The Political Economy of Keynesian Demand Management

by

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A Senior Undergraduate Honors Thesis,

Submitted to the Department of Political Science,

University of California, San Diego

March, 30 2014

Thank you Professor Lawrence Broz

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Chapter 1: Introduction

Following the Global Financial Crisis of 2008, governments around the world struggled to adopt Keynesian stimulus programs. While scholars have examined the economic consequences of stimulus, surprisingly little work has been done on the politics of Keynesian Demand Management. In this thesis, I explore the extent to which voters' reward (or punish) incumbent governments for fiscal deficits and government debt that is used to finance stimulus programs during recessions.

To do so, I build on a recent paper by Larry Bartels (2014). Bartels finds that both fiscal deficits and government debt were negatively related to incumbent re-election in contests immediately following the Great Recession of 2008-10. These results suggest that voters somewhat irrationally punished politicians for engaging in stimulus programs that were designed to revive growth and employment since stimulus policy is mostly financed by government deficits and debt. If representative of larger trends in voter behavior, this presents a puzzle since voters should reward, not punish, incumbents for policies designed to revive an ailing economy. Two important questions thus emerge. First, does the relationship between deficits, debt and incumbent reelection extend beyond Bartels's limited sample of counties and time period? Second, does voters' electoral behavior in relationship to deficits and debt vary across recession and non-recessionary periods?

The economic voting literature, which studies how economic conditions shape voters' support of incumbents, provides preliminary answers to these

questions. Drawing from this literature, I present the argument that voters are capable of adopting a Keynesian approach when partaking in economic voting. The key insight guiding my analysis is that voters adopt a nuanced view of deficits and debt in their personal financial life and, therefore, are likely do so when rewarding or punishing incumbents for government deficits and debt used to finance Keynesian policy.

In order to empirically explore my claim of a "Keynesian Voter," I examine 164 elections across 19 countries from 1975-2012. Utilizing Ordinary Least Square (OLS) Regression methods with interaction terms, I find evidence suggesting that government debt negatively affects re-election by about .08 percentage points for every 1 percent of debt accumulated relative to GDP. Considering that debt can fluctuate greatly during a recession, especially when a recession overlaps with a financial crises, the implications of these results could be important for incumbent politicians. For example, the government debt of the United States grew by over 25 percent over the course of the most recent financial crises (Greenwood et al. 2014). My results imply that United States incumbents lost about 2 percentage points of vote share due to increases in debt. Nonetheless, I do not find evidence suggestive of a negative correlation between fiscal deficits and incumbent re-election nor results supporting my theory of Keynesian voter. If a valid reflection of political behavior, voters' indiscriminant treatment of government debt could constrain strategic legislators that, fearing punishment at the polls, refrain from partaking in large stimulus packages.

The remainder of Chapter 1 is devoted to outlining how the existing literature supports my argument for a Keynesian Voter. In Chapter 2, I present my empirical approach to evaluating my theory by introducing an adapted economic voting model that incorporates Keynesian insights into the voter decision-making process and outlining empirically-testable hypotheses that gauge the adapted model's explanatory importance. Chapter 3 presents my empirical analysis, highlighting the extent to which the results support or refute my hypotheses. Chapter 4 outlines conclusions from this work, focusing on the implications of the results on assessing political behavior during recessions.

Theory

In this section, I position my theory within the larger economic voting literature. Part I summarizes the development of the economic voting model up to the present. Part II outlines research on voter short cuts and describes how my own variables of interest –fiscal deficits and government debt – tie into this literature. Additionally, it summarizes how simple heuristics can inform voters of the benefits of debt-financed stimulus programs and, thus, why voters should be expected to vote in a Keynesian manner during recessions.

Part I: Ideological, Retrospective and Economic Voting

Two primary voting models have been established in the literature: the ideological voting model and the retrospective voting model. The ideological voting model holds that voters reach conclusions about voting through collecting policy

information from various sources and weighing it against their own ideological predispositions (Downs 1957). In contrast, the retrospective voting model proposes that voters seeks cost efficiency, basing their decision upon a single choice: if the incumbent's record in office was satisfactory or not. When voters deem an incumbent's record satisfactory, they reward them with support at the polls. If not, they punish them (Key 1966; Kramer 1971; and Fiorina 1981).

Overall, the literature has largely pivoted to examining voting behavior through the lens of the retrospective model (Bartels 2014). Research has especially focused on identifying the specific factors that influence voters' retrospective evaluations of incumbents. Some scholars conclude that voters are unsophisticated or even irrational actors. For example, Achen and Bartels (2004) find that voters regularly punish incumbents for "acts of God", including droughts, floods, and shark attacks. Similarly, Healy, Malhotra and Cecilia (2010) find evidence linking college basketball wins and losses to variance in Presidential approval ratings. These findings support the concept of the "blind retrospection," a voting model that claims voters do not base their vote on any particular policy, but instead vote depending on random events that are mostly unpredictable and often out of politicians control.

In contrast, other scholars have identified a strong link between aggregate national economic performance and voters' support of incumbents. Often referred to as "economic voting," this branch of the retrospective voting literature claims that changes in economic conditions are salient factors that drive incumbent support or punishment in elections. Among others, the economic measures that have been shown to significantly influence elections the most include Gross Domestic Product

(GDP) growth, inflation, and unemployment (Beck and Steigmaier 2000). An extensive part of the economic voting literature has also looked at the extent to which one's own economic circumstances influence their vote. Beginning with Kinder and Kiewiet (1979, 1981), a large body of work has found that voters' perception of the general state of the economy has a larger influence on their vote then their own "pocketbook" circumstances.

While the economic voting literature has thoroughly focused on the strong links between direct economic indicators (e.g. GDP growth, inflation and unemployment) and incumbent performance, it has yet to examine measures that are important to growing the economy but that do not, on their own, describe its current condition. For example, debates over government stimulus programs designed to boost employment during recessions often include political discussions about fiscal deficits and government debt. The economic voting literature has thoroughly assessed the impact of the consequences of these programs (e.g. boosted employment) on voter decision making, but has failed to discuss voters' attitudes toward the inputs of these stimulus programs: spending financed by fiscal deficits and increases in government debt. However, this gap in the literature only matters to the extent that voters care about fiscal deficits and government debt.

In Part II, I lay out my argument that fiscal deficits and government debt are relevant to voter decision making. Building upon my logic, I additionally make the case that voters do in fact understand the purpose of fiscal deficits and government debt used to finance Keynesian stimulus during recessions. Finally, I conclude Part II

with a discussion considering how voters' understanding of Keynesian economic policy most likely shapes their attitude towards incumbent governments.

Part II: Fiscal Deficits, Government Debt and Economic Voting

In order to understand how voters reach opinions on economic subjects, one must examine how voters gather information. One leading theory that describes how voters information gather is the concept of voter short cuts, also referred to as voter heuristics. Heuristic theory claims that voters utilize information from trustworthy elites as short cuts to inform themselves on issues (Zaller 1992). Using information cues is attractive to voters because it minimizes the cost (e.g. time) of gathering information. The literature has identified many voter short cuts, but the most discussed include voters' past experiences, other voters, the media and similarly aligned partisans (Popkin 1993). Altogether, the impact of short cuts on voters has been found to be large. Lupia (1994) finds the difference in voter behavior between an average, uninformed voter and an informed voter is almost zero when information short cuts are introduced.

A growing body of work builds upon the concept of voter short cuts by seeking out which particular short cuts voters rely on the most. Ansolabehere, Meredith and Snowberg (2012) examine the impact of multiple information short cuts on voters' perception of several measures of the economy. Their results suggest that voters utilize the media more for information on issues that they themselves cannot easily gather evidence on during their day to day lives while relying on their own personal experiences for information on subjects that they

constantly interact with. For example, their findings suggest that voters rely on the media more when assessing the national unemployment rate but utilize their past experiences more when coming to opinions about the price of gas.

From the work on voter short cuts emerges an argument that fiscal deficits and government debt should be salient to vote choice. If voters rely on the media more for information on unemployment, then they likely pay attention to debates in the media by elites over the merits of programs seeking to boost employment (Zaller 1992). Debates over unemployment in the media during recessions typically involve both liberal and conservative elites embracing some form of Keynesian stimulus, with conservatives usually favoring supply side remedies, such as tax cuts, and liberals favoring targeted spending (Pontusson and Raess 2012). Beyond simply the economic consequences of stimulus, arguments by media elites over stimulus programs also often involve discussions regarding the budgetary consequences of proposed programs. These conversations typically involve robust debate over the impact of stimulus on a country's fiscal deficit and national debt (Taylor, Proano, Carvalho, and Barbosa 2012). If it is true that voters rely on media elites more for information on unemployment, than it seems likely their economic voting calculation would reflect the media's debate and, therefore, include considerations of fiscal deficits and government debt.

On the condition that fiscal deficits and government debt are salient factors in voters' decision making, the next question that naturally follows is how do changes in fiscal deficits and government debt specifically effect voters' support for incumbents? In other words, what is the nature of the relationship and how does

this possible relationship vary across time? The answer to these questions lies in the process by which voters formulate opinions. While the media may raise the importance of fiscal deficits or government debt to voters, and also influence voters to support Keynesian stimulus since both conservative and liberal elites typically embrace some form of Keynesian policy during recessions, it has not been demonstrated nor argued that voters solely utilize the media when forming their opinions. In contrast, it is likely that voters also turn to additional established short cut to assist with their decision-making, such partisan cues and personal experiences (Popkin 1993). While the former gives no consistent prediction for voter opinion over time, political parties have taken vastly different positions on debt and deficits, the later gives researchers a framework from which to hypothesize.

