Party Affiliation Effects on Economic Policy: Evidence from the U.S. States Legislature and Executive

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Abstract

While the influence of the ideology of the governor on economic policy has been investigated often, little is known about the effect of the legislature and how it compares to that of the governor. Therefore, the effects of the party affiliation of the majority party in the lower house of the U.S. states on the amount of taxes, expenditures and their structure are investigated in this paper for the time period between 1970 and 2008. Additionally, the effects of the legislature are compared to the ones of the governor by estimating both effects for a shorter time span between 1970 and 1995. A Regression Discontinuity Design is implemented to exploit the randomness of party affiliation in the states legislature and executive at close election outcomes. The results show that the legislature has a minor effect on the economic policy, despite Democratic majorities spending less on public welfare and more on other categories. The governor, in comparison, affects both the size of the government finances and the structure of the expenditures. Democratic governors set a higher tax rate and seem to spend less on healthcare than Republican governors. Overall, the results give indications for a higher importance of the party affiliation of the executive for economic policy compared to the legislature, while the direction of the effects are unexpected.

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Introduction

Democracies are based on the process of elections and on the plurality in opinions represented by different parties. In elections, voters have the possibility to express their wishes for a certain direction that politics should take, thereby influencing the policy making process, even though in an indirect manner. For this process to function properly, a change in the power distribution across parties needs to have an effect on the policies enacted. If all parties were to behave in the same manner, the outcomes of elections would not matter for policies and democracies could not function. Thus, parties need to make a difference for the democratic system to work as intended.

These differences between parties depend on divisions in society and, traditionally, economic policy and the question of redistribution are seen as some of the most important ones. This division is so fundamental that it gave rise to the the political idea of a right-left distribution and, despite other prominent topics dividiing political parties, such as environmental issues and immigration, it remains at the heart of many political debates. Between these two extremes, the right wing, in the United States represented most prominently by the Republican Party, is seen as the conservative wing, advocating the virtues of the free market and non-intervention of the government. The left wing in contrast, in the United States commonly represented by the Democratic Party, is said to favor state intervention and active redistribution. Thus, parties traditionally promise to implement different policies, yielding a choice between different outcomes for the voter.

Due to its importance, the effect of parties on economic policy and the differences between them are an active area of research and have been investigated in many different ways already, covering different levels of governance and different outcome variables (Potrafke, 2018). The first inquiries into this topic focused on the economic policy effects of Republican and Democratic majorities in the United States Congress and for the office of president of the United States, thus estimating the effects on the federal level (Alesina & Sachs, 1986; Blomberg & Hess, 2003). However, these studies do not eliminate the endogeneity problem in the election of a certain president or a certain majority in Congress. Later studies do isolate exogenous variation but in order to do so require many data points, forcing them to estimate effects on the municipal level, in the United States and elsewhere (Pettersson-Lidbom, 2012). Thus, a statistically clean

design is traded in for a less significant level of governance.

A compromise between the two can be struck by investigating the effects of parties on economic policies on the state level in the United States. This level of governance has an immense power in economic issues. The tenth amendment to the United States Constitution declares that "the powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states respectively, or to the people" (U.S. Const. amend. X.). Thus, while prohibited from declaring war or coining money, the states are responsible for welfare programs, the maintenance of highways, education of its citizens and many other areas. While being an economically and politically important level of study, the richness of the data allows for a statistically clean design so that it is possible to estimate the effect of parties on economic policy, making it an ideal setting for studying the latter phenomenon.

While some studies have investigated the effects of parties on this level before, the focus often lay on the effects of singular entities, either the executive or the legislature, on economic policy, with the governor being investigated more commonly and the legislature seldomly (Potrafke, 2018). Given that the state Congress is needed to approve the budget and is often actively involved in its construction, looking at the effects of the governor alone might be short-sighted and a closer investigation of the effect of the legislature may yield fruitful results. In addition, studies that did consider the legislature investigated the effect of the majority parties ideology on the tax rates imposed in the state, but did not investigate structural differences in expenditures which may give a more detailed picture of the implemented policies (De Magalhães & Ferrero, 2011). Finally, to my knowledge, there exists no paper that compares the effects of the executvie and legislature on economic policy, which could give first important indications for the relative importance of the two institutions in setting economic policy. Therefore, the following research question for this study arises:

What is the effect of the ideology of the majority party in the U.S. state lower house on economic policy, more specifically the amount of taxes raised, the amount of expenditures and the structure of expenditures, and how does it compare to the effect of the governor?

