The Political Economy of the U.S. Mortgage Default Crisis

Atif Mian, Amir Sufi, and Francesco Trebbi[*]

January 2009

Abstract

We examine the effects of constituent interests, special interests, and politician ideology on congressional voting behavior on two of the most significant pieces of legislation in U.S. economic history: the American Housing Rescue and Foreclosure Prevention Act of 2008 and the Emergency Economic Stabilization Act of 2008. Representatives from districts experiencing an increase in mortgage default rates are more likely to vote in favor of the AHRFPA, and the response is stronger in more competitive districts. Representatives only respond to mortgage related defaults (not non-mortgage defaults), and are more sensitive to defaults of their own-party constituents. Higher campaign contributions from the financial services industry are associated with an increased likelihood of voting in favor of the EESA, a bill which transfers wealth from tax payers to the financial services industry. Examining the trade-off between ideology and economic incentives, we find that conservative politicians are less responsive to both constituent and special interests. This latter finding suggests that politicians, through ideology, can commit against intervention even during severe crises.

1   Introduction

What determines politician voting behavior? A long-standing and influential body of research in political economy argues that politicians vote their economic interests (e.g., Stigler (1971) and Peltzman (1985)). In this view, politicians respond to both constituent and special interest pressure in order to increase their probability of reelection. An alternative view argues that politicians primarily vote their own ideological preferences (e.g., Kau and Rubin (1979, 1993), Bernstein (1989), Poole and Rosenthal (1996), and Lee, Moretti, and Butler (2004)). Separating these two views has proven difficult in previous empirical studies for a number of reasons. For example, legislators with a track record of voting conservatively–the most common measure of politician ideology–also face constituent and special interests that are naturally aligned with the conservative agenda (Levitt(1996)).

The difficulty in separating the effect of economic interests from politician ideology leads to a further problem: if one cannot separate these effects, then it is difficult to understand the underlying *mechanisms* through which economic interests and ideology affect politician voting behavior. For example, the outcome of a democratic process may depend on whether politicians respond to the median voter or their "base" supporters. Similarly, the effectiveness of the political process in responding to constituent interests may depend on the competitiveness of the electoral process. Further, there may be interesting interactive effects of a politician's ideology and their economic interests. However, without an effective empirical strategy to isolate the effect of economic interests from ideology, it is difficult to address these issues.

In this study, we make progress on these issues by focusing on two of the most significant pieces of federal legislation in U.S. economic history. In July 2008, after several months of steep deterioration in the mortgage market, the U.S. Congress passed the American Housing Rescue and Foreclosure Prevention Act ("AHRFPA"), a bill that provides up to $300 billion in Federal Housing Administration insurance for renegotiated mortgages and unlimited support for Freddie Mac and Fannie Mae.[1] In October 2008, the U.S. federal government enacted the Emergency Economic Stabilization Act ("EESA") which enables the Treasury Department to recapitalize banks through direct purchase of new equity and severely distressed mortgage backed securities up to $700 billion. These bills have forced an increase in the national debt ceiling of over $1 trillion, and they guarantee

---

[1]The act is also known as the Housing and Economic Recovery Act of 2008 and the specific provision to provide FHA insurance is the Hope for Homeowners program.

significant government intervention in the mortgage market and financial industry for years to come. By any standard, the AHRFPA and the EESA represent congressional legislation of historic economic relevance and magnitude.

In addition to their economic importance, there are important characteristics of these bills that make them a promising empirical laboratory for separating the effects of economic interests and politician ideology on voting behavior. One advantage, relative to a substantial majority of existing congressional voting studies, is that winners and losers from the legislation are well specified (Peltzman (1984)). While both bills conflict with the fundamental conservative principle of limited intervention in private markets, they each have specific "winners" that can be identified empirically. The AHRFPA provides an expected net transfer to households that are in (or near) default on their mortgages, while the EESA provides an expected net transfer (at least in the short run) to the financial industry. We refer to the former as "constituent interests" and latter as "special interests" in our analysis.

Another advantage is the availability of data that allow us to precisely measure these constituent and special interests. The data include zip code level information on consumer credit defaults which we use to construct the mortgage default rate at the congressional district level (our primary measure of constituent interest for AHRFPA). In addition, the level of geographical disaggregation in the data allows us to separately construct the default rate for Republican and Democratic voters in a constituency. Our data set also includes information on the average campaign contributions that a representative receives over a congressional cycle from the financial industry, which is our measure of special interest. We measure ideology, following the political science literature, using the DW-nominate score based on past voting behavior of a representative.

We begin with an analysis of politician voting patterns on the AHRFPA. We find that the shock to mortgage defaults that precedes the bill is *orthogonal* to ideology among Republicans, giving us a novel natural experiment to empirically separate the influence of ideology from constituent interests.[2] There is strong evidence that constituent interests affect a politician's voting choice. Representatives from high mortgage default districts are more likely to vote in favor of the AHRFPA, and this result is not driven by ideological preferences or politician "type." When we decompose the 2007 year end default rate into the 2005 year end default rate and the change in default rate from 2005 to 2007, we find that politicians only respond to the change in the mortgage

---

[2]There is no variation among Democrats in their voting behavior on AHRFPA.

3

default rate. Since ideological preferences are fixed in the short run, this result implies that representatives respond directly to time-varying constituent interests. Our preferred estimate suggests that a one standard deviation increase in mortgage default rates in 2007 leads to a 12.6 percentage point increase in the likelihood of voting for the AHRFPA. The finding is inconsistent with a purely ideological approach to political representation.

We find that representatives are remarkably precise in responding to constituent interests. Since the mortgage bill has no impact on voters with credit card or auto defaults, a representative should *not* change his voting behavior when the percentage of non-mortgage related defaults changes. Despite the strong correlation of non-mortgage and mortgage defaults in the data, we find that politicians react only to mortgage defaults while ignoring non-mortgage defaults.

Employing zip code level information, we separate the overall mortgage default rate into the mortgage default rate experienced by Republican and Democratic voters *within* a congressional district. We find that politicians do not respond equally to all constituents, instead responding primarily to their own voting bloc. These results provide support to the "dual constituency" hypothesis that legislators respond more strongly to their own supporters within their electorate (Fenno (1978)). To the best of our knowledge, ours is the first work that provides evidence of the geographical precision with which politicians respond to their constituency.

If representatives are responding to constituent interests due to electoral pressure, then the effect of constituent interest on voting behavior should be stronger in more competitive districts. Consistent with this prediction, we find that representatives are more likely to respond to an increase in their constituent mortgage default rate by voting in favor of the AHRFPA if their election is closely contested or if their district lies in a presidential swing state.

We then examine the politician voting patterns on the EESA, which represents a conflict between the conservative ideology of minimal government intervention and the financial industry interest in favor of government support. We find that a strong predictor of voting behavior on EESA is the amount of campaign contributions from the financial services industry. This finding is consistent with anecdotal evidence suggesting that the financial industry lobbied heavily to shape the EESA and get it passed. However, we are cautious in our interpretation of this result. As Stratmann (2002, p. 346) emphasizes, "if interest groups contribute to legislators who support them anyway, a significant correlation between money and votes does not justify the conclusion that money buys votes. In this case the positive correlation arises because the same underlying factors that cause a

4

group to contribute to a legislator also cause a legislator to vote in the group's interest."[3]

While the above is a genuine concern, the significance of the impact of financial service campaign contributions on voting patterns for the EESA is robust to the inclusion of many reasonable proxies for the "underlying factors" such as politician ideology, district demographics, the fraction of constituents working for the financial industry, and whether the representative serves on the financial committee. We also make use of retiring politicians for whom past special interest contributions should be less important if political contributions directly affect votes due to reelection concerns. We find that the voting behavior of politicians running for reelection is highly sensitive to past campaign contributions, but the voting behavior of retiring politicians is completely insensitive to campaign contributions.

Although the two bills differed in the identity of their direct beneficiaries, they both shared the common characteristic that they conflicted with the fundamental conservative ideology of limited government intervention. This friction was apparent in the debates leading up to the two votes as ideologically conservative Republicans strongly objected to the bills on philosophical grounds. Not surprisingly, we find that conservative ideology strongly predicts votes against the two bills.

An advantage of separating the effects of constituent and special interests from ideology is that we are able to estimate the "price" of the trade-off between ideological and economic voting incentives. While heightened constituent and special interests push politicians to vote in favor of massive government intervention, we find that conservative politicians with ideological opposition to the legislation are significantly less responsive to such heightened interests. In other words, the effect of mortgage default rates on the AHRFPA vote and the effect of campaign contributions on the EESA vote are significantly weaker among ideologically conservative representatives. These results highlight the importance of political ideology as a partial commitment device against government intervention: Ideologically conservative politicians are less responsive to constituent and special interests even in the midst of a major financial crisis.

To our knowledge, ours is the first paper to document the commitment value of ideological preferences in resisting constituent and special interest pressures.[4] This finding is related to a number of theoretical papers that rationalize the existence of different political institutions - such

---

[3]For a complete review of the literature on special interests influence and its consequences see Grossman and Helpman (2001) and for campaign contributions Stratmann (2005). For a review of the rationality of political investment see Bombardini and Trebbi (2008a, 2008b).

[4]An interesting work on the rationality of ideology as a form of committment against shirking is Dougan and Munger (1989).

as democracy, party politics, majority rules - as useful commitment devices (e.g., Acemoglu and Robinson (2001) and Bolton and Rosenthal (2002)).

Our paper is also related to the literature on the political economy of financial markets.[5] While our analysis is limited to two bills that are passed during a crisis period, it is precisely the time of financial crisis that offers an opportunity to study the prevalence of political moral hazard in financial markets. If governments respond to economic pressures by providing financial assistance to defaulting households and financial institutions in times of crises, then anticipation of such help may induce under-pricing of systemic risk in more normal times as well. In other words, even though we only examine voting patterns on two bailout bills during a crisis, our findings have important implications for financial market activity in all periods.

The rest of our analysis proceeds as follows. The next section provides background on the AHRFPA and the EESA, and describes how these bills were perceived by constituent and special interests. Section 3 presents the data and summary statistics. Section 4 presents the empirical model. The results on the AHRFPA appear in Section 5, while the EESA is studied in Section 6. Further implications on the interaction of ideology and constituent interests of congressmen are addressed in Section 7. The last section concludes.

2 The Legislative Response to the Mortgage Default Crisis

In this section, we describe the two pieces of legislation that are central to our analysis of the mortgage crisis. We also describe how these bills were perceived by constituents and special interests at the time of passage.

Before describing the details of the bills, it is important to emphasize the magnitude of the mortgage default crisis and its effects on the economy. From 2005 to 2007, Mian and Sufi (forthcoming) show that the aggregate default rate on mortgages more than doubled. According to the S&P/Case Shiller home price indices, home prices have declined by 23% since the peak in 2006. The U.S. Department of Treasury was forced to nationalize the mortgage giants Freddie Mac and Fannie Mae in September 2008 given their enormous losses on subprime mortgage backed securities. Some of the world's largest financial institutions, including Bear Stearns, AIG, Lehman Brothers, Merril Lynch, and Washington Mutual, have failed or been acquired directly because of the plummeting

---

[5]A partial list in this literature includes: Khwaja and Mian (2004), Kroszner and Strahan (1999), Kroszner and Rajan (1994), Nunez and Rosenthal (2004), Perotti and von Thadden (2006), and Romer and Weingast (1991).

value of subprime and prime mortgage backed securities. It is in this environment that the U.S. Congress has conducted a massive intervention in financial markets through the AHRFPA and the EESA.

2.1   The American Housing Rescue and Foreclosure Prevention Act of 2008

The initial U.S. Congressional response to the mortgage default crisis evolved between the summer of 2007 and the summer of 2008, leading to the signing of the American Housing Rescue and Foreclosure Prevention Act (AHRFPA) on July 30, 2008 by President Bush.[6] The final version of the AHRFPA included a number of provisions meant to aid the ailing housing sector. The act gave the U.S. Federal Government, through the Federal Housing Administration, the ability to insure $300 billion of refinanced mortgages. Such insurance was provided for mortgage lenders that voluntarily agreed to reduce mortgage principal and delinquency fees.[7]

The AHRFPA also increased the Treasury's authority under existing lines of credit to Freddie Mac, Fannie Mae, and the Federal Home Loan Banks for 18 months, giving Treasury standby authority to buy stock or debt in those companies. The amount of the line of credit was unlimited during these 18 months.[8] In addition, the act increased FHA loan limits and provided tax breaks for first-time home buyers. Finally, the act called for a regulatory overhaul of the Office of Federal Housing Enterprise Oversight (OFHEO) by establishing the Federal Housing Finance Agency, which is charged with broad supervisory and regulatory powers over the operations, activities, corporate governance, safety and soundness, and mission of the Government Sponsored Enterprises (GSEs).