If voters rely on personal experiences to frame fiscal deficits and government debt, then it seems at first glance that both subjects should, in general, be punished. The logic is straightforward. In voters' personal lives, interaction with debt is not usually positive. Societal norms often discouraged from taking on large increases in debt such as additional credit cards or more student loans. If voters correlate these experiences with incumbents handling of the government's purse, it is very reasonable to expect that they will hold government to the same standard: punishing increases in fiscal deficits and government debt..

Nonetheless, when subjecting the aforementioned example of voters' treatment of personal finances to further scrutiny, there is a case to be made that voters' opinion of fiscal deficits and government debt is more nuanced. There are in

fact some points in the life cycle when increased personal debt is socially seen as permissible and even rational. Individuals almost always take out mortgages to pay for their house or utilize credit cards to sustain themselves during short periods of unemployment. From a similar context emerges the logic of the Keynesian stimulus: the government is justified deficit spending during recessions because downturns are temporary and the benefits of adopting Keynesian policy, primarily increased economic growth, outweigh the short run costs of higher deficits (Pontusson and Raess 2012). Since voters' life experiences shape a nuanced view of deficit and debt, and media elites most likely favor some form of Keynesian stimulus policy, it seems reasonable to hypothesize that voters should adopt the nuanced view of deficits and debt put forward by Keynesian policy, supporting fiscal deficits and government debt used to finance stimulus measures during recessions. The remainder of this thesis is largely dedicated to further developing and evaluating this argument.

Conclusion

In summary, I have outlined my theory of a "Keynesian Voter", highlighting how it emerges out of the relevant economic voting and voter phycology literature. The first half of Chapter 2 describes my empirical approach to testing this claim by introducing a modified version of the economic voting model that includes fiscal deficits and government debt. The second of half of Chapter 2 is dedicated to summarizing my research design, and it is where I defend my sample selection, variables of interest and choice of empirical techniques.

Chapter 2: Empirical Approach

In this chapter, I present a modified economic voting model that includes fiscal deficits and government debt as additional, salient economic measures to voters' retrospective evaluation of incumbents. I argue that my model is not a radical departure from the standard model, outlining how fiscal deficits and government debt influence the various voter short cuts the literature has already established as impacting voting decisions.

The first section of this chapter, hypotheses, outlines my theory and states its testable claims. First, I summarize the standard economic voting model and then explain my adaptations. My first hypothesis examines the baseline effect that fiscal deficits and government debt have on incumbent performance. The second explores how this effect may be conditional upon macroeconomic conditions. Likewise, the third describes how the distribution of deficit-financed benefits may also condition voters' punishment (reward) of fiscal deficits and government debt.

Hypotheses

Traditional Economic Voting Model

The traditional economic voting model claims various economic factors shape voting decisions retrospectively. Among the various measures of economic status, GDP growth, inflation, and unemployment have been identified has having significant, independent effects. The saliency of each measure varies by country. Researchers largely attribute this variance to differing historical and cultural

experiences. For example, the legacy of rampant inflation during the 1930's is the reason many attribute inflation to be a highly salient economic factor to German elections (Beck and Steigmaier 2000).

[Figure 1]

Figure 1 is a visual representation of the traditional economic voting model, where sociotropic perceptions of the economy are salient to voters' support for incumbents. It illustrates how economic variables such as GDP growth, unemployment, and inflation condition voters' perception of the economy, and, consequently, influence support for incumbents. I supplement each of my hypotheses with a visual representation based on this model to better clarify my arguments' line of logic and illustrate how, in total, my hypotheses are simply an extension of the logic of the economic voting literature.

As discussed in Chapter 1, voters gather information for their decisions from voter short cuts. Chapter 1 additionally briefly summarized how two key voter short cuts, voters' previous experiences and elites in the media, should be expected to make fiscal deficits and government salient measures to voters' support for incumbents. With each hypothesis, I reintroduce these arguments and build upon them in more detail.

H1: Voters punish incumbent governments for increased fiscal deficits and higher levels of government debt. .

While largely unexplored in the literature, the impact of fiscal deficits and government debt on voters' retrospective support for incumbents should be considered since it seems likely that both deficits and debt are salient factors to

voters' decision making. Nonetheless, if fiscal deficits and government debt are salient to voting decisions, what is the expected direction of impact? I contend that voters' everyday life experiences, a very influential information shot cut, generally shape a negative view of negative budget surpluses, often labeled fiscal deficits. In general, voters cannot over allocate their income for a given month and have to sometimes make difficult cost benefit assessments on where to spend their income. Viewing fiscal deficits and government debt through this lens, voters could be expected, in the general case, to hold incumbent governments to a similar standard. If true, voters' should punish incumbents for increases in fiscal deficits and government debt.

[Figure 2]

Figure 2 introduces fiscal deficits and government debt into the traditional economic voting model and my first hypothesis investigates the claim empirically. The hypothesis is measured across two independent variables, separately. The first independent variable for Hypothesis 1 is the change in a country's fiscal deficits, while the second independent variable is change in government debt. I evaluate the hypothesis across two independent variables because a case can be made that voters evaluate a country's fiscal status through both measures; moreover, both are examined by Bartels (2014). The dependent variable for both is the change in support for the incumbent party.

H2: Voters reward incumbent governments for increased fiscal deficits and higher levels of government debt during economic recessions. .

However, sometimes individuals accumulate higher levels of debt in the short term at certain points of the life cycle. For example, individuals take out mortgages to purchase homes and parents take out loans to send children to college. Most often, these higher levels of personal debt do not negatively impact an individual so as long as they can pay off the debt when normal circumstances return.

Similarly, many economists agree that during economic recessions, governments should run budget deficits to invest in infrastructure and/or cut taxes, while limiting deficits during economic expansions.[1] Economists influence other voter information short cuts, their reports often are cited in policy makers' speeches and in the media, and they could be considered information short cuts themselves to some voters. If true, this begs the question: does the common economic view that deficits are sometimes beneficial and sometimes harmful conditional on the business cycle itself condition voters' treatment of deficits and government debt dependent on the business cycle?

[Figure 3]

Figure 3 introduces the business cycle as conditioning the impact of fiscal deficits and government debt on voters. Hypothesis 2 examines this question empirically by examining the interactive effects of a dummy variable for whether or not the country was in a recession on the effects of fiscal deficits and government debt on incumbent vote share.

H3: Voters punish deficits more during recessions that overlap with financial crises.

[1] For example, early in the 2008 financial crises, the IMF called on countries to prioritize fiscal space on target investments, transfers and limited tax cuts. For more information, see Laeven and Valencia (2008).

Even so, scholarly work from the 2008 financial crises presents the possibility that voters' reward/punishment of deficits and government debt may be even more nuanced. Bartels (2014) finds that voters generally rewarded increases in discretionary spending financed by debt (i.e. stimulus), but punished incumbents for debt used to finance bailouts and nationalizations (31). Altogether, these findings suggest that voters may be less willing to support deficits used to bailout actors they perceive as causing a crises (i.e. banks), while maintaining a commitment to programs that are aimed to benefit the overall economy.

[Figure 4]

Figure 4 introduces bailouts and nationalizations as inputs into fiscal deficits and government debt. However, this explanation presents an evaluation problem: voters only have one vote. In other words, they cannot split their vote to support deficits used to finance stimulus, but not support deficit financed bailouts/nationalizations. While more micro-level research is needed on whether voter support for deficits is conditioned by the origins of deficits – stimulus vs. bailouts--new survey research of this kind is outside the scope of this paper. However, I do address the issue of whether voters *in aggregate* are less likely to support fiscal deficits and government debt when the actors perceived to start the crises are more identifiable. Since part of the definition of a financial crisis is government intervention into the financial sector, I explore if the effects of fiscal deficits and government debt are increased by if the election took place during a financial crises (Reinhart and Rogoff 2009). Hypothesis 3 does so empirically by

examining the interactive effects of a financial crises dummy variable on the effect of fiscal deficits and government debt on incumbent vote share.

Sample Selection

I examine 164 elections from a pool of 19 developed, high income countries from 1975-2012. I include the same countries Duch and Stevenson (2006) because their large scale, comparative work found results indicative of economic voting using survey data as well as election results. I restrict my sample to countries that have been tested before in the literature since introducing other countries would require first establishing that economic voting occurs. While I hope to explore these effects in other nations at a later time, these pursuits are worthy of projects in of themselves: the literature has spent decades expanding the economic voting model to new countries. Likewise, while I do hope to examine the role of fiscal deficits and government debt in low income countries one day, the effects of economic voting in these countries is not as well as established as it is in developed nations (Lewis and Beck 2000). Moreover, financial data in non-developed countries is less reliable and fiscal policy data even less so.

The depth of data available for the financial statistics restricts the time period to 1975. While a greater time span would yield more conclusive results, 37 years provides enough election variance (n=164) to sufficiently evaluate my hypothesis.

Operationalization of Concepts

The dependent variable for my study is Δ INCUMBENT VOTE, which is defined as the change in the vote share of the incumbent government. Election results are extracted from the Database of Political Institutions (DPI), published by the World Bank. When not available, data is supplemented from local sources. The DPI is an exhaustive source for institutional analysis and is an authoritative source for data in political science. I analyze lower house results as it generally provides more data points and thus more variance. Moreover, many economic voting studies utilize lower house results and it is the unit of analysis of choice for Bartels (2014).