In order to investigate this research question, a Regression Discontinuity Design (RDD) will be implemented to estimate the policy effects at the margin of a close ma-

jority in the U.S. state houses in the time span of 1970-2008. This is the typical design implemented to estimate the causal effect of parties on any policy. As in prior research, the effects of a Republican or Democratic majority on the implemented tax rate, as well as the amount of expenditures of the state, will be estimated. Additionally, the structure of specific expenditure categories will be looked at to determine whether the economic policy of both parties differs not only in its size but also in the focus laid on different expenditure categories. After estimating the effects for the state lower house, all effects will be re-estimated for the legislature and for the executive, the state governor, using data for the years 1970-1995, due to limited availability of the gubernatorial election outcomes, and the effects will be compared. While it is my purpose to investigate the effect of the legislature, I will restrict myself to the state lower house, for reasons of simplicity. The estimations for the effects of the governor will closely follow the study by Beland and Oloomi (2017).

The rest of this paper will be structured as follows. First, the budgeting process in the U.S. states and prior research on the subject at hand will be discussed. Thereafter, the relevant data will be presented, as well as the methods of restructuring and cleaning that were applied. Then, the methodology of this study will be described. Finally, the results of the analysis will be presented and will consequently be discussed in the conclusion.

Background and Theoretical Framework

The main determinant of the revenues and expenditures of any state is the state budget. This budget is created annually by most states and bi-annually by only 20 of the 50 states (White et al., 2015). While individual state regulations apply, the budgeting process is quite comparable across states. First, the state budget office releases guidelines to the budget agencies, based on which the budget can be created. These guidelines include targets for spending and inflation, and are also based on the governors policy preferences, in which way the executive can exert influence on the budget (White et al., 2015). In the following, the budget is developed, mostly in a joint effort by the budget agency and the legislature. Both chambers of the legislature have their own version of the budget and settle their differences in designated committee meetings. When the legislature agreed on the budget, it needs to be approved by the governor, while his or her veto can be overridden by the legislature with a two-thirds vote (White et al., 2015).

If fundamental differences exist between the legislature and the governor, it is possible that no budget can be agreed upon, resulting in a shutdown of the state government. In this scenario, most government services need to be suspended until a new budget is passed. This highlights that both the executive as well as the legislature play a major part in the budgeting process and are needed in the adoption of economic policy. Thus, the effects of differing ideologies in any of the two institutions could be reflected in the implementation of economic policy.

Given the importance of the topic, extensive research on this subject exists, investigating the effects of the party affiliation of office holders within certain institutions on economic policy. Research on the governor has been favored compared to studies on the effects of the state house majorities. With respect to the size of the government finances, Besley and Case (1995) find that Democratic governors raise more taxes per capita than Republican ones, without using a causal estimate however. Fredriksson, Wang, and Warren (2013) showed that the tax policy is dependent on the party affiliation of the governor and the re-election status. If governors have not yet reached their term limit and can be re-elected, Democratic governors raise more taxes than Republican ones, while the relationship reverses for governors that did reach their term limit. Beland and Oloomi (2017) on the other hand showed that the party affiliation of the governor does not affect total expendiuters. Thus, in total, it seems that the party affiliation of the governor seems to have effects on the amount of taxes raised, while this may be conditional on the political circumstances. It remains uncertain if these effects also exist for the amount of expenditures.

Effects of the governors party affiliation have also been shown for the expenditure structure, with Democratic governors spending more on education, health and hospitals and less on other categories, such as interest on debt and highways, compared with their Republican counterparts (Beland & Oloomi, 2017). Surprisingly, no effects were found for social welfare expenditures. Hill and Jones (2017) focused their analysis on the education expenditures and also found higher education expenditures for democratic governors. A similar reserach was conducted for health expenditures by Joshi (2015), with no apparent effects of the ideology of the governor. Thus, the governor also seems to affect the structure of the budget, with Democratic governors favoring education expenditures, while the effect on other outcomes remains uncertain and depends on the data and methodology used in the study.

The governor thus seems to have considerable effects on the budget. This is not surprising, given that policy preferences and recommendations for the budget are provided by the governor, and he or she needs to approve the budget that the legislature presents. However, as argued before, the legislature may equally impose its preferences on the budget during its formation. Unfortunately, very little research has been conducted on the effect of the legislature on economic policy. De Magalhães and Ferrero (2011) investigated the causal effect of the house majority party on tax revenue as a percentage of gross national product (GDP). The researchers did not find differences between the amounts of taxes the different parties raise. The research of Caplan (2001) on the other hand indicates that Democratic parties in the lower house raise more taxes and spend more on education and public welfare, but less for other categories, such as highways or health and hospitals. However, the analysis suffers from endogeneity, making it uncertain that the effect can really be attributed purely to the affiliation of the lower house majority party.

