STOCKHOLM SCHOOL OF ECONOMICS
Department of Economics
5350 Master's Thesis in Economics
Academic Year 2016-17

Swedish Electonomics

The Electoral Consequences of Local Government Performance

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Abstract

This paper seeks to investigate whether Swedish voters hold their local governments accountable for their performance while in office, i.e. whether they act retrospectively in municipal elections. Utilizing incumbent coalition vote shares in the quadrennial Swedish elections during the period of 1998-2014 and using a first-difference method we find that only tax changes have a significant effect on electoral results, with tax hikes resulting in a lower share of the vote for incumbents in the next election. This effect seems to be driven by the mix-rule municipalities, i.e. those with incumbent coalitions containing parties from both sides of the ideological divide. Our results also indicate that voters act myopically as tax changes are increasing in significance with proximity to elections. Further, it is hypothesized that there is a lack of awareness among voters of local government performance and that voters hold incumbents accountable for changes in the municipal tax rate due to it being the most visible indicator of incumbent performance.

Keywords: Political Accountability, Local Government, Performance Effects, Electoral Results
JEL: D72, H71, H72

Supervisor: Kelly Ragan
Date submitted: January 2, 2017
Date examined: January 10, 2017
Discussants: Weronika Brzuchalska
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Many forms of Government have been tried, and will be tried in this world of sin and woe. No one pretends that democracy is perfect or all-wise. Indeed it has been said that democracy is the worst form of Government except for all those other forms that have been tried from time to time...

Winston Churchill, House of Commons, 11 November 1947

Contents

1 Introduction **1**

2 Literature Review **4**
2.1 Defining and Measuring Accountability 4
2.2 Political Agency Models 6
2.3 Retrospective Voting 8
2.4 Empirical Findings on the Local Government Level . 11
2.5 Swedish Setting 12

3 Background **15**
3.1 The Swedish System of Government 15

4 Method **16**
4.1 Econometric Method 17
4.2 Extended Regressions 20
4.3 Exit Polls and Choice of Variables 21
4.4 Hypotheses 23

5 Data **24**
5.1 Availability and Sources 24
5.2 Dependent Variable 24
5.3 Independent Variables 25
5.4 Control Variables 26
5.5 Ideology Classification 27

6 Results **28**

7 Discussion **34**
7.1 Informed Accountability 34
7.2 Connecting to Pettersson-Lidbom 37
7.3 Limitations and Uncertainties 38
7.4 Other Topics 39

8 Conclusion **40**
8.1 Topics for Future Research 41
8.2 Policy Implications 41
8.3 Contribution 42

9 References **43**
9.1 Data Sources 45

10 Appendix **47**

1 Introduction

Recurring elections represent one of the fundamental pillars of democracy. They provide an opportunity for citizens to delegate decision-making to politicians and parties but also act as a feedback mechanism, where voters can hold the government accountable for its actions, or inactions. This gives voters an opportunity to reward or punish the incumbents according to their perceptions of their performance and their preferences of what they deem important. This theoretical opportunity is one of the key benefits of democracy as it incentivizes politicians to act in the voters' best interest and acts as a restraint for them from using their position for personal gain but are voters actually taking advantage of this electoral feedback mechanism? As attention is usually focused on national elections, are voters holding their local governments accountable for their performance? These are the questions that this paper will set out to investigate.

In Sweden, the local government level consists of 290 municipalities. These municipalities collectively employ 760,000 people and in them there are 46,000 political assignments divided among representatives of the political parties. These municipalities vary in size, both in terms of population and geographical size. They range from the capital of Stockholm with nearly a million inhabitants in an area of 214km^2 to northerly Kiruna with only 23,000 inhabitants but covering an area of 20,551km^2. They may display a lot of superficial differences but they share a common umbrella in the Swedish state and their common responsibilities are laid down in the Swedish constitution. These include a larger share of publicly financed services than in most other countries and are focused on welfare services such as preschool, school, social services and elderly care but also include plans for housing, infrastructure and community development in general. To fund their activities they have been granted the right to levy taxes and the decision-making power in these local authorities is exercised by elected assemblies. These assemblies are elected every four years when Swedes go to the ballot to vote in three elections; national, county and municipal. All elections employ the principle of proportional representation and as a result the Swedish parliamentary democratic system is characterized by a large number

of political parties. By extension, this means that the ruling governments on all levels of government are often composed of several political parties.

When addressing questions of democracy and accountability, scholars often turn to the framework of political agency models. These have developed over the last few decades as there has been increasing interest in how political accountability functions in theory and practice. These models work under different assumptions with e.g. pure moral hazard models assuming that all politicians are of the same type and that they are all concerned with taking hidden actions for their own benefit. The voters then have to use their votes to discipline incumbents and in essence reward or punish politicians behavior by letting past performance outcomes inform their voting decision. There are also pure adverse selection models that assume that politicians are of different types and that past actions hold information about a politician's competence. An integral part in all of these models is the concept of retrospective voting, i.e. incorporating information on past actions and outcomes in the voting decision.

The study of political accountability has garnered increasing attention over the years but that attention has primarily been focused on the national level and studies have predominantly been performed in the United States. The focus on the highest level of government may seem a bit contradictory when the aim is to investigate political accountability. The division between national, regional and local governments represents a form of decentralization. One of the main benefits of decentralization, at least in theory, is that citizens exert greater efforts in monitoring government when proximity to politicians increases. Decentralization thus increases accountability by bringing government closer to the people. The focus on the national level thus results in neglecting the local governments that are closest to the people and which also hold the responsibility for many of the core services that voters expect to receive in return for their taxes. It is plausibly also harder for citizens to accurately observe and identify the marginal adjustments in aggregates of national outcomes that result from the actions of incumbent politicians and parties. It could be easier for voters to take more account of local performance where services are under direct control by politi-

cians engaged in a much more limited range of activities than the national government.

A majority of the empirical studies on political accountability have looked at the effects of economic outcomes close to elections. This assumes that voters are myopic (shortsighted), i.e. that their attention spans are short and that only the most recent information is taken into account. However, some studies have challenged this assumption and studied outcomes over a longer period of time and their effect on electoral outcomes. As an example, Khemani (2001) found that longer-term outcomes had an effect on more local elections in India. However, no similar study has been performed in a local Swedish setting and this paper will seek to fill this gap.

This thesis will thus investigate whether Swedish voters hold municipal governments accountable for their performance in office. This will be achieved by looking at the effects of a range of fiscal and non-fiscal performance measure outcomes on the voting share of the incumbent local governments. We will also seek to investigate whether Swedish voters act retrospectively in a myopic sense or whether the vote share of the incumbents in municipal elections are affected by outcomes over a longer period of time. Constructing a data set stretching from 1998-2014, we will also investigate whether what we choose to call "swing" municipalities, where there has been at least one change of power during the period of study, are different in terms of retrospective voting. The effect of the ideology of the incumbent governments will also be studied.

Our research questions are as follows:

- Are Swedish municipal governments being held accountable for their performance, defining accountability as a change in incumbents' vote share?

  If so, is the effect different in swing municipalities?

  If so, are the effects affected by the ideology of the incumbent government?

  If so, are voters myopic or retrospective over a longer period of time?

The thesis is organized as follows: Section 2 covers the previous re-

search on our topic. In Section 3 we briefly describe the Swedish system of government, focusing on municipalities. In section 4 we review the method used to address the research questions and we formulate a hypothesis. Section 5 describes the data used in the study while section 6 presents the empirical results. These are then discussed in section 7 and lastly, in section 8, we present some concluding remarks.

2 Literature Review

In this section we will outline the findings of previous research on our topic. We will start by addressing the definition and measurement of accountability itself and then proceed to political agency models that have become the standard framework for approaching political accountability issues. We will then review the theory on retrospective voting and discuss what previous research has empirically found on electoral consequences of municipal performance, placing some emphasis on work performed in a Swedish setting.

2.1 Defining and Measuring Accountability

What gets measured gets done is an old cliché that is often called upon when discussing e.g. performance reviews and compensation schemes. As this study aims to investigate whether Swedish voters hold their political parties accountable this thus necessitates a clear definition of accountability itself as well as a transparent way of measuring it.

We start with noting that a key purpose of elections is to provide an opportunity for accountability to take place. Loosely, this means that voters can tie politicians' performance to what they do while in office. When defining accountability it is then important to make a distinction between formal (de jure) and real (de facto) accountability. Representative democracy is defined by having politicians periodically subject to re-election. The formal rules surrounding these elections (e.g. term length) constitute the formal accountability rules. These formal rules do not typically make any direct link between the performance and the re-election chances of politicians. These chances are most commonly modelled as a function of

politicians' behavior and voters' strategies and it is this latter part which determines whether there is real accountability. In a poorly functioning democracy, politicians may act in a way which systematically displeases voters without facing sanctions, e.g. due to voters being poorly informed or if politicians can intimidate voters. Even if assuming a well-functioning democracy with a sound legal system and a body of law governing the conduct of elections (Sweden), there can be an issue with achieving real accountability if there is a heterogeneity of policy preferences among the electorate. In such a situation, the incumbents would implement policies skewed to the median voter's preferences (Besley, 2006). Most models however assume that there are outcomes in which voters have a common interest and for the purposes of this thesis we will proceed with this assumption as well.

The definition of accountability and subsequently the measurement thereof represents a major conceptual hurdle that scholars have struggled with and still disagree upon (Samuels & Hellwig, 2010). For our chosen definition of accountability we turn to Fearon (1999) who suggested that "an agent A is accountable to principal B, if (i) there is an understanding that A is obliged to act in some way on behalf of B and (ii) B is empowered by some formal institution or perhaps informal rules to sanction or reward A for her activities or performance in this capacity." This clear and transparent definition can easily be integrated into the Swedish setting of representative democracy that this study is set within.

Regarding the measurement of accountability, early work emphasized how voters held politicians accountable through the changing of power. This was partly due to the focus on US elections where voters are most commonly faced with a binary choice between the candidates of the Republican and Democratic parties. In the US, term limits provide an interesting way to identify different effects of electoral performance (e.g. Besley & Case, 1995; Alt et al., 2011) and Alt et al. (2011) can identify the distinction between an accountability and a competence effect in US gubernatorial elections.

In a parliamentary democracy like Sweden, with a multitude of parties and consequently frequent rule through coalition governments whose constituent parties can change, this focus on power changing

hands is less applicable. Holding someone accountable does not necessarily translate into a binary outcome of winning or losing. In an election there is the possibility of using your vote to reward or punish a politician or party, resulting in changes in vote share but not necessarily the loss of power for incumbents. The vote share changes can then act as a signal to the politicians to essentially get their act together in the event of a reduced vote share although the incumbent coalition could still have gotten the largest voter support.

To account for this, Samuels & Hellwig (2010) present four observable measures, or "levels" of electoral accountability. The first level constitutes the weakest form of accountability with each following step raising the bar and denoting a stronger form of accountability. This allows for a measurement of accountability that is not dependent on a binary outcome.

1. Accountability as change in vote share for the incumbent party.
2. Accountability as change in seat share of the incumbent party.
3. Accountability as change in government status, if the incumbent party retains control of the executive.
4. Accountability as change in partisan control of the national executive.