Survey level data would be the most accurate representation of voter opinion, but it is very costly to obtain this data on the scale this paper evaluates. Comparing incumbent electoral performance in elections across consecutive elections is the next best measure and a standard manner of evaluating incumbent support in the economic voting literature (Lewis and Beck 2000).

In order to determine incumbency, I utilize the DPI's definition: in parliamentarian systems, the incumbent party is defined as the party that received the highest percentage of the previous election's vote. In presidential systems, the President's party is treated as the incumbent party regardless of the previous election. This is standard practice in comparative studies (see Bartels 2014).

My first key variable of interest is DEFICIT, which is defined as the year on year change in central government balance (negative budget surplus) as a percentage of GDP. The second variable of interest is DEBT which is defined on the year on year change in total government debt as a percentage of GDP. Fiscal deficit and government debt data is extracted from OECD National Accounts Database and

is supplemented by the IMF International Financial Statistics Database, both authoritative sources on the subject of government finance. When measuring these independent variables, I utilize an approach adopted by political economists who have addressed fiscal deficits and government debt within the context of the business cycle (Brander and Drazen 2008), comparing the average change in the fiscal deficit and average change in government debt over the final two years of the incumbents' term to the corresponding average during the preceding two years. While other variables, such as Δ GDP (1-4Q), INFLATION, and UNEMPLOYMENT are measured in the four quarters prior to an election, quarterly data on deficits and debt, due to the fiscal calendar year, are impractical. Furthermore, since central government budget data is reported in annual terms and elections occur at different points of the year, it is difficult to parse what changes the ruling coalition exactly had on the country's fiscal deficit or national debt at any specific point during the final year of their term. As a result, the approach of Brander and Drazen (2008) is notably imperfect but, within the constraints of the data available, the best measure of changes in the fiscal deficit and total government debt that is attributable to incumbents.

RECESSION is a dummy variable and defined as two or more consecutive quarters where GDP growth is negative. Data denoting recessions' start/end date is from the St. Louis Federal Reserve Bank. The largest weakness of this measure is it does not gauge when voters perceive a country is in a recession. As far as I have found, no large-scale, cross national survey spanning the 37 year time period this paper covers contains questions gauging public opinion on whether their country is

in a recession. Thus, while future work should attempt to examine this line of reasoning utilizing more in depth survey techniques, I rely on the technical definition employed by economists (Hall 1993)

CRISES are defined utilizing the Reinhart and Rogoff (2009) definition for banking crises in *This Time is Different* (8). Likewise, data denoting the time period of crises is from the *This Time is Different* data set. Countries without crises dates are omitted from this part of the analysis. Reinhart and Rogoff (2009) define banking crises as occurring when 1) a run on a bank leads to the closure, merging or takeover by the government or 2) if there is no run on the banks, the government closing, merging, or taking over an important financial institutions. Reinhart and Rogoff (2009) discuss how there are other, more ideal measures of banking crises, such as the relative price of banks stock. However, the time series data on these more accurate measures is very limited and not consistent across countries. Furthermore, Reinhart and Rogoff (2009) is an emerging authoritative source on the history of financial crises. The breadth and reliability of the scholarship justifies utilizing the measure despite its limitations.

I use two groups of CONTROL variables that have been established in economic voting literature. My economic CONTROL variables are Δ GDP (1-4Q) and INFLATION. Δ GDP (1-4Q) is defined as the percent change in gross domestic product in the four quarters prior to the election. INFLATION is the change in percent of the consumer price index during the election year.[2] Data on Δ GDP (1-

[2] Unemployment is another measure that has been established in the literature as impacting voters' retrospective evaluation of incumbents (see Lewis and Beck 2000). However, unemployment is

4Q) and INFLATION is taken from the OECD National Accounts Database and is supplemented by the IMF International Financial Statistics Database. I have selected these variables since the previous economic voting literature has established them as having a significant effect independently and jointly on voters support for incumbents (Lewis and Beck 2000).

Institutional CONTROL variables include YEARS and IDEALOGY. YEARS is the number of quarters the incumbents have held office. IDEOLOGY is the partisanship ranking of the incumbent government. It is a dummy variable, with 1=right leaning government and 2=left leaning government. These are standard definitions for these variables in the comparative economic voting literature. It is important to include these variables, as each as emerged has been raised as non-economic factors that could drive retrospective voting (Lewis and Beck 2000).

Empirical Models

Below I introduce my regression models for economic voting that include DEFICIT and DEBT. The outcome variable for each is Δ INCUMBENT VOTE. The results for each are evaluated using OLS (Ordinary Least Square) regression with White-Huber (robust) standard errors. Scatter plots of the relationship are also presented in my analysis section to supplement the regression analyses.

$$y_i = \beta_1 + \beta_2 + \beta_3 + \beta_4(X_1 * X_2) + \beta_5(X_1 * X_3) + \varepsilon_i$$

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omitted from this analysis since it is highly correlated with GDP and, thus, subjects my empirical model to high levels of co-linearity.

Above is my regression model for economic voting including DEFICIT. γ_i is Δ INCUMBENT VOTE . β_1 represents DEFICIT. β_2 is the dummy variable RECESSION and β_3 is the dummy variable CRISES. $\beta_4(X_1 * X_2)$ is an interaction term DEFICIT * RECESSION and $\beta_4(X_1 * X_3)$ is an interaction term DEFICIT * CRISES. ε_i represents both my economic and institutional CONTROL variables: Δ GDP (1-4Q), INFLATION, YEARS, and IDEAOLOGY.

$$y_i = \beta_1 + \beta_2 + \beta_3 + \beta_4(X_1 * X_2) + \beta_5(X_1 * X_3) + \varepsilon_i$$

Above is my second regression model which is very similar to my first model but includes DEBT instead of DEFICIT. γ_i is Δ INCUMBENT VOTE .β_1 represents DEBT. β_2 is the dummy variable RECESSION and β_3 is the dummy variable CRISES. $\beta_4(X_1 * X_2)$ is an interaction term DEBT * RECESSION and $\beta_4(X_1 * X_3)$ is an interaction term DEBT * CRISES. ε_i represents both my economic and institutional CONTROL variables: Δ GDP (1-4Q) , INFLATION, YEARS, and IDEAOLOGY.

When assessing the predicative power of these models, evidence that indicate independent variables have a significant effect is considered good evidence suggestive of a relationship. Significance is defined as coefficients with a p value <.05. In addition, I assess the explanatory power of the deficits variable in each hypothesis, with a $R^2 > .25$ being the benchmark to determine if a variable has high explanatory power.

One potential obstacle to this paper's causal inference is the endogenous relationship between Δ GDP (1-4Q) and DEFICIT as well as between Δ GDP (1-4Q) and DEBT. As discussed in Bartels (2014), DEFICIT and DEBT often increase when

Δ GDP (1-4Q) decreases since governments often expand fiscal policy to fight economic downturns. As a result, it does make it difficult to parse out the *independent* effects of Δ GDP (1-4Q), DEFICIT and DEBT since voters could be reacting to either. My research design attempts to account for this challenge by utilizing a multivariate regression approach in a similar fashion to Bartels (2014) .By including both economic and institutional CONTROL variables, I make the best case within the constraints of the literature to examine if DEFICIT and DEBT *independently* influence incumbent support.

Another question my empirical approach raises is that it assumes economic voting to in fact be the baseline behavior of voters. Some may critique this assumption, claiming that elections are retrospective evaluations of independent (sometimes random) events instead of being focused on sociotropic economic conditions. Altogether, this line of reasoning is well founded in the literature (see Achen and Bartels 2002 or Healy, Malhotra, and Cecilia 2010). Nonetheless, while a worthwhile debate, this project does not seek to inform the economic voting vs. illogical retrospective discussion. Instead, it explores if DEFICIT or DEBT are influential *within* the economic voting framework. Consequently, for the purposes of this study, economic voting is assumed to be an accurate model of voting behavior

Conclusion

In this chapter, I augmented the traditional economic voting model by incorporating fiscal deficits and government debt as additional influences on voting

behavior. I articulated my argument that deficits and debt are salient to voting decisions since they relate to the same voter short cuts as traditional economic voting variables. In addition, I developed three testable hypotheses that emerge from my theory and explained my empirical strategy for analyzing these arguments.

Having established my question, theory, and empirical strategy, I now proceed to analyze the results. Chapter3 presents my analysis and Chapter 4 outlines several conclusions I draw from the results.

Chapter 3: Empirical Analysis

In this chapter, I present my empirical analysis. First, I reproduce the results found in Bartels (2014) to establish a baseline for my model.[3] Second, I present the results of my model in the extended sample and include additional control variables. Third, I present findings of my model including the key interactive terms. Finally, I close with a summary discussion of my findings and what they imply about voter behavior during elections in the sample.

In order to set a baseline for comparison, **Figure 5, Figure 6, Figure 7** and **Table 1** replicate Bartels's findings on the correlation between GDP growth, debt, and deficits on incumbent re-election immediately following the Great Recession.[4] In this analysis, Δ GDP (1-4Q) is the real change in GDP in the four quarter preceding an election, non-inclusive, DEBT is the total increase in central government debt relative to GDP, DEFICIT is the negative government surplus defined as subtraction of total revenue from total expenditure, and Δ INCUMBENT VOTE is the incumbent's vote percentage compared to its performance in the immediately previous election.

