIONS CONSTRUCTION DEFENSE
 ENERGY NATURAL RESOURCES FINANCE HEALTH IDEOLOGICAL LABOR
 LAWYERS_AND_LOBBYISTS MISC OTHER TRANSPORTATION C

Dependent Variable: VOTE_107_HR3763
 Method: ML - Binary Probit (Quadratic hill climbing)
 Date: 02/23/11 Time: 14:05
 Sample (adjusted): 1 373
 Included observations: 373 after adjustments
 Convergence achieved after 9 iterations
 QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
M	0.012623	0.784281	0.016095	0.9872
MA01	0.052382	0.479360	0.109276	0.9130
MW	-0.775395	0.326940	-2.371673	0.0177
NE	-0.265913	0.312797	-0.850115	0.3953
NW	0.613515	0.552790	1.109851	0.2671
P	0.373030	0.520216	0.717068	0.4733
SE	0.651102	0.396754	1.641070	0.1008
SW	0.074501	0.518119	0.143792	0.8857
PARTY	-2.049688	0.445338	-4.602540	0.0000
AGRIBUSSINESS	3.15E-05	9.62E-06	3.273852	0.0011
COMMUNICATIONS	1.12E-05	6.65E-06	1.690011	0.0910
CONSTRUCTION	-7.98E-06	5.00E-06	-1.595378	0.1106
DEFENSE	1.36E-05	5.97E-06	2.272376	0.0231
ENERGY_NATURAL_RESOURCES	1.98E-06	6.29E-06	0.315348	0.7525
FINANCE	8.23E-06	3.64E-06	2.258138	0.0239
HEALTH	-1.39E-06	3.86E-06	-0.359246	0.7194
IDEOLOGICAL	-3.41E-06	1.28E-06	-2.672714	0.0075
LABOR	3.20E-06	2.41E-06	1.329302	0.1837
LAWYERS_AND_LOBBYISTS	-8.62E-05	2.11E-05	-4.087355	0.0000
MISC	-7.35E-06	1.05E-05	-0.700657	0.4835
OTHER	2.39E-05	8.92E-06	2.678558	0.0074
TRANSPORTATION	1.20E-05	7.66E-06	1.567996	0.1169
C	1.776799	0.437648	4.059883	0.0000
McFadden R-squared	0.479289	Mean dependent var	0.788204	
S.D. dependent var	0.409130	S.E. of regression	0.305655	
Akaike info criterion	0.661038	Sum squared resid	32.69884	
Schwarz criterion	0.902851	Log likelihood	-100.2836	
Hannan-Quinn criter.	0.757059	Restr. log likelihood	-192.5899	
LR statistic	184.6126	Avg. log likelihood	-0.268857	
Prob(LR statistic)	0.000000			
Obs with Dep=0	79	Total obs	373	
Obs with Dep=1	294			

poff

108 – HR1417

Communications but really Lawyers and Lobbyists

Probit(h) VOTE_108_hr1417 MA01 MW NE NW SE SW PARTY
 AGRIBUSSINESS COMMUNICATIONS CONSTRUCTION DEFENSE
 ENERGY NATURAL_RESOURCES FINANCE HEALTH IDEOLOGICAL LABOR
 LAWYERS_AND_LOBBYISTS MISC OTHER TRANSPORTATION C

Dependent Variable: VOTE_108_HR1417
 Method: ML - Binary Probit (Quadratic hill climbing)
 Date: 02/23/11 Time: 14:07
 Sample (adjusted): 1 390
 Included observations: 390 after adjustments
 Convergence achieved after 8 iterations
 QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
MA01	0.470796	0.501864	0.938095	0.3482
MW	-0.109580	0.318926	-0.343591	0.7312
NE	1.070238	0.428120	2.499855	0.0124
NW	0.328830	0.490112	0.670928	0.5023
SE	0.474715	0.348005	1.364104	0.1725
SW	-0.219725	0.363946	-0.603729	0.5460
PARTY	-0.464207	0.341227	-1.360406	0.1737
AGRIBUSSINESS	3.34E-07	4.22E-06	0.079036	0.9370
COMMUNICATIONS	5.46E-06	5.24E-06	1.040567	0.2981
CONSTRUCTION	-5.68E-08	1.14E-06	-0.049874	0.9602
DEFENSE	-6.96E-06	4.55E-06	-1.529314	0.1262
ENERGY_NATURAL_RESOURCES	2.51E-06	4.99E-06	0.502494	0.6153
FINANCE	-1.27E-06	1.42E-06	-0.894602	0.3710
HEALTH	3.77E-07	2.98E-06	0.126368	0.8994
IDEOLOGICAL	1.67E-06	1.36E-06	1.227527	0.2196
LABOR	6.08E-07	3.19E-06	0.190379	0.8490
LAWYERS_AND_LOBBYISTS	3.75E-05	1.84E-05	2.036747	0.0417
MISC	3.68E-07	7.54E-06	0.048858	0.9610
OTHER	-1.10E-05	8.64E-06	-1.273894	0.2027
TRANSPORTATION	5.88E-06	6.70E-06	0.878715	0.3796
C	1.282449	0.294491	4.354799	0.0000
McFadden R-squared	0.130449	Mean dependent var	0.941026	
S.D. dependent var	0.235879	S.E. of regression	0.232943	
Akaike info criterion	0.497488	Sum squared resid	20.02278	
Schwarz criterion	0.711050	Log likelihood	-76.01014	
Hannan-Quinn criter.	0.582145	Restr. log likelihood	-87.41306	
LR statistic	22.80584	Avg. log likelihood	-0.194898	
Prob(LR statistic)	0.298429			
Obs with Dep=0	23	Total obs	390	
Obs with Dep=1	367			

poff

109 – S397

Ideological but really Agribusiness

Probit(h) VOTE_109_S397 M MA01 MW NE NW P SE SW PARTY
 AGRIBUSSINESS COMMUNICATIONS CONSTRUCTION DEFENSE
 ENERGY NATURAL_RESOURCES FINANCE HEALTH IDEOLOGICAL LABOR
 LAWYERS_AND_LOBBYISTS MISC OTHER TRANSPORTATION C

Dependent Variable: VOTE_109_S397
 Method: ML - Binary Probit (Quadratic hill climbing)
 Date: 02/23/11 Time: 14:09
 Sample (adjusted): 1 371
 Included observations: 371 after adjustments
 Convergence achieved after 9 iterations
 QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
M	0.189195	0.470353	0.402240	0.6875
MA01	-0.326138	0.509961	-0.639536	0.5225
MW	0.470619	0.433868	1.084706	0.2781
NE	0.107473	0.358321	0.299935	0.7642
NW	0.660580	0.542793	1.217000	0.2236
P	-0.015206	0.440384	-0.034529	0.9725
SE	0.528421	0.399423	1.322959	0.1858
SW	-0.100582	0.486496	-0.206748	0.8362
PARTY	-2.548640	0.326525	-7.805335	0.0000
AGRIBUSSINESS	2.16E-05	5.85E-06	3.687387	0.0002
COMMUNICATIONS	-9.49E-06	4.85E-06	-1.957059	0.0503
CONSTRUCTION	9.74E-06	9.00E-06	1.081598	0.2794
DEFENSE	9.69E-06	5.11E-06	1.897002	0.0578
ENERGY_NATURAL_RESOURCES	3.29E-05	7.47E-06	4.401420	0.0000
FINANCE	1.79E-07	2.00E-06	0.089514	0.9287
HEALTH	-3.46E-06	1.74E-06	-1.982620	0.0474
IDEOLOGICAL	-5.37E-07	5.19E-07	-1.034966	0.3007
LABOR	-1.50E-06	2.97E-06	-0.505326	0.6133
LAWYERS_AND_LOBBYISTS	-3.52E-05	1.64E-05	-2.150148	0.0315
MISC	7.00E-06	7.75E-06	0.902644	0.3667
OTHER	-8.59E-07	8.11E-06	-0.105898	0.9157
TRANSPORTATION	9.10E-07	6.55E-06	0.138820	0.8896
C	1.072411	0.368045	2.913805	0.0036
McFadden R-squared	0.678842	Mean dependent var	0.636119	
S.D. dependent var	0.481765	S.E. of regression	0.259693	
Akaike info criterion	0.545104	Sum squared resid	23.46935	
Schwarz criterion	0.787887	Log likelihood	-78.11680	
Hannan-Quinn criter.	0.641530	Restr. log likelihood	-243.2346	
LR statistic	330.2355	Avg. log likelihood	-0.210557	
Prob(LR statistic)	0.000000			
Obs with Dep=0	135	Total obs	371	
Obs with Dep=1	236			

poff

109 – S2120

Agribusiness statistically significant

Probit(h) VOTE_109_S2120 M MA01 MW NE NW P SE SW PARTY
 AGRIBUSSINESS COMMUNICATIONS CONSTRUCTION DEFENSE
 ENERGY_NATURAL_RESOURCES FINANCE HEALTH IDEOLOGICAL LABOR
 LAWYERS_AND_LOBBYISTS MISC OTHER TRANSPORTATION C