In a Swedish setting the first two steps are essentially one and the same due to the proportional nature of the Swedish electoral system. The proportionality means that a party that receives 20% of the votes will also receive 20% of the seats in the city council (the municipal assembly). In this thesis focus will be on the first step of the accountability ladder as it has the advantage of capturing more of the variation in electoral results.

2.2 Political Agency Models

In the study of accountability and governance issues in a more general sense, a specific class of models are usually called upon - political agency models. At the heart of these models is the principal-agent relationship between citizens and government in which the principals are the citizens or voters while the agents are the politicians or parties. The political agency approach has an inherent incentive issue

as the policy makers, to which the citizens have delegated authority, hold an information advantage. There are then two problems facing the principals (voters):

- Monitoring: the politicians may act opportunistically and the voters have a need to establish whether this is the case and also reward/punish behavior accordingly in order to minimize the potential for opportunism.
- Selection: voters need to select the most competent politicians and/or those whose motivations are most likely to be in line with the public interest.

The political agency models assume that elections are the core mechanism for solving these problems. The agency model itself can be thought of in terms of a game in which the players are voters and politicians. Politicians are endowed with power to take action on behalf of the voters and retain this power if they are re-elected. This is readily comparable to the way a public company operates with its owners (principals) appointing a board that oversees the executive leadership (agents) and where the annual general meetings serve as a form of election (Ashworth, 2012; Besley, 2006).

The political agency models come in three basic types. The first generation of the models, associated with Barro (1973) and Ferejohn (1986) focused predominantly on moral hazard problems in government, i.e. hidden actions such as shirking by the incumbents. In this framework, all politicians are of the same type and all want to use political office as a means for pursuing their own agendas. The question in this type is how well a re-election mechanism that is based on retrospective voting can discipline incumbents. The idea is that voters choose a performance threshold that gives politicians an incentive for restraint. The main assumptions in the model concern the extent to which voters can observe the actions of incumbents and whether there is an unobservable state of nature. Due to the identical nature of politicians in the models, voters are indifferent between the incumbents and challengers.

This first type and its assumptions on candidate homogeneity were criticized by Fearon (1999) who showed that the model's equilibria were often not robust to candidate heterogeneity. The second type of model is the pure adverse selection model (e.g. Besley & Prat,

2005) where the only issue is selecting the right kind of candidate as they differ in their competency levels. An incumbent is unable to do anything to affect voter's opinion of them and the key question in this model is how the voters' observations allow them to detect the incumbent's competence. The third type is the most complex but also most interesting as it combines the previous two types, having both hidden actions and different types of politicians, i.e. both moral hazard and adverse selection. Pioneers within this type of models include Banks & Sundaram (1993) and Austen-Smith & Banks (1989) who all assume that politicians differ in their competence and that their actions are not observed by voters. The notion that politicians have heterogeneous motivations has been a central tenet of many studies in this vein and a key issue that arises in these models is the use of policy choices as a signaling device as politicians try to differentiate themselves from one another (Besley, 2006).

There has been a multitude of different models within the political agency approach and despite the diversity of the models, they consistently tell roughly the same story. They mostly work with situations where re-election incentives are a positive thing, either by creating greater discipline or improving the selection of politicians (Ashworth, 2012; Besley, 2006). In essence, this works by giving incentives for politicians to build reputations. However, as demonstrated by Daley & Snowberg (2008), this does not always mean that politicians will work hard to achieve policy outcomes beneficial to the voters. Under the assumption that campaigning is a lower cost way to influence voters' belief they show that even though voters do not directly value campaigning, the campaigning efforts can efficiently signal competency. Then voters, being rational and forward-looking, respond by rewarding incumbents for the very campaigning that they disprove of.

2.3 Retrospective Voting

Besley (2006) notes that a key notion in the political agency models previously discussed is that voters hold incumbents accountable for their actions while in office. This quite optimistic view of the political process assumes that a sufficient share of the electorate

is informed about policy outcomes and use this information when making their decision at the ballot. This view is an area of contention among political scientists. However, the seminal works of Key (1966) and Fiorina (1981) have significantly shifted the presumption towards the view that voters are indeed rational and make assessments based on the records of candidates while in office.

Fiorina (1981) identifies three distinct theories of retrospective voting. The first, connected to Downs (1957), is that voters use retrospective information because such information is easily available and cheaper than examining candidates' records. The second is identified with Key (1966) who argues that voters are result orientated. The third view is that of Fiorina himself in which he combines elements of the first two theories but also attaches more weight to party identities in shaping retrospective voting decisions. The work of especially Key and Fiorina has been instrumental behind accepting a model of political behavior based on standard postulates of rational choice applied to voters. This early work on retrospective voting often assumed that retrospective behavior among voters only concerned past actions. It saw it as a tool for punishing or rewarding incumbents for these actions and it was thought that e.g. campaign promises were unlikely to attract votes (Barro, 1973; Ferejohn, 1986; Key, 1966). Later work, within political agency model frameworks, assumes that voters are learning from past actions and use Bayes' rule to update their beliefs. A key implication in these models is that there really is no meaningful distinction between prospective and retrospective voting. Retrospective voting is rational because there is information content in past actions about future behavior (Ashworth, 2012).

For the purposes of this thesis, which aims to investigate whether there is accountability at the local government level in Sweden, this distinction is not a cause for concern as both views on the reasoning behind retrospective voting indicate a role for it and regardless of which model you prescribe to, retrospective voting has the potential to affect electoral results.

Myopicness of the Electorate

In the literature on retrospective voting there has often been an assumption that voters only care about outcomes in the recent past, i.e. that voters are myopic. Kramer (1971) was the first in a long line of empirical work that investigated whether strong economic performance had a positive impact on electoral results in US elections for the incumbent president and his party. The conclusions drawn were that income growth, and, to a lesser extent, low unemployment and inflation, just before elections has a significant positive effect on votes received by the incumbent president's party, a phenomenon that was termed "economic retrospective voting" (Fiorina 1978). However, Stigler (1973) and Peltzman (1990) pointed out that these studies assume that voters behave myopically by only considering outcomes in the recent past, usually in the year just before elections. Instead, Peltzman (1990) proposed that an appropriate model to judge voting behavior should be similar to a principal-agent model of the stock market where the owner compensates a manager based on all available information from past performance. Following Peltzman there have been several studies that utilize outcomes over a longer period of time (Ashworth, 2012).

For example, Khemani (2001) in a study using Indian data finds that there is greater voter vigilance and government accountability in more local elections. Voters in state legislative assembly elections rewarded incumbents for local income growth, and punish them for growth in inequality, over the entire term in office. In national elections however voters behave myopically by rewarding growth in national income, fall in inflation and inequality only in the year just before elections. A key difference between the study in this thesis and Khemani's article is that Indian states constitute a higher level of government, more comparable to Swedish counties than municipalities in size and in many ways, due to the federal nature of India, the states hold many of the responsibilities that the national level holds in Sweden. Nevertheless, the finding that more local elections see greater voter vigilance is interesting and could be compared to the findings of this thesis in a more general sense, while considering the many differences that exist both between Indian states and Swedish municipalities as well as between India and Sweden in general.

Another approach is found in Bechtel & Hainmueller (2011) who aimed to investigate how long governments receive electoral credit for beneficial policies. They utilize the massive policy response to a major natural disaster in Germany, the 2002 flooding of the Elbe river, and find that the flood response increased the vote share for the incumbent party by 7 percentage points in affected areas in the 2002 federal elections. A quarter of this effect carried over to the 2005 election but the gain vanished in the 2009 elections. Their conclusion is that that voters' gratitude can stretch for longer than previously thought and that the assumption of voters' shortsightedness may need to be revisited.

2.4 Empirical Findings on the Local Government Level

The focus of most empirical studies on political accountability has been the national level of government. Berry & Howell (2007) find that less than 1% of 212 articles on elections in leading US political science journals focus on local elections while none of them address retrospective voting. In most of the studies the aim is also to only evaluate the effect of economic outcomes. However, Boyne et al. (2009) observe that it is increasingly recognized that voters also evaluate many other aspects of government performance that affect voters' lives. In their study, they use the fact that a large share of government services are often provided at the local level where local politicians and parties have power to affect outcomes and they utilize a unique official categorization of local service performance used in England. They find that voters' behavior is affected by clear gradations of performance but that only the difference between low and at least mediocre performance matters. Finding no reward for high performance, their findings suggest a negativity bias in the relationship between performance and electoral support for incumbents, i.e. only poor performance elicits a response from the voters. Returning to Berry & Howell (2007) they conducted a study of American school board elections where they found that when public (media) attention to testing and accountability systems drifted, measures of achievement did not influence incumbents' electoral fortunes. Their findings raise questions about the information voters rely upon when evaluating incumbents, an issue that we will return to in Section 7 (Discussion).

2.5 Swedish Setting

As this thesis is focused on accountability in local government in Sweden, a review of what has been done empirically in Sweden is highly relevant. As expected, there is less empirical work on the local government level compared to the national level.

Before delving into the Swedish studies on political accountability, we should however note that the political agency models previously discussed work best when applied to an individual politician who is directly elected, e.g. mayors, governors and presidents. When the incumbent is an individual with certain responsibilities and powers, accountability can be defined relative to these responsibilities and it is fairly straightforward to then hold an individual accountable (Besley, 2006). If, as in the Swedish context of this thesis, parties and not individual politicians are the primary focus of elections, the responsibility for the outcomes that voters are expected to extract accountability for is not as straightforward. In general, a parliamentary system with parties instead of politicians as the main actors in elections is less conducive to the current theories of political accountability. Despite this, the political agency model framework is still deemed the best approach to tackle the issue as the effect of political parties on the process of political accountability is still a bit of an open question.

In Sweden, the concept of a "municipal voter" that can be separated from the national/regional voter level is a quite recent phenomenon. In 1993, Sören Holmberg, a leading Swedish political scientist, noted that you could "barely register any pulse on the municipal voter". His conclusion was that there was little to indicate that municipal elections were determined by municipal issues and that the national level largely determined the voting decision. Holmberg's assertion has since been challenged, e.g. by Folke Johansson who in several studies found that the municipal level has been increasing in importance in the last few decades as exemplified by the growth of local parties. In 1988, only a fourth to a fifth of municipalities had a local party in the city council. In the latest election in 2014, there were 181 parties in 141 municipalities and 37 of these local parties won more than 10% of the votes in their respective municipalities (Erlingsson & Oscarsson, 2015).

The growing importance of the municipal level in the voting booth can also be seen when observing the trends in split-ticket voting. There was recently much debate on this topic in the 2016 US presidential election regarding whether the Republican nominee Donald Trump would hurt down-ballot Republican candidates' chances of winning due to his high unfavorability ratings.[1] Split-ticket voting, i.e. voting for different parties in different elections (e.g. national and municipal), has become a rare phenomenon in the US but in Sweden the trend has been in the opposite direction. In the 1980's a fifth of the voters cast their votes for different parties in the national and municipal elections. This has since increased to a third of the votes in the latest 2014 election.