Overall, at the time of passage, the AHRFPA represented one of the most dramatic government interventions in the housing sector in recent history. The New York Times (July 24th, 2008) reported that "[the legislation] would rank in importance with the creation of the Home Owners' Loan Corporation to prevent foreclosures in the 1930s as part of the New Deal, and the legislation in 1989 responding to the savings and loan crisis."[9] A quote from a Wall Street Journal article (July 24th, 2008) argued that " ... this is the most important piece of housing legislation to come

---

[6]The following information comes from a document entitled "H.R. 3221: Detailed Summary" available at http://financialservices.house.gov/detailed_summary_of_hr_3221.pdf. See also Paletta and Hagerty (WSJ 2008). This act is also known as the Housing and Economic Recovery Act of 2008.

[7]This part of the act is now known as the Hope for Homeowners program.

[8]This line of credit to Fannie Mae and Freddie Mac became obselete in September 2008 when the U.S. Department of Treasury took over the institutions.

[9]For analysis of the farm foreclosure moratoria in the 1920's and 1930's see Alston (1984). For the S&L crisis, Romer and Weingast (1991).

along in a generation." As Paletta and Hagerty (2008) noted, "as a result of the bill, Congress will raise the national debt ceiling to $10.6 trillion from $9.8 trillion."

In discussing how constituent and special interests perceived this legislation, it is important to emphasize that politician voting patterns are influenced by the *perception* of these interests at the time of passage, rather than how these interests are actually affected after passage. Therefore, in terms of the perceived beneficiaries of the legislation, the FHA insurance for renegotiated mortgages represented a transfer from tax payers to lenders and borrowers that renegotiate mortgages. Under the legislation, the renegotiation of any mortgage is voluntary, which implies that neither lenders nor borrowers could be made worse off directly from the bill. There is, however, some evidence that mortgage lenders faced implicit pressure to agree to write down principal in order to initiate renegotiations. For example, on the day the bill was passed, Representative Barney Frank (D-MA), chairman of the House Financial Services Committee, was quoted in the New York Times as follows: "Many of these institutions know this is coming. I hope they will be able to take advantage of it right away." And in the Washington Post, Frank is quoted as follows: "I would be very disappointed if, having helped us formulate this, they don't take advantage of it." Overall, the primary perceived beneficiaries of the legislation were households either in default or close to default on mortgage payments.

Our main focus in the empirical analysis below is the vote on the final passage of this bill held on July 26th, 2008.[10] However, there was also an amendment vote on May 8th, 2008; the focus of this previous vote was the $300 billion insurance program, as Freddie Mac and Fannie Mae had yet to experience sharp losses that required government intervention.[11] In specifications below, we exploit the fact that some politicians switched votes to help understand the determinants of voting behavior on the final version of the bill.

---

[10] Roll call 519: "Concur in Senate Amendment with House Amendment: H R 3221 Foreclosure Prevention Act of 2008."

[11] Roll call 301: "On Agreeing to the Senate Amendment with Amendment No. 1: H R 3221 Foreclosure Prevention Act of 2008."This vote is considered by many the first crucial roll call in the political economy of the crisis and was characterized by strong opposition (and a veto threat) by the executive branch. The Wall Street Journal (May 9, 2008) refers to the vote as follows: "The House voted 266-154 in favor of the centerpiece of the legislation – $300 billion in federal loan guarantees – despite a White House veto threat." In particular, "The heart of the legislation is a program to help struggling homeowners by providing them with new mortgages backed by the Federal Housing Administration. The guarantees would be provided if lenders agree to reduce the principal of a borrower's existing mortgage."

8

2.2 The Emergency Economic Stabilization Act of 2008

Beginning in the second week of September 2008, a series of events indicated that the U.S. financial sector was in the midst of a severe crisis. While the lack of capital in the banking industry had been a problem since August of 2007, more troublesome patterns emerged with the nationalization of Fannie Mae and Freddie Mac and the distress at Lehman Brothers during the week of September 8th, 2008. On Monday, September 15th, Lehman Brothers submitted the largest bankruptcy filing in history. On Tuesday, September 16th, the US government nationalized the American International Group (AIG) after the insurance firm experienced sharp losses and potential downgrades related to the writing of credit default swaps. On Wednesday, September 17th, a few large money market funds "broke the buck," which effectively meant losses on deposits that were supposed to be close to riskless. In the midst of the financial market turmoil, on Friday, September 19th, initial news reports suggested that "the federal government is working on a sweeping series of program that would represent perhaps the biggest intervention in financial markets since the 1930s" (Wall Street Journal, September 19th).

The EESA (2008) passed the U.S. House of Representatives on Friday, October 3rd. The hallmark of the legislation was authorization for the U.S. Department of Treasury to buy up to $700 billion of "mortgages and other assets that are clogging the balance sheets of financial institutions ..." (Dodd (2008)). While the original intention of the bill was for the Treasury to buy severely distressed subprime mortgage backed securities, more recent interpretations suggest that the act can be used by Treasury to inject capital directly into banks through an equity investment. The bill also included up to $150 billion of unrelated tax breaks for individuals and businesses, and an increase in FDIC insurance for depositors from $100,000 to $250,000.

How was this bill perceived by constituents and special interests? At the time of passage, it was clear that the legislation represented a large wealth transfer from U.S. tax payers to the financial services industry. The original legislation authorized the purchase of distressed mortgage related assets from financial institutions, and these assets were likely to be bought at prices above market value. The bill later evolved into an authorization of government equity injections into banks, which benefited the financial sector upon announcement. Veronesi and Zingales (2008) show a substantial wealth transfer from tax payers to the financial sector using returns associated with the announcement of equity injections on October 13th, 2008.

Our main focus in the empirical analysis is the vote in the U.S. House of Representatives on

this bill on October 3rd, 2008.[12] There was also a vote on Monday, September 29th, 2008.[13] In the initial vote, the House rejected the bill, inducing one of the largest single day stock market losses in history. The October 3rd bill was different in two main respects: first, it called on the FDIC to lift protection from $100,000 to $250,000 for individual depositors. Second, it included the additional tax breaks mentioned above. While our primary focus is on the October 3rd vote, we also examine the characteristics of 58 legislators that voted against the September 29th bill and for the October 3rd bill.

3   Data and Summary Statistics

3.1   Data

Our analysis focuses on the determinants of House voting patterns on the AHRFPA and the EESA. We focus on House votes given the additional geographic variation that comes from more precise measures of constituent characteristics at the Congressional district, as opposed to state level.

We utilize four main sets of data: consumer credit data, congressional electoral and voting data, campaign contribution data, and voter registration data. Data on consumer debt outstanding and delinquency rates are from Equifax. Equifax collects these data from consumer credit reports, and aggregates the information at the zip code level. The availability of disaggregated geographical data on defaults is a major advantage of our analysis, as it allows us to measure constituent interests as they relate to the default crisis. Furthermore, the availability of zip code level default data allows us to construct measures of a politician's particular voting bloc within the congressional district. The Equifax data are available at an annual frequency from 1991 to 1997, and at a quarterly frequency from 1998 through the fourth quarter of 2007.[14] In the following analysis, we define default amounts as any amount that is 30 days or more delinquent. The majority of our analysis focuses on mortgage default rates, but we also examine home equity and non-housing consumer debt default rates in some of the results. In order to aggregate zip code level data to the congressional district level, we utilize the MABLE-Geocorr software.[15]

---

[12]Roll call vote 681 on "Motion to concur in Senate Amendment" on H.R. 1424 "Emergency Economic Stabilization Act of 2008."

[13]Roll call vote 674 on "On Concurring in Senate Amendment with an Amendment" on H.R. 3997 "To amend the Internal Revenue Code of 1986 to provide earnings assistance and tax relief to members of the uniformed services, volunteer firefighters, and Peace Corps volunteers, and for other purposes."

[14]See Mian and Sufi (forthcoming) for further details on the Equifax data.

[15]Supported by the Missouri Census Data Center. Zip codes are 5-digit ZIP (ZCTA-ZIP Census Tab. Area 2000)

Our second main data set covers congressional district electoral and voting behavior. These data include party affiliation, vote margins in the November 2006 midterm elections, committee assignments of the representatives from the district (Stewart and Woon (2008)), and the DW-Nominate representative ideology scores which are increasing in conservatism (Poole and Rosenthal (1985), (1997)).[16]

Our third main data set covers campaign contributions by special interest groups. We obtain campaign contributions data from the Center for Responsive Politics (CRP), a nonpartisan and nonprofit organization that directly collects the information from the Federal Election Commission political contributions reports.[17] The advantage of the CRP data is that it covers contributions from Political Action Committees (PACs, the main channel for firms' political activity) and individual contributions (above $200) sorted on the basis of the contributor's employer. This allows for a comprehensive measurement of the overall contributions of a specific industry. Our main industry of interest is the Finance, Insurance, & Real Estate industry. The top five contributors from this industry in the 2008 election cycle are Goldman Sachs ($5.2 million), Citigroup ($4.4 million), JP Morgan Chase & Co ($4.2 million), the National Association of Realtors ($4.1 million), and Morgan Stanley ($3.5 million).

Our fourth main data set has zip code level voter party affiliation information. This information is available for 38 out of the 50 states, which cover 84% of U.S. Congressional Districts. For each zip code, this data set records the fraction of voters belonging to the Republican and Democratic party. Party affiliation of a voter is determined by the party with which she registers in 32 of the 38 states. In the remaining 6 states, party affiliation is determined by the party primary in which a voter participates. The data are recorded as of 2007 for 32 states, 2006 for 4 states, and 2004 for 2 states. The data are provided by the political technology firm Aristotle.[18] Party affiliation data allow us to weight zip code level default rates using the fraction of voters that are affiliated with the Republican or Democratic party.

---

and matched to congressional districts. All the aggregates are population weighted sums.

[16]Within the political science literature DW-nominate is one of the most popular proxies for ideology. In extreme synthesis, the DW-Nominate score is an estimated ideological position based on the legislator's past roll call voting records within a random utility choice model.

[17]See http://www.opensecrets.org and http://www.fec.gov/disclosure.shtml

[18]We are extremely grateful to Matthew Gentzkow and Jesse Shapiro for sharing these data with us.

3.2 Summary Statistics

Table 1 presents summary statistics. The variables are split into five categories: measures of constituent interests, measures of special interests, a measure of ideology, other political variables, and census demographics. Districts are separated by the party affiliation of the representative in the 110th Congress (2007-2008).[19]

Our main proxy for constituent support for the AHRFPA of 2008 is the mortgage default rate as of the end of 2007. While mortgage default rates for Democratic districts are higher than for Republican districts in both 2005 and 2007, both experience a sharp increase in default rates over these two years. For Republican districts, the increase in the mortgage default rate from 2005 to 2007 (2.2%) is equivalent to almost two standard deviations in the mortgage default level as of 2005 (1.2%). The registered Republican and Democratic mortgage default rate is constructed using the zip code level information on defaults and voter registration. The registered Republican (Democratic) default rate is constructed as the population weighted sum of default rates across zip codes where the weights are given by the fraction of registered Republicans (Democrats) in the zip code. We also construct the "home default rate" by aggregating home equity defaults with mortgage defaults, and the combined variable closely mirrors the mortgage default rate. Table 1 also includes information on the non-home default rate, which includes defaults on credit card debt, auto debt, consumer loans, and student loans. We make use of this variable for falsification exercises. Measures of constituent support for the EESA of 2008 include the fraction of the workforce in a congressional district that is employed by the financial services industry and the fraction of households with annual household income above $200,000.

Our primary measure of special interest support for the EESA is campaign contributions made by the financial services industry, defined in the Center for Responsive Politics data as donations from the Finance, Insurance and Real Estate industry. In Table 1, we present summary statistics on both the 2008 cycle contributions, and the average per cycle since 1993 (103rd congress) for a given representative in the 110th congress. We also present information on total contributions by all industries in the 2008 cycle. In terms of politician's ideology, the DW nominate score, which is increasing in conservatism of the representative, is significantly lower for Democratic districts than for Republican districts. Table 1 also lists summary statistics for political and census demographic

---

[19]The geographical distributions of default rates and ideology scores for Congressional districts are reported in the online appendix. See Figures OA1 and OA2.

control variables. Figure 1 shows the full frequency distribution for the key right hand side variables in our analysis.

4 Empirical Model

4.1 Baseline

We derive and estimate a reduced-form model that examines the determinants of politician voting behavior on the AHRFPA and the EESA. Consider a legislature with $i = 1, ..., N$ members. Each member i is characterized by preferences over her vote on a particular bill v:[20]

$$U_i = \theta f(v_i) + g(v_i) + \varepsilon_i^v \tag{1}$$

where the function f maps the Yea/Nay vote into a unidimensional ideological preference space and g maps the vote into reelection probabilities. The parameter θ converts ideological gains/losses into increments of reelection probabilities and ε_i^v is a random preference component. A random utility approach to the representative decision implies that the choice of a Yea vote ($v = 1$) follows $\Pr(v_i = 1) = \Pr\left(\theta\left(f(1) - f(0)\right) + g(1) - g(0) > \varepsilon_i^0 - \varepsilon_i^1\right).$

Ideological losses and deterioration of electoral prospects may or may not conflict. Whenever a vote conflicts with the representative's ideological stance *and* with constituent interests, the probability of voting in support will be low. Whenever a vote conflicts with the representative's ideological stance *but* favors the member's constituent interests, the probability of voting in support of the bill will depend on the relative strength of the two.