[Figure 5]

Figure 5 illustrates a strongly positive relationship between Δ GDP (1-4Q) and Δ INCUMBENT VOTE. The y-axis represents the change in the incumbent government's vote share and the x-axis denotes Δ GDP (1-4Q). The slope of the

[3] I include additional countries to set baseline for **Table 2** and **Table 3**. Additionally, updated data allowed for more countries to be included in the sample.
[4] See **Table 2** and **Table 5** in Bartels (2014).

regression line is positive and fairly steep, suggesting a strong positive relationship between Δ GDP (1-4Q) and Δ INCUMBENT VOTE share during and immediately following the crises.

Model 1 in **Table 1** supports the findings of **Figure 5**. Δ GDP (1-4Q) yields a statistically significant coefficient of ~0.99. The level of significance leads one to conclude that there is a strong correlation between the two variables; the odds that the relationship is due to chance are less than 5%. An adjusted R^2 value of .25 means that Model 1 "explains" ~25% of the variance in incumbent vote share. Moreover, the degree and strength of this coefficient suggests that GDP growth in a country is a very strong predictor of electoral performance during and following the Great Recession. For example, we would expect a country that sustained a 4% loss in GDP during a year to nearly lose 4% of support in their next election.

[Figure 6]

Figure 6 illustrates my replication of Bartels's finding of a negative relationship between DEBT and Δ INCUMBENT VOTE. The y-axis represents the change in the incumbent government's vote share and the x-axis denotes DEBT. The slope of the regression line is negative and fairly steep, implying a negative correlation between DEBT and incumbent government's performance. In addition, the scatter of the data is reasonably clustered around the regression line, predicting that simple bivariate model of the variables will have some explanatory power.

Model 2 and Model 3 in **Table 1** support this analysis. DEBT is negatively correlated with Δ INCUMBENT VOTE and the coefficient of ~ -.38 is significant.

After controlling for Δ GDP (1-4Q), the negative correlation holds, but becomes weakly significant ($p<0.1$). This low level of significance represents a suggestive correlation between the two variables; the odds that the relationship is due to chance are less than 10%. Independently, DEBT in Model 2 has an adjusted R^2 of ~.27 while including Δ GDP (1-4Q) improves the fit of the model, increasing its adjusted R^2 to ~.36 The negative coefficient of -0.26 suggests that for every one percentage point of debt a country accrued, incumbents lost a quarter of a percentage point in the next election. While this may seem trivial, debt accumulation during the Great Recession averaged 12% of GDP (Bartels 2014, 30). Thus, Model 2 predicts that DEBT cost the average government around 4 percentage points at the polls

[Figure 7]

Figure 7 depicts the relationship between DEFICIT and Δ INCUMBENT VOTE. The y-axis denotes the change in the incumbent government's vote share and the X-Axis represents DEFICIT. A visual examination of the negatively sloped regression line raises the possibility of a negative correlation between the two variables However, the plot's scatter is not very tight, suggesting a weaker correlation than Δ GDP (1-4Q) and DEBT.

Model 4 in **Table 1** provides evidence for these findings. The regression results for DEFICIT yield a coefficient of ~-0.30; however, the adjusted R^2 of ~.10 means that DEFICIT only account for ~10% of the relationship with Δ INCUMBENT VOTE. Furthermore, Model 5 **in Table 1** implies that most the negative relationship between DEFICIT and Δ INCUMBENT VOTE can be explained by incorporating Δ

GDP (1-4Q) into the model. After Δ GDP (1-4Q) is factored in, DEFICIT remains negatively correlated, but loses its statistical significance. As a result we cannot conclude with any level of conclusiveness that the negative relationship between DEFICIT and Δ INCUMBENT VOTE is not due to chance.

The varying strength in the coefficients between Δ GDP (1-4Q) and DEBT illustrate the difficult choices faced by politicians during the financial crises: GDP growth was rewarded more than debt was punished, but if the GDP growth did not come fast enough or voters did not establish a link between fiscal policy and economic growth, accumulating debt could cost a government greatly at the next election.

Furthermore, the contrasting strength and significance levels between DEBT and DEFICIT is noteworthy. On one hand, it is somewhat perplexing since DEBT is largely a function of year-to-year DEFICIT. On the other hand, the divergence could also be suggestive of differentiation in the voter treatment of DEBT and DEFICIT. However, the small sample of size found in the models in **Table 1** limits the degree of support for different voter treatment of DEBT and DEFICIT. Next, I extend Bartels's (2014) model back to 1975, adding a few additional control variables, and keep an eye to see if any of these trends hold in the larger sample size.

[Figure 8]

Figure 8 is a scatter plot distribution of the correlation between Δ GDP (1-4Q) and Δ INCUMBENT VOTE from 1975 – 2012. It's fairly steep and positive slope imply a strong, positive correlation between Δ GDP (1-4Q) and Δ INCUMBENT VOTE.

Altogether, it follows a very similar distribution pattern to Bartels's (2014) findings illustrated in **Figure 1**.

The results listed in Model 1 and Model 2 **in Table 2** provide support for these findings. Independently, Δ GDP (1-4Q) has a coefficient of ~.69 and is highly significant (p<.01), suggesting that there is less than a ~1% change the correlation is due to chance. Furthermore, ~.69 is almost precisely the same amount as the coefficient for Δ GDP (1-4Q) in **Table 1**. Model 2 in **Table 2** introduces various economic and political institutional control variables into the model. INFLATION is defined as the year on year change in the Consumer Price Index (CPI), YRSOFFICE is the number of years the incumbent has been in office and IDEALOGY is the ideological leanings of the incumbent party. After including these control variables, Δ GDP (1-4Q) maintains its direction and significance level with a coefficient of ~.64. Altogether, in elections in select countries from 1975-2012, these results predict that an increase in a countries GDP of 3% would increase the incumbent parties votes share by ~1.9%.

It is noteworthy that Model 1 in **Table 2** adjusted R^2 value is .08, much less than the adjusted R^2 of .25 found in **Table 1**. These findings indicate that the model's strength is weaker when the analysis is extended over a longer time span. Nonetheless, this is somewhat intuitive: elections results are driven by a multitude of factors and the more elections included decrease the analytical probability that any one factor is driving each election.

[Figure 9]

Figure 9 illustrates the correlation between DEBT and Δ INCUMBENT VOTE for the extend sample, 1975 - 2012. The negative slope of the regression line and over fit of the correlation imply a fairly strong, negative relationship between DEBT and Δ INCUMBENT VOTE. These results are similar to the results found replicating Bartels's findings in **Figure 2**.

The regression results found in **Table 2** support these comparisons. The bivariate correlation between DEBT and Δ INCUMBENT VOTE is negative and yields a coefficient of ~-.05. Moreover, its findings are significant ($p<.05$), suggesting that there is less than 5% probability that the correlation is due to chance. However, the adjusted R^2 of Model 3 in **Table 2** is lower than Model 2 in **Table 1** at ~.08, implying the correlation explains approximately only 8% of the variance. These results imply a negative relationship similar to those found in **Table 1**, but with much weaker explanatory power.

However, introducing other control variables improves the overall fit of the model. Model 4 indicates the results of the regression analysis when including Δ GDP (1-4Q) and Model 8 introduces all the economic and political control variables utilized. In each case DEBT maintains its negative direction and significance level of $p<.05$. The most suggestive results are found in the model described by **Column 8,** with DEBT yielding a coefficient of ~-.10 and the models adjusted R^2 value reaching .11. These findings suggest that GDP (1-4Q) is again positively correlated with re-election and the strongest predictor of reelection, but that also a 1% increase in national debt is correlated with a loss of .10 of vote share. While a

smaller coefficient than Δ GDP, the results imply an electoral impact as national debt can often increase by 10% points or more during the course of an incumbent's term.

[Figure 10]

The correlation between DEFICITS and Δ INCUMBENT VOTE is illustrated in the scatter plot in **Figure 10.** Since the slope of the regression line is negative, but the scatter is not tight around the regression line. Altogether, the scatter plot suggests a weak negative relationship. Noteworthy, the fit of the correlation does hold a pattern very similar that during the Great Recession found in **Figure 3.**

Model 5, Model 6, and Model 7 in **Table 2** are my three models including the DEFICIT and DEBT variable. Each of these Models measures the claims of Hypothesis 1 and Hypothesis 2: voters, contextualizing DEFICIT and DEBT in their own circumstances, generally punish incumbents for increased DEFICIT and DEBT. Model 5 lays out the initial regression analysis between DEFICIS and Δ INCUMBENT VOTE and supports the findings of **Figure 6**. DEFICIT has a coefficient of ~-.38 and is very significant ($p<.01$). Initially, this implies a strong negative relationship, suggesting that 5% increase in a countries deficit as a percentage of GDP is correlated with a loss of 2% of vote share for incumbent parties. However, when included with models introducing economic and political control variables in Model 6 and Model 8 in **Table 2**, DEFICIT loses its strength and significance. As a result, very little can be drawn analytically from these results with regards to assessing the impact of DEFICIT on Incumbent Electoral Share.

In summary, the results of **Table 2** largely mirror those found in **Table 1.** GDP growth is best predictor of incumbent election success and yields the largest

coefficient magnitude. These findings are consistent with the argument that economic retrospective voting contingent upon growth is a dominant factor influencing voter's support on incumbents. In addition, while it's overall effect is diminished, central government debt is negatively correlated with incumbent re-election in the extended sample. These results implies a stronger case for the presence of a "Keynesian Tradeoff": voters punish debt, but not nearly as much as they may reward growth. Finally, similar to Bartels's (2014) findings and my replication of his results in **Table 1**, DEFICIT is not conclusively correlated with incumbent performance.