In a recent study, Erlingsson & Oscarsson (2015) suggested four possible explanation for why people split their votes:

1. Offering perspective - there are other alternatives on the local level compared to the national level. There is a threshold of 4% of the votes in the national elections that can likely discourage new parties on the national level but this threshold does not exist in municipalities during our period of study.[2]
2. Vote magnet perspective - e.g. a charismatic politician that attracts voters regardless of their ideological preference.
3. Protest vote perspective - voters are negatively repelled from their first choice in a particular election.
4. Tactical voting perspective - tactical reasoning behind voting for a different party than the first choice. In Sweden this could be exemplified by a right-wing voter voting for the Christian Democrats (KD) instead of the Moderates (M) on the national level to support the Christian Democrats (KD), which are usually close to the 4% threshold).

The occurrence of split-ticket voting in Sweden is important for the more practical parts of this thesis. If there had been no split-ticket voting the municipal vote would have been wholly determined by the national parliamentary vote (or, potentially, vice versa) and the

[1] With the results on hand, Trump's victory and the Republicans retaining control of the Senate makes the issue a moot point.

[2] Starting from the 2018 elections, a threshold of 2% of the votes will also be applied in municipal elections.

municipal election would have been a referendum on the performance and promises of both national and local incumbent coalition and opposition. With split-ticket voting present, there is the possibility of voters holding local politicians accountable for local performance and national politicians accountable for national performance. However, this decoupling is not necessarily made by all voters and so party loyalty (lack of split-ticket voting) needs to be taken into account when devising an empirical strategy to test for accountability.

While there are relatively few empirical studies on a local government level in Sweden, especially studies that look at electoral effects at this level, Per Pettersson-Lidbom (P-L) acts as a notable exception. He has performed several studies in a Swedish local government setting, e.g. P-L (2008) where he investigates whether parties matter for economic outcomes and finds that there is an economically significant party effect. He finds that left-wing governments spend and tax more but also have lower unemployment rates, partly due to their employing more workers.

In another study, (2003) P-L tests the rational electoral-cycle hypothesis, i.e. the prediction that politicians should manipulate economic policy just before elections to increase their chances of reelection. Using a three-step method the study finds support for the rational electoral-cycle hypothesis. It also finds that, conditional on taxes, spending is positively related to electoral success. In the study, P-L uses a linear probability model for the third step, the one where he regresses electoral success on fiscal policy, and classifies the electoral outcomes as binary between a left- or right-wing victory. The study uses the number of seats in the city councils for the left and right ideological sides and assumes that the side with a majority of seats constitutes the ruling government. That means that it will sometimes differ from the actual ruling coalitions, which do not always follow the left-right divide that is assumed. This point is relevant to this paper and the method used within it as P-L's study is the only one that we have seen to date that also looks at electoral effects of retrospective voting at a municipal level in Sweden. We will return to this study when discussing our econometric approach in section 4 (Method).

3 Background

In this section we briefly describe the functioning of Sweden's different levels of government, outline their responsibilities and place special emphasis on the municipal level. We will also describe the transfer system which is utilized to equalize incomes between municipalities with different structural characteristics.

3.1 The Swedish System of Government

Sweden is divided into three levels of government; national, regional and local. The elections of representatives to these different levels of government are held every four years, with representatives of all levels being elected at the same time but in different elections for every level, a voter can thus vote for one party at the local level, another at the regional level and a third at the national level. The responsibilities of the different levels of government are outlined in the Swedish constitution and will be briefly described here.

The national government consists of the Swedish parliament (Riksdagen) and the government. The parliament makes and amends laws by voting on motions (from individual parliamentarians) and propositions (from the government), including the biannual budget propositions that determine national government spending. The government rules the country by submitting propositions to the parliament that are turned into new or amended laws and through its control of the governmental offices, departments and companies. The national government is mainly funded by taxes (e.g. corporate and capital tax, VAT and income tax for high-income earners) (Regeringen, 2014).

The regional government consists of the 21 counties, each administered by a county council except for the county of Gotland, where the county coincides with the municipality and thus lacks a county council but has a municipal council. The primary responsibility of the county councils is health care, expenditure on which constitutes approximately 80% of the spending by the counties. Other areas of responsibility include spending on support for culture, some health care related education and support for businesses. The county councils often also share administration of the regional public transporta-

tion with the municipal councils. Similar to the national level, voters elect representatives to the county council, which then appoints a county board to execute its decisions. The counties are financed by taxes, fees and government grants. The county tax is an income tax and is typically around 11% (Regeringen, 2014).

The local government consists of 290 municipalities governed by municipal councils elected in the municipal elections, that appoint municipal boards to implement decisions made in the councils, much like the situation at the national and regional level. The responsibilities of the municipal councils include schooling years 0-12, daycare, care for the elderly, infrastructure such as water, sewage and some roads as well as issuing different permits. Much like the counties, the municipalities are funded by a combination of taxes, fees and government support. The municipal tax is an income tax and typically lies in the interval 17-23% (Regeringen, 2014).

In addition to the funding of counties and municipalities described above, there is also a compensation scheme that transfers funds from the central state as well as from counties and municipalities with structural benefits and surpluses to counties and municipalities with structural disadvantages and deficits. Out of five components, three exist mainly to deal with balancing the system and relating it to earlier versions. Out of the remaining two, one component distributes money to municipalities and counties with unavoidable expenses due to structural disadvantages such as large shares of elderly people, children who need schooling, or large distances which makes schooling more expensive. The last component gives money to, or takes money from, municipalities and counties based on the average taxable income of its citizens and thus equalizes the earning potential, although the actual tax rates are decided by the municipalities themselves (Statskontoret, 2014).

4 Method

As mentioned in section 2.5, Pettersson-Lidbom (2003) conducted an econometric test of fiscal policy on electoral outcomes. This is the only study we have seen that delves into this topic in a local government level Swedish setting. While this thesis aims to investigate

the same issue, we go about it in a different manner and in doing so avoid some of the assumptions that P-L makes. The two key differences are that (i) we will use the actual incumbent parties or coalitions and their change in vote shares between elections and (ii) we will not only use the election year policy choices and outcomes but instead utilize data for the full period between elections. By not assuming that Sweden can be classified as a binary party system that P-L does, we will be able to use all the municipalities, even those that are classified as having "Mixed" government, i.e. governed by a coalition of parties from both sides of the left-right divide. P-L only focuses on seat shares of right and left parties respectively and this results in the loss of some of these mixed government municipalities. As we will demonstrate in section 5.5, the mixed governments are quite numerous and, with the growth of local parties (see section 2.5) - some of whom are difficult to easily categorize in the classical left-right dichotomy - the assumption of a binary party system in Sweden seems to be growing in strength. Note however that P-L uses a different period in his study, a period where there were fewer parties at both the national and local level.

As a consequence of not making the same assumptions concerning the party system that P-L does, we are unable to use our data as a panel data set in the manner of P-L. The fact that we use the actual coalitions and that these can and do sometimes change between elections makes us unable to create a panel data set with five time values. We instead create a panel with only two time values 0 and 1, where every coalition in every ruling period (the time between two elections) can be used.

4.1 Econometric Method

The specification in Pettersson-Lidbom (2003) is written as

$$R_{it} = c_i + \lambda_t + \Delta P_{it}\omega + \Delta X_{it}\beta + \eta_{it}$$

With i denoting municipality and t time, R_{it} is the re-election probability, c_i is the municipality fixed effect λ_t is the time effect ΔP_{it} are the growth rates of the fiscal policy variables during the election year, ΔX_{it} are the changes in controls and η_{it} is the error term.

However we, unlike P-L, want to use the actual coalitions, including the mixed government types that are becoming more common. We also want to use another degree of accountability that is more sensitive, namely the change in vote shares. Thus our main empirical strategy for determining whether accountability exists on the municipal level consists of estimating a first differenced model with only two time periods. We begin by writing a simple specification in levels.

$$V_{jt} = \alpha_t + \beta_1 P_{jt} + u_{jt}$$

where V_{jt} is the vote share of the ruling coalition in municipality-coalition combination j at time t where (t=0,1), 0 being the time that a coalition is elected and 1 being the election after the coalition is elected. This means that every combination of municipalities and the four ruling periods between elections have their own specific value for j. The V_{jt} depends on a time-specific component α_t, the performance indicator P_{jt} and on the residual u_{jt}. We assume that this can be written as

$$V_{jt} = \alpha_0 + \beta_0 t + \beta_1 P_{jt} + (v_j + \epsilon_{jt})$$

where α_0 and β_0 are parameters, v_j is the municipality-coalition fixed effect and ϵ_{jt} is the error term. To remove the municipality-coalition specific fixed effects v_j which we suspect are correlated with the municipality performance levels P_{jt}, the model can be differenced with its values in the next time period, t+1.

$$V_{jt+1} - V_{jt} = \alpha_0 - \alpha_0 + \beta_0(t+1) - \beta_0 t + \beta_1 P_{jt+1} - \beta_1 P_{jt} + (v_j + \epsilon_{jt+1}) - (v_j + \epsilon_{jt})$$

which can be simplified and rewritten as

$$\Delta V_j = \beta_0 + \beta_1 \Delta P_j + \Delta \epsilon_j \tag{1}$$

To account for likely endogenous demographic changes (different demographics often vote in distinct ways and also have distinct impacts on performance metrics) a set of controls will be used in accordance

with previous studies (e.g. Pettersson-Lidbom, 2008). If included in the level model the result would be

$$V_{jt} = \alpha_t + \beta_1 P_{jt} + \boldsymbol{\theta} \cdot \mathbf{C_{jt}} + u_{jt}$$

and in the differenced model

$$\Delta V_j = \beta_0 + \beta_1 \Delta P_j + \boldsymbol{\theta} \cdot \Delta \mathbf{C_j} + \Delta \epsilon_j \tag{2}$$

where $\mathbf{C_{jt}}$ is the vector of controls including the share of the population ages 0-15, the share of the population over the age of 65, the log of average income and the log of population.

To control for time trends and for the electoral momentum of nationwide party politics (not everyone splits their votes), time dummies T are included and the ideology of the local ruling coalition is interacted with the time dummies. There are two ideological dummy variables, one for left-wing governments and one for mixed governments, i.e. governments that cross the left-right divide and include both left-wing and right-wing parties.

$$\Delta V_j = \beta_0 + \beta_1 \Delta P_j + \boldsymbol{\theta} \cdot \Delta \mathbf{C_j} + \boldsymbol{\gamma} \cdot \mathbf{T_j} + \boldsymbol{\delta_L} \cdot \mathbf{T_j} I_{j,L} + \boldsymbol{\delta_M} \cdot \mathbf{T_j} I_{j,M} + \Delta \epsilon_j \tag{3}$$

Because the elections that are included in the sample occur in the years of 1998, 2002, 2006, 2010 and 2014, there are four different periods for which time dummies are needed, i.e. 1998-2002, 2002-2006, 2006-2010 and 2010-2014. The time dummy vector $\mathbf{T_j}$ thus has four elements. $I_{j,L}$ and $I_{j,M}$ are the dummy variables for left-wing and mixed rule, respectively.