We assume stark functional forms to keep the empirical analysis as transparent as possible, with $f(v_i) = -ID_i * v_i$ and $g(v_i) = \beta_1 CI_i * v_i + \beta_2 SI_i * v_i$. In these equations, ID_i indicates the (unidimensional) ideological position of the representative from congressional district i, approximated by the DW-Nominate first dimension score, CI_i indicates a proxy for constituent interest in congressional district i, and SI_i a proxy for special interest support. The reelection probability depends on two factors: (i) the ability to convince voters that the member caters to their interests (CI), and (ii) campaign spending, determined by the ability to attract special interest contributions

---

[20]Each legislator cares both about the policy choice and her individual vote, because constituents reward or punish her voting record. See Snyder (1991) for an analogous utility representation.

(SI).[21] The choice of a Yea vote further simplifies to:

$$\Pr(v_i = 1) = \Pr\left(-\theta ID_i + \beta_1 CI_i + \beta_2 SI_i > \varepsilon_i^0 - \varepsilon_i^1\right),\tag{2}$$

which can be directly estimated, given distributional assumptions on $\left(\varepsilon_i^0 - \varepsilon_i^1\right)$. We make use of (2) to test $\beta_1 = \beta_2 = 0$ in order to discriminate between purely ideological voting (Poole and Rosenthal (1996, 1997)) and economic incentives in congressional voting (Peltzman (1984), Kalt and Zupan (1984), and numerous others subsequently). The specification in (2) allows us to estimate whether, for a given ideological aversion to the bill (ID_i), constituent interests (CI_i) and special interests (SI_i) are strong enough to tilt the representative's vote in favor of the bill.

4.2 Empirical Proxies

Our data set provides reasonably precise empirical measures for constituent and special interests. As mentioned in Section 2, our main empirical proxy for constituent interests on the AHFRPA is the mortgage default rate as of the end of 2007. Our main measures of constituent interests for the EESA are the mortgage default rate, the fraction of the district population that works in the financial services industry, and the fraction of the district population that has a household income greater than $\$200,000$. In all specifications, our primary measure of special interest influence is campaign donations from the financial services industry.

Table 2 presents correlations between the key right hand side variables in our analysis. Panel C shows that there is no correlation between the mortgage default rate and the ideology score of Republican representatives. In other words, the impact of the current mortgage default crisis is orthogonal to variation in political ideology among Republican districts. This is a useful feature of the default variation that we exploit to identify the impact of constituent interests on politicians' voting behavior.

5 The AHRFPA of 2008 and the Role of Constituent Interests

In this section, we empirically estimate (2) to examine the determinants of politician voting patterns on the AHRFPA. As mentioned in Section 2, the AHRFPA represents a major government inter-

---

[21]Notice that, without loss of generality, our assumptions about f and g imply that both constituent and special interests are measured on a scale such that higher values increase their prospect of reelection if they vote in favor of the bill.

vention designed to reduce foreclosures through a \$300 billion program of FHA-backed refinanced mortgages. In our analysis we focus primarily on votes in the pivotal U.S. House of Representatives roll call 519 (July 26th, 2008).[22] In some specifications, we also examine voting patterns on roll call 301 (May 8th, 2008).

Table 3 presents voting patterns by political party. Democrats almost unanimously vote in favor of the AHRFPA in the July 26th vote, with only 3 Democrats voting against. The fact that all almost all Democrats vote for the AHRFPA shows the importance of ideology and political party affiliation. In fact, 85 of the 233 Democrats that vote in favor of the AHRFPA have mortgage default rates below the median default rate among Republican districts; in other words, despite low mortgage default rates among their constituencies, many Democrats vote in favor of the bill.

In contrast, there is substantial variation in Republican voting patterns, with 45 Republicans voting in favor and 149 against. The voting patterns are similar for the May 8th vote. As Panel C demonstrates, there is significant variation among Republicans that switch votes from May 8th to July 26th. There are 19 representatives that switch from voting "Nay" in the May 8th vote to "Yea" in the July 26th vote. There are 14 representatives that switch from voting "Yea" in the May 8th vote to voting "Nay" in the July 26th vote. We further examine these "switchers" in specifications below.

5.1 Baseline Results

Figure 2 presents initial evidence on the importance of constituent interests in explaining voting patterns on the AHRFPA. It plots the correlation between mortgage default rates and the propensity to vote in favor of the AHRFPA. We focus only on Republicans given that Democrats vote almost unanimously for the AHRFPA. Republicans from higher default rate areas are more likely to vote in favor of the AHRFPA. The effect appears across the distribution, and is particularly strong when default rates rise above 7%.

Table 4 presents linear probability regression estimates of the effect of mortgage default rates on voting patterns for Republicans.[23] The estimate of 6.71 in column 1 is statistically significant at the 1% level, and implies that a one standard deviation increase in the mortgage default rate

---

[22] All voting data are collected from the Library of Congress THOMAS (thomas.loc.gov/).

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

leads to a 12.6 percentage point increase in the likelihood of voting for AHRFPA.[24] Column 2 also includes measures of ideology and special interests. Campaign contributions by the financial services industry do not affect voting patterns, while more conservative politician ideology has a strong negative effect. A one standard deviation increase in the "conservativeness" of a politician leads to a 16.3 percentage point increase in the likelihood of voting against the bill. Despite the explanatory power of politician ideology (the R^2 of the regression increases by 150%), the estimate on the the mortgage default rate is almost identical with the inclusion of the DW nominate ideology score. In other words, the effect of constituent interests on voting patterns is largely orthogonal to the effect of ideology.

One potential concern is that the DW nominate ideology score may not fully capture the effect of ideology on this particular vote. The specification in column 3 includes both the second factor of the DW nominate ideology score and the 2004 presidential vote Republican share. The latter variable may better capture socially conservative politicians that have conservative DW nominate ideology scores but may be sympathetic to government intervention in the economy. While the inclusion of these control variables increases the R^2 and reduces the coefficient on the primary measure of ideology, it has almost no effect on the mortgage default rate coefficient.

In column 4, we report results when deconstructing the 2007 default rate into the 2005 level default rate and the change from 2005 to 2007. As the results show, it is the change in the default rate from 2005 to 2007 that leads Republicans to vote in favor of the legislation, not the level in 2005. Given that politician ideology is unlikely to change dramatically in just two years, these results further mitigate the concern that default rates lead to votes in favor of the AHRFPA through an ideology channel or other selection effects.

Columns 5 and 6 present estimates from further robustness tests that include political control variables (column 5) and census demographic characteristics (column 6). The presence of these control variables increases the R^2 of the regression from 0.22 to 0.28, but they have only a slight effect on the coefficient on the mortgage default rate. We should emphasize that some of the census demographic characteristics in column 6 are also potential measures of constituent interests. For example, the fraction of households that are Hispanic and the 2007 year end mortgage default rate

---

[24]Given that the distribution of default rate has a thin right tale distribution (see Figure 1), one may be concerned that our coefficient on default rate is being determined by a few "outliers". Table OA1 in the online appendix shows that this is not the case. First, the coefficient default rate is robust to winsorizing the default rate at the 5% level. Second, a split of the data below and above the median default rate shows that the OLS coefficient is similar across the two halves of the distribution.

are highly correlated (0.51 correlation coefficient). We may be "over controlling" by including such demographic variables. Our results are also robust to the addition of state fixed effects that control for state level variables that uniformly affect politicians within the state (result not reported).

If constituent interests in the form of high mortgage default rates are pushing many politicians to vote in favor of the AHRFPA, then one would predict that the *same* politicians would vote against the bill if default rates were lower in their district. While an exact replica of the AHRFPA is not available at an earlier time when mortgage default rates are lower, there is a related piece of legislation passed in April 2005 known as the Bankruptcy Abuse Prevention and Consumer Protection Act (BAPCPA). In terms of consumer interests, BAPCPA has the opposite effect of the AHRFPA given that it makes bankruptcy more difficult for defaulting consumers. We therefore use voting patterns on the BAPCPA to test whether the same Republicans with sharp increases in mortgage default rates from 2005 to 2007 that previously vote for an anti-consumer bill subsequently switch to vote in favor of the pro-consumer AHRFPA. Of the 194 Republicans voting on the AHRFPA in 2008, 176 vote on the BAPCPA three years earlier, and *all* of them vote in favor of the anti-consumer BAPCPA bill. Focusing on these 176 Republicans, we find that those that experience a larger increase in mortgage default rates by the end of 2007 are more likely to switch their vote in favor of the pro-consumer AHRFPA. This further supports our interpretation that it is constituency pressure due to the increase in mortgage default rates, and not ideology, that alters a politician's voting behavior.

Column 7 presents our baseline specification for the vote on roll call 301 (May 8th, 2008). This is an important robustness check given a substantial difference from roll call 519: a presidential veto threat on the bill (possible to overcome by a 290-vote majority). In May 2008, President Bush opposed the AHRFPA and in particular the \$300 billion insurance provision, while the July vote was brought to the House floor the same day the veto threat was lifted. Given that defection from the Republican party line (a "Yea" vote) is a more costly choice in May, the estimates in column 7 represent an important test of whether politicians respond to constituent interests even when it is costly to do so. While the coefficient on the mortgage default rate is smaller, it is not statistically significantly different from the estimate on the July 26th vote, which confirms that politicians respond to constituents even when doing so may harm their standing within the party.

Columns 8 and 9 estimate why some Republicans switch their vote from May 8th, 2008 (Vote 301) to July 28th, 2008 (Vote 519). Column 8 conditions on Republicans that vote in favor of

the first bill, and tests what explains the behavior of those who choose to vote against the second version of the bill. Similarly, column 9 conditions on those who vote against the first bill and tests why some choose to vote in favor of the second version. Given our earlier results, mortgage default rates should weigh heavily on the electoral prospects of Republicans who vote against the first bill by making them vulnerable to criticism from challengers. Hence, we would expect that switchers to a "Yea" vote represent districts with high default rates. Conversely, representatives with high default rates are more likely to continue supporting the bill. Columns 8 and 9 confirm both predictions.

We conclude this section with some (approximate) quantitative assessment of the electoral weight of the mortgage crisis. So far we have emphasized the mortgage default rate as a proxy for constituent interests. Such a measure is ideal given that it includes both the extensive margin (the number of individuals in default) and the intensive margin (the amount of distressed debt per individual). However, an interesting exercise is to investigate proxies for the extensive margin to check the lower bound of voters that are most directly affected by the crisis.[25] One rough proxy for the number of voters in default is the number of accounts in default. The number of mortgage accounts proxies reasonably well for the number of voters with a mortgage, which implies that the number of mortgage accounts in default proxies well for the number of voters in default.[26]

There are $391,000$ individuals with a credit report on average per district. By focusing on the nonlinearity in the relationship between voting in favor of AHRFPA and percentage of voters in default, we find that politicians respond more aggressively when at least 3.5% of individuals with a credit report start to default. While there are obvious limitations in focusing on the extensive margin, this number appears reasonable. The number of directly affected voters tipping the politician voting behavior is $0.035 * 391,000 = 13,685$ individuals. Given an average pivotal group size in congressional elections of $40,000$ voters, this estimate suggests that representatives more aggressively respond to subconstituencies when they reach a third of the average pivotal group size.

---

[25] Such an analysis ignores the negative externality stemming from mortgage defaults due to the negative effect of foreclosures on local house prices and crime. As a result, the extensive margin analysis underestimates the size of the population impacted and therefore delivers only lower bound estimates. For this reason, the best measure of constituent interests is the mortgage default rate, which more accurately reflects both the depth of the crisis for mortgage defaulters and the externatility imposed on other voters in the district.

[26] The main measurement worry is that some voters have multiple mortgage accounts. However, the number of mortgage accounts is likely a good proxy for the number of voters with a mortgage. First, Equifax separates home equity loans as distinct accounts, so only people who take a second mortgage out on their house would have more than one mortgage account. Yamashita (2007) reports from the 1998 SCF that 11% of the total population has a second mortgage (16% of homeowners). Second, the average number of mortgage accounts per consumer in the Equifax data is 0.51. The average number of households in the SCF with some type of mortgage is 0.48.

5.2 Precision in Targeting Constituent Interests

In Table 5, we show that representatives are extremely precise in targeting constituent interests. An advantage of the Equifax data on defaults is that we have disaggregated default rates on all types of consumer debt. As a result, we are able to test whether voting behavior by Republicans responds to general consumer credit difficulties or if it responds precisely to the increase in mortgage default rates.