The results of Table provide support for Hypothesis 1 contingent upon how one operationalizes examines the budgetary consequences of Fiscal Policy. If the more accurate measure is DEFICIT, the lack of significance of the results mean that these models do not provide substantial support that voters punish increased DEFICITS. Nonetheless, the evidence that consistently punish DEBT is statistically significant and negative, ultimately providing partial support for Hypothesis 1.

An intriguing result from the models in **Table 2** is the continuance of a-symmetry in effect of DEFICIT and DEBT on incumbent re-election. Since DEBT is largely a function of accumulated DEFICIT, it initially seems odd that voters would differentiate their treatment of both. However, under the assumption that voters examine the economy through the prism of their own financial circumstances, the phycology and economic behavior literature provides some theoretical background for this bifurcated treatment. I discuss these possibilities and their opportunities for future research in Chapter 4.

Table 3 introduces four interactions terms CRISES * DEBT, CRISES * DEFICIT, RECESSION * DEBT, and RECESSION * DEFICIT. These interact terms evaluate Hypothesis 2 and Hypothesis 3 that voters condition their punishment of DEBT and DEFICIT on macro-economic conditions. According to Hypothesis 1 RECESSIONS are expected to diminish the negative impact since voters could be expected to support DEFICIT and DEBT financed stimulus during hard times. In contrast, Hypothesis 3 claims that CRISES should expected to increase the magnitude that voters punish DEBT and DEFICIT since bailouts often go to institutions that are perceived to start the crises. In each, CRISES is defined utilizing the Reinhart and Rogoff (2009) definition of a financial crisis, which they define as being preceded one or more of the following: a banking crises, currency crash, sovereign debt or extern debt restructuring, inflation crises or stock market crash. RECESSION is defined the period in the business cycle between the peak of economic activity and its trough, following the NBER definition of recession.[5]

In each of the Models in **Table 3** the coefficient of the interaction term is negative, implying that the presence of a CRISES or RECESSION diminishes the negative effect of DEBT or DEFICIT on incumbent re-election. Nonetheless, none of the coefficients reaches significance, meaning that the probability that these results are due to chance is too high to conclude any correlation. As a result, none of the Models in **Table 3** provide support for either Hypothesis 2 or Hypothesis 3.

Overall, these findings do not lend support to the claim that electorate's view on DEBT and DEFICIT is conditioned by macroeconomic conditions. Instead, they

[5] For more information, see Feldstein et al. (2003)

suggest a voter who continually punishes incumbents for DEBT accumulation and who displays no consistent attitude towards DEFICIT. As a result, it is possible that voter's punishment of DEBT could be constant, even during crises. This poses a potential constraint upon policymakers: if leaders deem accumulating debt in the short run as a necessary/justified step to stimulate the economy, they may reconsider doing so or scale down the size of their debt financed stimulus if they think that electorates will punish them.

In conclusion, the correlations between ΔGDP (1-4Q), DEBT, DEFICIT and Δ INCUMBENT VOTE found in Bartels (2014) hold in direction and significance in the extended sample. The strongest predictor of election results remains ΔGDP (1-4Q). These findings are consistent with the argument that voters engage in retrospective, economic voting. Simply put, voters reward incumbents who preside over economic growth prior to elections and punish those who do not.

DEBT is additionally negatively correlated with Incumbent Support, yielding a coefficient of ∼.10 in the most encompassing model. While a smaller effect than in Bartels (2014), these results still imply that that extent that voters may punish DEBT could be quite impactful. There are many cases when national DEBT has changed by 10% of GDP or more during an incumbent's term, especially during recessions and wars. If this occurs, the most encompassing model in the extended sample would predict a 1% loss in vote share due to increases in DEBT.

On the other hand, these results do not provide support for the position that voters differentiate between good economic times and bad, with all DEBT and DEFICIS interact terms failing to reach significance. Since most economists argue

that debt financed stimulus in recessions is needed, these results imply a possible constraint on the extent to which politicians may leverage debt to implement stimulus packages during hard times. Consequently, these results imply an economic unsophisticated voter: one who greatly rewards economic growth, but may be blind to the policies necessary to make it occur.

Chapter 4 presents my conclusions from this analysis. It discusses the implications of the results and seeks to place them within the larger economic voting literature. Additionally, it presents the limitations of my findings and ideas for future research.

Chapter 4: Conclusion

Since its introduction during the Great Depression, Keynesian demand management has been at the forefront of policy debates during crises. While economists have focused on the effectiveness of fiscal stimulus programs, few scholars have examined the political economy of the fiscal deficits and government debt that is used to finance Keynesian stimulus packages. My thesis has addressed this gap in the literature by exploring the extent to which voters support fiscal deficits and government debts that are used to finance stimulus programs during recessions. In this section, I discuss my contributions to the literature, the limitations of my findings, and the implications of my work for the future research agenda.

My primary contribution to the literature has been expanding the traditional economic voting model to include fiscal deficits and government debt. To evaluate the reliability and accuracy of my expanded model, I have extended Bartels (2014) analysis of retrospective economic voting during the Great Recession across a longer time span, with an eye towards examining electoral punishment (support) of government debt and deficits. In addition, I introduced and empirically assessed interactive hypotheses to see if voters mediate their treatment of both fiscal deficits and government debt during recessions in a "Keynesian" fashion.

The results suggest that voters punish debt regardless of whether it is used to fund stimulus programs during recessions or not. When including standard electoral control variables in my sample, government debt has a negative coefficient

of .08, implying that every percentage point increase in government debt relative to GDP results in a about an eight tenths of a percentage point decrease in electoral support for incumbents. While this seems like a small effect, large increases in the national debt can occur rapidly during financial crises and recessions. For example, The United States debt to GDP ratio grew by twenty five percent from 2007-2010 (Taylor, Proano, Carvalho, and Barbosa 2012) , implying a loss in incumbent vote share of about two percentage points during that time period. In contrast to voters' treatment of government debt, the negative relationship between fiscal deficits and incumbent vote share loses statistical significance once standard electoral controls were introduced. Likewise, neither interactive hypotheses rendered support for the argument that voters condition their response to fiscal deficits and government debt in a Keynesian manner. Voters thus seem immune to readily-available information on how stimulus program can revive economic growth and employment during hard times.

Several implications for future research emerge out of this work. Since the findings suggest that voters generally punish government debt regardless of macroeconomic conditions, these findings imply that voters behave in an unsophisticated fashion, unaware or unwilling to distinguish between government debt utilized for stimulus during recessions and other uses. Policymakers, acting strategically, could be taking voters' aversion to debt into consideration when evaluating their support for stimulus spending during a crisis. Applying these findings to legislator behavior during Great Recession renders an explanation for why many governments cut short their stimulus programs and initiated deficit

reducing reforms: legislators may have been cautious to take on large debt loads for stimulus out of fear of political retribution by voters.

Nonetheless, the results do, for the most part, support findings in the retrospective economic voting literature. Similar to Bartels (2014), GDP growth was found to be the most important predicator of incumbent electoral success. GDP's coefficient of .52 is much greater than government debt's -.08, suggesting that a one percent increase in GDP is rewarded more than a one percent reduction in the national debt. While this study provides no evidence for a "Keynesian voter", these results do suggest a sort of "Keynesian tradeoff" faces legislators governing during economic crises since growth is rewarded more than debt is punished. A future puzzle for scholars to explore is why voters consistently reward economic growth, but do not appear to support stimulus programs that a majority of economists agree will increase GDP.

An overarching limitation of this study is its reliance on the assumption that retrospective economic voting is the best model of voting behavior. This is not a settled debate in the scholarly research. Evidence from studies has pointed towards voters holding incumbent responsible for irrational, non-economic events including shark attacks and football games (Achen and Bartels 2004;Healy, Malhotra and Mo 2010). However, the findings of this study do contribute to the discussion within the parameters of economic voting, a growing literature within political economy.

However, many of the limitations of my study help drive future possibilities for research. The greatest weakness of my empirical approach is my reliance on OLS Regression since it is almost impossible to identify and control for every factor that

could influence an election. Scholars could improve the strength of my findings by analyzing survey data, a much more direct reflection of voter opinion on a single topic than my approach of examining aggregate election results, on economic conditions across different points of the business cycle. Additionally, scholars could utilize more advanced econometric methods, perhaps looking for natural experiments that hold other election factors relatively constant. Encouragingly, work has already begun using such an approach: Alesina and Paridisa (2014) use the introduction of a new estate tax in Italy to assess if Italian legislators engage in" Political Business Cycles" by cutting taxes closer to elections.

A final potential research question that emerges out of my findings is why do voters seem to punish government debt but not fiscal deficits? This is perplexing since government debt is a direct function of fiscal deficits: any current expenditure that cannot be paid for with current revenue must be financed with debt. The psychology literature may provide clues on why voters view fiscal deficits and government debt differently. Prelec and Lowenstein (1998) find that individuals strive to avoid debt in their personal finances, and this tendency growths in intensity with a lengthier repayment schedule. In other words, individuals seek to avoid personal debt and demonstrate an even greater tendency to do so when debts are larger and must be paid over a long period of time. Since total government debt is the sum of year-to-year fiscal deficits, it necessarily has a longer payment schedule and a greater aggregate liability than fiscal deficits. If voters extrapolate their feelings towards the management of their personal finance to government's handling of its finances, then the findings of Prelec and Lowenstein (1998) suggest

they may be more averse to government debt then fiscal deficits. Future work could use any of the aforementioned research strategies to explore if this speculation is reflected in real world voting patterns.