Restricting the Sample by Swing Status and Ideology

We will find a rather large number of municipalities where the ruling party/coalition stays in power throughout our period of study. According to SKL, (2016a) there were 79 municipalities where the same political side (i.e. left or right) ruled between 1994-2014. Excluding the 1994-1998 period, the number reaches 111 municipalities without changes of power between the left and right. This kind of

municipality is plausibly more characterized by habitual voting and the election excitement is perhaps more about the margin of victory for the incumbents rather than which party or coalition will actually win the election. After an initial reading of the data on all municipalities we therefore narrow down our observations and exclude the municipalities without power changes and focus on the remaining, which we choose to call "swing municipalities". These represent the battleground municipalities where there is often a smaller margin of victory and there is potentially more scope for voters to enact a higher level of accountability, i.e. ousting the incumbents. Restricting the sample to swing municipalities respectively could provide insights into what is driving potential effects in the full sample.

In order to explore potentially differing effects from the ideology of the incumbents on the results, we also run the regressions while restricting the sample by the ideology of the incumbent governments. Utilizing SKL's classification of the ideology of municipal governments the restricted samples consist of left, right and mixed government respectively. It is plausible that e.g. tax changes could have different effects depending on the expectations voters have of their governments and these could differ depending on the ideology of the incumbents.

4.2 Extended Regressions

As mentioned in the literature review, there are studies trying to discern whether voters act myopically or retrospectively over a longer period of time. Equation (3) above can easily be modified to investigate this by dividing the difference in performance measure into different periods, one for each year of the period. The regression equation (3) can be rewritten for this purpose as

$$\Delta V_j = \beta_0 + \sum_{k=1}^{4} \beta_{1,k} \Delta P_{j,k} + \boldsymbol{\theta} \cdot \Delta \mathbf{C_j} + \boldsymbol{\gamma} \cdot \mathbf{T_j} + \boldsymbol{\delta_L} \cdot \mathbf{T_j} I_{j,L} + \boldsymbol{\delta_M} \cdot \mathbf{T_j} I_{j,M} + \Delta \epsilon_j$$

where the $\Delta P_{j,k}$, $(k \in [1, 2, 3, 4])$ are the performance measure differences in municipality-coalition combination j for year 1, 2, 3, 4 of the ruling period, respectively. Thus for example in Stockholm period

2006-2010, using tax rate as the performance indicator, $\Delta P_{j,1}$ is the tax rate in 2007 minus the tax rate in 2006, $\Delta P_{j,2}$ is the difference between tax rates in 2008 and 2007, and so on.

4.3 Exit Polls and Choice of Variables

To gain information on which performance measures to use, the Swedish exit polls from the different elections have been studied, in combination with the responsibilities of the municipal level of government and the municipal equalization system, to select variables that are suitable for testing. The results of the exit polls have been summarized in Figure 1 below, and show that the number of issues that a significant share of the electorate consider to be of very great importance is fairly large. For example, 15 of the questions have 30% or more of the electorate finding the question of very great importance (SVT 2014).

Some issues, such as schooling and employment are especially important. Schooling is also the direct responsibility of the municipality and constitutes a good example of a non-fiscal performance measure. The link between employment and municipal responsibilities is not as direct since the responsibility of the municipality consists more in providing suitable conditions for high employment rather than creating jobs within the municipal organization, although the municipalities employ 760,000 people (SKL, 2016b).

Figure 1: Exit polls 1998-2014, percentage of voters that find the question to be of very great importance

Question	1998	2002	2006	2010	2014
Education	59	67	54	54	60
Healthcare	55	64	51	49	54
The Swedish economy	57	56	50	53	52
Social welfare	-	-	-	46	51
Employment	58	51	56	53	50
Elderly care	46	53	45	40	47
Equality between men and women	36	44	37	37	40
Pensions	-	-	-	33	38
Personal economy	-	-	44	41	37
Environment	27	34	31	34	36
Profits in the public services sector	-	-	-	-	35
Taxes	36	36	32	34	34
Housing	-	-	-	-	33
Refugees/immigration	19	32	25	26	33
Law and order	40	47	41	32	32
Energy and nuclear power	30	29	35	30	29
Conditions for businesses	32	32	35	30	28
EU	28	28	20	16	19
Defence	-	-	-	-	19

Source: SVT (2014).

A suitable economic variable to test as a performance measure is the tax rate, since every Swedish taxpayer can see the municipal tax rate directly on his tax declaration, which must be handed in every year. Thus voters should plausibly be more informed about this measure than many other variables. Furthermore, an objective performance measure of basic schooling (years 0-9) is a good candidate for a variable to test. While schooling years 10-12 (high-school) is also the responsibility of municipalities, some small municipalities might have very limited capacity for or completely lack this form of schooling, cooperating with neighboring municipalities to provide education years 10-12.

As mentioned above, employment is also among the more important questions for voters, although it is hard to determine the extent to which they hold the municipalities and the central state accountable for changes in it, if at all.

Out of the remaining questions, the national defence is not relevant since it is on the national level, health care is administered by the counties, and so on. Thus the variables chosen to be included are differences in tax rate, fiscal result, municipal debt, expenditure,

employment, eligibility rate for secondary school, merit score for primary school as well as the accumulated fiscal result.

Finally, since for example the effect of taxes might be dependent on what the taxes are used for, there will be a final regression with all performance indicators to isolate the effect of tax increases ceteris paribus, since it might be contingent on things such as spending differences.

4.4 Hypotheses

In order to empirically test the research question, we formulate statistical hypotheses to be able to determine if there is an effect on the vote share of incumbents from a number of performance measure outcomes. For each of our chosen indicators of performance we will thus test the following hypothesis:

$H_0 : \beta_1 = 0$, i.e. no significant performance effect on the vote share of incumbents.

$H_1 : \beta_1 \neq 0$, i.e. significant performance effect on the vote share of incumbents.

Being able to reject the null hypothesis in the case of all the chosen variables above would lend support to the idea that voters actually do hold politicians accountable (accountability being in the form of change in vote share) for their actions.

In the extended regressions, we instead have the following statistical hypotheses:

$H_0 : \beta_{1,1} = \beta_{1,2} = \beta_{1,3} = \beta_{1,4} = 0$

$H_1 :$ one or more of $\beta_{1,1}, \beta_{1,2}, \beta_{1,3}, \beta_{1,4} \neq 0$

If voters hold parties responsible for the entire time periods that they rule, then we would expect to reject the null for the coefficients of all years. If voters act myopically, we would expect to reject the null only for β_1^4. If parties are not being held accountable at all, we do not expect to reject the null for any of the coefficients.

5 Data

5.1 Availability and Sources

The data used has been publicly available and mostly originates from official sources such as Statistics Sweden (SCB), the Swedish Election Authority (Valmyndigheten) and entities like The Swedish Association of Local Authorities and Regions (SKL). Most of the collection of the data has been through Kolada, (*Kommun- och Landstingsdatabasen*) which acts as an aggregator of data on Swedish municipalities and counties, collecting data from the aforementioned official sources.

A caveat in the data availability is that most variables are reported only after the mid 90's. Before 1996 the data for most variables is not available digitally and there are also some comparability issues that arise when going back further than what is digitally available. This has thus acted as an obstacle for using a longer period of time for the study at hand. Another factor that has acted in a limiting fashion is the SKL classification of municipal government ideology. SKL has only classified municipal governments back to 1994 and this, combined with the mentioned variable availability issues, results in the use of the 1998 election as a starting point for the study.

Furthermore, some variables that could have constituted good performance metrics such as objective measures of elderly care, have only recently started being available in the databases mentioned above, with data only for recent years. Thus investigations using these new metrics will have to be left for future research.

5.2 Dependent Variable

As the dependent variable, we will use the vote share change between elections for the ruling coalition in every municipality. The classification of ruling coalitions and what parties constitute them are taken from SKL (2016a). The vote share change is determined by simply summing the vote shares of the parties in the ruling coalition at the end of the "ruling period" and subtracting their share of the votes at the start of the period. As an example, for the period 2010-2014 in Orust municipality, SKL classifies the ruling coalition

as consisting of the Social Democrats, the People's Party and the People's Will on Orust. Their vote shares were 26%, 12%, 6% respectively in the 2014 election and 27%, 11%, 12% respectively in the 2010 election, thus the change in vote share was -6% points. An issue that arises is the tendency of small, local parties becoming defunct and simply not running for reelection at the end of a period during which they were part of the ruling coalition. Since there is no obvious solution and since most local parties are either in clearly left-wing or clearly right-wing coalitions, we have chosen to assume that most of the voters of a defunct party have chosen to vote for another party in the ruling coalition if they were satisfied with the performance of the ruling coalition during that period.

Figure 2: Descriptive statistics for the dependent variable

VARIABLE	Mean	Std.dev.	Min	Max
ΔVote share	-3.155	5.675	-26.64	19.90

A number of municipalities are classified by SKL as having shifting majorities for some time periods, meaning that the ruling coalition changes during the term. Since this means that there is no clearly defined coalition, these coalition-municipality combinations were excluded during the time periods when they were shifting majorities. Furthermore, coalition-municipality combinations in which all seven parties that were represented in the parliament from 1998 were in the ruling coalition were also excluded since not much choice is left for the voter who feels dissatisfied with the performance of the ruling coalition.

5.3 Independent Variables

The independent variables consist of a number of performance measures or indicators of municipal performance that could plausibly affect voters' decisions at the ballot.

The first indicator is the municipal tax rate. Using the tax rate as a performance measure is quite straightforward and while it could be argued that it is more of a policy choice than an outcome, there is a connection between the fiscal outcomes and the tax rate. It is also

likely to be associated with voters' perceptions of performance.

The other fiscal variables that will be used are the differences in debt and fiscal results, as well as the difference in municipal expenditure.

Figure 3: Descriptive statistics for the independent Variables

Performance measure	Definition	Unit	Source
Tax	Municipal tax rate	%	SCB
Expenditure	Cost of municipality core activities (primarily tax-financed services)	SEK/ Inhabitant	SCB
Result	Result before non-recurring items at the municipal group level (incl. municipality-owned companies)	SEK/ Inhabitant	SCB
Debt	Non-current liabilities at the municipal group level (incl. municipality-owned companies)	SEK/ Inhabitant	SCB
Employment	Working population share, ages 20-64	%	
Merit Score	Mean merit score, result for schools located in the municipality	Points (max is 320)	Skolverket
Eligibility	Share of students in the 9th grade eligible for vocational programs, result for schools situated in the municipality	%	Skolverket

Figure 4: Descriptive statistics of the performance measure differences

VARIABLES	Mean	Std.dev.	Min	Max
Tax_Period	0.170	0.350	-0.870	2.630
Expenditure_Period	6,452	2,463	-1,872	40,948
Result_Period	414.3	2,482	-15,854	29,179
Debt_Period	3,517	9,649	-71,616	57,230
Employment_Period	0.964	1.986	-5.300	10.60
Merit_Score_Period	2.082	10.15	-87.40	50
Eligibility_Period	-1.526	4.757	-27.60	22

5.4 Control Variables

The control variables include growth in income (log difference in income multiplied by 100), growth in population (log difference in population multiplied by 100), differences of population shares of young people (0-15) and old people (+65). See figure below for descriptive statistics.