Panel A shows that default rates across different types of consumer credit are very highly correlated. For example, the mortgage default rate is highly correlated with the auto default rate (0.66) and the credit card default rate (0.58). All correlations are statistically significant at the 1% level. Given these high correlations, one might conclude that it would be difficult for representatives to distinguish general consumer credit difficulty from mortgage defaults.

Panel B shows that representatives are responsive to the home default rate (which includes mortgage and home equity defaults), even after controlling for the non-home default rate (which includes defaults on credit card debt, auto loans, consumer loans, and student loans). The estimate in column 1 implies that a one standard deviation increase in the home default rate leads to a 16.2 percentage point increase in the likelihood of voting for the AHRFPA. The estimation also shows that the non-home default rate has no predictive power in explaining votes on the AHRFPA. These results are robust to our full set of controls in columns 2 and 3. Thus despite the high correlation between general consumer credit difficulty and mortgage defaults across districts, politicians appear to respond uniquely to mortgage defaults when deciding whether or not to vote for the AHRFPA.

5.3 Responding to Voting Bloc within Constituency

The "dual constituency" hypothesis (Fenno (1978)) posits that politicians respond more to the interests of their own supporters within their overall constituency. This hypothesis is difficult to test given the difficulty in measuring party-based constituent interests within a congressional district. However, we have the advantage that we can observe default rates within a congressional district at a finer zip code level.[27] We also have voter registration data at the zip code level that tells us the proportion of population within a zip code that is registered as a Democrat, Republican, or Independent. We can combine the default rate and voter registration data at the zip code level to construct Democratic and Republican population-weighted mortgage default rate for each

---

[27] The average congressional district is composed of 78 zip codes.

Congressional district.

One drawback of using zip code level data as above is that there will be no difference in Democratic and Republican default rates in a district (and hence no variation to exploit) if either of the following two conditions hold: (i) the default rate is constant across all zip codes in the district or (ii) the fraction of registered Republicans and registered Democrats is constant across all zip codes within the district. In fact, the correlation coefficient between Democratic and Republican mortgage default rates in our sample is 0.90, which shows the limitation of zip level data to generate useful variation. Figure 3 shows this more directly; it presents the histogram of the difference across Congressional districts in the Democratic and Republican mortgage default rates. For the majority of districts this difference is close to 0, implying that the inclusion of both the Democratic and Republican mortgage default rates within the same regression may suffer from serious multicollinearity problems.

However, despite this collinearity problem, Table 6 shows that Republican politicians are more responsive to Republican default rates than Democratic default rates. In column 1, the coefficient on the Republican default rate is statistically significant at the 10% level and larger than the coefficient on the Democratic default rate, although we cannot reject equivalence at a reasonable confidence level. The inclusion of control variables in column 3 leads to larger coefficient on the Republican default rate, which is statistically distinct from the Democratic default rate at the 13% level.

As mentioned above, the estimated coefficients in columns 1 through 3 are imprecise given high collinearity between the default rates. Column 4 attempts to reduce the collinearity problem by estimating the specification on only the sample of districts above the median in the absolute difference between the Republican and Democratic mortgage default rates. In this specification, we find strong evidence that Republican politicians only respond to registered Republican mortgage default rates; the coefficient estimates on the Republican and Democratic default rates are statistically distinct at the 2% level. Column 5 repeats the same exercise, but splits the default rate coefficient by the median of the absolute default rate difference. The point of this exercise is to show that the standard error estimate for the sample below the median of the absolute default rate difference blows up as one would expect given the collinearity problems discussed above. In contrast, the coefficient estimates show a unique reaction to Republican default rates in the sample above the median of the absolute default rate difference. Column 6 shows the robustness of this

result to political and census controls. The estimates in columns 4 through 6 offer support to the "dual constituency" hypothesis that politicians respond more strongly to the interests of their own supporters within their constituency.[28]

5.4 Electoral Competition and Constituent Interests

In Table 7, the primary measure of electoral competition is the margin of victory for the incumbent in the previous Congressional election (November 2006). We focus in particular on districts where the margin of victory was quite low (less than 6%). For the results reported in columns 1, 2, and 3, we create indicator variables for competitive districts, where competitive is defined as a margin of victory of 2% (10 districts), 4% (18 districts), and 6% (23 districts), respectively. We then interact the competitive district indicator variable with the mortgage default rate as of the end of 2007. As the results demonstrate, the effect of constituent interests is stronger in competitive districts. The interaction effect is particularly strong when competitive is measured narrowly as a margin of victory below 4%, and it weakens when competitive is measured more broadly as a margin of victory below 6%. The quantitative effects when focusing on close races are strong, with coefficients on the interaction terms above 100% of the level. The effect of of constituent interests on voting patterns doubles in close races.

In column 4, we define the competitive district variable as 0 if the previous margin of victory is over 30%, and 0.30 minus the margin of victory if the margin of victory is less than 30%. For example, if the margin of victory in the 2006 election is 5%, the competitive district variable takes on the value 0.25. This functional form is convex in the margin of victory and is meant to capture the fact that districts with large margins are unlikely to be competitive regardless of whether the margin is 30 or more. The results in Column 4 again suggest that constituent interests matter more in districts that are more competitive.

In column 5, we define a competitive district as any district in a 2008 Presidential election swing state. The motivation behind this test is the argument that these districts are likely to face heightened voter and media attention given the importance of the presidential election between John McCain and Barack Obama.[29] The results show that Republicans are more responsive to

---

[28] An interesting additional test is to see whether Republican politicians respond more to Republican voters in more tightly contested districts. Unfortunately, we do not have sufficient statistical power to interact both the default rates with measures of electoral competition, although unreported results are suggestive that increased electoral competition leads politicians to respond more to their base.

[29] The swing states are defined according to http://www.fivethirtyeight.com as of July 17th 2008. Swing states

constituent interests if they are in a presidential swing state and the effect is economically large: Voting behavior on the AHRFPA is almost twice as sensitive to default rates in a presidential swing state.

6 The EESA of 2008 and the Role of Special Interests

This section examines how special interests affect Congressional voting patterns on the EESA of 2008. Our main focus is on votes in the 681 roll call on October 3rd, 2008. However, we also examine votes in the 674 roll call on September 29th, 2008. Given that the EESA represents a major transfer of wealth from tax payers to the financial services industry, we measure special interest influence through the amount of campaign contributions by the financial services industry to politicians. In addition to the mortgage default rate, we also measure constituent interests with the fraction of constituents that work in the financial services industry, and the fraction that have annual household income greater than $200,000.

Table 8 presents voting patterns by political party. In contrast to the AHRFPA vote in July, the EESA vote involves significant variation in voting patterns for both parties. Almost 75% of Democrats voted for the EESA on October 3rd, whereas only 45% of Republicans voted in favor. These numbers increased from 60% for Democrats and 25% for Republicans on the September 29th vote. Panel C shows that the direction of "switching" between the two roll calls is almost completely in one direction. Of the 59 representatives that switch votes, 58 switch from voting against on September 29th to voting in favor on October 3rd.

6.1 The Effect of Special Interests: Baseline Estimates

Figure 4 shows a central result of this section. There is a positive relation between the amount of financial service industry campaign contributions received by a politician and the probability of voting for the EESA. The effect is strongest at the lower end of the campaign contribution distribution, and levels off at the higher end of the campaign contribution distribution.[30]

Table 9A examines this result in a regression context. The linear probability estimate in column 1 shows that average campaign contributions per cycle by the financial services industry has a strong

---

include Ohio, Missouri, Michigan, Florida, North Carolina, Nevada, Indiana, Montana, Virginia, Colorado, and New Mexico.

[30] There is a slight downward pattern at the right end of the distribution, but, as the standard error bands show, it is not a statistically significant reversal.

positive effect on the probability of voting in favor of the EESA. The coefficient estimate implies that a one standard deviation increase in the log of contributions per cycle (0.97) is associated with a 6 percentage point increase in the probability of voting for the legislation. The estimate is robust to the inclusion of political ideology. Not surprisingly, increasing the conservativeness of politician ideology has a strong negative effect on the probability of voting for the legislation. The mortgage default rate within the district has no significant influence on voting patterns on the EESA.

In column 2, we include an indicator variable for whether the politician is a Republican. With the inclusion of the politician ideology variable, party affiliation has no significant impact on voting patterns. In column 3, we include alternative measures of politician ideology; they have almost no effect on the coefficient on campaign contributions. In column 4, we add additional political and census demographic control variables, which increase the magnitude of the estimate on financial industry campaign contributions.

In our core specifications, we use the average financial industry campaign contributions per congressional cycle as our measure of special interests. This variable reasonably measures the "relationship" that the financial industry cultivates over time with a politician to influence votes. An alternative measure is the 2008 financial industry contributions. Column 5 reports estimates from a specification using this alternative measure; the estimate is almost identical.

There could be a concern that financial industry campaign contributions are proxying for a broader tendency of a politician to attract campaign contributions and this may somehow be spuriously correlated with the voting pattern on the EESA. We test for this possibility in column 6 by including the amount of non-financial campaign contributions as a control. The coefficient on financial industry contributions increases, and the coefficient on non-financial industry contributions is close to zero and insignificant.

Another concern could be that financial industry contributions proxy for constituent interests through an employment channel. Bombardini and Trebbi (2008a) focus on how the employment and money channels may be simultaneously at play in influencing policymakers. To investigate this hypothesis, the specifications reported in columns 7 and 8 include the share of congressional district population employed in the financial services industry and the share with annual household income greater than $200,000. There is strong evidence that representatives are more likely to vote in favor of the EESA if a higher fraction of their constituency is employed in the financial services industry. However, the coefficient estimate on financial industry campaign contributions remains

23

qualitatively unchanged even after controlling for a financial services employment channel.

While the correlation between financial industry contributions and the EESA vote is robust to a number of controls, an important concern in interpreting these results is whether the coefficient estimate represents a causal relation. A substantial literature in political economy has emphasized how political contributions and congressional voting may be jointly determined (Stratmann (2002)), hence casting doubts on the quantitative soundness of estimates from a single-equation model as the one estimated in Table 9A. This concern can be relieved through an instrumental variables approach, which has been an unsuccessful avenue so far in the literature. As a result, we are cautious in our interpretation of the estimate on financial contributions.

However, there is one final test that is suggestive of a causal effect of contributions on voting patterns.[31] Column 9 exploits the fact that there are 24 representatives that vote on the EESA but know at the time of the vote that they are not running for reelection. Under the assumption that special interests influence politicians by providing resources for reelection campaigns, we would expect historical financial industry contributions to have no effect on retiring politicians. In contrast, if the financial industry simply contributes to politicians that are naturally more inclined to vote in favor of pro-industry legislation, then the effect of contributions on retiring politicians should be similar to that of non-retiring politicians. However, the interaction with retiring politicians in Column 9 shows that the effect of historical financial industry contributions on the voting pattern of retiring politicians is close to zero and the estimate is significantly different from the effect on non-retiring politicians. This suggests that financial industry contributions are not simply a proxy for legislators that are prone to supporting the financial industry; instead, the results are more consistent with a causal effect of campaign contributions on a politician's voting behavior.

6.2   The Politics of Switching

One advantage in the study of EESA is the proximity of two different votes on the same legislation. This enables us to examine the determinants of "switchers," or politicians that first vote against the bill on September 29th and then for the bill on October 3rd. Such an analysis reveals what factors are important in pushing marginal politicians toward changing their earlier voting decision.

Columns 1 through 3 of Table 9B show that the basic determinants of votes in favor of the

---

[31]In the online appendix, we report the full structural estimates of a model of campaign contributions and voting. Identification is achieved through the use of an exclusion restriction of historical campaign contributions on congressional voting by retiring politicians. See Table OA2 and corresponding discussion.

EESA in the September 29th, 2008 roll call are similar to the determinants of votes in favor on October 3rd, 2008. As in the October 3rd roll call, conservative politicians are less likely to vote for the legislation, and politicians that receive large amounts of campaign contributions from the financial services industry are more likely to vote in favor of the legislation.

Column 4 examines the determinants of vote-switching in the October 3rd roll call by conditioning on representatives who vote against the legislation on September 29th, 2008. The results show that constituent interests and ideology affect the decision to switch votes. Politicians with higher mortgage default rates and a higher fraction of constituents working for the financial services industry are more likely to switch votes, while conservative politicians are less likely to switch.

Columns 5 and 6 split the sample to separately examine Democrats and Republicans. Democrats with high mortgage default rates and a large fraction of constituents with over $200,000$ in income are more likely to switch in favor of the legislation. For Republicans, the fraction of constituents working in the financial industry is a significant determinant of vote switching.