Dependent Variable: VOTE_109_S2120
 Method: ML - Binary Probit (Quadratic hill climbing)
 Date: 02/23/11 Time: 14:11
 Sample (adjusted): 1 365
 Included observations: 365 after adjustments
 Convergence achieved after 9 iterations
 QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
M	-0.426916	0.468245	-0.911736	0.3619
MA01	0.542520	0.389218	1.393872	0.1634
MW	-0.188417	0.264668	-0.711902	0.4765
NE	-0.440817	0.252984	-1.742470	0.0814
NW	-0.455648	0.377863	-1.205857	0.2279
P	0.383501	0.464143	0.826256	0.4087
SE	-0.001776	0.253656	-0.007000	0.9944
SW	0.390954	0.311847	1.253670	0.2100
PARTY	-0.119291	0.255653	-0.466613	0.6408
AGRIBUSSINESS	7.43E-06	3.25E-06	2.288700	0.0221
COMMUNICATIONS	6.61E-06	3.11E-06	2.123184	0.0337
CONSTRUCTION	-1.61E-06	2.29E-06	-0.700144	0.4838
DEFENSE	-7.97E-06	3.28E-06	-2.428682	0.0152
ENERGY_NATURAL_RESOURCES	-1.07E-06	3.61E-06	-0.296961	0.7665
FINANCE	-1.19E-06	9.84E-07	-1.213672	0.2249
HEALTH	1.51E-06	1.45E-06	1.036488	0.3000
IDEOLOGICAL	5.31E-07	3.03E-07	1.750157	0.0801
LABOR	2.52E-06	1.83E-06	1.378706	0.1680
LAWYERS_AND_LOBBYISTS	-3.60E-05	1.16E-05	-3.105424	0.0019
MISC	-9.83E-08	3.69E-06	-0.026606	0.9788
OTHER	3.51E-06	4.20E-06	0.836753	0.4027
TRANSPORTATION	2.17E-06	3.61E-06	0.599637	0.5487
C	0.591022	0.264054	2.238256	0.0252
McFadden R-squared	0.150675	Mean dependent var	0.676712	
S.D. dependent var	0.468374	S.E. of regression	0.438354	
Akaike info criterion	1.195027	Sum squared resid	65.71667	
Schwarz criterion	1.440774	Log likelihood	-195.0924	
Hannan-Quinn criter.	1.292690	Restr. log likelihood	-229.7028	
LR statistic	69.22096	Avg. log likelihood	-0.534500	
Prob(LR statistic)	0.000001			
Obs with Dep=0	118	Total obs	365	
Obs with Dep=1	247			

poff

110 – HR802

Transportation Statistically Significant

LS(h) VOTE_110_hr802 M MA01 MW NE NW P SE SW PARTY
 AGRIBUSSINESS COMMUNICATIONS CONSTRUCTION DEFENSE
 ENERGY_NATURAL_RESOURCES FINANCE HEALTH IDEOLOGICAL LABOR
 LAWYERS_AND_LOBBYISTS MISC OTHER TRANSPORTATION C

Dependent Variable: VOTE_110_HR802

Method: Least Squares

Date: 12/30/10 Time: 16:03

Sample (adjusted): 1 350

Included observations: 350 after adjustments

White heteroskedasticity-consistent standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
M	0.015482	0.054275	0.285257	0.7756
MA01	-0.112425	0.076009	-1.479105	0.1401
MW	-0.102168	0.044636	-2.288936	0.0227
NE	-0.044472	0.023797	-1.868800	0.0625
NW	-0.024239	0.042856	-0.565580	0.5721
P	-0.177545	0.068044	-2.609285	0.0095
SE	-0.203815	0.053917	-3.780175	0.0002
SW	-0.183408	0.062544	-2.932469	0.0036
PARTY	0.229566	0.040570	5.658518	0.0000
AGRIBUSSINESS	4.24E-07	3.50E-07	1.212756	0.2261
COMMUNICATIONS	-1.28E-08	4.48E-07	-0.028597	0.9772
CONSTRUCTION	5.73E-08	1.69E-07	0.338826	0.7350
DEFENSE	-6.59E-08	5.21E-07	-0.126564	0.8994
ENERGY_NATURAL_RESOURCES	-6.20E-09	6.29E-07	-0.009851	0.9921
FINANCE	3.26E-08	1.81E-07	0.180216	0.8571
HEALTH	-2.38E-07	2.16E-07	-1.101802	0.2714
IDEOLOGICAL	7.37E-08	4.64E-08	1.588911	0.1130
LABOR	5.97E-08	2.81E-07	0.212658	0.8317
LAWYERS_AND_LOBBYISTS	9.52E-07	1.44E-06	0.659182	0.5102
MISC	-5.62E-07	9.40E-07	-0.597672	0.5505
OTHER	-1.19E-07	5.02E-07	-0.237340	0.8125
TRANSPORTATION	1.04E-06	5.91E-07	1.766605	0.0782
C	0.829044	0.038384	21.59876	0.0000
R-squared	0.243331	Mean dependent var		0.891429
Adjusted R-squared	0.192423	S.D. dependent var		0.311546
S.E. of regression	0.279972	Akaike info criterion		0.355200
Sum squared resid	25.63163	Schwarz criterion		0.608721
Log likelihood	-39.15994	Hannan-Quinn criter.		0.456110
F-statistic	4.779868	Durbin-Watson stat		1.867312
Prob(F-statistic)	0.000000			

poff

110 – HR4040

Health but really Communications

Probit(h) VOTE_110_hr4040 MW NE SE SW PARTY AGRIBUSSINESS
 COMMUNICATIONS CONSTRUCTION DEFENSE
 ENERGY NATURAL_RESOURCES FINANCE HEALTH IDEOLOGICAL LABOR
 LAWYERS_AND_LOBBYISTS MISC OTHER TRANSPORTATION C

Dependent Variable: VOTE_110_HR4040
 Method: ML - Binary Probit (Quadratic hill climbing)
 Date: 02/23/11 Time: 14:15
 Sample (adjusted): 1 373
 Included observations: 373 after adjustments
 Convergence achieved after 9 iterations
 QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
MW	0.605092	0.521226	1.160901	0.2457
NE	0.636887	0.297449	2.141166	0.0323
SE	-0.023529	0.400463	-0.058754	0.9531
SW	-0.998100	0.410834	-2.429445	0.0151
PARTY	-0.358952	0.371099	-0.967268	0.3334
AGRIBUSSINESS	6.96E-06	3.50E-06	1.989259	0.0467
COMMUNICATIONS	9.75E-06	4.62E-06	2.109646	0.0349
CONSTRUCTION	3.74E-06	9.23E-06	0.405828	0.6849
DEFENSE	7.03E-06	5.57E-06	1.260788	0.2074
ENERGY_NATURAL_RESOURCES	9.41E-06	5.61E-06	1.677656	0.0934
FINANCE	-1.38E-06	1.10E-06	-1.245521	0.2129
HEALTH	-1.95E-06	1.50E-06	-1.295709	0.1951
IDEOLOGICAL	2.52E-06	1.78E-06	1.413784	0.1574
LABOR	-2.39E-06	1.94E-06	-1.232727	0.2177
LAWYERS_AND_LOBBYISTS	-8.46E-06	1.59E-05	-0.531258	0.5952
MISC	-1.14E-05	7.18E-06	-1.586482	0.1126
OTHER	8.36E-06	6.81E-06	1.226689	0.2199
TRANSPORTATION	1.95E-06	6.47E-06	0.300990	0.7634
C	1.477044	0.403050	3.664664	0.0002
McFadden R-squared	0.205507	Mean dependent var	0.957105	
S.D. dependent var	0.202894	S.E. of regression	0.201437	
Akaike info criterion	0.383190	Sum squared resid	14.36422	
Schwarz criterion	0.582948	Log likelihood	-52.46488	
Hannan-Quinn criter.	0.462511	Restr. log likelihood	-66.03566	
LR statistic	27.14155	Avg. log likelihood	-0.140657	
Prob(LR statistic)	0.076378			
Obs with Dep=0	16	Total obs	373	
Obs with Dep=1	357			

poff

111 – HR627

Finance Statistically significant

Probit(h) VOTE_111_hr627 M MA01 MW NE NW P SE SW PARTY
 AGRIBUSSINESS COMMUNICATIONS CONSTRUCTION DEFENSE
 ENERGY NATURAL RESOURCES FINANCE HEALTH IDEOLOGICAL LABOR
 LAWYERS_AND_LOBBYISTS MISC OTHER TRANSPORTATION C

Dependent Variable: VOTE_111_HR627

Method: ML - Binary Probit (Quadratic hill climbing)