Figure 5: Descriptive statistics for the control variables

VARIABLES	Mean	Std.dev.	Min	Max
ΔYoung (%-point)	-0.680	0.826	-3.800	2.300
ΔOld (%-point)	-0.417	2.263	-7	6.600
Income Growth (%)	11.20	1.780	2.786	19.80
Pop_Growth (%)	0.218	3.364	-8.659	13.21

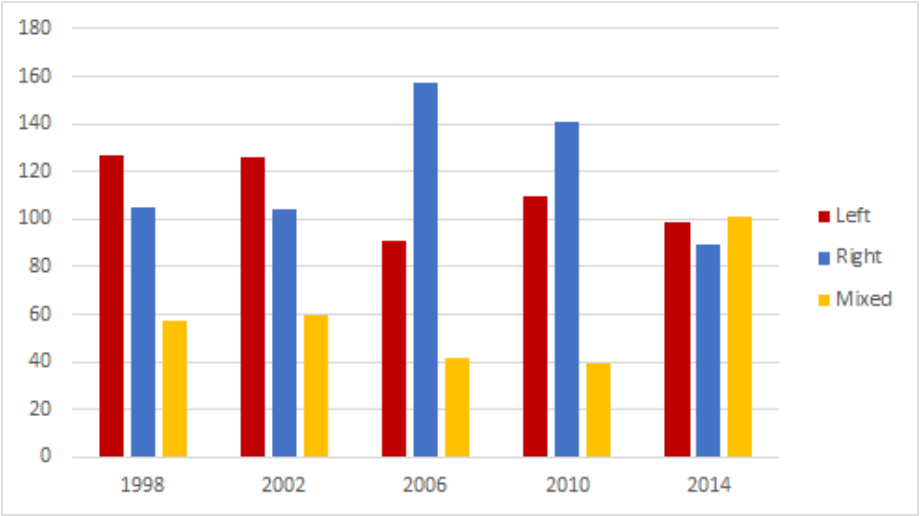
5.5 Ideology Classification

The ideology classification used to create the period-ideology interaction dummies was taken from SKL (2016a), who have classified all local governments into different categories since 1994. The different forms are:

- V, vänster - left-wing
- Bo, borgerlig - general right-wing
- A, alliansen - Swedish right-wing alliance between all four right-wing parties in parliament (M, KD, C and FP), created before the 2006 election
- Bl, blandat - Mixed left- and right-wing
- Ö, övrigt - other rule

A and Bo were combined into the same right-wing variable. This combined right-wing rule was set as the baseline in all regressions, with dummies for left-wing and mixed rule. There was no municipality ruled by an "Ö" government during any of the time periods included in this study. The proportions of the different government types can be seen in figure 6. It should be pointed out that the x-axis in the figure shows starting years for the period coalitions, thus 1998 shows the distribution of different governments ideologies 1998-2002, 2002 shows the period 2002-2006, and so on. This means that the last value, 2014, is not included in this investigation, since that period has not yet ended (2014-2018). The 2014 value however serves to illustrate that Sweden may be moving away from a party system that can easily be classified as binary between left and right.

Figure 6: Ideology of Municipal Governments 1998-2014



Source: SKL (2016a).

6 Results

In this section, the results of the estimated regressions will be presented. Starting with the complete set of all municipalities, we continue with the results for our restricted samples, i.e. swing municipalities and left, right and mix rule municipalities respectively. In all regression tables, the calculated standard errors are heteroskedasticity-robust. The reported results below have not been adjusted for potential clustering at the municipal level. However, all results have since been re-run allowing for clustered standard errors and the results were only marginally effected. There was no change in which variables are statistically significant. For the purpose of presentation, we include the tables that we find to drive the results in this section while those of lesser interest can be found in the appendix.

Note that the the reason for the number of observations varying across the samples is minor gaps in the data for the underlying performance measures. These gaps are assumed to not affect the results in any systematic way.

All Municipalities

Figure 7: Period outcome effects on incumbent's vote share - All

VARIABLES	(1) ΔVote share	(2) ΔVote share	(3) ΔVote share	(4) ΔVote share	(5) ΔVote share	(6) ΔVote share	(7) ΔVote share	(8) ΔVote share
Tax_Period	-1.415***							-1.531***
	(0.478)							(0.497)
Expenditure_Period		9.15e-05						0.000143
		(9.33e-05)						(9.59e-05)
Result_Period			-5.50e-05					-5.06e-05
			(5.31e-05)					(5.43e-05)
Debt_Period				-1.71e-05				-1.62e-05
				(1.48e-05)				(1.54e-05)
Employment_Period					0.00318			-0.0909
					(0.139)			(0.145)
Merit_Score_Period						-0.00623		0.0115
						(0.0158)		(0.0209)
Eligibility_Period							-0.0326	-0.0447
							(0.0322)	(0.0409)
Constant	-6.831***	-7.447***	-7.025***	-7.217***	-7.030***	-7.043***	-7.101***	-8.197***
	(1.476)	(1.613)	(1.469)	(1.472)	(1.569)	(1.472)	(1.478)	(1.760)
Observations	1,131	1,125	1,130	1,122	1,131	1,127	1,117	1,104
R-squared	0.180	0.176	0.175	0.175	0.173	0.172	0.173	0.183
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Period Dummies	YES	YES	YES	YES	YES	YES	YES	YES
Period-Ideology Interactions	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 7 displays the result for the full population of Swedish municipalities. The change in tax rate (1) is significant at the 1% level but all other performance measures lack significance. In column (8), where all measures are included in the regression simultaneously, tax changes retain their significance. The interpretation of the results on tax is that raising the tax rate during a period is negative for the incumbents vote share in the next election. A 1 percentage point tax rate increase would translate into about 1.4-1.5 percentage points lower vote share for the incumbents, depending on the specification. The reverse also applies with a tax decrease translating into higher vote share for the incumbents.

Figure 8: Negativity bias

VARIABLES	(1) ΔVote_share
Tax_periodNEG	-0.164
	(1.315)
Tax_periodPOS	-1.663***
	(0.563)
Constant	-6.769***
	(1.475)
Observations	1,131
R-squared	0.181
Controls	YES
Period Dummies	YES
Period-Ideology Interactions	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

If the tax period variable is split into increases and decreases in the tax rate, the result in Figure 8 is similar to that found by Boyne et al. (2009), reviewed in section 2.4. There is seemingly a negativity bias in the voters' response with only increases in tax rates eliciting a significant and negative response.

Swing Municipalities

Figure 9: Period outcome effects on incumbent's vote share - Swing

VARIABLES	(1) ΔVote share	(2) ΔVote share	(3) ΔVote share	(4) ΔVote share	(5) ΔVote share	(6) ΔVote share	(7) ΔVote share	(8) ΔVote share
Tax_Period	-1.662**							-1.666**
	(0.656)							(0.686)
Expenditure_Period		3.95e-05						0.000106
		(0.000125)						(0.000129)
Result_Period			-5.40e-05					-6.74e-05
			(6.84e-05)					(6.78e-05)
Debt_Period				-3.38e-05				-3.14e-05
				(2.09e-05)				(2.23e-05)
Employment_Period					-0.117			-0.251
					(0.184)			(0.196)
Merit_Score_Period						-0.0229		-0.0116
						(0.0194)		(0.0275)
Eligibility_Period							-0.0372	-0.0137
							(0.0419)	(0.0542)
Constant	-7.154***	-7.161***	-7.147***	-7.464***	-7.793***	-7.105***	-7.201***	-8.855***
	(1.912)	(2.101)	(1.919)	(1.910)	(2.093)	(1.907)	(1.931)	(2.362)
Observations	687	681	686	683	687	685	677	669
R-squared	0.151	0.147	0.145	0.146	0.143	0.143	0.144	0.158
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Period Dummies	YES	YES	YES	YES	YES	YES	YES	YES
Period-Ideology Interactions	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

When restricting the sample to swing municipalities (Figure 9) there is little change in the result. Tax change is still relevant at the

1% level, both in specification (1) and (8). The only difference is that the coefficients on tax changes become slightly larger for this sample. A 1 percentage point tax rate increase would now result in 1.7 percentage points lower vote share for incumbents.

Municipalities by Incumbent Ideology

Figure 10: Period outcome effects on incumbent's vote share - Mixed rule

VARIABLES	(1) ΔVote share	(2) ΔVote share	(3) ΔVote share	(4) ΔVote share	(5) ΔVote share	(6) ΔVote share	(7) ΔVote share	(8) ΔVote share
Tax_Period	-3.840***							-4.155***
	(1.317)							(1.456)
Expenditure_Period		0.000413*						0.0005**
		(0.000237)						(0.000240)
Result_Period			-0.00042**					-0.000392
			(0.000211)					(0.000251)
Debt_Period				-9.70e-05				-0.000118
				(6.44e-05)				(7.40e-05)
Employment_Period					-0.390			-0.706*
					(0.314)			(0.380)
Merit_Score_Period						0.0364		0.0362
						(0.0544)		(0.0658)
Eligibility_Period							0.0425	0.0546
							(0.106)	(0.134)
Constant	-8.763*	-13.14**	-8.729*	-9.407**	-11.45**	-9.449**	-9.308**	-16.69***
	(4.521)	(5.330)	(4.518)	(4.495)	(4.864)	(4.549)	(4.597)	(5.647)
Observations	178	176	178	178	178	177	177	175
R-squared	0.135	0.118	0.116	0.114	0.109	0.105	0.104	0.194
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Period Dummies	YES	YES	YES	YES	YES	YES	YES	YES
Period-Ideology Interactions	NO	NO	NO	NO	NO	NO	NO	NO

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

If the sample is restricted to left-wing or right-wing municipalities, the tax rate loses significance (see Figures 12-13 in the Appendix). The only performance measure that is significant is expenditure in right rule municipalities, but only at the 10% level. The mix rule municipalities however, have highly significant results for the tax change (1). The coefficient on the tax change is also substantially larger than in either the full sample or the swing municipalities. A 1 percentage point tax rate increase would now result in 3.8-4.2 percentage points lower vote share for incumbents.

Looking at the mix rule municipalities we also find significance for expenditure (2) at the 10% level and for the fiscal result (3) at the 5% level. The interpretation of these is that for every SEK of increased expenditure, there is an increase in vote share for incum-

bents while the opposite is true of the fiscal result. The result for the fiscal result is a bit counter-intuitive as the intuition would indicate that a positive result would be an indication of good performance and would thus be rewarded with increased vote share for the incumbents. When all measures are included in (8), the result loses significance but expenditure is significant at the 5% level.