7   Ideology Interaction with Constituent and Special Interests

One of the main advantages of our analysis is the ability to isolate the effects of ideology from constituent and special interests on politician voting behavior. Section 5 shows that constituent interests influence voting patterns on the AHRFPA, while Section 6 shows that special interests influence voting patterns on the EESA even after controlling for politician ideology. In this section, we explore whether there is an interaction effect: that is, are politicians that are ideologically extreme more or less sensitive to constituent and special interests.

7.1   Empirical Model Revisited

The empirical model introduced above in Section 3 produces a linear-in-covariates specification that we implement in the two sections above. In this simple model, there is no interaction between ideological and economic incentives of politicians. In other words, after controlling for ideology, all politicians respond equally to constituent and special interests. In reality, such an interaction is likely to be present in politician decision-making. The most simple example is one in which ideology enters the politician's utility function in such a way that ideologically extreme politicians are less sensitive to the desires of constituents and industry lobbyists. Indeed, one could argue that

25

the very definition of being ideological is the characteristic of believing in certain policies regardless of the economic incentives that push against the beliefs. This "politician preference" hypothesis suggests that ideologically extreme politicians may be less responsive in their voting patterns to mortgage default rates and financial industry campaign contributions.

There is, however, a more subtle reason that ideologically extreme politicians may be less responsive to constituent and special interests, which we refer to as the "constituent ideology" hypothesis. Building on the model in Section 3, assume that higher ID_i politicians represent districts with voters characterized by strong ideological opposition to the bill (id_i), where $id_i = \pi ID_i$, $\pi > 0$. A Republican from a district ideologically against the AHRFPA or the EESA bailout represents voters against the bailout. This has an important implication for the probability of reelection function g.

While a $v_i = 1$ vote induces the support of voters CI_i and the accrual of SI_i contributions, voters ideologically opposed to the bill will turn out against the incumbent (or withdraw their support). A "Yea" vote does not just attract supporters of the bill, but also opponents, and progressively more, the stronger is the intensity of opposition. Assume for simplicity that for every additional voter that CI_i delivers and SI_i sways there is a probability id_i of an opposing voter showing up at the polling booth.[32] This implies that the (net) reelection probability is:

$$g(v_i) = (\beta_1 CI_i * v_i + \beta_2 SI_i * v_i) * (1 - id_i * v_i)$$

and $g(1) = (\beta_1 CI_i + \beta_2 SI_i) * (1 - \pi ID_i)$. This expression delivers two intuitive effects. First, fixing the number of voters in default, a higher number of voters ideologically opposing the bill lowers the electoral advantage of voting for the bill. The advantage of an extra CI_i voter for a politician from a strongly conservative district (high ID) is lower than the advantage of an extra CI_i voter for a politician from a more liberal (low ID) district. A portion id_i of the additional ballots cast in favor of i will be eroded by opposing ideological voters which would otherwise support the incumbent. Second, the impact of an additional dollar of campaign contributions is lower in districts with stronger ideological opposition. This implies that a "Yea" vote from a more ideologically extreme representative will be increasingly more expensive than the vote of a more moderate representative.

---

[32] The choice of id as a probability of upset voters showing up on election day is not restrictive for our reduced-form model. However a structural estimation of the relection probability function would require further assumptions on the form of g.

The choice of a "Yea" vote becomes

$$\Pr\left(-\theta ID_i + (\beta_1 CI_i + \beta_2 SI_i) * (1 - \pi ID_i) > \varepsilon_i^0 - \varepsilon_i^1\right), \tag{3}$$

which again we can estimate, given distributional assumptions on $\left(\varepsilon_i^0 - \varepsilon_i^1\right)$.

This stylized model introduces interactions between ideology and constituent interests, and therefore motivate including in the regression specifications interaction terms of ideology with constituent interests and with special interests for both the AHRFPA and the EESA votes. Interactions follow the empirical model (3):

$$\frac{\partial \Pr(v_i = 1)}{\partial CI} = \beta_1 - \pi * \beta_1 ID_i$$

and

$$\frac{\partial \Pr(v_i = 1)}{\partial SI} = \beta_2 - \pi * \beta_2 ID_i,$$

implying that more ideological representatives are progressively more expensive to move to "Yea."

Both the politician preference and the constituent ideology hypotheses suggest that there may be an interaction effect where ideologically extreme politicians respond less to constituent and special interests. We examine these hypotheses in the next section.

7.2 Interaction Empirical Results

In Panel A of Table 10, we examine the interaction effect between ideology and the mortgage default rate. In column 1, the interaction term between ideology and mortgage default rate is significantly negative for the AHRFPA vote. This implies that politicians with more conservative ideology are less responsive to higher mortgage default rates in their districts.

In order to evaluate the magnitude of the interaction effect, it is useful to examine the partial derivative with respect to mortgage default rates using estimates from column 1:

$$\frac{\partial YesVoteAHRFPA}{\partial MortgageDefaultRate} = 21.7 - 29.0 * ConservativeScore.$$

At the mean ideology score for Republicans (0.55), the partial derivative of a Yea vote with respect to the mortgage default rate is 5.75, which implies that a one standard deviation increase in default rates leads to an 11 percentage point increase in the probability of voting for the AHRFPA. If we

examine the ideology score at one standard deviation below the mean (more liberal), a one standard deviation increase in default rates leads to a 21 percentage point increase in the probability of a Yea vote on the AHRFPA. Finally, if we examine the partial derivative at one standard deviation above the mean (more conservative), there is almost no response in the probability of voting in favor of the legislation with respect to an increase in default rates. These magnitudes suggest that conservative politicians vote against government intervention, even in the presence of heightened constituent interests.

In columns 2 through 5 of Panel A, we add a number of additional interactions to test the robustness of this result. Even in column 5, which includes the interaction of the mortgage default rate with campaign contributions, electoral competition, and all census demographic variables, the coefficient on the mortgage default rate and ideology interaction remains negative and statistically distinct from 0. In fact, the magnitude of the coefficient is almost identical across all specifications. These results suggest that the interaction of constituent interests with ideology is not a proxy for some other characteristic of these congressional districts.[33]

There may also be a concern that the interaction term is spuriously picking up a non-linear relationship between voting pattern and either ideology score or mortgage default rate. We test for this by also including square terms for ideology, mortgage default rate and log campaign contributions in columns 4 and 5. Our main result remains unaffected.

In column 1 of Panel B, we conduct a similar exercise with EESA to evaluate the trade-off of ideology and special interests. The coefficient estimate on the interaction term of ideology with special interests is negative. This implies that conservative politicians are less responsive to campaign contributions in terms of their voting behavior on EESA.

Again, the easiest way to evaluate the magnitude is to examine the partial derivative with respect to campaign contributions using the estimates from column 1. The partial derivative suggests that at the mean ideology score for the full sample, a one standard deviation increase in log campaign contributions leads to a 5.5 percentage point increase in the likelihood of voting in favor of EESA. At one standard deviation below the mean ideology score (more liberal), a one standard deviation increase in log campaign contributions leads to a 12 percentage point increase in the probability of voting for EESA. Finally, at one standard deviation above the mean ideology

_____

[33]For example, one may be worried that ideologically conservative republicans are less responsive to default rate because they are in safer districts and hence feel less of a need to respond to constituent interests. However, including electoral competition interacted with mortgage default rate as an added control does not change the coefficient on ideology interaction.

score (more conservative), a one standard deviation increase in log campaign contributions leads to almost no effect on the probability of voting for EESA.

Columns 2 through 5 of Panel B repeat the controls of corresponding columns in Panel A, including the square terms in columns 4 and 5. Our coefficient of interest is robust to the inclusion of census and political control variables. However, in contrast to the mortgage default rate interactions in Panel A, the coefficient estimate on the interaction between campaign contributions and ideology is more sensitive to the inclusion of the interactions in columns 4 and 5. This most likely reflects the fact that, unlike mortgage default rates and ideology, campaign contributions and ideology are jointly determined.

Figure 5 provides the nonparametric plot of the propensity to vote in favor of the AHRFPA against mortgage default rates separately for "liberal" versus "conservative" Republicans, where liberal and conservative are measured as being below and above the median ideology score respectively. The graph confirms the result in Panel A of Table 10: the voting behavior of conservative Republicans is less responsive to mortgage default rates than liberal Republicans.

Figure 6 plots the analogous graph for politicians voting on the EESA. Here, we split all politicians (not just Republicans) based on the median ideology score. Once again, the conservative politicians are less responsive to financial industry campaign contributions across almost the entire distribution. Interestingly, even conservatives appear to respond strongly to financial industry campaign contributions at the very low end of the distribution, but it is important to remember that almost the entire mass of the distribution is between log financial industry campaign contribution levels of 10.5 and 12.5 (see Figure 1). In other words, the conservatives show almost no additional responsiveness to special interest campaign contributions in the heart of the distribution.[34]

Taken together, the evidence in Table 10, Figure 5, and Figure 6 supports the hypothesis that ideologically conservative politicians vote against government intervention even in the face of a severe crisis in which constituent and special interests desire such intervention. These results suggest that politicians may be able to commit ex-ante against government intervention, even in the face of severe crises. Unfortunately, our empirical analysis is unable to distinguish between the "politician preference" and the "constituent ideology" hypotheses for this interaction, but we hope these results are the basis for further research into this question.

---

[34]Given that the level of voting probabilities is quite different across liberals (Democrats) and conservatives (Republicans) on the EESA, we have normalized the Y-axis to start at 0 for both plots. Furthermore, the X-axis in both Figures 5 and 6 is winsorized at 5% to avoid very thin distribution in the tails where non-parametric estimates are extremely imprecise.

8 Conclusion

We examine Congressional voting patterns on the AHRFPA of 2008 and the EESA of 2008, which represent two of the most significant pieces of federal legislation in U.S. economic history. In contrast to most previous studies in political economy, we are able to isolate the effects of constituent and special interests from politician ideology on voting behavior. Further, we provide evidence on the underlying mechanisms through which economic interests affect politician voting behavior.

We find that constituent interests strongly influence politician voting patterns on the AHRFPA, with Republicans being more likely to vote in favor of the legislation if their district is experiencing high mortgage default rates. Politicians are extremely precise in their response to constituent interests, and they respond more strongly to their own supporters within the electorate. A likely channel for the importance of constituent interests is electoral competition. In addition, special interest campaign contributions from the financial services industry is positively related to votes in favor of the EESA. This result is robust to the inclusion of politician ideology, the fraction of the electorate employed by the financial services industry, and census demographic controls. In addition, the voting pattern of retiring politicians shows no sensitivity to campaign contributions. Our results are consistent with the hypothesis that politicians voted in favor of the EESA in part due to special interest campaign contributions from the financial services industry.

Finally, we demonstrate the importance of the trade-off between politician ideology and heightened constituent and special interests. While politicians are influenced by constituent and special interests in their voting behavior, we find that the effect of constituent and special interests is significantly smaller for conservative politicians. This finding suggests that conservatives stick to their political ideology even in the midst of a severe financial crisis.

While our current paper focuses on the response to the mortgage default crisis, a closely related area of future research is the political economy of the subprime mortgage credit expansion that preceded the crisis. In particular, from 2000 to 2005, Mian, Sufi and Trebbi (2009) show that the mortgage industry increasingly targets politicians from districts in which there are a high fraction of subprime borrowers. They also show that contributions from the mortgage bankers and brokers industry systematically predict cosponsorship of deregulating and industry-friendly bills. We view our results here as a first step in a larger effort to understand the role of the U.S. government in the subprime mortgage credit expansion.

References

Acemoglu, Daron and James Robinson 2001. "A Theory of Political Transitions", American Economic Review September 2001, volume 91, pp 938-963.

Alston, Lee 1984. "Farm Foreclosure Moratorium Legislation: A Lesson from the Past", American Economic Review, Vol. 74, No. 3 (Jun.), pp. 445-457

Bernstein, R.A., 1989. Elections, Representation, and Congressional Voting Behavior: The Myth of Constituency Control. Englewood Cliffs, Prentice-Hall.

Bolton, Patrick and Howard Rosenthal, "Political Intervention in Debt Contracts." Journal of Political Economy, 110: 1103-34.

Bombardini, Matilde and Francesco Trebbi 2008 (a). "Votes or Money? Theory and Evidence From the U.S. Congress.", mimeo University of Chicago.

Bombardini, Matilde and Francesco Trebbi 2008 (b). "Competition and Political Organization: Together or Alone in Lobbying for Trade Policy?", mimeo University of Chicago.

Dodd, Chris, "Summary of the Emergency Economic Stabilization Act of 2008", available at http://banking.senate.gov/public/_files/latestversionEESASummary.pdf

Dougan S.W.R., Munger, M.C., 1989. "The Rationality of Ideology". Journal of Law and Economics 32, 119–142.

Fenno, Richard, 1978. "Home Style: House members in their districts". Little, Brown.

Grossman, Gene. M., Helpman, Elhanan., 2001. Special Interest Politics. MIT Press.