Date: 02/23/11 Time: 14:17

Sample (adjusted): 1 428

Included observations: 428 after adjustments

Convergence achieved after 8 iterations

QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
M	-1.272682	0.581064	-2.190262	0.0285
MA01	0.597869	0.504777	1.184421	0.2362
MW	0.105017	0.430361	0.244019	0.8072
NE	0.004129	0.568015	0.007269	0.9942
NW	0.182911	0.847345	0.215864	0.8291
P	-0.607852	0.523882	-1.160285	0.2459
SE	-0.363979	0.413099	-0.881094	0.3783
SW	-0.995296	0.441076	-2.256519	0.0240
PARTY	1.743195	0.472815	3.686840	0.0002
AGRIBUSSINESS	-1.75E-06	4.99E-06	-0.349948	0.7264
COMMUNICATIONS	-7.85E-06	7.93E-06	-0.990370	0.3220
CONSTRUCTION	-6.88E-06	1.37E-05	-0.501544	0.6160
DEFENSE	6.36E-06	6.22E-06	1.022971	0.3063
ENERGY_NATURAL_RESOURCES	4.72E-06	5.46E-06	0.863975	0.3876
FINANCE	-7.92E-06	2.97E-06	-2.668848	0.0076
HEALTH	6.45E-06	3.69E-06	1.748604	0.0804
IDEOLOGICAL	1.31E-05	5.99E-06	2.183173	0.0290
LABOR	3.95E-05	1.32E-05	3.001293	0.0027
LAWYERS_AND_LOBBYISTS	1.83E-05	3.22E-05	0.569043	0.5693
MISC	-2.56E-05	9.20E-06	-2.784392	0.0054
OTHER	6.79E-06	1.29E-05	0.526081	0.5988
TRANSPORTATION	2.74E-05	1.08E-05	2.541455	0.0110
C	0.260729	0.403482	0.646199	0.5182
McFadden R-squared	0.532533	Mean dependent var	0.836449	
S.D. dependent var	0.370301	S.E. of regression	0.269011	
Akaike info criterion	0.524001	Sum squared resid	29.30856	
Schwarz criterion	0.742132	Log likelihood	-89.13631	
Hannan-Quinn criter.	0.610151	Restr. log likelihood	-190.6793	
LR statistic	203.0859	Avg. log likelihood	-0.208262	
Prob(LR statistic)	0.000000			
Obs with Dep=0	70	Total obs	428	
Obs with Dep=1	358			

poff

111 – S1147

Agribusiness but really Communications

Probit(h) VOTE_111_S1147 M MW NE NW P SE SW PARTY
 AGRIBUSSINESS COMMUNICATIONS CONSTRUCTION DEFENSE
 ENERGY NATURAL RESOURCES FINANCE HEALTH IDEOLOGICAL LABOR
 LAWYERS_AND_LOBBYISTS MISC OTHER TRANSPORTATION C

Dependent Variable: VOTE_111_S1147
 Method: ML - Binary Probit (Quadratic hill climbing)
 Date: 02/23/11 Time: 14:18
 Sample (adjusted): 1 413
 Included observations: 413 after adjustments
 Convergence achieved after 8 iterations
 QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
M	0.555790	0.544169	1.021357	0.3071
MW	-0.041442	0.340510	-0.121706	0.9031
NE	0.658636	0.461393	1.427494	0.1534
NW	-0.077998	0.632122	-0.123391	0.9018
P	0.577543	0.519429	1.111881	0.2662
SE	0.374304	0.354753	1.055111	0.2914
SW	0.171631	0.404332	0.424481	0.6712
PARTY	0.620592	0.299110	2.074797	0.0380
AGRIBUSSINESS	-1.44E-06	3.55E-06	-0.406290	0.6845
COMMUNICATIONS	1.64E-05	7.48E-06	2.195419	0.0281
CONSTRUCTION	1.30E-05	1.02E-05	1.284132	0.1991
DEFENSE	6.14E-06	6.64E-06	0.924013	0.3555
ENERGY_NATURAL_RESOURCES	-1.28E-05	5.19E-06	-2.472866	0.0134
FINANCE	1.05E-07	3.06E-06	0.034451	0.9725
HEALTH	7.48E-06	4.58E-06	1.633553	0.1024
IDEOLOGICAL	-2.07E-06	1.65E-06	-1.251828	0.2106
LABOR	5.25E-06	5.49E-06	0.955375	0.3394
LAWYERS_AND_LOBBYISTS	-2.13E-05	2.26E-05	-0.945423	0.3444
MISC	2.55E-07	9.72E-06	0.026214	0.9791
OTHER	2.94E-06	1.84E-05	0.159588	0.8732
TRANSPORTATION	-8.97E-06	6.40E-06	-1.400480	0.1614
C	0.645424	0.333463	1.935517	0.0529
McFadden R-squared	0.193757	Mean dependent var	0.939467	
S.D. dependent var	0.238760	S.E. of regression	0.232020	
Akaike info criterion	0.474879	Sum squared resid	21.04887	
Schwarz criterion	0.689203	Log likelihood	-76.06250	
Hannan-Quinn criter.	0.559647	Restr. log likelihood	-94.34189	
LR statistic	36.55878	Avg. log likelihood	-0.184171	
Prob(LR statistic)	0.018906			
Obs with Dep=0	25	Total obs	413	
Obs with Dep=1	388			

Poff

APPENDIX B: Industry Sub-Group Regressions

106 - HR1664 - Defense

show average

Sub-group	Average contribution
aerospace	6421.995
electronics	2389.066
misc	3189.226

probit(h) vote_106_hr1664 c party m ma01 mw ne nw p se sw
aerospace electronics misc

Dependent Variable: VOTE_106_HR1664

Method: ML - Binary Probit (Quadratic hill climbing)

Date: 03/20/11 Time: 09:18

Sample (adjusted): 1 376

Included observations: 376 after adjustments

Convergence achieved after 5 iterations

QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.476229	0.233548	2.039105	0.0414
PARTY	-0.448064	0.161145	-2.780494	0.0054
M	-0.268946	0.449396	-0.598460	0.5495
MA01	0.473434	0.487344	0.971457	0.3313
MW	-0.214393	0.255638	-0.838656	0.4017
NE	0.436210	0.266056	1.639541	0.1011
NW	-0.810330	0.387354	-2.091959	0.0364
P	-0.717218	0.349260	-2.053536	0.0400
SE	0.566827	0.293938	1.928392	0.0538
SW	-0.177611	0.336856	-0.527260	0.5980
AEROSPACE	5.77E-05	2.65E-05	2.175293	0.0296
ELECTRONICS	7.38E-05	4.64E-05	1.591136	0.1116
MISC	5.26E-05	4.70E-05	1.119861	0.2628
McFadden R-squared	0.201292	Mean dependent var		0.750000
S.D. dependent var	0.433590	S.E. of regression		0.389073
Akaike info criterion	0.967432	Sum squared resid		54.95026
Schwarz criterion	1.103295	Log likelihood		-168.8772
Hannan-Quinn criter.	1.021365	Deviance		337.7543
Restr. deviance	422.8760	Restr. log likelihood		-211.4380
LR statistic	85.12172	Avg. log likelihood		-0.449141
Prob(LR statistic)	0.000000			
Obs with Dep=0	94	Total obs		376
Obs with Dep=1	282			

show subgroup

Variable	Dem	Rep
Mountain	0.682090	0.821635
Mid-Atlantic	0.887994	0.951943
Mid-West	0.701286	0.835509
North-East	0.880742	0.948107
North-West	0.472959	0.648113
Plains	0.510084	0.682016
South-East	0.904788	0.960574
South-West	0.713924	0.844458
West	0.771107	0.883087
5000	0.745536	0.866192
10000	0.828638	0.918772
15000	0.891973	0.954021
20000	0.936418	0.975778
30000	0.982222	0.994614
40000	0.996303	0.999116
50000	0.999433	0.999894
0	0.645133	0.793971
Ave	0.771107	0.883087

poff

107 - HR1 - Construction - second choice

show average

Sub-group	Average contribution
building_materials	2772.288
construction_services	6686.367
general_contractors	2196.747
home_builders	15809.80
special_trade_contractor	835.7143

```
probit(h) vote_107_hrl c party m ma01 mw ne p se sw
building_materials construction_services
general_contractors home_builders special_trade_contractor
```

Dependent Variable: VOTE_107_HR1

Method: ML - Binary Probit (Quadratic hill climbing)

Date: 03/20/11 Time: 09:23

Sample (adjusted): 1 371

Included observations: 371 after adjustments

Convergence achieved after 6 iterations

QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.309497	0.326942	0.946640	0.3438
PARTY	0.380486	0.235144	1.618096	0.1056
M	-0.491716	0.560829	-0.876766	0.3806
MA01	-0.336901	0.417115	-0.807693	0.4193
MW	-0.152683	0.343220	-0.444855	0.6564
NE	0.364841	0.408475	0.893177	0.3718
P	-0.293770	0.419379	-0.700489	0.4836
SE	0.220219	0.339991	0.647718	0.5172
SW	-0.078492	0.352273	-0.222817	0.8237
BUILDING_MATERIALS	6.14E-05	3.26E-05	1.881092	0.0600
CONSTRUCTION_SERVICES	0.000110	2.83E-05	3.877590	0.0001
GENERAL_CONTRACTORS	-2.11E-05	5.49E-05	-0.384890	0.7003
HOME_BUILDERS	2.06E-05	1.48E-05	1.392195	0.1639
SPECIAL_TRADE_CONTRACTOR	8.20E-06	9.77E-05	0.083920	0.9331
McFadden R-squared	0.196967	Mean dependent var	0.894879	
S.D. dependent var	0.307124	S.E. of regression	0.289867	
Akaike info criterion	0.615418	Sum squared resid	29.99608	
Schwarz criterion	0.763199	Log likelihood	-100.1601	
Hannan-Quinn criter.	0.674112	Deviance	200.3201	
Restr. deviance	249.4545	Restr. log likelihood	-124.7273	
LR statistic	49.13437	Avg. log likelihood	-0.269973	
Prob(LR statistic)	0.000004			
Obs with Dep=0	39	Total obs	371	

show subgroup

Variable	Dem	Rep
Mountain	0.917623	0.843458
Mid-Atlantic	0.938715	0.877704
Mid-West	0.958032	0.911139
North-East	0.987642	0.968932
North-West	0.970012	0.933256
Plains	0.943767	0.886229
South-East	0.982188	0.957348
South-West	0.964265	0.922486
West	0.970012	0.933256
5000	0.955044	0.905808
10000	0.987607	0.968855
15000	0.997393	0.992091
20000	0.999585	0.998471
30000	0.999996	0.999975
40000	1.000000	1.000000
50000	1.000000	1.000000
0	0.874310	0.778316
Ave	0.970012	0.933256

poff

107 – HR2646 – Agribusiness

show average

Sub-group	Average contribution
Agricultural_services_an	5137.908
Crop_production	5629.930
Dairy	2664.243
Food_processing_and_sale	2953.425
Forestry_and_forest_prod	2128.059
Livestock	0.000000
Poultry_and_eggs	1085.997
Tobacco	769.5335

```
probit(h) vote_107_hr2646 c party m ma01 mw ne nw p se sw
agricultural_services_an crop_production dairy
food_processing_and_sale forestry_and_forest_prod
poultry_and_eggs tobacco
```