Far-Sighted vs Myopic

Figure 11: Yearly outcome effects on incumbent's vote share - All

VARIABLES	(1) ΔVote share	(2) ΔVote share	(3) ΔVote share	(4) ΔVote share	(5) ΔVote share	(6) ΔVote share	(7) ΔVote share	(8) ΔVote share
Tax_1	-0.908							-0.922
	(0.731)							(0.799)
Tax_2	-0.597							-0.752
	(0.821)							(0.827)
Tax_3	-2.313**							-2.428**
	(1.061)							(1.118)
Tax_4	-2.794***							-2.740***
	(0.962)							(1.016)
Expenditure_1		8.62e-05						0.000185
		(0.000142)						(0.000145)
Expenditure_2		1.49e-05						7.70e-05
		(0.000188)						(0.000187)
Expenditure_3		5.40e-05						9.73e-05
		(0.000145)						(0.000151)
Expenditure_4		0.000179						0.000226
		(0.000145)						(0.000155)
Result_1			6.63e-06					-1.86e-05
			(7.82e-05)					(8.68e-05)
Result_2			-9.01e-05					-5.74e-05
			(8.99e-05)					(9.71e-05)
Result_3			-0.000103					-7.63e-05
			(8.45e-05)					(9.56e-05)
Result_4			-7.89e-05					-6.56e-05
			(6.54e-05)					(6.94e-05)
Debt_1				-2.36e-05				-1.12e-05
				(3.01e-05)				(3.22e-05)
Debt_2				-2.64e-05				-1.90e-05
				(2.98e-05)				(3.17e-05)
Debt_3				-4.30e-06				-1.09e-05
				(3.19e-05)				(3.38e-05)
Debt_4				-1.44e-05				-2.88e-05
				(3.35e-05)				(3.52e-05)
Employment_1					0.281			0.204
					(0.272)			(0.287)
Employment_2					-0.139			-0.275
					(0.236)			(0.242)
Employment_3					-0.222			-0.315
					(0.268)			(0.270)
Employment_4					0.178			0.0830
					(0.303)			(0.311)
Merit_Score_1						-0.0470**		-0.0141
						(0.0229)		(0.0296)
Merit_Score_2						-0.0141		0.00736
						(0.0264)		(0.0351)
Merit_Score_3						0.0227		0.0535
						(0.0273)		(0.0345)
Merit_Score_4						0.0155		0.0142
						(0.0215)		(0.0266)
Eligibility_1							-0.105**	-0.0988*
							(0.0409)	(0.0529)
Eligibility_2							-0.0805	-0.101
							(0.0548)	(0.0721)
Eligibility_3							-0.00653	-0.0906
							(0.0523)	(0.0627)
Eligibility_4							0.0367	0.0261
							(0.0419)	(0.0504)
Constant	-6.838***	-7.472***	-7.023***	-7.202***	-7.168***	-6.846***	-7.144***	-8.339***
	(1.476)	(1.611)	(1.472)	(1.489)	(1.585)	(1.476)	(1.473)	(1.802)
Observations	1,131	1,125	1,130	1,122	1,131	1,127	1,117	1,104
R-squared	0.183	0.177	0.176	0.175	0.176	0.176	0.178	0.199
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Period Dummies	YES	YES	YES	YES	YES	YES	YES	YES
Period-Ideology Interactions	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

When looking at the outcomes on a yearly basis for each four-year period (Figure 11), the picture remains largely the same across the performance measures as it was for the period outcomes. Tax changes are the only measure that is consistently highly significant across all municipalities as well as when restricting the sample to swing (Figure 14 in the Appendix). When dividing the sample along ideological lines, the picture yet again matches the period results, tax change loses significance but is highly significant in mix rule municipalities (Figure 17 in the Appendix). The coefficient is also quite large in the mix sample.

Looking into the yearly effect we see that there is a myopic tendency in voting as the tax changes in year 3 and 4 of a period have a highly significant effect with an increasingly large coefficient. These results indicate that raising taxes in an election year would translate into a decrease in the incumbents' vote share and that the negative effect would increase with proximity to the election.

7 Discussion

7.1 Informed Accountability

The results presented above might at first seem counter-intuitive, since the area that the fewest voters claimed was important in the exit polls was the only one that displayed statistical significance and economic importance across specifications. First of all, it should be noted that the old adage "the absence of evidence is not the evidence of absence" holds especially true in statistical investigations and that failure to reject the null hypothesis cannot be taken as evidence for the absence of an effect. However, the tax change has a statistically significant effect across specifications, although it is limited to changes in the two last years of the ruling period when the differences are divided per year.

If we assume that the variable that has an economically important effect is in fact tax change and that the rest do not have a large effect, there might be several reasons for these results.

Core Accountability Issue
Firstly, voters must use past performance indicators to inform them

on their voting decisions. Of course there is first of all the assumption that people care about metrics such as schooling and taxes, but this we assume to be self-evident and not controversial. The issue of accountability and elections was discussed in the literature review and as was concluded there, the questions of exactly what reasons voters have for voting are not important for the outcome, since both retrospective voters (rewarding or punishing politicians) and prospective voters (using past performance to inform about future decisions) cause voters to care about previous performance.

Information/Knowledge Issue

Secondly, for the actual performance of municipalities in terms of important indicators to have an impact on the outcome of elections and vote shares, the voters must have access to correct information. This is likely to factor into our results above. The tax rate is very clear to Swedish, tax-paying voters, since all tax-payers file tax returns annually in which the combined county and municipality tax is explicitly stated. Thus comparisons from year to year are easy to perform. This is in contrast to the other variables, which we do not believe that the average voter has the same amount of information about. Because taxes can be relatively easily compared, it might be that it is not merely the actual changes in tax rates and their effects on households' economies that are valued, but also the signaling effect of raising taxes, since it could be interpreted by voters as being caused by an inefficient government.

What is considered important could also vary between elections, and the media could choose to cover different issues based on what the public wants, thus changing which issues the voters are informed *and* care about. It is also quite possible that the electorate differs in the degree to which it is informed. There is no contradiction between most voters feeling that schooling is important while only parents of children currently in school are informed about changes in the quality of schooling.

Level of Government Issue

Thirdly, there is the issue of the extent to which voters attribute different performance measure differences to different levels of government. In a country with a unitary state such as Sweden, the central state creates all laws and the counties and municipalities are tasked with managing certain tasks in their respective geographic

areas. However, as was mentioned in section 3, tax rates and services are allowed to differ in certain respects, and sometimes quite a lot. In fact the unitary state local setting might make discerning accountability easier, since voters might be less ideological in municipal matters and rewarding politicians for good performance rather than for enacting ideologically colored policies, which is often the case at the national level. This issue might be particularly relevant for metrics such as employment or educational results, since large economic policy changes and education policy changes are both mostly discussed and controlled at the national level.

Measurement Issue

Lastly, it might be the case that voters interviewed in the exit polls are not being honest when giving their answers. There could be an effect from voters being unwilling to say that they care a lot about taxes since this might be perceived as greedy. A comparison could be made to the discrepancy between measured Sweden Democrat support and the actual election outcome, where SD received approximately 23% higher support than in the adjusted exit poll (SVT ValU). This does not seem to be the case though, since a similarly sized underestimation of the share of voters who consider taxes important still does not push tax issues to a more important position than employment and schooling (SVT, 2014).

Informed Accountability Criteria

The four different conditions for measuring accountability that have been discussed above are factors that we believe to be important in any study of accountability at any level of government. For any study to actually detect evidence of accountability, voters must use the voting mechanism to hold politicians accountable, they must know about changes in relevant metrics and they must attribute those changes to the correct level of government. Finally, if an economist is to be able to investigate this issue, the voters must be honest about their beliefs and what they actually find to be important performance metrics. In our study, we believe that in particular the information requirements might not be fulfilled. This is supported by the fact that the issue where information is most accessible to voters, tax rate changes, has a statistically significant effect on the vote share difference of the ruling coalition across specifications, despite not ranking particularly highly among important

voter issues.

7.2 Connecting to Pettersson-Lidbom

In section 2.5, we reviewed how Pettersson-Lidbom (2003) found that conditional on taxes, spending was positively related to electoral success. Before drawing comparisons between our study and that of P-L, we firstly note that differing results between our work and that of P-L could arise from our different approaches. P-L uses data from another time period (1974-1998) and he works under different assumptions of the Swedish party system and is thus able to use a different method. He also focuses on another level of accountability, power changes, meaning that his dependent variable is probability of reelection whereas ours is change in vote share. These factors complicate direct comparisons between our studies.

Another notable difference compared to P-L's work is that we are able to include the full sample of municipalities whereas P-L only works with those he can classify as left- or right-wing rule. When restricting our samples, we find that the municipalities that are governed by mixed coalitions seem to drive the results of our findings with highly significant and large coefficients of the effects in this restricted sample.

The findings themselves also show some key differences as our study finds that taxes are the only consistently significant performance measure that has an effect on incumbents' vote shares while expenditures largely lack significance. This holds for the full sample but when we look at mix-rule municipalities this is no longer true. For this restricted sample, we get results in line with P-L as, conditional on taxes, expenditures is positively related to electoral success. This might be due to the mixed municipalities being more unstable and sensitive since they demand ideological compromises. As was mentioned previously, municipal politics are less ideological, but most of our observations are still from either right-wing or left-wing coalitions.

7.3 Limitations and Uncertainties

One potential limitation has been our lack of control over the dependent variable. We have relied completely on the SKL classification of coalition ideologies and we have not verified the accuracy of the classification of small local parties into ideological coalitions. However, unless there is a systematic misclassification of some type of parties this should not affect the results adversely other than by adding noise.

Other than through the inclusion of time and time-ideology interaction dummies, we have not accounted for the differences in election coverage over different years, rather we have relied on voters finding the same types of questions to be important over time. It might be that voters cared about, say, school results in a year in which the reporting was heavily skewed towards schooling to base most of their voting decision on schooling that particular election. However, we do not believe that this issue has affected the results here particularly, since the exit polls indicated that the issues important to voters remained roughly the same and were ranked in approximately the same order between elections.

Some things that have not been accounted for using the methods in this thesis are due to the retrospective voting and split-ticket voting issues. For example, voters punishing the coalitions while still voting within the coalitions cannot be captured with our approach. This case potentially arises when one party is held more accountable for certain issues than other parties. Kiss (2009) has explored this theoretically when he models the possibility of coalition government and finds that accountability becomes problematic in the case of unity governments since it cannot be given appropriate collective incentives. To incentivize government performance, voters thus make one coalition party responsible for the outcome. This, however makes the other coalition party interested in sabotage. There are numerous real-world examples of incumbent coalitions who have managed to come out of elections with very differing results on a party level. In the latest UK elections in 2015 the Conservatives and Liberal Democrats had been in a coalition government for five years but the Conservatives were the clear winners of the election while the Liberal Democrats were nearly wiped out from Parliament.

Furthermore, voters might simply abstain from voting altogether if they feel that the party they usually vote for is not living up to their standards but are unwilling to compromise ideologically. Ideology itself is also a factor that we do not capture the magnitude of in this study. There are voters, plausibly a significant share of the electorate, that will always vote for a certain side of the ideological divide, maybe even a specific party, regardless of past outcomes and other factors. If a voter identifies with a certain party's core ideology this could be more important than short term changes in outcomes. The effect these voters have on our study is difficult to quantify and has not been an object of study here but it likely reduces the coefficients of the estimates when these voters do not act retrospectively and are not affected by the outcomes of performance measures.

It has also not been possible for us to check local election campaigns for changes in coalitions or campaigning strategies before elections. For example, some right-wing parties that were part of a local mixed-government coalition might have opted out and started campaigning for another coalition than the ruling one when "Alliansen", the national right-wing coalition was formed before the 2006 elections.

Finally, because we consider only two points in time, the election year that a coalition is elected and the subsequent election, we have no way of accounting for the case where voters reward parties for behaviour in the more distant past, as was discussed at the end of section 2.3.