In conclusion, voters seem immune to the logic of Keynesian demand management and thereby punish governments for actions that seek to improve the performance of the economy during recessions. This suggests that policymakers will find it electorally difficult to engage in stimulus spending when it is needed most. Finally, further analysis is vital to understanding the reasons why voters are more opposed to large amounts of government debt than they are to the budget deficits that are the direct cause of debts.

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Tables and Figures

Table 1: Economic Performance and Incumbent Vote-Share in OECD Countries, 2007-2011

	1	**2**	**3**	**4**	**5**
Δ GDP (Q 1-4)	0.99 (.32)***		0.68 (0.33)**		.85 (0.40)**
DEBT		-.38	-0.26		
		(.11)***	(.12)**		
DEFICIT				-0.30	-.12
				(.16)*	(.170)
Intercept	-7.03	-1.05	-3.29	-4.45	-6.57
Adjusted R^2	0.25	.27	0.36	.10	.223
N	26	26	26	24	24

Ordinary least square parameter estimates with standard errors in parentheses. p<.1=*, p<.05=, p<.01=*****

Notes:
The dependent variable is the change in vote share of the incumbent government. Δ GDP (Q1-4) is the percent change in GDP accumulated over the four quarters preceding an election. DEBT is the increase in total central government debt as a percentage of GDP over the three years prior to the election. DEFICIT is the increase in the negative budget surplus, defined as revenues minus expenditures, in the three years prior to the election.

Table 2: Economic Performance and Incumbent Vote Share, 1975-2012

	1	2	3	4	5	6	7	8
Δ GDP (Q1-4)	.76 (.20)***	.64 (.24)***		.61 (.21)***		.65 (.22)***	0.52 (0.26)**	0.62 (0.27)**
DEBT			-.06 (.03)**	-.08 (.036)**			-0.10 (0.04)**	
DEFICIT					-.37 (0.14)***	-.07 (.16)		-0.03 (0.18)
INFLATION		.46 (.24)*					0.27 (0.271)	0.46 (0.25)
YRSOFFICE		-.39 (.26)					-0.50 (0.27)*	-0.38 (0.27)
IDEAOLOGY		-.49 (.65)					-0.57 (0.68)	-0.48 (0.67)
Intercept	-3.278	-1.85	1.194	-3.992012	-2.756883	-4.62	-0.446	-1.864
Adjusted R^2	0.087	.08	0.042	0.1144	0.034	0.0829	0.1124	0.0669
N	117	103	157	126	180	127	96	100

Ordinary least square parameter estimates with standard errors in parentheses. p<.1=*, p<.05=, p<.01=*****

Notes: The dependent variable is the change in vote share of the incumbent government. Δ GDP (Q1-4) is the percent change in GDP accumulated over the four quarters preceding an election. DEBT is the increase in total central government debt as a percentage of GDP over the three years prior to the election. DEFICIT is the increase in the negative budget surplus, defined as revenues minus expenditures, in the three years prior to the election. INFLATION is the percent change in the Consumer Price Index (C.P.I) in the three years prior to an election. YRSOFFICE is the number of years the incumbent has been in office. IDEALOGY is the ideological leaning of the incumbent government.

Table 3: Recession, Financial Crises and Incumbent Vote Share , 1975-2012

	1	2	3	4
DEBT	-.04 (.05)			
CRISES	-1.13 (1.06)			
CRISES X DEBT	-.02 (.06)			
DEFICIT		-.29 (.21)		
CRISES		-.79 (.21)		
CRISES X DEFICIT		.01 (.30)		
DEBT			-10 (.04)**	
RECESSION			-1.08 (1.12)	
RECESSION X DEBT			-.015 (.08)	
DEFICIT				-0.29 (.20)
RECESSION				-.37 (1.10)
RECESSION X DEFICIT				.010 (.31)
Intercept	-1.91	-2.679	-1.85	-2.63
Adjusted R^2	.03	.0064	.0387	.0034
N	164	163	159	164

Ordinary least square parameter estimates with standard errors in parentheses. p<.1=*, p<.05=, p<.01=*****

Notes:
The dependent variable is the change in vote share of the incumbent government. DEBT is the increase in total central government debt as a percentage of GDP over the three years prior to the election. DEFICIT is the increase in the negative budget surplus, defined as revenues minus expenditures, in the three years prior to the election. FINANCIAL CRISES is defined using the Reinhart and Rogoff (2009) definition. RECESSION is defined as two or more quarters of negative GDP growth.

Figure 1: Traditional Economic Voting Model

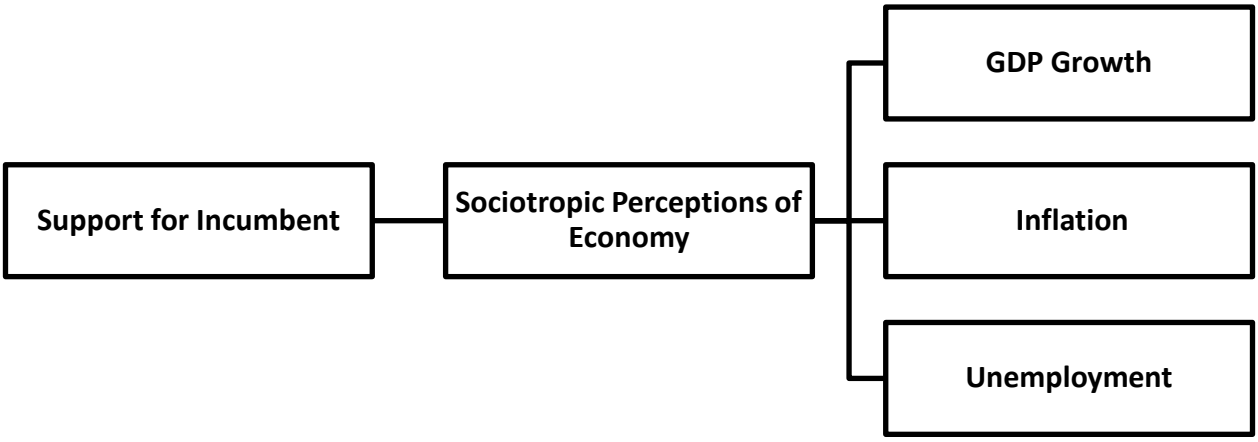

Figure 2: Modified Economic Voting Model with Fiscal Deficits and Government Debt