Dependent Variable: VOTE_107_HR2646
Method: ML - Binary Probit (Quadratic hill climbing)
Date: 03/20/11 Time: 09:27
Sample (adjusted): 1 358
Included observations: 358 after adjustments
Convergence achieved after 6 iterations
QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.051522	0.240361	-0.214354	0.8303
PARTY	0.110671	0.166285	0.665548	0.5057
M	-0.161180	0.456115	-0.353377	0.7238
MA01	0.432276	0.374221	1.155137	0.2480
MW	0.239091	0.274329	0.871548	0.3835
NE	-0.234023	0.251313	-0.931203	0.3517
NW	0.137964	0.423976	0.325405	0.7449
P	0.218598	0.409609	0.533676	0.5936
SE	0.379319	0.278638	1.361334	0.1734
SW	0.375538	0.305016	1.231210	0.2182
AGRICULTURAL_SERVICES_AN	1.11E-05	2.42E-05	0.460040	0.6455
CROP_PRODUCTION	4.78E-05	2.60E-05	1.839888	0.0658
DAIRY	4.34E-05	4.59E-05	0.945510	0.3444
FOOD_PROCESSING_AND_SALE	4.23E-06	2.93E-05	0.144361	0.8852
FORESTRY_AND_FOREST_PROD	4.15E-06	2.64E-05	0.156950	0.8753
POULTRY_AND_EGGS	2.49E-05	0.000110	0.226352	0.8209
TOBACCO	0.000143	0.000101	1.411487	0.1581
McFadden R-squared	0.137547	Mean dependent var	0.695531	

S.D. dependent var	0.460826	S.E. of regression	0.433533
Akaike info criterion	1.155106	Sum squared resid	64.09115
Schwarz criterion	1.339377	Log likelihood	-189.7640
Hannan-Quinn criter.	1.228391	Deviance	379.5280
Restr. deviance	440.0562	Restr. log likelihood	-220.0281
LR statistic	60.52827	Avg. log likelihood	-0.530067
Prob(LR statistic)	0.000000		

Obs with Dep=0	109	Total obs	358
Obs with Dep=1	249		

show subgroup

Variable	Dem	Rep
Mountain	0.690859	0.650849
Mid-Atlantic	0.862527	0.836721
Mid-West	0.815556	0.784618
North-East	0.664743	0.623532
North-West	0.787399	0.753883
Plains	0.810045	0.778576
South-East	0.850548	0.823326
South-West	0.849666	0.822344
West	0.745202	0.708427
5000	1.000000	1.000000
10000	1.000000	1.000000
15000	1.000000	1.000000
20000	1.000000	1.000000
30000	1.000000	1.000000
40000	1.000000	1.000000
50000	1.000000	1.000000
0	0.651939	0.610219
Ave	0.745202	0.708427

poff

107 - HR3763 - Finance

show average

Sub-group	Average contribution
Accountants	5841.767
Commercial_banks	11221.12
Credit_unions	3723.853
Finance_credit_companies	6288.952
Insurance	16259.15
Misc	1009.351
Real_estate	2739.442
Savings_and_loans	1456.853
Securities_and_investmen	6331.410

```
probit(h) vote_107_hr3763 c party m ma01 mw ne nw p se sw
accountants commercial_banks credit_unions
finance_credit_companies insurance misc real_estate
savings_and_loans securities_and_investmen
```

Dependent Variable: VOTE_107_HR3763
Method: ML - Binary Probit (Quadratic hill climbing)
Date: 03/20/11 Time: 09:30
Sample (adjusted): 1 373
Included observations: 373 after adjustments
Convergence achieved after 6 iterations
QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	1.764695	0.359918	4.903046	0.0000
PARTY	-2.344483	0.329684	-7.111299	0.0000
M	0.119894	0.755150	0.158769	0.8739
MA01	-0.150474	0.472730	-0.318308	0.7503
MW	-0.511060	0.381243	-1.340508	0.1801
NE	0.010537	0.304343	0.034622	0.9724
NW	0.717886	0.497766	1.442216	0.1492
P	0.714641	0.512376	1.394759	0.1631
SE	0.619148	0.410321	1.508935	0.1313
SW	0.032875	0.468618	0.070153	0.9441
ACCOUNTANTS	0.000216	7.34E-05	2.935485	0.0033
COMMERCIAL_BANKS	6.91E-05	2.76E-05	2.500213	0.0124
CREDIT_UNIONS	4.77E-05	4.53E-05	1.051562	0.2930
FINANCE_CREDIT_COMPANIES	6.68E-05	3.53E-05	1.888968	0.0589
INSURANCE	-1.79E-05	8.54E-06	-2.093007	0.0363
MISC	7.92E-06	6.79E-05	0.116723	0.9071
REAL_ESTATE	-8.74E-05	5.12E-05	-1.708384	0.0876
SAVINGS_AND_LOANS	-2.08E-05	6.11E-05	-0.340084	0.7338
SECURITIES_AND_INVESTMEN	-8.85E-05	2.87E-05	-3.089581	0.0020

McFadden R-squared	0.523364	Mean dependent var	0.788204
S.D. dependent var	0.409130	S.E. of regression	0.285176
Akaike info criterion	0.594077	Sum squared resid	28.78918
Schwarz criterion	0.793836	Log likelihood	-91.79537
Hannan-Quinn criter.	0.673399	Deviance	183.5907
Restr. deviance	385.1798	Restr. log likelihood	-192.5899
LR statistic	201.5891	Avg. log likelihood	-0.246100
Prob(LR statistic)	0.000000		
Obs with Dep=0	79	Total obs	373
Obs with Dep=1	294		

show subgroup

Variable	Dem	Rep
Mountain	0.855320	0.999668
Mid-Atlantic	0.784991	0.999137
Mid-West	0.665884	0.997223
North-East	0.828987	0.999507
North-West	0.951293	0.999969
Plains	0.950964	0.999968
South-East	0.940476	0.999953
South-West	0.834601	0.999545
West	0.826297	0.999488
5000	0.775830	0.999041
10000	0.966820	0.999985
15000	0.998215	1.000000
20000	0.999967	1.000000
30000	1.000000	1.000000
40000	1.000000	1.000000
50000	1.000000	1.000000
0	0.374631	0.978560
Ave	0.826297	0.999488

poff

108 - HR1417 - Lawyers and Lobbyists

show average

Sub-group	Average contribution
lawyersLaw_firms	8230.149
lobbyists	1378.933
misc	2629.754

```
probit(h) vote_108_hrl417 c party ma01 mw ne nw se sw
lawyersLaw_firms lobbyists misc
```