7.4 Other Topics

At the beginning of this thesis, relevant concepts of accountability were discussed using phrases such as "holding local politicians accountable for their performance". Since the previous results section as well as the following discussion below of these results are the results of a very specific econometric specification we feel the need to connect back to the literature and ask whether the obtained results provide answers for the research questions we posed earlier.

Firstly, is the dependent variable a good measure of accountability? We would argue that it is, since it is the most basic and sensitive

way of measuring electoral success or failure. Using any of the other degrees of accountability presented in the literature review would of course measure accountability, but with a sort of threshold, meaning that they would measure accountability of such a strength as to affect the actual rule of a municipality. Thus we consider the dependent variable used above to be the most intuitive and suitable available to us.

Secondly, one objection to the interpretation we have made above is the fact that objective measures are used instead of perceived performances. Would it not be better to try and find voters' perceptions of outcomes to use for performance measures since these are more likely to be the actual bases for voters' decisions? Again, it depends on how we interpret the results. In this thesis our objective has been to find the effects of actual changes in performance measures on the vote shares, but an interesting extension would be to look at perceived changes and the link between perceived and actual performance changes. It is also, given our method, not possible to discern in what way voters become informed about actual changes in performance. Is it through their media consumption, via government documents (such as tax returns) or does a large enough group of voters "feel" the change directly for it to matter?

8 Conclusion

This paper has investigated whether Swedish voters hold their incumbent local governments accountable by looking at the effects of performance measures on changes in vote shares for incumbents. The results indicate that voters hold incumbents accountable for changes in municipal tax rates but that the other chosen indicators of municipal performance do not have any consistently significant effects on the electoral results for incumbents. The effect of tax changes seems to be driven by municipalities where incumbents were of mixed ideological composition, i.e. containing parties on both the left and right side of the ideological divide. This finding suggests that voters hold incumbents accountable for what is probably the most visible indicator of municipal performance. The findings also lend weight to the assumption that there is a myopic tendency among voters, that they are indeed more affected by outcomes closer

to elections.

8.1 Topics for Future Research

We believe there to be significant potential for continuing research in the field of local elections and economics. Particularly interesting topics lie somewhere on the borders of media research, political science and economics and include combining the issues of media focus, politicians' behaviour, economic performance and voters' responses.

The next step for us would likely have been to extend Pettersson-Lidbom's method to our time period to see if it would have yielded similar results. This could be done with the degree of accountability changed from the one used in P-L's original study (probability of re-election) to the one used in this thesis (vote share changes), for comparability.

8.2 Policy Implications

If our theorizing regarding the results in the discussion above is correct, then there are potential policy implications. Though we do not have much to say regarding issues such as decentralization versus centralization or the amount of government services to be provided at each level, we have seen that the tax rate change was the only measure to have a consistently statistically significant effect on vote share changes and also the one that we expect voters to be best informed about. At the same time, government agencies are building large databases with a wide variety of objective performance measures. Furthermore, it must be recognized that even if voters have a fairly large stake in elections, the amount of time they are willing to spend is not infinite. This means that it is not rational for voters to be perfectly informed, and perhaps not very well informed at all.

We think that these three facts, the information necessary to make voting decisions, the large and perhaps underused databases combined with the limited time of voters might warrant a report card of sorts, to be included with tax forms every year. These could state changes in different measures between years and also show the tax

filing individual's municipality in comparison to others in the same county and nationally.

8.3 Contribution

The contribution of this paper has been to shed some light on the functioning of political accountability in local government, a level of government that is often neglected in research but which is a highly relevant part of the democratic system of government and which in many ways plays a greater role in the lives of voters than the national governments that scholars often focus on in their studies. Using Swedish data we have found results that exhibit signs of some accountability in Swedish municipalities without some of the simplifying assumptions on the Swedish party system that other studies have used. The previously unexplored accountability effect in mix-rule municipalities is a consequence of our different approach. We have also studied the validity of the assumptions on voters' short-sightedness and found them to have some merit. Furthermore, our study has included a wider range of performance measure outcomes, including non-fiscal measures, than most other empirical work.

We conclude this thesis by observing that our findings are in line with those of Key (1966): *"(I)n the large the electorate behaves about as rationally and responsibly as we should expect, given the clarity and the alternatives presented to it and the character of the information available to it."*

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10 Appendix

Figure 12: Period outcome effects on incumbent's vote share - Left rule

VARIABLES	(1) ΔVote share	(2) ΔVote share	(3) ΔVote share	(4) ΔVote share	(5) ΔVote share	(6) ΔVote share	(7) ΔVote share	(8) ΔVote share
Tax_Period	-1.279							-1.226
	(0.927)							(0.938)
Expenditure_Period		-0.000102						-7.34e-05
		(0.000151)						(0.000152)
Result_Period			2.80e-06					-8.78e-06
			(8.59e-05)					(8.09e-05)
Debt_Period				-1.01e-05				-7.57e-06
				(2.28e-05)				(2.36e-05)
Employment_Period					0.0782			0.0367
					(0.224)			(0.226)
Merit_Score_Period						-0.0343		-0.0345
						(0.0231)		(0.0326)
Eligibility_Period							-0.0475	-0.00762
							(0.0538)	(0.0658)
Constant	-4.507**	-3.710*	-4.516**	-4.672**	-4.129**	-4.620**	-4.730**	-3.927*
	(1.843)	(1.988)	(1.851)	(1.856)	(2.037)	(1.846)	(1.880)	(2.302)
Observations	449	446	449	444	449	448	444	436
R-squared	0.071	0.069	0.066	0.063	0.066	0.070	0.065	0.073
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Period Dummies	YES	YES	YES	YES	YES	YES	YES	YES
Period-Ideology Interactions	NO	NO	NO	NO	NO	NO	NO	NO

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 13: Period outcome effects on incumbent's vote share - Right rule

VARIABLES	(1) ΔVote share	(2) ΔVote share	(3) ΔVote share	(4) ΔVote share	(5) ΔVote share	(6) ΔVote share	(7) ΔVote share	(8) ΔVote share
Tax_Period	-0.653							-0.945
	(0.632)							(0.674)
Expenditure_Period		0.000197*						0.000230*
		(0.000116)						(0.000124)
Result_Period			-5.44e-05					-4.30e-05
			(7.59e-05)					(8.20e-05)
Debt_Period				-5.90e-06				-8.35e-06
				(2.01e-05)				(2.09e-05)
Employment_Period					0.0742			-0.0563
					(0.221)			(0.229)
Merit_Score_Period						0.0127		0.0426
						(0.0207)		(0.0289)
Eligibility_Period							-0.0440	-0.0977*
							(0.0397)	(0.0539)
Constant	-5.978***	-7.359***	-6.056***	-6.299***	-5.927***	-6.355***	-6.129***	-7.979***
	(2.032)	(2.172)	(2.028)	(2.012)	(2.117)	(2.022)	(2.026)	(2.363)
Observations	504	503	503	500	504	502	496	493
R-squared	0.295	0.299	0.296	0.296	0.294	0.292	0.294	0.306
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Period Dummies	YES	YES	YES	YES	YES	YES	YES	YES
Period-Ideology Interactions	NO	NO	NO	NO	NO	NO	NO	NO

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 14: Yearly outcome effects on incumbent's vote share - Swing

VARIABLES	(1) ΔVote share	(2) ΔVote share	(3) ΔVote share	(4) ΔVote share	(5) ΔVote share	(6) ΔVote share	(7) ΔVote share	(8) ΔVote share
Tax_1	-1.433							-1.457
	(0.952)							(0.996)
Tax_2	-0.534							-0.333
	(1.173)							(1.183)
Tax_3	-2.173*							-1.939
	(1.298)							(1.331)
Tax_4	-3.424***							-3.111**
	(1.281)							(1.385)
Expenditure_1		8.28e-05						0.000261
		(0.000196)						(0.000199)
Expenditure_2		-0.000184						-0.000158
		(0.000241)						(0.000241)
Expenditure_3		-6.23e-05						-4.49e-05
		(0.000192)						(0.000203)
Expenditure_4		0.000244						0.000284
		(0.000199)						(0.000215)
Result_1			-1.57e-05					-7.46e-05
			(0.000111)					(0.000126)
Result_2			-0.000161					-0.000215*
			(0.000123)					(0.000131)
Result_3			-0.000127					-0.000137
			(0.000112)					(0.000132)
Result_4			-5.07e-05					-8.77e-05
			(9.12e-05)					(0.000104)
Debt_1				1.17e-05				4.06e-05
				(4.38e-05)				(4.77e-05)
Debt_2				-7.51e-05*				-7.32e-05
				(4.42e-05)				(4.65e-05)
Debt_3				-7.14e-05				-8.16e-05
				(5.06e-05)				(5.45e-05)
Debt_4				-3.52e-07				-2.79e-05
				(4.50e-05)				(5.05e-05)
Employment_1					0.0136			-0.125
					(0.341)			(0.365)
Employment_2					-0.245			-0.455
					(0.291)			(0.294)
Employment_3					-0.245			-0.362
					(0.370)			(0.369)
Employment_4					0.0343			-0.133
					(0.408)			(0.424)
Merit_Score_1						-0.0702**		-0.0398
						(0.0299)		(0.0425)
Merit_Score_2						-0.0476		-0.0366
						(0.0327)		(0.0443)
Merit_Score_3						0.00989		0.0404
						(0.0342)		(0.0448)
Merit_Score_4						0.00279		-0.0101
						(0.0280)		(0.0348)
Eligibility_1							-0.134**	-0.0886
							(0.0554)	(0.0773)
Eligibility_2							-0.114	-0.0876
							(0.0767)	(0.101)
Eligibility_3							-0.0179	-0.102
							(0.0664)	(0.0829)
Eligibility_4							0.0481	0.0599
							(0.0532)	(0.0631)
Constant	-7.102***	-7.226***	-7.054***	-7.821***	-7.885***	-6.856***	-7.217***	-9.100***
	(1.920)	(2.095)	(1.935)	(1.939)	(2.143)	(1.912)	(1.927)	(2.428)
Observations	687	681	686	683	687	685	677	669
R-squared	0.154	0.151	0.146	0.149	0.145	0.149	0.152	0.188
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Period Dummies	YES	YES	YES	YES	YES	YES	YES	YES
Period-Ideology Interactions	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 15: Yearly outcome effects on incumbent's vote share - Left