Heckman, James J., and James M. Snyder, Jr. 1997. "Linear Probability Models of the Demand for Attributes with an Empirical Application to Estimating the Preferences of Legislators." Rand J. Econ. 28 (special issue): S142–S189.

Kalt, Joseph P. and Mark A. Zupan, 1984. "Capture and ideology in the economic theory of politics", The American Economic Review 74, 279-300.

Kau, J.B., Rubin, P.H., 1979. "Self-interest, ideology, and logrolling in congressional voting". Journal of Law and Economics 22, 365–384.

Kau, J.B., Rubin, P.H., 1993. "Ideology, voting and shirking". Public Choice 76, 151–172.

Khwaja, Asim and Atif Mian, 2005, "Do Lenders Favor Politically Connected Firms? Rent Provision in an Emerging Financial Market," Quarterly Journal of Economics, 120: 1371-1411.

Kroszner, Randall and Philip Strahan, 1999, "What Drives Deregulation? Economics and Politics of the Relaxation of Bank Branching Restrictions", Quarterly Journal of Economics, 114: 1437-1467.

Kroszner, Randall and Raghuram Rajan, 1994, "Is the Glass-Steagall Act Justified? A Study of the U.S. Experience with Universal Banking Before 1933", American Economic Review, 84: 810-32.

Lee, D. Moretti, E. and M. Butler 2004. "Do voters affect or elect policies? Evidence from the US House". Quarterly Journal of Economics, 119(3) pp. 807-859

Levitt, Steven D. 1996. "How Do Senators Vote? Disentangling the Role of Voter Preferences, Party Affiliation, and Senator Ideology." American Economic Review 86 (June): 425–41.

Mian, Atif R. and Sufi, Amir, forthcoming. "The Consequences of Mortgage Credit Expansion: Evidence from the U.S. Mortgage Default Crisis", *Quarterly Journal of Economics.*

Mian, Atif R., Sufi, Amir, and Francesco Trebbi 2009. "The Political Economy of the U.S. Mortgage Expansion". In Progress.

Nunez, Steven, and Howard Rosenthal 2004. "Bankruptcy Reform in Congress: Creditors, Committees, Ideology, and Floor Voting in the Legislative Process." Journal of Law, Economics and Organization 20: 527-557.

Paletta, Damian and James Hagerty, 2008, "Housing Bill Will Extend Federal Role in Markets," Wall Street Journal, July 24: A1

Peltzman, Sam. 1984. "Constituent Interest and Congressional Voting." Journal of Law and Economics 27: 181-210.

Peltzman, Sam. 1985. "An Economic Interpretation of the History of Congressional Voting in the Twentieth Century," American Economic Review 75 (September), 656-75.

Perotti, Enrico and Ernst-Ludwig von Thadden, 2006. "The Political Economy of Corporate Control", Journal of Political Economy, February.

Poole, Keith T., and Howard Rosenthal. 1985. "A Spatial Model for Legislative Roll Call Analysis." American Journal of Political Science, 357–384.

Poole, Keith T. and Howard Rosenthal. 1996. "Are Legislators Ideologues or the Agents of Constituents?". European Economic Review, 40: 707-717.

Poole, Keith T. and Howard Rosenthal. 1997. Congress: A Political-Economic History of Roll Call Voting. Oxford: Oxford University Press.

Romer, Thomas and Barry R. Weingast, 1991. "Political Foundations of the Thrift Debacle", in A. Alesina and G. Carliner (eds.), Politics and Economics in the Eighties, Chicago: University of Chicago Press.

Stewart, Charles III and Jonathan Woon 2008. Congressional Committee Assignments, 103rd to 110th Congresses, 1993–2007: House, MIT mimeo.

Stigler, G., 1971. "The theory of economic regulation". Bell Journal of Economics 2, 3–21.

Snyder, James M.1991. "On Buying Legislatures" Economics and Politics, 3(2): 93-109.

Stratmann, Thomas. 2002. "Can Special Interests Buy Congressional Votes? Evidence from Financial Services Legislation". The Journal of Law and Economics, 45, No. 2, 345-373.

Stratmann, Thomas. 2005. "Some Talk: Money in Politics. A (partial) review of the literature." Public Choice, 124:1-2, 135-156.

Veronesi, Pietro and Luigi Zingales, 2008, "Paulson's Gift," Working paper, Chicago Booth.

Table 1
Summary Statistics for Congressional Districts

	Democrats						Republicans				
	N	Mean	SD	10th	50th	90th	N	Mean	SD	10th	50th	90th
Measures of constituent interests												
Mortgage default rate (07Q4)	236	0.068	0.033	0.035	0.061	0.112	199	0.055	0.019	0.034	0.052	0.077
Mortgage default rate (05Q4)	236	0.039	0.024	0.017	0.034	0.070	199	0.033	0.012	0.017	0.031	0.049
ΔMortgage default rate (05Q4-07Q4)	236	0.029	0.024	0.006	0.022	0.066	199	0.022	0.020	0.004	0.015	0.048
Registered republican default rate (07Q4)	198	0.062	0.027	0.034	0.056	0.105	166	0.053	0.019	0.034	0.049	0.075
Registered democratic default rate (07Q4)	198	0.073	0.032	0.037	0.067	0.120	166	0.059	0.021	0.035	0.054	0.085
Home default rate (07Q4)	236	0.065	0.032	0.033	0.059	0.109	199	0.053	0.018	0.033	0.050	0.073
Non-home default rate (07Q4)	236	0.092	0.028	0.059	0.085	0.135	199	0.077	0.016	0.057	0.077	0.100
Fraction of workforce in financial industry	236	4.961	2.134	2.971	4.373	7.683	199	4.923	1.925	3.075	4.520	7.788
Fraction of households with >$200K income	236	0.023	0.019	0.009	0.015	0.046	199	0.024	0.019	0.010	0.017	0.049
Measure of special interest—Campaign contributions												
Financial industry contributions, 2008 cycle ($000)	236	184.3	205.6	38.0	117.4	390.1	199	190.2	187.6	36.7	130.3	409.2
Total contributions, 2008 cycle ($000)	228	1,324.8	838.6	515.5	1,110.1	2,403.1	170	1,307.8	813.9	567.4	1,142.1	2,216.8
Financial industry contributions, average per cycle	236	137.6	159.7	23.3	90.5	308.1	199	163.1	155.4	292.4	105.1	361.1
Measure of ideology												
DW nominate ideology score	236	-0.406	0.188	-0.631	-0.408	-0.204	199	0.545	0.177	0.321	0.531	0.771
Other political variables												
On financial committee	236	0.161	0.368	0.000	0.000	1.000	199	0.176	0.382	0.000	0.000	1.000
# Terms served	236	6.203	4.762	1.000	6.000	13.000	199	5.729	3.895	1.000	5.000	11.000
Vote margin, November 2006	236	49.0	31.5	7.6	41.9	100.0	199	26.7	20.6	4.5	23.6	41.8
Census Demographics (2000)												
Fraction hispanic households	236	0.122	0.165	0.009	0.046	0.371	199	0.070	0.100	0.008	0.035	0.181
Fraction black households	236	0.152	0.177	0.010	0.068	0.462	199	0.072	0.071	0.009	0.048	0.181
Median household income ($000)	236	10.649	0.252	10.333	10.623	11.011	199	10.714	0.241	10.428	10.689	11.064
Fraction households in poverty	236	0.140	0.063	0.070	0.125	0.229	199	0.106	0.042	0.055	0.100	0.158
Fraction of households in urban areas	236	0.831	0.203	0.471	0.936	1.000	199	0.738	0.181	0.491	0.746	0.973
Fraction of households with less than high school	236	0.219	0.092	0.124	0.196	0.353	199	0.179	0.059	0.113	0.165	0.263
Fraction of households with only high school	236	0.280	0.065	0.192	0.282	0.369	199	0.294	0.062	0.208	0.300	0.366

Congressional Districts are defined "Democrat" or "Republican" according to the winning party in that district in 2006 elections (110th Congress).

Table 2
Correlation Matrix for Constituent Interests, Special Interests, and Politician Ideology

A. Full sample

	DW nominate ideology score	Mortgage default rate (07Q4)
Mortgage default rate (07Q4)	-0.269**	
Ln(Financial industry contributions, average per cycle)	0.196*	-0.151**

B. Democrats

	DW nominate ideology score	Mortgage default rate (07Q4)
Mortgage default rate (07Q4)	-0.189**	
Ln(Financial industry contributions, average per cycle)	0.390**	-0.191*

C. Republicans

	DW nominate ideology score	Mortgage default rate (07Q4)
Mortgage default rate (07Q4)	-0.007	
Ln(Financial industry contributions, average per cycle)	0.048	0.001

**,*,+ Correlation statistically distinct from 0 at the 1%, 5% and 10% levels, respectively.

Table 3
Voting Patterns on the American Housing Recovery and Foreclosure Prevention Act of 2008

Panel A: 519 Vote (July 26, 2008)

	(1) Democrats	(2) Republicans	(3) Total
# Voting "Yes"	227	45	272
# Voting "No"	3	149	152
Total	230	194	424

Panel B: 301 Vote (May 8, 2008)

	(1) Democrats	(2) Republicans	(3) Total
# Voting "Yes"	229	39	268
# Voting "No"	0	154	154
Total	229	193	422

Panel C: Switchers (Republican Only)

	(1) # Voting "Yes" on 301	(2) # Voting "No" on 301	(3) Total
# Voting "Yes" on 519	24	19	43
# Voting "No" on 519	14	131	145
Total	38	150	188

Table 4
Constituent Interests and Voting Patterns on the AHRFPA of 2008

	(1)	(2)	(3)	(4)	(5)	With census controls (6)	May 8th, 2008 vote (7)	Switchers who voted "yes" on May 8th (8)	Switchers who voted "no" on May 8th (9)
				Dependent Variable: Voted in favor of AHRFPA '08 (July 26th, 2008)					
Mortgage default rate (07Q4)	6.708**	6.660**	6.255**		6.691**	5.009**	3.697*	6.085*	6.028**
	(1.448)	(1.303)	(1.268)		(1.296)	(1.915)	(1.434)	(2.294)	(1.713)
DW nominate ideology score		-0.866**	-0.595**	-0.836**	-0.821**	-0.809**	-1.083**	-0.520	-0.555**
		(0.153)	(0.128)	(0.155)	(0.149)	(0.149)	(0.171)	(0.941)	(0.144)
Ln(Financial industry contributions per cycle)		0.028	0.014	0.031	0.036	0.006	0.035	0.017	0.006
		(0.030)	(0.028)	(0.029)	(0.040)	(0.041)	(0.028)	(0.079)	(0.028)
DW nominate ideology score, second factor			-0.180+						
			(0.105)						
2004 presidential vote Republican share			-1.209**						
			(0.351)						
Mortgage default rate (05Q4)				1.737					
				(2.281)					
ΔMortgage default rate (05Q4-07Q4)				7.455**					
				(1.322)					
Finance committee					0.092	0.089			
					(0.090)	(0.088)			
Number of terms served					0.011	0.005			
					(0.009)	(0.009)			
Vote margin '06 elections					-0.001	-0.000			
					(0.001)	(0.001)			
Constant	-0.135+	0.015	0.734+	0.110	-0.162	-5.629	0.180	0.265	0.057
	(0.080)	(0.362)	(0.429)	(0.352)	(0.506)	(4.017)	(0.330)	(0.937)	(0.317)
N	194	194	191	194	194	194	193	38	150
R^2	0.09	0.22	0.30	0.25	0.24	0.28	0.25	0.07	0.17

This table presents coefficient estimates relating voting patterns on the 519 Vote (July 26, 2008, passage of the AHRFPA of 2008) to the congressional district mortgage default rate as of 2007Q4. The sample includes voting Republicans only. Census controls include percentage Hispanic, percentage black, percentage living in urban setting, log of median household income, percentage below poverty, percentage less than high school, and percentage with high school only. Robust standard errors in parentheses. Column (7) presents coefficient estimates relating voting patterns on the 301 vote (May 8, 2008).
**,*,+ Coefficient estimate statistically distinct from 0 at the 1%, 5%, and 10% levels, respectively.

Table 5
Targeting Constituents' Interests: Which Default Rate Matters for Votes on the AHRFPA of 2008?