Dependent Variable: VOTE_108_HR1417
Method: ML - Binary Probit (Quadratic hill climbing)
Date: 03/20/11 Time: 09:36
Sample (adjusted): 1 390
Included observations: 390 after adjustments
Convergence achieved after 5 iterations
QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	1.227635	0.252588	4.860230	0.0000
PARTY	-0.381961	0.284238	-1.343808	0.1790
MA01	0.224544	0.525704	0.427130	0.6693
MW	-0.027168	0.304093	-0.089340	0.9288
NE	0.876074	0.466770	1.876886	0.0605
NW	0.232898	0.524339	0.444176	0.6569
SE	0.550016	0.351802	1.563427	0.1180
SW	-0.138868	0.336730	-0.412402	0.6800
LAWYERS_LAW_FIRM				
S	1.51E-05	2.27E-05	0.665097	0.5060
LOBBYISTS	3.72E-05	7.61E-05	0.489583	0.6244
MISC	9.73E-05	5.32E-05	1.829287	0.0674
McFadden R-squared	0.099921	Mean dependent var		0.941026
S.D. dependent var	0.235879	S.E. of regression		0.232903
Akaike info criterion	0.459891	Sum squared resid		20.55841
Schwarz criterion	0.571756	Log likelihood		-78.67869
Hannan-Quinn criter.	0.504235	Deviance		157.3574
Restr. deviance	174.8261	Restr. log likelihood		-87.41306
LR statistic	17.46874	Avg. log likelihood		-0.201740
Prob(LR statistic)	0.064614			
Obs with Dep=0	23	Total obs		390
Obs with Dep=1	367			

show subgroup

Variable	Dem	Rep
Mountain	0.899216	0.951448
Mid-Atlantic	0.933405	0.970191
Mid-West	0.894337	0.948649
North-East	0.984347	0.994380
North-West	0.934478	0.970752
Plains	0.899216	0.951448
South-East	0.966159	0.986415
South-West	0.872487	0.935768
West	0.899216	0.951448
5000	0.934177	0.970595
10000	0.976923	0.991248
15000	0.993437	0.997897
20000	0.998495	0.999594
30000	0.999959	0.999992
40000	1.000000	1.000000
50000	1.000000	1.000000
0	0.846445	0.919731
Ave	0.899216	0.951448

poff

109 - S397 - Agribusiness

show average

Sub-group	Average contribution
Agricultural_services_an	6329.733
Crop_production	8280.717
Dairy	3843.364
Food_processing_and_sale	3678.951
Forestry_and_forest_prod	2248.863
Livestock	0.000000
Poultry_and_eggs	1044.908
Tobacco	1049.908

```
probit(h) vote_109_s397 c party m ma01 mw ne nw p se sw
agricultural_services_an crop_production dairy
food_processing_and_sale forestry_and_forest_prod
poultry_and_eggs tobacco
```

Dependent Variable: VOTE_109_S397

Method: ML - Binary Probit (Quadratic hill climbing)

Date: 03/20/11 Time: 09:39

Sample (adjusted): 1 371

Included observations: 371 after adjustments

Convergence achieved after 6 iterations

QML (Huber/White) standard errors & covariance

WARNING: Quasi-complete separation detected at estimated parameters
(results may not be valid)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	1.093720	0.350144	3.123630	0.0018
PARTY	-2.573396	0.259027	-9.934836	0.0000
M	0.882245	0.633803	1.391987	0.1639
MA01	0.415250	0.494466	0.839795	0.4010
MW	0.685571	0.339687	2.018246	0.0436
NE	-0.001684	0.328963	-0.005119	0.9959
NW	-0.000230	0.645004	-0.000356	0.9997
P	0.137501	0.355019	0.387307	0.6985
SE	0.638487	0.346181	1.844375	0.0651
SW	0.716788	0.428673	1.672108	0.0945
AGRICULTURAL_SERVICES_AN	3.99E-05	2.26E-05	1.763931	0.0777
CROP_PRODUCTION	1.50E-06	1.40E-05	0.107547	0.9144
DAIRY	5.83E-05	2.79E-05	2.090288	0.0366
FOOD_PROCESSING_AND_SALE	-1.73E-05	3.39E-05	-0.511161	0.6092
FORESTRY_AND_FOREST_PROD	0.000140	5.96E-05	2.341526	0.0192
POULTRY_AND_EGGS	9.05E-05	9.47E-05	0.955362	0.3394
TOBACCO	6.29E-06	9.17E-05	0.068593	0.9453

McFadden R-squared	0.610987	Mean dependent var	0.636119
S.D. dependent var	0.481765	S.E. of regression	0.277824
Akaike info criterion	0.601732	Sum squared resid	27.32388
Schwarz criterion	0.781181	Log likelihood	-94.62130
Hannan-Quinn criter.	0.673003	Deviance	189.2426
Restr. deviance	486.4691	Restr. log likelihood	-243.2346
LR statistic	297.2265	Avg. log likelihood	-0.255044
Prob(LR statistic)	0.000000		
<hr/>			
Obs with Dep=0	135	Total obs	371
Obs with Dep=1	236		
<hr/>			

show subgroup

Variable	Dem	Rep
Mountain	0.595943	0.997571
Mid-Atlantic	0.411326	0.990595
Mid-West	0.518419	0.995598
North-East	0.260739	0.973340
North-West	0.261212	0.973430
Plains	0.307875	0.980845
South-East	0.499642	0.994952
South-West	0.530849	0.995985
West	0.261286	0.973444
5000	0.399217	0.989776
10000	0.670950	0.998719
15000	0.872951	0.999898
20000	0.966995	0.999995
30000	0.999390	1.000000
40000	0.999998	1.000000
50000	1.000000	1.000000
0	0.170223	0.947396
Ave	0.261286	0.973444

poff

109 - S2120 - Agribusiness

show average

Sub-group	Average contribution
Agricultural_services_an	6313.184
Crop_production	8261.359
Dairy	3857.775
Food_processing_and_sale	3697.723
Forestry_and_forest_prod	2236.515
Livestock	0.000000
Poultry_and_eggs	1026.879
Tobacco	1011.219

```
probit(h) vote_109_s2120 c party m ma01 mw ne nw p se sw
agricultural_services_an crop_production dairy
food_processing_and_sale forestry_and_forest_prod
poultry_and_eggs tobacco
```

Dependent Variable: VOTE_109_S2120
Method: ML - Binary Probit (Quadratic hill climbing)
Date: 03/20/11 Time: 09:45
Sample: 1 365
Included observations: 365
Convergence achieved after 6 iterations
QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.359033	0.246624	1.455792	0.1455
PARTY	-0.161209	0.159867	-1.008397	0.3133
M	-0.284350	0.492296	-0.577600	0.5635
MA01	0.411920	0.382540	1.076803	0.2816
MW	-0.172177	0.279298	-0.616463	0.5376
NE	-0.445725	0.254815	-1.749210	0.0803
NW	-0.192691	0.410223	-0.469722	0.6386
P	0.239583	0.416292	0.575517	0.5649
SE	-0.068363	0.267205	-0.255847	0.7981
SW	0.274166	0.320321	0.855912	0.3920
AGRICULTURAL_SERVICES_AN	6.56E-06	1.61E-05	0.408650	0.6828
CROP_PRODUCTION	4.46E-06	1.13E-05	0.393269	0.6941
DAIRY	0.000104	3.40E-05	3.067271	0.0022
FOOD_PROCESSING_AND_SALE	-1.06E-05	2.24E-05	-0.472981	0.6362
FORESTRY_AND_FOREST_PROD	3.89E-06	2.21E-05	0.175777	0.8605
POULTRY_AND_EGGS	-5.05E-05	5.61E-05	-0.900376	0.3679
TOBACCO	-4.12E-05	5.35E-05	-0.769143	0.4418
McFadden R-squared	0.103014	Mean dependent var	0.676712	
S.D. dependent var	0.468374	S.E. of regression	0.448473	

Akaike info criterion	1.222138	Sum squared resid	69.99248
Schwarz criterion	1.403777	Log likelihood	-206.0403
Hannan-Quinn criter.	1.294324	Deviance	412.0805
Restr. deviance	459.4057	Restr. log likelihood	-229.7028
LR statistic	47.32514	Avg. log likelihood	-0.564494
Prob(LR statistic)	0.000061		
<hr/>			
Obs with Dep=0	118	Total obs	365
Obs with Dep=1	247		
<hr/>			

show subgroup

Variable	Dem	Rep
Mountain	0.606359	0.666785
Mid-Atlantic	0.833006	0.870197
Mid-West	0.648775	0.706513
North-East	0.543187	0.606295
North-West	0.641138	0.699412
Plains	0.786337	0.830207
South-East	0.686456	0.741196
South-West	0.796266	0.838807
West	0.710276	0.762820
5000	0.749608	0.797991
10000	0.883849	0.912396
15000	0.956886	0.969731
20000	0.987351	0.991759
30000	0.999480	0.999710
40000	0.999992	0.999996
50000	1.000000	1.000000
0	0.560432	0.622963
Ave	0.710276	0.762820

poff

110 - HR802 - Transportation

show average

Sub-group	Average contribution
air_transport	12398.08
Automotive	9330.197
Railroads	7838.100
Sea_Transport	2448.234
Trucking	2774.326
Misc	1530.297

```
ls(h) vote_110_hr802 c party m ma01 mw ne nw p se sw
air_transport Automotive Railroads Sea_Transport Trucking
misc
```

Dependent Variable: VOTE_110_HR802

Method: Least Squares

Date: 03/20/11 Time: 09:48

Sample (adjusted): 1 350

Included observations: 350 after adjustments

White heteroskedasticity-consistent standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.824674	0.036562	22.55573	0.0000
PARTY	0.239532	0.034795	6.884137	0.0000
M	0.004542	0.053787	0.084452	0.9327
MA01	-0.125409	0.075233	-1.666943	0.0965
MW	-0.130906	0.045588	-2.871494	0.0043
NE	-0.044723	0.022409	-1.995756	0.0468
NW	-0.001832	0.038789	-0.047224	0.9624
P	-0.150519	0.066875	-2.250767	0.0251
SE	-0.211103	0.048527	-4.350178	0.0000
SW	-0.189226	0.061004	-3.101870	0.0021
AIR_TRANSPORT	1.32E-06	1.58E-06	0.833297	0.4053
AUTOMOTIVE	1.07E-06	1.99E-06	0.539341	0.5900
RAILROADS	1.54E-06	1.72E-06	0.894873	0.3715
SEA_TRANSPORT	-1.57E-07	1.95E-06	-0.080916	0.9356
TRUCKING	-6.14E-06	4.00E-06	-1.535492	0.1256
MISC	1.15E-05	5.54E-06	2.082214	0.0381