VARIABLES	(1) ΔVote share	(2) ΔVote share	(3) ΔVote share	(4) ΔVote share	(5) ΔVote share	(6) ΔVote share	(7) ΔVote share	(8) ΔVote share
Tax_1	-1.122							-0.729
	(1.200)							(1.323)
Tax_2	-0.984							-0.929
	(1.612)							(1.562)
Tax_3	-1.735							-1.136
	(2.080)							(2.066)
Tax_4	-1.547							-1.409
	(1.309)							(1.343)
Expenditure_1		1.19e-05						3.09e-05
		(0.000220)						(0.000235)
Expenditure_2		-0.000408						-0.000366
		(0.000325)						(0.000351)
Expenditure_3		-0.000402*						-0.000359
		(0.000235)						(0.000259)
Expenditure_4		0.000339						0.000303
		(0.000208)						(0.000219)
Result_1			0.000244*					0.000181
			(0.000129)					(0.000142)
Result_2			4.97e-05					-7.55e-05
			(0.000135)					(0.000148)
Result_3			5.33e-05					-5.83e-05
			(0.000129)					(0.000143)
Result_4			-8.60e-05					-0.000125
			(8.39e-05)					(8.55e-05)
Debt_1				-1.64e-05				-3.16e-05
				(5.71e-05)				(6.47e-05)
Debt_2				-3.04e-06				-5.92e-06
				(4.15e-05)				(4.27e-05)
Debt_3				3.18e-05				5.39e-05
				(4.41e-05)				(5.11e-05)
Debt_4				-6.07e-05				-8.23e-05
				(5.64e-05)				(5.45e-05)
Employment_1					0.255			0.485
					(0.414)			(0.444)
Employment_2					-0.102			-0.271
					(0.351)			(0.370)
Employment_3					-0.323			-0.306
					(0.406)			(0.420)
Employment_4					0.588			0.464
					(0.426)			(0.424)
Merit_Score_1						-0.0942**		-0.0611
						(0.0364)		(0.0455)
Merit_Score_2						-0.0533		-0.0316
						(0.0431)		(0.0522)
Merit_Score_3						-0.0271		-0.00778
						(0.0442)		(0.0615)
Merit_Score_4						0.00523		-0.0112
						(0.0309)		(0.0453)
Eligibility_1							-0.140**	-0.0756
							(0.0661)	(0.0854)
Eligibility_2							-0.142*	-0.123
							(0.0863)	(0.109)
Eligibility_3							-0.0239	-0.0848
							(0.0927)	(0.110)
Eligibility_4							0.0371	0.0513
							(0.0654)	(0.0800)
Constant	-4.572**	-3.789*	-4.351**	-4.527**	-4.247**	-4.319**	-4.745**	-3.346
	(1.843)	(1.966)	(1.869)	(1.890)	(2.039)	(1.884)	(1.871)	(2.372)
Observations	449	446	449	444	449	448	444	436
R-squared	0.072	0.092	0.074	0.066	0.075	0.079	0.076	0.130
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Period Dummies	YES	YES	YES	YES	YES	YES	YES	YES
Period-Ideology Interactions	NO	NO	NO	NO	NO	NO	NO	NO

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 16: Yearly outcome effects on incumbent's vote share - Right

VARIABLES	(1) ΔVote share	(2) ΔVote share	(3) ΔVote share	(4) ΔVote share	(5) ΔVote share	(6) ΔVote share	(7) ΔVote share	(8) ΔVote share
Tax_1	0.984							1.180
	(1.066)							(1.208)
Tax_2	-0.401							-0.858
	(0.975)							(1.058)
Tax_3	-2.358*							-2.844*
	(1.357)							(1.466)
Tax_4	-1.608							-2.085
	(1.524)							(1.694)
Expenditure_1		6.25e-05						0.000195
		(0.000220)						(0.000242)
Expenditure_2		0.000382*						0.000459*
		(0.000209)						(0.000237)
Expenditure_3		0.000486**						0.000486**
		(0.000187)						(0.000201)
Expenditure_4		-4.80e-05						-1.10e-06
		(0.000213)						(0.000240)
Result_1			-1.31e-05					-9.11e-05
			(9.38e-05)					(0.000120)
Result_2			0.000100					0.000167
			(0.000133)					(0.000154)
Result_3			-0.000187					-9.05e-05
			(0.000126)					(0.000142)
Result_4			-6.69e-05					-4.93e-05
			(0.000110)					(0.000122)
Debt_1				-1.45e-05				-1.29e-05
				(3.69e-05)				(4.50e-05)
Debt_2				-2.51e-05				-3.58e-05
				(4.50e-05)				(5.11e-05)
Debt_3				-6.56e-07				-2.86e-06
				(4.21e-05)				(4.81e-05)
Debt_4				1.60e-05				2.22e-05
				(3.84e-05)				(3.90e-05)
Employment_1					0.0895			0.0838
					(0.437)			(0.463)
Employment_2					-0.0950			-0.139
					(0.406)			(0.432)
Employment_3					0.226			0.108
					(0.350)			(0.363)
Employment_4					0.0554			-0.153
					(0.554)			(0.556)
Merit_Score_1						0.0181		0.0672
						(0.0314)		(0.0464)
Merit_Score_2						0.0173		0.0897*
						(0.0362)		(0.0511)
Merit_Score_3						0.0367		0.0796*
						(0.0316)		(0.0415)
Merit_Score_4						-0.00378		0.00490
						(0.0282)		(0.0346)
Eligibility_1							-0.0485	-0.133*
							(0.0532)	(0.0768)
Eligibility_2							-0.0838	-0.182*
							(0.0676)	(0.0935)
Eligibility_3							-0.0302	-0.101
							(0.0637)	(0.0834)
Eligibility_4							-0.0389	-0.0526
							(0.0566)	(0.0691)
Constant	-6.135***	-7.612***	-5.963***	-6.252***	-5.851***	-6.189***	-6.141***	-8.111***
	(2.027)	(2.204)	(2.061)	(2.023)	(2.168)	(2.021)	(2.021)	(2.439)
Observations	504	503	503	500	504	502	496	493
R-squared	0.301	0.307	0.300	0.297	0.294	0.294	0.295	0.329
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Period Dummies	YES	YES	YES	YES	YES	YES	YES	YES
Period-Ideology Interactions	NO	NO	NO	NO	NO	NO	NO	NO

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 17: Yearly outcome effects on incumbent's vote share - Mix

VARIABLES	(1) ΔVote share	(2) ΔVote share	(3) ΔVote share	(4) ΔVote share	(5) ΔVote share	(6) ΔVote share	(7) ΔVote share	(8) ΔVote share
Tax_1	-4.827***							-4.587*
	(1.570)							(2.498)
Tax_2	-0.307							0.247
	(2.077)							(2.296)
Tax_3	-3.463							-4.324
	(2.431)							(2.864)
Tax_4	-5.768**							-5.778*
	(2.651)							(2.995)
Expenditure_1		0.000365						0.000525
		(0.000352)						(0.000358)
Expenditure_2		0.000429						0.000855*
		(0.000466)						(0.000451)
Expenditure_3		0.000257						0.000675
		(0.000369)						(0.000418)
Expenditure_4		0.000640						0.000939**
		(0.000392)						(0.000422)
Result_1			-0.000581*					-0.000386
			(0.000346)					(0.000443)
Result_2			-0.000951***					-0.000997***
			(0.000298)					(0.000373)
Result_3			-0.000639**					-0.000605
			(0.000268)					(0.000386)
Result_4			-0.000220					-0.000160
			(0.000225)					(0.000321)
Debt_1				-0.000112				-8.57e-05
				(0.000150)				(0.000147)
Debt_2				-0.000142				-0.000260*
				(0.000135)				(0.000143)
Debt_3				-0.000182				-0.000257*
				(0.000155)				(0.000145)
Debt_4				2.39e-05				-7.31e-05
				(9.67e-05)				(0.000116)
Employment_1					0.930			0.514
					(0.686)			(0.814)
Employment_2					-0.472			-0.600
					(0.616)			(0.700)
Employment_3					-1.865**			-2.947***
					(0.922)			(0.964)
Employment_4					-0.771			-1.150
					(0.698)			(0.851)
Merit_Score_1						-0.0811		-0.0427
						(0.0682)		(0.0766)
Merit_Score_2						0.0180		0.0900
						(0.0765)		(0.107)
Merit_Score_3						0.140*		0.279**
						(0.0826)		(0.119)
Merit_Score_4						0.137**		0.128
						(0.0689)		(0.0951)
Eligibility_1							-0.185	-0.104
							(0.126)	(0.167)
Eligibility_2							0.102	-0.0935
							(0.191)	(0.255)
Eligibility_3							0.133	-0.259
							(0.153)	(0.223)
Eligibility_4							0.237*	0.0916
							(0.121)	(0.163)
Constant	-8.022*	-13.43**	-8.987**	-9.742**	-13.95***	-9.326**	-9.198**	-22.80***
	(4.513)	(5.439)	(4.508)	(4.702)	(4.972)	(4.489)	(4.372)	(6.087)
Observations	178	176	178	178	178	177	177	175
R-squared	0.145	0.121	0.135	0.122	0.141	0.137	0.144	0.351
Controls	YES	YES	YES	YES	YES	YES	YES	YES
Period Dummies	YES	YES	YES	YES	YES	YES	YES	YES
Period-Ideology Interactions	NO	NO	NO	NO	NO	NO	NO	NO

Robust standard errors in parentheses

Figure 18: Descriptive statistics of independent variables - Full sample

VARIABLES	Mean	Std.dev.	Min	Max
Tax_Period	0.170	0.350	-0.870	2.630
Expenditure_Period	6,452	2,463	-1,872	40,948
Result_Period	414.3	2,482	-15,854	29,179
Debt_Period	3,517	9,649	-71,616	57,230
Employment_Period	0.964	1.986	-5.300	10.60
Merit_Score_Period	2.082	10.15	-87.40	50
Eligibility_Period	-1.526	4.757	-27.60	22

Figure 19: Descriptive statistics of independent variables - Swing sample

VARIABLES	Mean	Std.dev.	Min	Max
Tax_Period	0.173	0.337	-0.870	1.780
Expenditure_Period	6,521	2,785	-1,872	40,948
Result_Period	397.1	2,404	-15,854	29,179
Debt_Period	3,353	8,927	-50,609	34,288
Employment_Period	0.964	2.076	-5.200	10.60
Merit_Score_Period	1.770	10.73	-87.40	50
Eligibility_Period	-1.621	5.016	-27.60	18.30

Figure 20: Descriptive statistics of independent variables - Left rule sample

VARIABLES	Mean	Std.dev.	Min	Max
Tax_Period	0.199	0.315	-0.530	1.390
Expenditure_Period	6,615	2,138	1,349	20,651
Result_Period	475.6	2,709	-15,854	29,179
Debt_Period	3,219	9,763	-34,295	57,230
Employment_Period	1.113	2.180	-5.200	8.300
Merit_Score_Period	1.435	10.68	-87.40	50
Eligibility_Period	-1.952	4.853	-27.60	19

Figure 21: Descriptive statistics of independent variables - Right rule sample

VARIABLES	Mean	Std.dev.	Min	Max
Tax_Period	0.131	0.380	-0.870	2.630
Expenditure_Period	6,199	1,937	-1,872	15,780
Result_Period	325.0	2,444	-15,726	13,577
Debt_Period	4,083	10,071	-71,616	56,970
Employment_Period	0.766	1.749	-5.300	6
Merit_Score_Period	2.375	10.00	-32.20	32.30
Eligibility_Period	-1.283	4.649	-25.40	22

Figure 22: Descriptive statistics of independent variables - Mixed rule sample

VARIABLES	Mean	Std.dev.	Min	Max
Tax_Period	0.189	0.332	-0.490	1.780
Expenditure_Period	6,376	2,076	879	14,663
Result_Period	480.6	2,048	-8,627	10,934
Debt_Period	2,512	7,988	-26,742	23,797
Employment_Period	0.979	2.103	-3.500	10.60
Merit_Score_Period	3.068	9.297	-25.30	39.30
Eligibility_Period	-1.077	4.860	-17.70	18.30