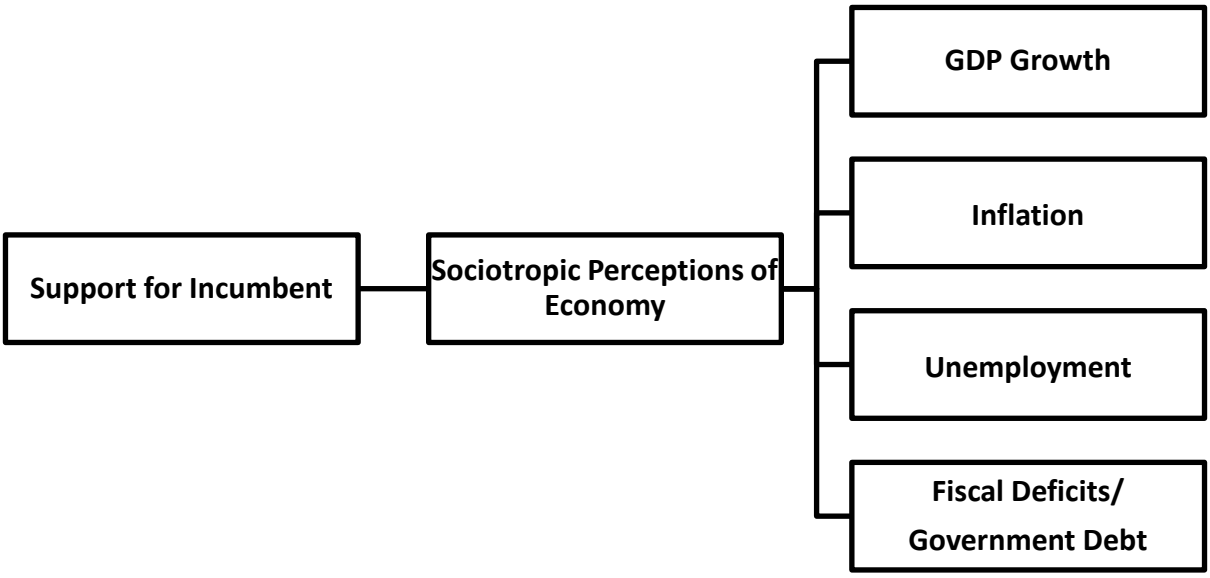

Figure 3: Fiscal Deficits and Government Debt Conditioned by Business Cycle

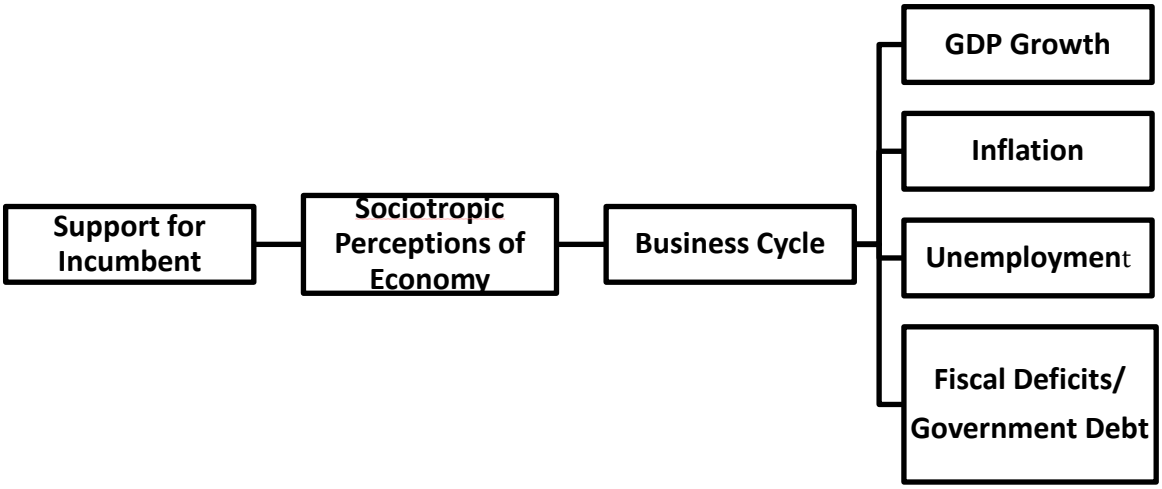

Figure 4 Varying Inputs of Fiscal Deficits and Government Debt

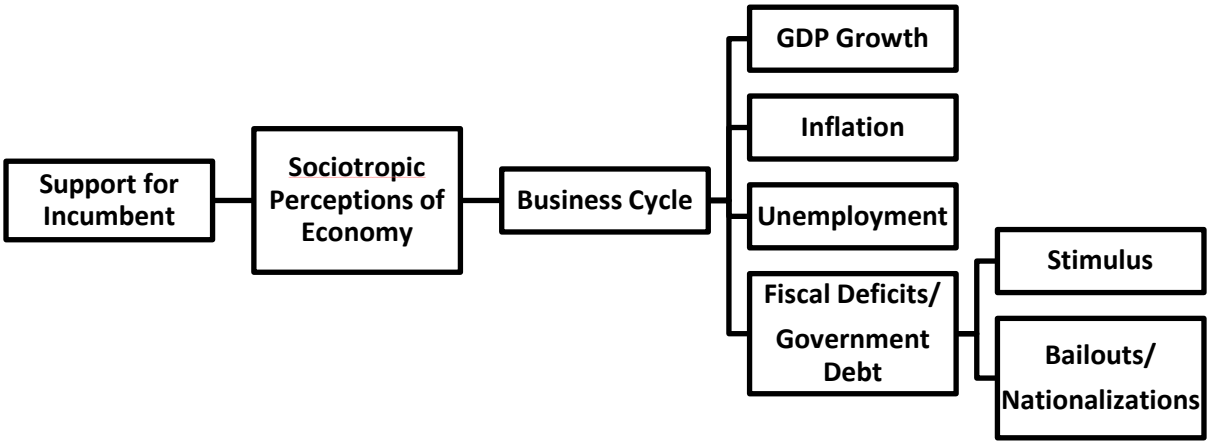

Figure 5: Election Year GDP and Incumbent Vote Share, 2007-2011

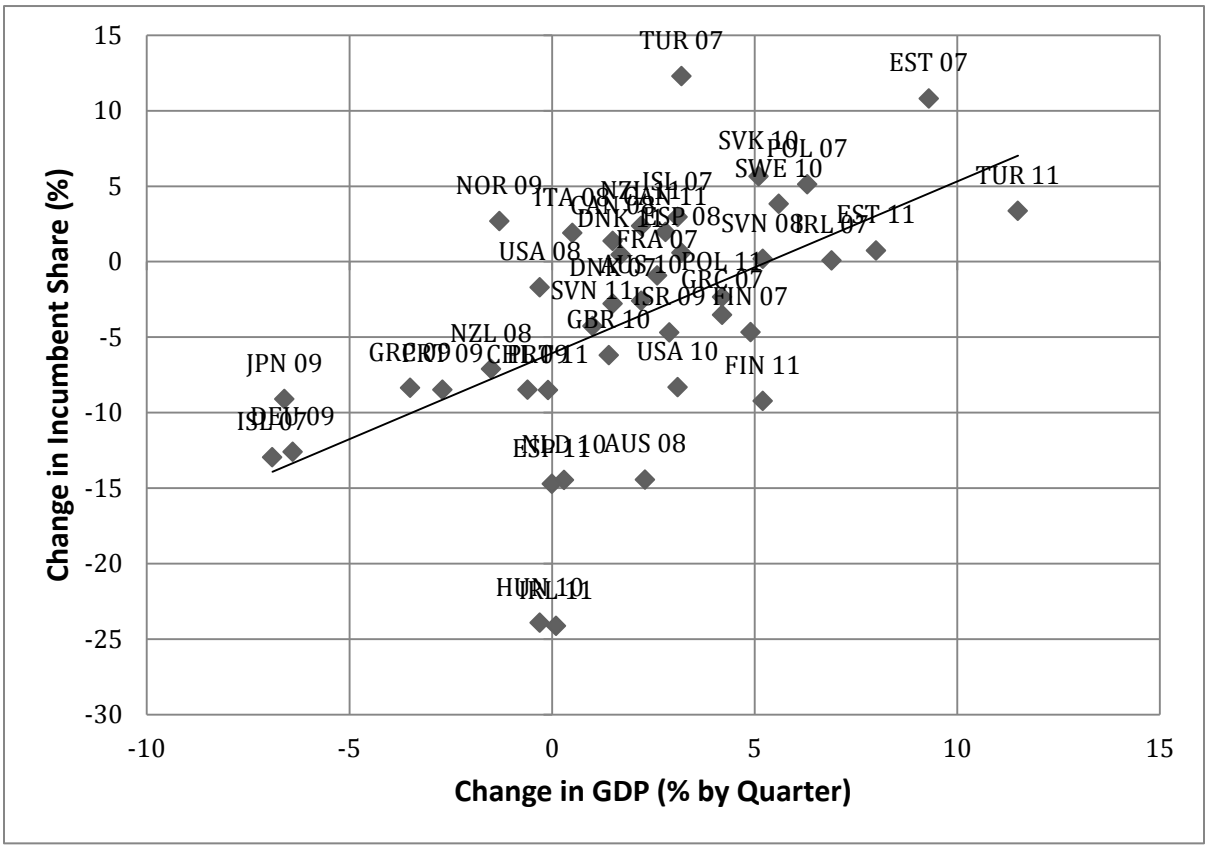

Figure 6: Change in Central Government Debt and Incumbent Vote Share, 2009-2011