Panel A: Correlation matrix

	Mortgage default rate	Home equity default rate	Credit card default rate	Automobile default rate	Other default rate	Home default rate	Non-home default rate
Mortgage default rate	1.00						
Home equity default rate	0.75	1.00					
Credit card default rate	0.58	0.68	1.00				
Automobile default rate	0.66	0.68	0.77	1.00			
Other default rate	0.58	0.71	0.82	0.77	1.00		
Home default rate	0.99	0.79	0.60	0.67	0.60	1.00	
Non-home default rate	0.68	0.74	0.93	0.90	0.93	0.69	1.00

Panel B: Regressions

		With political controls	Census and political controls
	(1)	(2)	(3)
	Dependent variable: Voted in favor of AHRFPA '08 (July 26th, 2008)		
Home default rate (07Q4)	9.071**	8.864**	6.741**
	(2.038)	(2.063)	(2.554)
Non-home default rate (07Q4)	-3.308	-2.967	-2.964
	(2.285)	(2.346)	(2.998)
DW nominate ideology score	-0.846**	-0.806**	-0.789**
	(0.154)	(0.150)	(0.150)
Ln(Financial industry contributions per cycle)	0.033	0.043	0.011
	(0.030)	(0.040)	(0.042)
N	194	194	194
R^2	0.23	0.24	0.29

Panel A shows correlations of default rates across congressional districts, and Panel B presents coefficient estimates relating voting patterns on the 519 Vote (July 26, 2008, passage of the AHRFPA of 2008) to the congressional district home and non-home default rate as of 2007Q4. The home default rate includes defaults on mortgages and home equity loans, and the non-home default rate includes defaults on credit card debt, auto loans, student loans, and consumer loans. The sample includes voting Republicans only. All regressions include a constant (not reported). Political controls include a financial committee indicator variable, terms served, and margin of victory in 2006 election. Census controls include percentage Hispanic, percentage black, percentage living in urban setting, log of median household income, percentage below poverty, percentage less than high school, and percentage with high school only. **,*,+ Coefficient estimate statistically distinct from 0 at the 1%, 5%, and 10% levels, respectively.

Table 6
Do Politicians Respond Uniquely to Their Own Voting Bloc?

	Sample:	All Republicans			Sample split by Republicans in districts with large difference in default rates		
			With political controls	With census and political controls	Only above median sample		With census and political controls
		(1)	(2)	(3)	(4)	(5)	(6)
		Dependent Variable: Voted in favor of AHRFPA '08 (July 26th, 2008)					
Republican mortgage default rate		5.676+	5.002	8.523*	9.345**	8.840**	12.921**
		(3.318)	(3.210)	(3.375)	(3.023)	(3.251)	(3.488)
Democratic mortgage default rate		1.109	1.820	-1.579	-3.124	-2.730	-5.880+
		(3.125)	(2.999)	(3.683)	(2.915)	(3.362)	(3.187)
DW nominate ideology score		-0.960**	-0.911**	-0.875**	-1.133**	-0.965**	-0.887**
		(0.171)	(0.168)	(0.179)	(0.275)	(0.173)	(0.180)
Ln(Financial industry contributions per cycle)		0.039	0.043	0.017	0.107+	0.036	0.017
		(0.033)	(0.045)	(0.048)	(0.059)	(0.034)	(0.048)
(Republican mortgage default rate) * (Below median default difference?)						-23.832	-30.052
						(18.775)	(21.719)
(Democratic mortgage default rate) * (Below median default difference?)						23.523	29.494
						(18.520)	(21.380)
Below median default difference?						-0.107	-0.125
						(0.185)	(0.000)
N		162	162	162	80	162	162
R²		0.25	0.26	0.31	0.34	0.26	0.32

This table presents coefficient estimates relating voting patterns on the 519 Vote (July 26, 2008, passage of the AHRFPA of 2008) to the party-specific congressional district mortgage default rate as of 2007Q4. The sample includes voting Republicans only. All regressions include a constant (not reported). The Republican (Democrat) Mortgage default rate is constructed by weighting default rates in the zip codes within the district by the fraction of registered Republicans (Democrats) in the zip codes. In Columns 4 and 5, we limit the sample to the districts above the median absolute difference between Republican and Democrat default rates. Political controls include financial committee indicator variable, terms served, and margin of victory in 2006 election. Census controls include percentage Hispanic, percentage black, percentage living in urban setting, log of median household income, percentage below poverty, percentage less than high school, and percentage with high school only. . **,*,+ Coefficient estimate statistically distinct from 0 at the 1%, 5%, and 10% levels, respectively.

Table 7
Do Politicians Respond More to Constituent Interests in More Competitive Districts?

	(1)	(2)	(3)	(4)	(5)
	Dependent variable: Voted in favor of AHRFPA '08				
Competitive district	-0.103	-0.213	-0.027	-0.007	-0.318*
	(0.302)	(0.233)	(0.248)	(0.009)	(0.139)
Mortgage default rate (07Q4)	6.302**	6.350**	6.505**	4.456*	5.085*
	(1.370)	(1.375)	(1.382)	(2.078)	(2.047)
(Mortgage default rate)*(Competitive district)	7.227+	8.236*	4.246	0.272+	4.370+
	(4.190)	(3.689)	(4.550)	(0.160)	(2.526)
DW nominate ideology score	-0.795**	-0.793**	-0.810**	-0.783**	-0.848**
	(0.153)	(0.154)	(0.153)	(0.151)	(0.152)
Ln(Financial industry contributions per cycle)	0.012	0.010	0.009	0.002	0.028
	(0.030)	(0.030)	(0.030)	(0.030)	(0.029)
Constant	0.164	0.183	0.192	0.328	0.110
	(0.362)	(0.363)	(0.362)	(0.371)	(0.356)
Definition of competition	Margin less than 2% in 2006	Margin less than 4% in 2006	Margin less than 6% in 2006	Linear censored	Swing states
N	Observations	194	194	194	194
R²	R-squared	0.25	0.24	0.24	0.25

This table presents coefficient estimates relating voting patterns on the 519 Vote (July 26, 2008, passage of the AHRFPA of 2008) to the congressional district mortgage default rate as of 2007Q4. Each specification includes an interaction term that measures districts that are competitive for the incumbent in the November 2008 election. The sample includes voting Republicans only. Robust standard errors in parentheses. **,*,+ Coefficient estimate statistically distinct from 0 at the 1%, 5%, and 10% levels, respectively.

Table 8
Voting Patterns on the Emergency Economic Stabilization Act of 2008

Panel A: 681 Vote (October 3rd, 2008)		
	(1)	(2)	(3)
	Democrats	Republicans	Total
# Voting "Yes"	172	91	263
# Voting "No"	63	108	171
Total	235	199	434

Panel B: 674 Vote (September 29th, 2008)		
	(1)	(2)	(3)
	Democrats	Republicans	Total
# Voting "Yes"	140	65	205
# Voting "No"	95	133	228
Total	235	198	433

Panel C: Switchers		
	(1)	(2)	(3)
	# Voting "Yes" on 674	# Voting "No" on 674	Total
# Voting "Yes" on 681	204	58	262
# Voting "No" on 681	1	170	171
Total	205	228	433

Table 9, Panel A
Special Interests and Voting Patterns on the EESA of 2008

	(1)	(2)	(3)	With political, census controls (4)	2008 cycle measures of campaign contributions (5)	(6)	Other measures of constituent interests, (8) with census and political controls (7)	(8)	Retiring politician inter-action (9)
				Dependent variable: Voted in favor of EESA '08 (October 3rd, 2008)					
Mortgage default rate (07Q4)	0.447	0.438	0.259	0.656	0.179	0.413	1.141	1.170	1.378
	(0.814)	(0.823)	(0.898)	(1.407)	(0.837)	(0.841)	(0.874)	(1.415)	(0.970)
DW nominate ideology score	-0.316**	-0.447**	-0.388**	-0.253**	-0.307**	-0.368**	-0.296**	-0.257**	-0.305**
	(0.045)	(0.124)	(0.070)	(0.051)	(0.045)	(0.045)	(0.045)	(0.050)	(0.047)
Ln(Financial industry contributions per cycle)	0.063**	0.068**	0.072**	0.129**			0.046+	0.124**	0.122**
	(0.023)	(0.023)	(0.023)	(0.028)			(0.024)	(0.028)	(0.029)
Republican indicator		0.140							
		(0.128)							
DW nominate ideology score, second factor			-0.271**						
			(0.067)						
2004 presidential vote Republican share			0.251						
			(0.265)						
Ln(Finance contributions, `08 cycle)					0.061*	0.118**			
					(0.025)	(0.028)			
Ln(all non-finance contributions, `08 cycle)						0.009			
						(0.033)			
Fraction constituents working in finance							0.032**	0.035**	0.034**
							(0.010)	(0.012)	(0.010)
Fraction constituents with >$200K income							2.537**	1.947	1.997*
							(0.955)	(1.793)	(0.936)
Retiring representative									1.897*
									(0.775)
Retiring representative * Ln(Financial industry contributions per cycle)									-0.129+
									(0.067)
N	434	434	429	434	434	398	434	434	434
R²	0.11	0.11	0.15	0.19	0.11	0.17	0.15	0.21	0.22

This table presents coefficient estimates relating voting patterns on the 681 Vote (October 3rd, 2008, passage of the EESA of 2008) to contributions by the finance industry. Political controls include a finance committee indicator, 2006 vote margin, and number of terms. Census controls include percentage Hispanic, black, living in urban setting, below poverty, less than high school and high school only in addition to log of median household income. Column (9) examines the differential effect of campaign contributions for 34 representatives not running in the 2008 election. Robust standard errors in parentheses. **,*,+ Coefficient estimate statistically distinct from 0 at the 1%, 5%, and 10% levels, respectively.

Table 9, Panel B
What Determines Which Politicians Switch Votes on EESA of 2008?

	Full sample			Condition sample on those that vote against bill on September 29th, 2008		
			With political and census controls	Full	Democrats	Republicans
Dependent variable	(1)	(2)	(3)	(4)	(5)	(6)
	Voted in favor of EESA '08 (September 29th)			Voted in favor of EESA '08 (October 3rd) after voting against (September 29th)		
Mortgage default rate (07Q4)	-0.961	-0.483	0.747	2.038+	3.272*	0.688
	(0.850)	(0.904)	(1.462)	(1.080)	(1.515)	(1.493)
DW nominate ideology score	-0.314**	-0.301**	-0.271**	-0.188**	-0.219	-0.282+
	(0.045)	(0.045)	(0.049)	(0.057)	(0.202)	(0.146)
Ln(Financial industry contributions per cycle)	0.057*	0.046+	0.154**	0.035	0.063	0.023
	(0.024)	(0.024)	(0.029)	(0.026)	(0.050)	(0.034)
Fraction constituents working in finance		0.013	0.022	0.057**	0.040	0.071**
		(0.012)	(0.013)	(0.020)	(0.031)	(0.024)
Fraction constituents with >$200K income		2.147+	0.488	3.720	10.726*	1.236
		(1.146)	(1.946)	(2.305)	(4.847)	(2.619)
N	433	433	433	228	95	133
R^2	0.10	0.11	0.21	0.16	0.16	0.14

Columns 1 through 3 of this table present coefficient estimates relating voting patterns on the 674 Vote (September 29th, 2008, passage of EESA of 2008) to campaign contributions by the financial services industry. The specifications reported in columns 4 through 6 isolate the sample to those that voted against the EESA of 2008 on September 29th (674 vote) and examine the determinants of politicians that switched their vote on October 3rd, 2008 (681 vote). All regressions include a constant. Political controls include financial committee indicator variable, terms served, and margin of victory in 2006 election. Census controls include percentage Hispanic, percentage black, percentage living in urban setting, log of median household income, percentage below poverty, percentage less than high school, and percentage with high school only. **,*,+ Coefficient estimate statistically distinct from 0 at the 1%, 5%, and 10% levels, respectively.

Table 10
How do Politicians Trade-off Ideology Versus Constituent and Special Interests?