R-squared	0.238044	Mean dependent var	0.891429
Adjusted R-squared	0.203825	S.D. dependent var	0.311546
S.E. of regression	0.277988	Akaike info criterion	0.322162
Sum squared resid	25.81071	Schwarz criterion	0.498524
Log likelihood	-40.37832	Hannan-Quinn criter.	0.392360
F-statistic	6.956379	Durbin-Watson stat	1.803149
Prob(F-statistic)	0.000000		

show subgroup

Variable	Dem	Rep
Mountain	1.107387	0.867855
Mid-Atlantic	0.977435	0.737903
Mid-west	0.971939	0.732406
North-East	1.058122	0.818590
North-West	1.101013	0.861480
Plains	0.952325	0.712793
South-East	0.891742	0.652209
South-West	0.913618	0.674086
West	1.102845	0.863312
5000	1.142850	0.903317
10000	1.200499	0.960966
15000	1.258148	1.018616
20000	1.315797	1.076265
30000	1.431095	1.191563
40000	1.546394	1.306861
50000	1.661692	1.422160
0	1.085200	0.845668
Ave	1.102845	0.863312

poff

110 - HR4040 - Communications

show average

Sub-group	Average contribution
Computers_internet	7784.035
electronics_mfg_and_serv	1961.190
printing_publishing	824.1823
telecom_services_and_equ	6964.756
telephone_utilities	8622.909
tv_movies_music	9244.662

```
probit(h) vote_110_hr4040 c party mw ne se sw
Computers_internet_electronics_mfg_and_serv
printing_publishing telecom_services_and_equ
telephone_utilities tv_movies_music
```

Dependent Variable: VOTE_110_HR4040
Method: ML - Binary Probit (Quadratic hill climbing)
Date: 02/24/11 Time: 10:19
Sample (adjusted): 1 373
Included observations: 373 after adjustments
Convergence achieved after 6 iterations
QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	1.685329	0.375188	4.491961	0.0000
PARTY	-0.459989	0.298487	-1.541072	0.1233
MW	0.396888	0.472904	0.839257	0.4013
NE	0.380069	0.360470	1.054371	0.2917
SE	-0.181608	0.365540	-0.496822	0.6193
SW	-0.713423	0.363859	-1.960712	0.0499
COMPUTERS_INTERNET	-1.50E-05	1.06E-05	-1.419982	0.1556
ELECTRONICS_MFG_AND_SERV	8.00E-05	6.16E-05	1.298355	0.1942
PRINTING_PUBLISHING	-3.66E-05	7.83E-05	-0.467769	0.6399
TELECOM_SERVICES_AND_EQU	2.58E-05	3.05E-05	0.845588	0.3978
TELEPHONE_UTILITIES	4.70E-05	2.90E-05	1.621204	0.1050
TV_MOVIES_MUSIC	-4.05E-06	1.65E-05	-0.245856	0.8058
McFadden R-squared	0.118988	Mean dependent var		0.957105
S.D. dependent var	0.202894	S.E. of regression		0.201910
Akaike info criterion	0.376291	Sum squared resid		14.71707
Schwarz criterion	0.502454	Log likelihood		-58.17822
Hannan-Quinn criter.	0.426389	Restr. log likelihood		-66.03566
LR statistic	15.71487	Avg. log likelihood		-0.155974
Prob(LR statistic)	0.152051			

Obs with Dep=0
Obs with Dep=1

16 Total obs
357

373

show subgroup

Variable	Dem	Rep
Mountain	0.962673	0.987538
Mid-Atlantic	0.962673	0.987538
Mid-west	0.985352	0.995848
North-East	0.984716	0.995637
North-West	0.962673	0.987538
Plains	0.962673	0.987538
South-East	0.945309	0.980347
South-West	0.857501	0.936886
West	0.962673	0.987538
5000	NA	NA
10000	NA	NA
15000	NA	NA
20000	NA	NA
30000	NA	NA
40000	NA	NA
50000	NA	NA

poff

111 - HR627 - Finance

show average

Sub-group	Average contribution
Accountants	5078.741
Commercial_banks	7057.722
Credit_unions	2602.682
Finance_credit_companies	5582.659
Insurance	17849.28
Misc	1074.811
Real_estate	2247.292
Savings_and_loans	42.40654
Securities_and_investmen	4541.736

```
probit(h) vote_111_hr627 c party m ma01 mw ne nw p se sw
accountants commercial_banks credit_unions
finance_credit_companies insurance misc real_estate
savings_and_loans securities_and_investmen
```

Dependent Variable: VOTE_111_HR627
Method: ML - Binary Probit (Quadratic hill climbing)
Date: 03/20/11 Time: 09:51
Sample (adjusted): 1 428
Included observations: 428 after adjustments
Convergence achieved after 7 iterations
QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.558191	0.306513	1.821101	0.0686
PARTY	2.781911	0.534095	5.208643	0.0000
M	-0.847872	0.537648	-1.577002	0.1148
MA01	0.435414	0.561021	0.776111	0.4377
MW	0.508665	0.376818	1.349895	0.1770
NE	0.507852	0.460091	1.103809	0.2697
NW	0.395177	0.719431	0.549291	0.5828
P	-0.340659	0.457851	-0.744040	0.4569
SE	-0.163209	0.341153	-0.478404	0.6324
SW	-0.886172	0.386466	-2.293014	0.0218
ACCOUNTANTS	-7.64E-06	1.78E-05	-0.430240	0.6670
COMMERCIAL_BANKS	9.70E-07	1.73E-05	0.056094	0.9553
CREDIT_UNIONS	2.32E-05	2.99E-05	0.776975	0.4372
FINANCE_CREDIT_COMPANIES	-5.71E-05	1.82E-05	-3.146510	0.0017
INSURANCE	-2.83E-06	6.91E-06	-0.409667	0.6820
MISC	-2.51E-05	5.78E-05	-0.433827	0.6644
REAL_ESTATE	6.51E-05	3.10E-05	2.096596	0.0360
SAVINGS_AND_LOANS	-0.000964	0.000420	-2.294195	0.0218
SECURITIES_AND_INVESTMEN	7.38E-06	2.32E-05	0.318225	0.7503

McFadden R-squared	0.462099	Mean dependent var	0.836449
S.D. dependent var	0.370301	S.E. of regression	0.285789
Akaike info criterion	0.568068	Sum squared resid	33.40513
Schwarz criterion	0.748263	Log likelihood	-102.5666
Hannan-Quinn criter.	0.639235	Deviance	205.1332
Restr. deviance	381.3585	Restr. log likelihood	-190.6793
LR statistic	176.2253	Avg. log likelihood	-0.239642
Prob(LR statistic)	0.000000		
Obs with Dep=0	70	Total obs	428
Obs with Dep=1	358		

show subgroup

Variable	Dem	Rep
Mountain	0.988187	0.301969
Mid-Atlantic	0.999805	0.777727
Mid-West	0.999853	0.798926
North-East	0.999852	0.798698
North-West	0.999773	0.765560
Plains	0.997200	0.495399
South-East	0.998400	0.565889
South-West	0.986955	0.288748
West	0.999068	0.628970
5000	0.047885	4.34E-06
10000	4.49E-11	9.73E-21
15000	6.49E-30	2.42E-45
20000	9.45E-59	5.65E-80
30000	1.5E-146	2.1E-179
40000	1.3E-274	0.000000
50000	0.000000	0.000000
0	0.999189	0.644303
Ave	0.999068	0.628970

poff

111 - S1147 - Communications - second choice

show average

Sub-group	Average contribution
computers_internet	4768.775
electronics_mfg_and_serv	1329.613
printing_publishing	411.0169
telecom_services_and_equ	4463.538
telephone_utilities	5558.293
tv_movies_music	6477.097

```
probit(h) vote_111_s1147 c party m mw ne nw p se sw
computers_internet electronics_mfg_and_serv
printing_publishing telecom_services_and_equ
Telephone_utilities tv_movies_music
```

Dependent Variable: VOTE_111_S1147
Method: ML - Binary Probit (Quadratic hill climbing)
Date: 02/24/11 Time: 13:22
Sample (adjusted): 1 413
Included observations: 413 after adjustments
Convergence achieved after 6 iterations
QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.979581	0.305511	3.206367	0.0013
PARTY	0.877145	0.224150	3.913206	0.0001
M	-0.044082	0.585636	-0.075272	0.9400
MW	-0.070889	0.323474	-0.219149	0.8265
NE	0.649615	0.469718	1.382989	0.1667
NW	-0.431314	0.571418	-0.754814	0.4504
P	0.497723	0.554658	0.897352	0.3695
SE	0.206097	0.326881	0.630496	0.5284
SW	-0.080007	0.359005	-0.222856	0.8236
COMPUTERS_INTERNET	2.78E-05	2.46E-05	1.132013	0.2576
ELECTRONICS_MFG_AND_SERV	4.36E-05	6.35E-05	0.685629	0.4929
PRINTING_PUBLISHING	0.000259	0.000200	1.297695	0.1944
TELECOM_SERVICES_AND_EQU	3.69E-05	3.75E-05	0.983266	0.3255
TELEPHONE_UTILITIES	-4.39E-05	3.09E-05	-1.421384	0.1552
TV_MOVIES_MUSIC	6.30E-06	2.50E-05	0.251577	0.8014
McFadden R-squared	0.161363	Mean dependent var	0.939467	
S.D. dependent var	0.238760	S.E. of regression	0.233485	
Akaike info criterion	0.455780	Sum squared resid	21.69706	
Schwarz criterion	0.601910	Log likelihood	-79.11861	