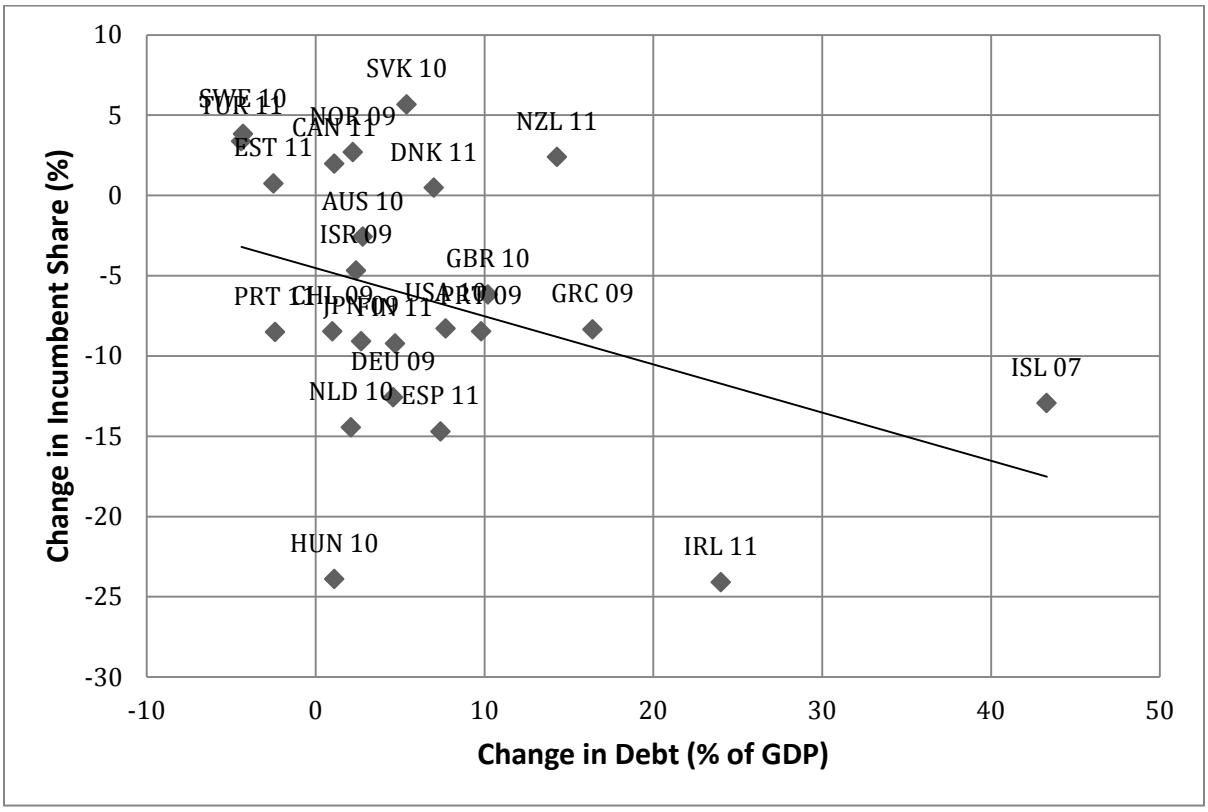

Figure 7: Change in Fiscal Deficit and Incumbent Vote Share, 2009-2011

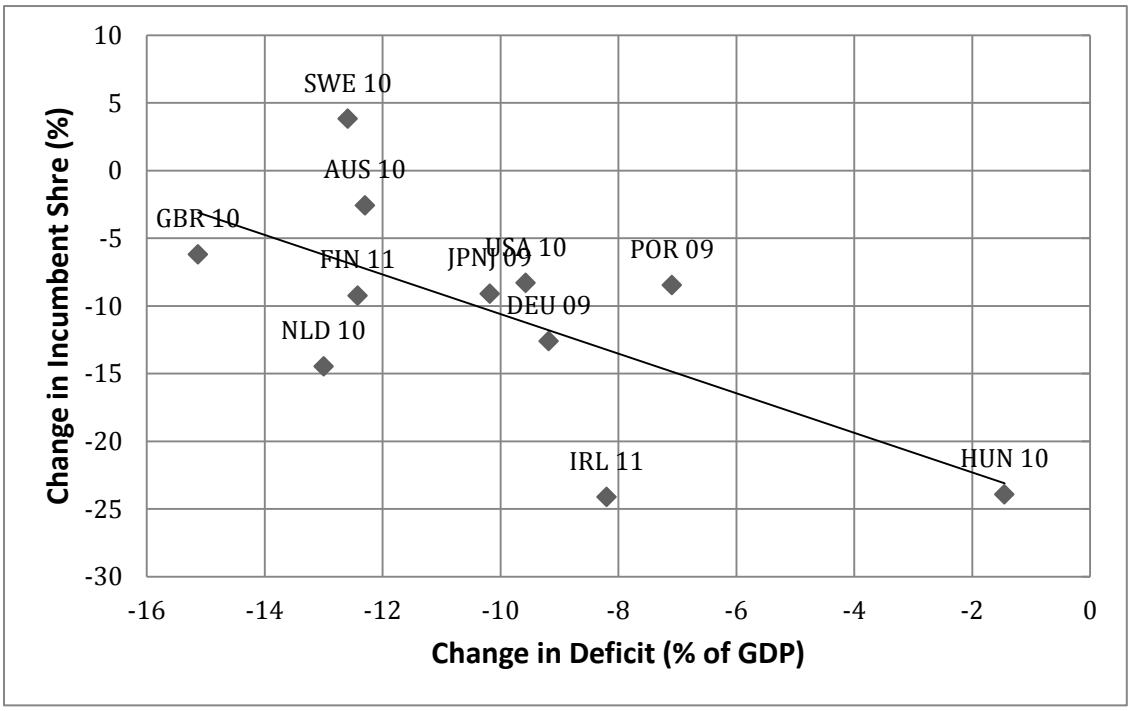

Figure 8: Election Year GDP Growth and Incumbent Vote Share, 1975-2012

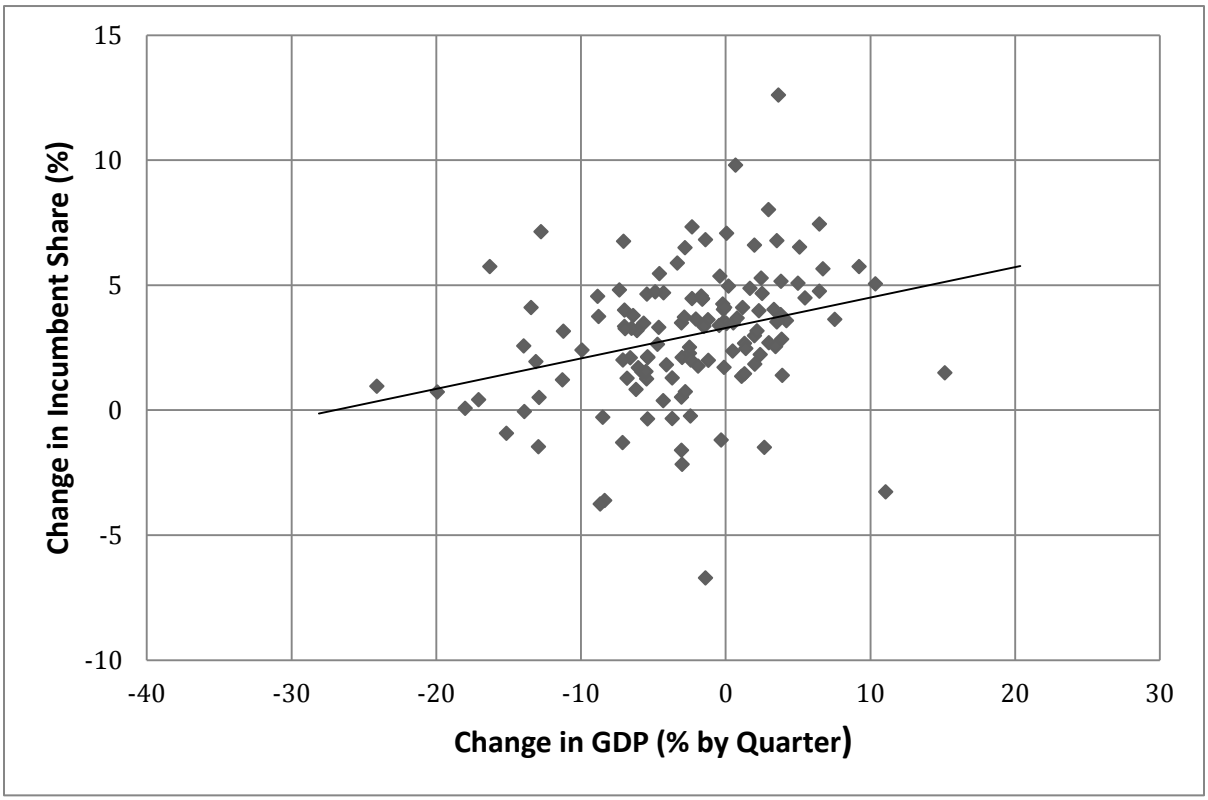

Figure 9: Change in Gross Government Debt and Incumbent Vote Share , 1975-2012

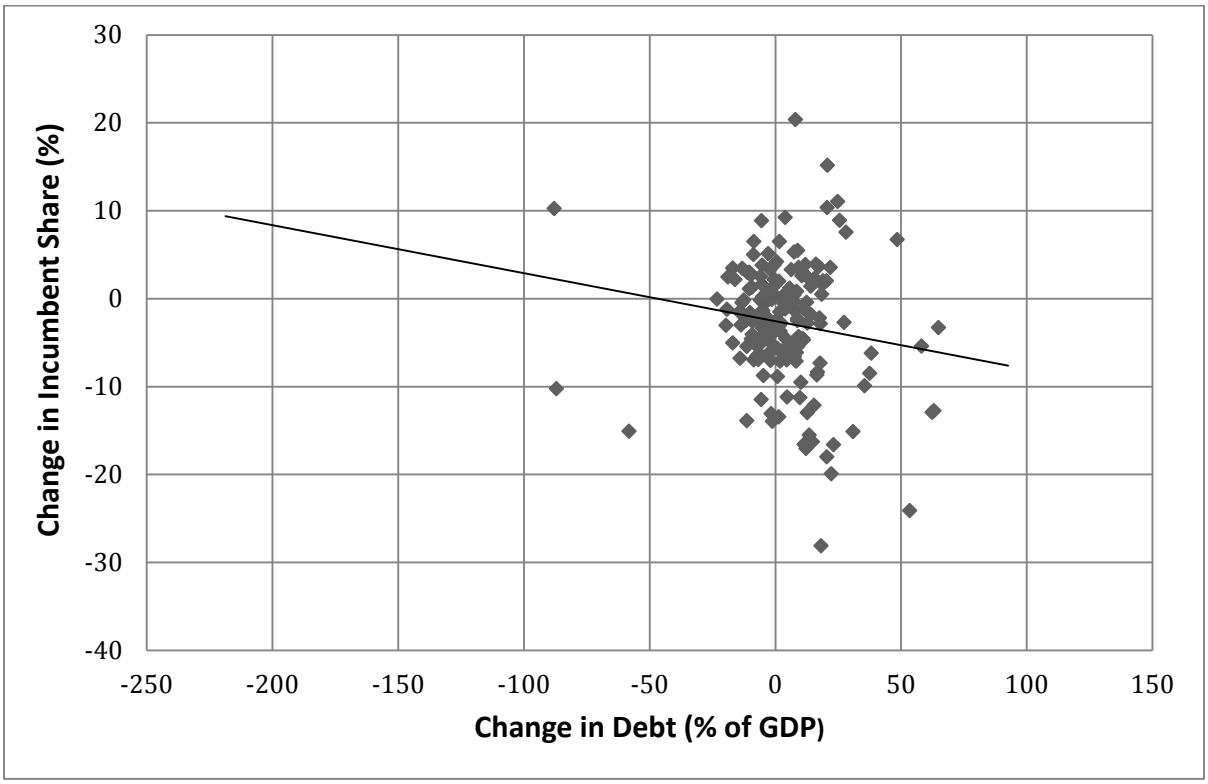

Figure 10: Change in Fiscal Deficit and Incumbent Vote Share, 1975-2012