Panel A: Voted in favor of AHRFPA '08					
			Republicans only		
			Census, political controls	Competition interactions, square terms	(4) + all census variable interactions
	(1)	(2)	(3)	(4)	(5)
DW nominate ideology score	0.582	0.559	-0.084	-2.516	-3.095
	(1.892)	(1.872)	(1.969)	(2.244)	(2.295)
Mortgage default rate (07Q4)	21.701**	8.011	-0.324	5.629	-115.628+
	(4.603)	(16.851)	(18.162)	(17.557)	(69.779)
(Ideology Score)*(Mortgage default rate)	-28.966**	-30.115**	-27.525**	-30.915**	-29.521**
	(8.495)	(8.474)	(10.131)	(9.932)	(10.622)
Ln(Financial industry contributions per cycle)	0.037	-0.030	-0.107	-0.208	-0.532
	(0.108)	(0.135)	(0.148)	(0.589)	(0.602)
(Ideology Score)*(Ln(Campaign Contributions))	0.005	0.010	0.059	0.137	0.197
	(0.173)	(0.173)	(0.177)	(0.187)	(0.192)
(Mortgage default rate)* (Ln(Campaign Contributions))		1.239	1.737	1.250	1.710
		(1.392)	(1.489)	(1.351)	(1.405)
N	194	194	194	194	194
R^2	0.25	0.25	0.31	0.29	0.34

Panel B: Voted in favor of EESA '08					
			Census and political controls	Competition interactions, square terms	(3) + all census variable interactions
	(1)	(2)	(3)	(4)	(5)
DW nominate ideology score	1.231*	1.106+	1.096+	0.874	0.501
	(0.543)	(0.582)	(0.597)	(0.616)	(0.643)
Mortgage default rate (07Q4)	1.154	-8.002	-14.916	-5.428	-9.274
	(0.958)	(8.644)	(9.418)	(10.121)	(10.225)
(Ideology Score)*(Mortgage default rate)	1.319	0.554	0.561	-0.155	-0.159
	(1.931)	(2.008)	(2.058)	(2.169)	(2.079)
Ln(Financial industry contributions per cycle)	0.063**	0.014	0.041	0.517	-0.175
	(0.023)	(0.054)	(0.059)	(0.403)	(0.479)
(Ideology Score)*(Ln(Campaign Contributions))	-0.142**	-0.128*	-0.121*	-0.086+	-0.057
	(0.046)	(0.050)	(0.051)	(0.051)	(0.052)
(Mortgage default rate)* (Ln(Campaign Contributions))		0.807	1.443+	0.606	1.024
		(0.739)	(0.800)	(0.759)	(0.761)
N	434	434	434	434	434
R^2	0.13	0.13	0.22	0.15	0.21

This table examines how politicians trade-off their ideological stance against constituent and special interests. Panel A reports specifications examining voting behavior on the AHRFPA '08 501 vote (July 26th, 2008). Panel B reports specifications examining of voting behavior on the EESA '08 681 vote (October 3rd, 2008). All regressions include a constant. Political controls include financial committee indicator variable, terms served, and margin of victory in 2006 election. Census controls include percentage Hispanic, percentage black, percentage living in urban setting, log of median household income, percentage below poverty, percentage less than high school, and percentage with high school only. All interaction control variables in columns (4) and (5) include the level of the variable and the interaction with mortgage default rates in Panel A and ln(financial campaign contributions) in Panel B. The square terms are the mortgage default rate and ln(financial campaign contributions) squared. The electoral competition measure is the same as in column (4) of Table 7. **,*,+ Coefficient estimate statistically distinct from 0 at the 1%, 5%, and 10% levels, respectively.

Figure 1
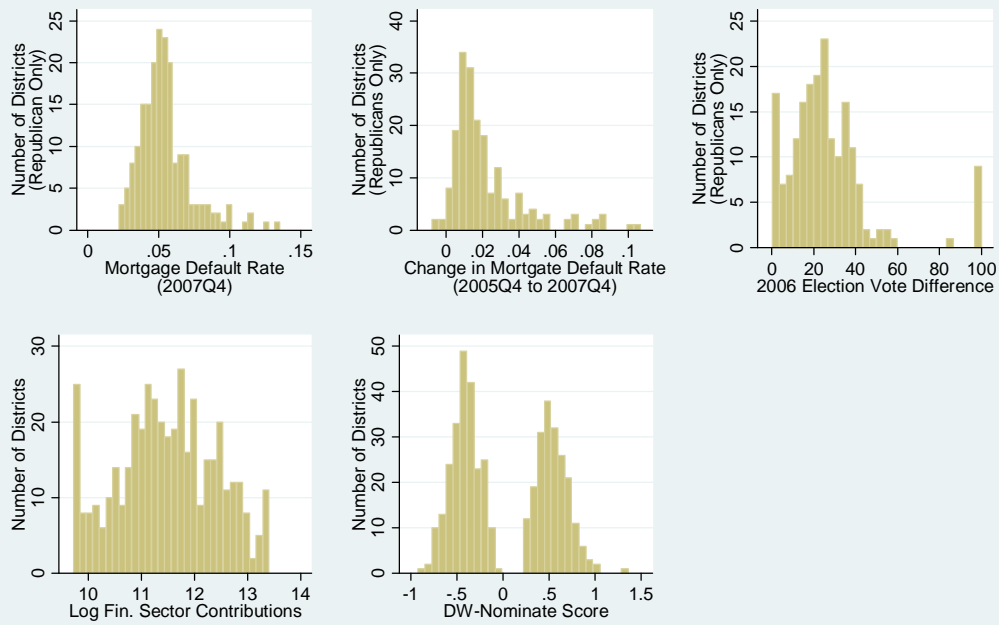## Frequency Distributions Of Our Main R.H.S. Variables

Figure 2
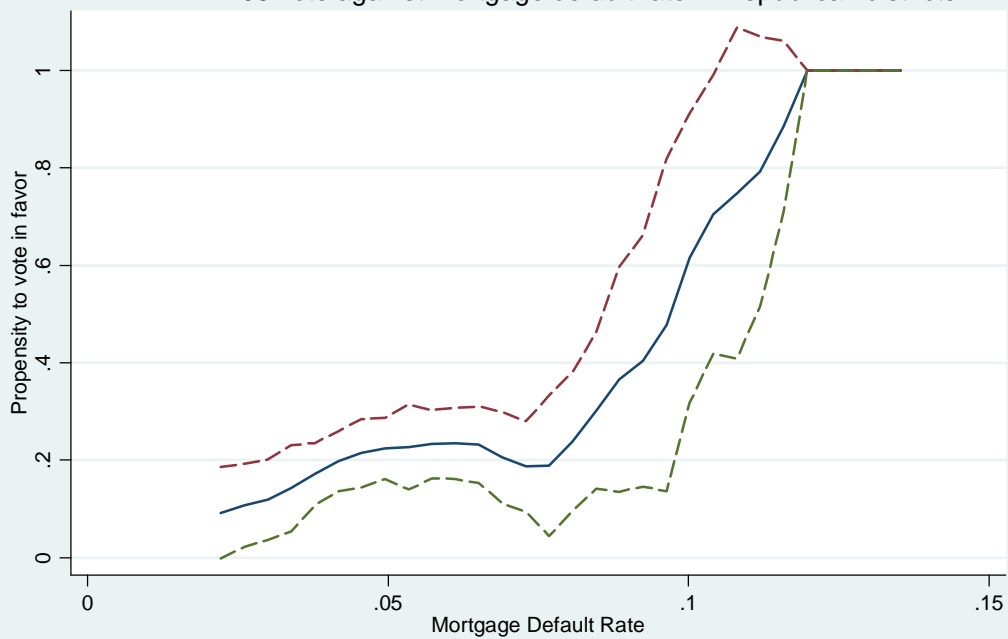## AHRFPA '08 vote against mortgage default rate in Republican districts

Figure 3
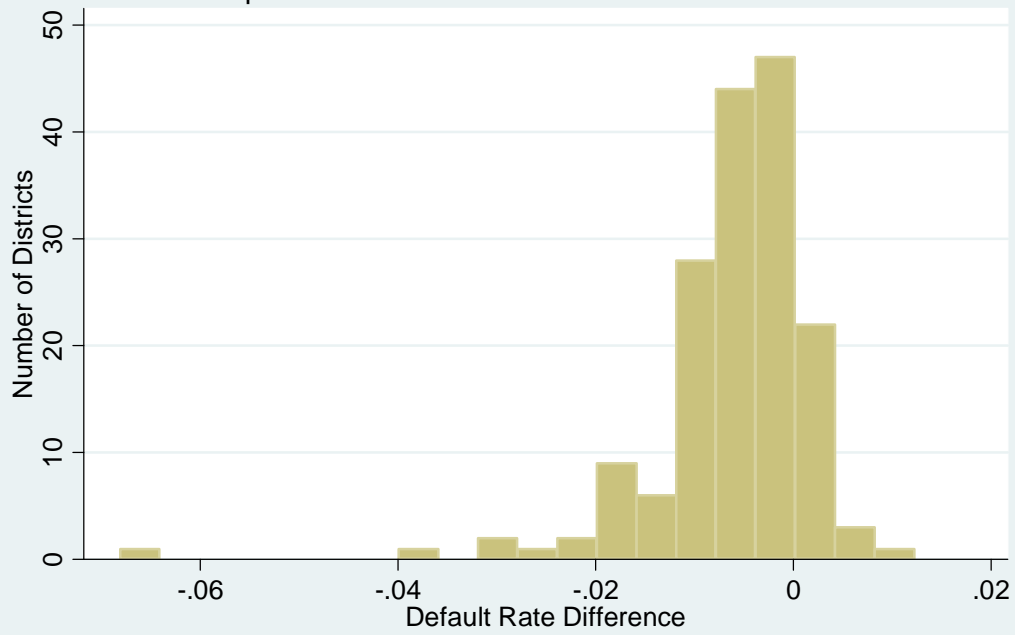## Republican and Democratic Default Rate Difference

Figure 4
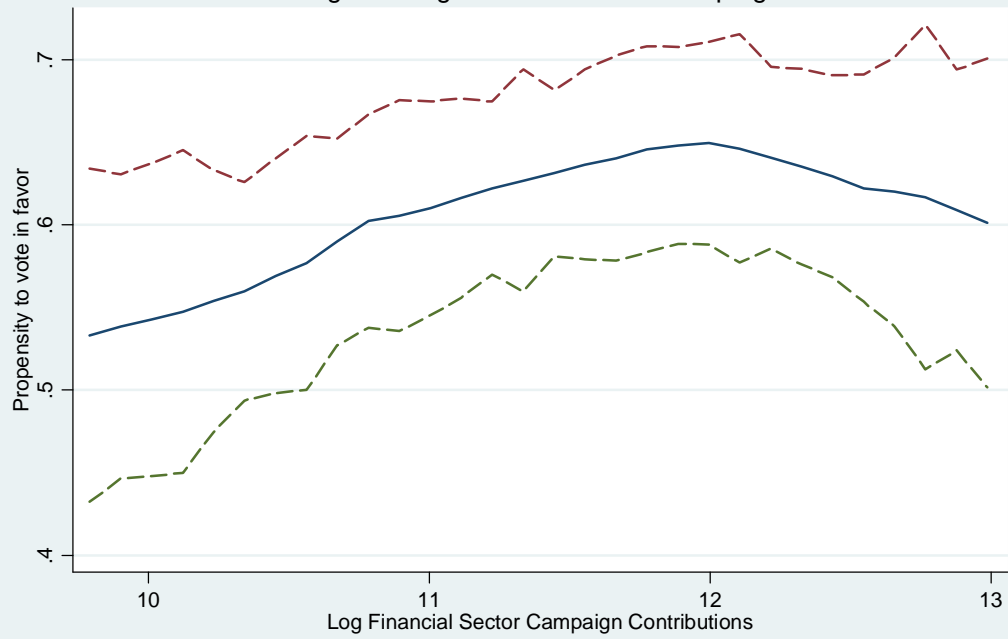## EESA '08 vote against Log Financial Sector Campaign Contributions

Figure 5

AHRFPA '08 vote against change in mortgage default rate: By Ideology

Liberal Republicans

Conservative Republicans

Propensity to vote in favor
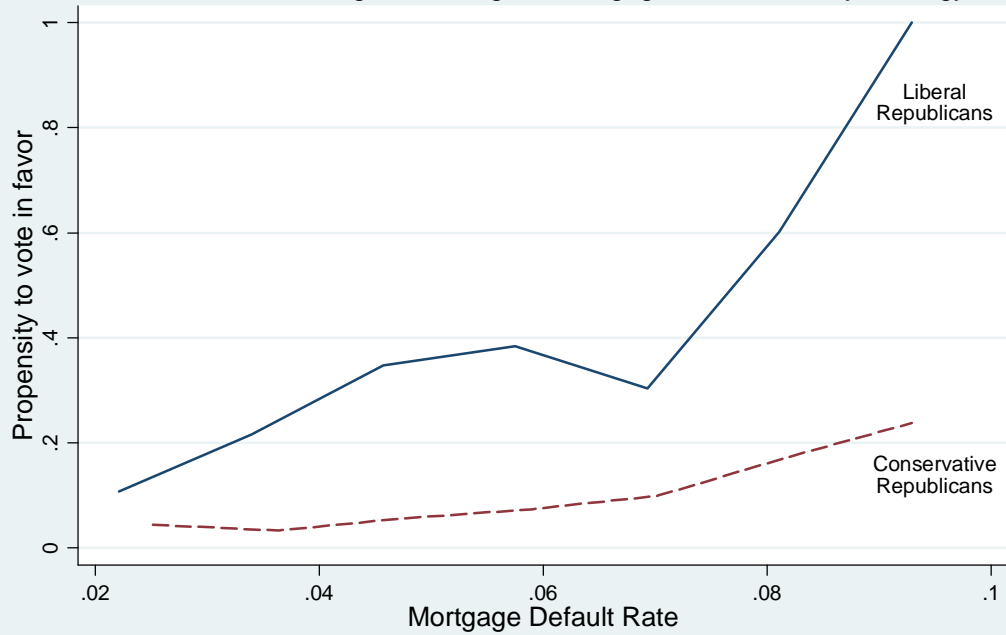
Mortgage Default Rate

Figure 6

EESA '08 vote against Log Campaign Contributions: By Ideology

Liberal Representatives

Conservative Representatives

Propensity to vote in favor

Log Campaign Contributions By Financial Industry