Hannan-Quinn criter.	0.513576	Deviance	158.2372
Restr. deviance	188.6838	Restr. log likelihood	-94.34189
LR statistic	30.44656	Avg. log likelihood	-0.191570
Prob(LR statistic)	0.006621		
<hr/>			
Obs with Dep=0	25	Total obs	413
Obs with Dep=1	388		
<hr/>			

show subgroup

Variable	Dem	Rep
Mountain	0.980829	0.883767
Mid-Atlantic	0.982796	0.892163
Mid-west	0.979541	0.878440
North-East	0.997153	0.970469
North-West	0.953904	0.790108
Plains	0.995512	0.958703
South-East	0.989866	0.925660
South-West	0.979087	0.876589
West	0.982796	0.892163
5000	NA	NA
10000	NA	NA
15000	NA	NA
20000	NA	NA
30000	NA	NA
40000	NA	NA
50000	NA	NA

poff

APPENDIX C: EViews Code for First Level Regressions

```
output(r,o,c) 106_s900_1.txt
pon
```

```
probit(h) VOTE_106_S900 M MA01 MW NE NW P SE SW PARTY AGRIBUSSINESS
COMMUNICATIONS CONSTRUCTION DEFENSE ENERGY_NATURAL_RESOURCES FINANCE
HEALTH IDEOLOGICAL LABOR LAWYERS_AND_LOBBYISTS MISC OTHER TRANSPORTATION C
```

```
!zhat10=c(2)*1+c(9)*0+c(15)*10000
!prob10=@cnorm(!zhat10)
!zhat11=c(2)*1+c(9)*0+c(15)*11000
!prob11=@cnorm(!zhat11)
table (4,2) Probability
Probability (1,1) = "!zhat10"
Probability (1,2) = !zhat10
Probability (2,1) = "!prob10"
Probability (2,2) = !prob10
Probability (3,1) = "!zhat11"
```

Probability (3,2) = !zhat1
Probability (4,1) = "!prob11"
Probability (4,2) = !prob11

show Probability

poff

open 106_s900_1.txt

APPENDIX D: EViews Code for Second Level Regressions

output(r,o,c) 106_sg_s900_2.txt
pon

```
table(10,2) average
average(1,1) = "Sub-group"
average(1,2)="Average contribution"
average(2,1) = "Accountants"
average(2,2)=@mean(accountants)
average(3,1)="Commercial_banks"
average(3,2)=@mean(commercial_banks)
average(4,1)="Credit_unions"
average(4,2)=@mean(credit_unions)
average(5,1)="Finance_credit_companies"
average(5,2)=@mean(finance_credit_companies)
average(6,1)="Insurance"
average(6,2)=@mean(insurance)
average(7,1)="Misc"
average(7,2)=@mean(misc)
average(8,1)="Real_estate"
average(8,2)=@mean(real_estate)
average(9,1)="Savings_and_loans"
average(9,2)=@mean(savings_and_loans)
average(10,1)="Securities_and_investmen"
average(10,2)=@mean(securities_and_investmen)
```

show average

```
probit(h) vote_106_s900 c party m ma01 mw ne nw p se sw accountants commercial_banks
credit_unions finance_credit_companies insurance misc real_estate savings_and_loans
securities_and_investmen
!z_demmm=c(1)+c(2)*1+c(3)*1+c(4)*0+c(5)*0+c(6)*0+c(7)*0+c(8)*0+c(9)*0+c(10)*0+c(11)*@mean(accou
ntants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_
companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mean(
savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_demmm=@cnorm(!z_demmm)
!z_repm=c(1)+c(2)*0+c(3)*1+c(4)*0+c(5)*0+c(6)*0+c(7)*0+c(8)*0+c(9)*0+c(10)*0+c(11)*@mean(accoun
tants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_c
ompanies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mean(s
avings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_repm=@cnorm(!z_repm)
!z_demmm=c(1)+c(2)*1+c(3)*0+c(4)*1+c(5)*0+c(6)*0+c(7)*0+c(8)*0+c(9)*0+c(10)*0+c(11)*@mean(acco
untants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_
companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mea
n(savings_and_loans)+c(19)*@mean(securities_and_investmen)
```

!p_demma=@cnorm(!z_demma)
!z_repma=c(1)+c(2)*0+c(3)*0+c(4)*1+c(5)*0+c(6)*0+c(7)*0+c(8)*0+c(9)*0+c(10)*0+c(11)*@mean(accou
ntants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit
companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mean(
savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_repma=@cnorm(!z_repma)

!z_demmw=c(1)+c(2)*1+c(3)*0+c(4)*0+c(5)*1+c(6)*0+c(7)*0+c(8)*0+c(9)*0+c(10)*0+c(11)*@mean(acc
ountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_cre
dit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@me
an(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_demmw=@cnorm(!z_demmw)
!z_repmw=c(1)+c(2)*0+c(3)*0+c(4)*0+c(5)*1+c(6)*0+c(7)*0+c(8)*0+c(9)*0+c(10)*0+c(11)*@mean(acco
untants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit
_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mea
n(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_repmw=@cnorm(!z_repmw)

!z_demne=c(1)+c(2)*1+c(3)*0+c(4)*0+c(5)*0+c(6)*1+c(7)*0+c(8)*0+c(9)*0+c(10)*0+c(11)*@mean(acco
untants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit
_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mea
n(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_demne=@cnorm(!z_demne)
!z_repne=c(1)+c(2)*0+c(3)*0+c(4)*0+c(5)*0+c(6)*1+c(7)*0+c(8)*0+c(9)*0+c(10)*0+c(11)*@mean(acco
untants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit
companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mean(
savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_repne=@cnorm(!z_repne)

!z_demnw=c(1)+c(2)*1+c(3)*0+c(4)*0+c(5)*0+c(6)*0+c(7)*1+c(8)*0+c(9)*0+c(10)*0+c(11)*@mean(acco
untants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit
_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mea
n(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_demnw=@cnorm(!z_demnw)
!z_repnw=c(1)+c(2)*0+c(3)*0+c(4)*0+c(5)*0+c(6)*0+c(7)*1+c(8)*0+c(9)*0+c(10)*0+c(11)*@mean(acco
untants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit
companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mean(
savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_repnw=@cnorm(!z_repnw)

!z_demp=c(1)+c(2)*1+c(3)*0+c(4)*0+c(5)*0+c(6)*0+c(7)*0+c(8)*1+c(9)*0+c(10)*0+c(11)*@mean(acco
untants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit
companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mean(
savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_demp=@cnorm(!z_demp)
!z_repp=c(1)+c(2)*0+c(3)*0+c(4)*0+c(5)*0+c(6)*0+c(7)*0+c(8)*1+c(9)*0+c(10)*0+c(11)*@mean(account
ants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_c
ompanies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mean(s
avings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_repp=@cnorm(!z_repp)

!z_demse=c(1)+c(2)*1+c(3)*0+c(4)*0+c(5)*0+c(6)*0+c(7)*0+c(8)*0+c(9)*1+c(10)*0+c(11)*@mean(acco
untants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit
_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mea
n(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_demse=@cnorm(!z_demse)
!z_repse=c(1)+c(2)*0+c(3)*0+c(4)*0+c(5)*0+c(6)*0+c(7)*0+c(8)*0+c(9)*1+c(10)*0+c(11)*@mean(acco
untants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_

companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_repse=@cnorm(!z_repse)

!z_demsw=c(1)+c(2)*1+c(3)*0+c(4)*0+c(5)*0+c(6)*0+c(7)*0+c(8)*0+c(9)*0+c(10)*1+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_demsw=@cnorm(!z_demsw)
!z_repsw=c(1)+c(2)*0+c(3)*0+c(4)*0+c(5)*0+c(6)*0+c(7)*0+c(8)*0+c(9)*0+c(10)*1+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_repsw=@cnorm(!z_repsw)

!z_demw=c(1)+c(2)*1+c(3)*0+c(4)*0+c(5)*0+c(6)*0+c(7)*0+c(8)*0+c(9)*0+c(10)*0+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_demw=@cnorm(!z_demw)
!z_repw=c(1)+c(2)*0+c(3)*0+c(4)*0+c(5)*0+c(6)*0+c(7)*0+c(8)*0+c(9)*0+c(10)*0+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_repw=@cnorm(!z_repw)

!z_dem5=c(1)+c(2)*1+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*5000+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_dem5=@cnorm(!z_dem5)
!z_rep5=c(1)+c(2)*0+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*5000+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_rep5=@cnorm(!z_rep5)

!z_dem10=c(1)+c(2)*1+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*10000+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_dem10=@cnorm(!z_dem10)
!z_rep10=c(1)+c(2)*0+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*10000+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_rep10=@cnorm(!z_rep10)

!z_dem15=c(1)+c(2)*1+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*15000+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_dem15=@cnorm(!z_dem15)
!z_rep15=c(1)+c(2)*0+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*15000+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_rep15=@cnorm(!z_rep15)

!z_dem20=c(1)+c(2)*1+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*20000+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_dem20=@cnorm(!z_dem20)

```
lz_rep20=c(1)+c(2)*0+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*20000+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_rep20=@cnorm(!z_rep20)
```

```
lz_dem30=c(1)+c(2)*1+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*30000+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_dem30=@cnorm(!z_dem30)
lz_rep30=c(1)+c(2)*0+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*30000+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_rep30=@cnorm(!z_rep30)
```

```
lz_dem40=c(1)+c(2)*1+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*40000+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_dem40=@cnorm(!z_dem40)
lz_rep40=c(1)+c(2)*0+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*40000+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_rep40=@cnorm(!z_rep40)
```

```
lz_dem50=c(1)+c(2)*1+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*50000+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_dem50=@cnorm(!z_dem50)
lz_rep50=c(1)+c(2)*0+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*50000+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_rep50=@cnorm(!z_rep50)
```

```
lz_dem0=c(1)+c(2)*1+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*0+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_dem0=@cnorm(!z_dem0)
lz_rep0=c(1)+c(2)*0+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*0+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_rep0=@cnorm(!z_rep0)
```

```
lz_demave=c(1)+c(2)*1+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_demave=@cnorm(!z_demave)
lz_repave=c(1)+c(2)*0+c(11)*@mean(accountants)+c(12)*@mean(commercial_banks)+c(13)*@mean(credit_unions)+c(14)*@mean(finance_credit_companies)+c(15)*@mean(insurance)+c(16)*@mean(misc)+c(17)*@mean(real_estate)+c(18)*@mean(savings_and_loans)+c(19)*@mean(securities_and_investmen)
!p_repave=@cnorm(!z_repave)
```

table(19,3) subgroup

```
subgroup(1,1) = "Variable"
subgroup(1,2) = "Dem"
subgroup(1,3) = "Rep"
subgroup(2,1) = "Mountain"
```

```
subgroup(2,2)!=p_demm
subgroup(2,3)!=p_repm
subgroup(3,1) ="Mid-Atlantic"
subgroup(3,2)!=p_demma
subgroup(3,3)!=p_repma
subgroup(4,1) ="Mid-west"
subgroup(4,2)!=p_demmw
subgroup(4,3)!=p_repmw
subgroup(5,1) ="North-East"
subgroup(5,2)!=p_demne
subgroup(5,3)!=p_repne
subgroup(6,1) ="North-West"
subgroup(6,2)!=p_demnw
subgroup(6,3)!=p_repnw
subgroup(7,1) ="Plains"
subgroup(7,2)!=p_demp
subgroup(7,3)!=p_repp
subgroup(8,1) ="South-East"
subgroup(8,2)!=p_demse
subgroup(8,3)!=p_repse
subgroup(9,1) ="South-West"
subgroup(9,2)!=p_demsw
subgroup(9,3)!=p_repsw
subgroup(10,1) ="West"
subgroup(10,2)!=p_demw
subgroup(10,3)!=p_repw
subgroup(11,1) ="5000"
subgroup(11,2)!=p_dem5
subgroup(11,3)!=p_rep5
subgroup(12,1) ="10000"
subgroup(12,2)!=p_dem10
subgroup(12,3)!=p_rep10
subgroup(13,1) ="15000"
subgroup(13,2)!=p_dem15
subgroup(13,3)!=p_rep15
subgroup(14,1) ="20000"
subgroup(14,2)!=p_dem20
subgroup(14,3)!=p_rep20
subgroup(15,1) ="30000"
subgroup(15,2)!=p_dem30
subgroup(15,3)!=p_rep30
subgroup(16,1) ="40000"
subgroup(16,2)!=p_dem40
subgroup(16,3)!=p_rep40
subgroup(17,1) ="50000"
subgroup(17,2)!=p_dem50
subgroup(17,3)!=p_rep50
subgroup(18,1) ="0"
subgroup(18,2)!=p_dem0
subgroup(18,3)!=p_rep0
subgroup(19,1) ="Ave"
subgroup(19,2)!=p_demave
subgroup(19,3)!=p_repave
```

```
show subgroup
poff
```

```
open 106_sg_s900_2.txt
```

APPENDIX E: EViews Code for Second Level Regression Probability Calculations

```
output(r,o,c) 106_s900_subgroup_probability.txt
pon

probit(h) vote_106_s900 c party m ma01 mw ne nw p se sw accountants commercial_banks
credit_unions finance_credit_companies insurance misc real_estate savings_and_loans
securities_and_investmen

!zhat10=c(1)*1+c(2)*0+c(4)*1+c(17)*10000
!prob10=@cnorm(!zhat10)
!zhat11=c(1)*1+c(2)*0+c(4)*1+c(17)*11000
!prob11=@cnorm(!zhat11)
table (4,2) Probability
Probability (1,1) = "!zhat10"
Probability (1,2) = !zhat10
Probability (2,1) = "!prob10"
Probability (2,2) = !prob10
Probability (3,1) = "!zhat11"
Probability (3,2) = !zhat11
Probability (4,1) = "!prob11"
Probability (4,2) = !prob11

show Probability

poff

open 106_s900_subgroup_probability.txt
```

APPENDIX F: States to Region List

State = Region

Alabama = SE
Arizona = SW
Arkansas = SE
California = W
Colorado = M
Connecticut = NE
Delaware = MA
Florida = SE
Georgia = SE
Hawaii = W
Idaho = NW
Illinois = MW
Indiana = MW
Iowa = P
Kansas = P
Kentucky = MW
Louisiana = SE
Maine = NE

Maryland = MA
 Massachusetts = NE
 Michigan = MW
 Minnesota = P
 Mississippi = SE
 Missouri = P
 Montana = M
 Nebraska = P
 Nevada = W
 New Hampshire = NE
 New Jersey = NE
 New Mexico = SW
 New York = NE
 North Carolina = SE
 North Dakota = P
 Ohio = MW
 Oklahoma = SW
 Oregon = NW
 Pennsylvania = NE
 Rhode Island = NE
 South Carolina = SE
 South Dakota = P
 Tennessee = SE
 Texas = SW
 Utah = M
 Vermont = NE
 Virginia = MA
 Washington = NW
 West Virginia = MA
 Wisconsin = MW
 Wyoming = M

**APPENDIX G: List of Industry Groups and Sub-Groups from
OpenSecrets.org**

Agribusiness	Agricultural Services and Products
Agribusiness	Crop Production
Agribusiness	Dairy
Agribusiness	Food Processing and Sales
Agribusiness	Forestry and Forest Products

Agribusiness	Livestock
Agribusiness	Poultry and Eggs
Agribusiness	Misc
Agribusiness	Tobacco
Communications	Computers/Internet
Communications	Electronics Mfg and Services
Communications	Misc
Communications	Printing publishing
Communications	Telecom Services and Equipment
Communications	Telephone Utilities
Communications	TV/Movies/Music
Construction	Building Materials
Construction	Construction Services
Construction	General Contractors
Construction	Home Builders
Construction	Special Trade Contractors
Defense	Aerospace
Defense	Electronics
Defense	Misc
Energy/Natural Resources	Electric Utilities
Energy/Natural Resources	Environmental Services
Energy/Natural Resources	Fisheries/Wildlife
Energy/Natural Resources	Mining
Energy/Natural Resources	Misc
Energy/Natural Resources	Oil/Gas
Energy/Natural Resources	Waste Management
Finance	Accountants
Finance	Commercial Banks
Finance	Credit Unions
Finance	Finance/Credit Companies
Finance	Insurance

Finance	Misc
Finance	Real Estate
Finance	Savings and Loans
Finance	Securities and Investment
Health	Professionals
Health	Health Services/HMOs
Health	Hospitals/Nursing Homes
Health	Misc
Health	Pharmaceuticals/Health Products
Ideological	Pro-Choice
Ideological	Pro-Life
Ideological	Liberal
Ideological	Environment
Ideological	Foreign and Defense Policy
Ideological	Gun Control
Ideological	Gun Rights
Ideological	Human Rights
Ideological	Leadership PACs
Ideological	Misc
Ideological	Pro-Israel
Ideological	Conservative
Ideological	Women's Issues
Labor	Building Trade Unions
Labor	Industrial Unions
Labor	Misc
Labor	Public Sector Unions
Labor	Transportation Unions
Lawyers and Lobbyists	Lawyers/Law Firms
Lawyers and Lobbyists	Lobbyists
Misc	Beer/Wine/Liquor
Misc	Business Associates
Misc	Business Services
Misc	Casinos/Gambling
Misc	Chemical
Misc	Food/Beverage
Misc	Lodging/Tourism
Misc	Misc Business

Misc	Manufacturing and Distributing
Misc	Misc Services
Misc	Recreation/Live Entertainment
Misc	Retail Sales
Misc	Steel Production
Misc	Textiles
Other	Civil Servants/Public Officials
Other	Education
Other	Non-Profit Institutions
Other	Other
Transportation	Air Transport
Transportation	Automotive
Transportation	Misc
Transportation	Railroads
Transportation	Sea Transport
Transportation	Trucking