Thus, there exist some indications that also the lower house, just like the governor, may influence the amount of taxes and expenditures as well as their structure, possibly through their participation in the construction of the budget. However, a thorough evaluation of this question is still missing and will be pursued in this study. The current paper will contribute to the existing literature in several ways. First, it is one of the first to examine to what extent the ideology of the majority party of the lower house has an effect on the state taxes and expenditure, in terms of their size as well as the structure of the latter. This gives a first indication for answering the question how much influence the legislature has on the economic policy of the state and if the effects follow the expected results for typical left- and right-wing ideologies. Secondly, the study will estimate the effects for the governor and for the lower house for the same time span and compare the results of both estimations. Variations in the effects of the party affiliation of the governor and the majority party of the lower house in prior studies may come from differences in the data and thus make it hard to directly compare the causal effects of the two institutions. Estimating the two effects on the same data may yield insights into the relative importance of the lower house and the governor in implementing economic policy.

In order to investigate the research question, the effects of the ideology of the majority house party on the taxes and total expenditures as a percentage of GDP will be

estimated. Additionally, to estimate effects on the structure of the expenditures, the share of expenditure on education, health and hospitals, public welfare, police protection and other expenses as percentage of total expenditure will be investigated, similar to the study by Beland and Oloomi (2017). This will also be done for the governor and both results will be compared. Given the scarcity of prior research, formulating concrete expectations concerning the effects of the lower house is difficult. Given that the governor provides the global outline of the budget, it is likely that the lower house has little effect on the amount of taxes and expenditures, while the governor can be expected to affect these variables, as was shown by prior research (Besley & Case, 1995; De Magalhães & Ferrero, 2011). Concerning the expenditure structure, it is more likely that the legislature exhibits an effect, as the preparation of the budget is partially their responsibility. Yet, as there is little theoretical knowledge to draw from that estimated a causal effect, the analysis will for the most part be exploratory in nature.

Data

To investigate the research question, data are collected from several sources. For the election outcomes of the state house elections, the dataset by Carl Klarner was retrieved from Harvard Dataverse (Klarner et al., 2013) which includes individual candidate information for all state legislative elections between 1967 and 2010. The data on government finances, all revenues and expenditures split up into different sub-categories are retrieved from the US Census website for the timespan of 1942 to 2008 (U.S. Census Bureau, 2010). Additionally, the gross domestic product (GDP) of each state for the years 1963 to 2017 were retrieved from the Bureau of Economic Analysis (Bureau of Economic Analysis, n.d.). The GDP and all government finance data are expressed in current dollars at the year of observation. The categories used in the analysis are named the same way in the dataset, except for the category of health and hospitals, which combines the two respective categories, and other expenses, which was created as a residual of the total expenditures minus all other investigated categories. The different data sources were subsequently merged together. The seat shares in the state house were identified by determining the winner or winners in each district in each general election and counting the number of Democratic, Republican or other party affiliated politician elected to become legislator. The count of all winners represents the size of the state

house. The seat shares were computed by taking the number of seats allocated to each party relative to the total amount of seats available. The Democratic seat share was used as the running variable in the RDD analysis, as will be explained later.

The results from any election were used as the seat share distribution for all years between the current and the next general election, in order to obtain a continous measure for all years. This was done according to the frequency of elections, with the majority of states holding state legislative elections every two years and re-electing all representatives at the same time, and the states of Alabama, Maryland, Mississippi and Vermont holding elections every four years. Subsequently, the data were merged with the data on the government finances, with the first budget year of a certain elected house occuring in the fiscal year starting after the election, usually in fall of the year after the election. Confusingly enough, the fiscal year is called after the latter of the two partial years that the budget covers. Thus, when an election took place in 1968, the election results were merged with the fiscal year of 1970 which started in fall 1969. This would be the first budget to be passed by the legislature which would take office in January 1969.

The usage of the financial data in non-election years could bias the estimation in several ways. First, parties could set policies differently in the latter years than in the first year of their rule in order to maximize their chances of winning the next elections. Different strategic incentives across years could thus change the effect of the ideology of the majority party on economic policy. Secondly, while being unlikely to occur, the majority party could create structural differences between states with different ideologies of the majority legislative party in the first year of their rule that would justify different policy reactions. The estimated effect would thus need to be partially attributed to these structural differences. To check if this procedure is likely to produce these potential biases the differences in the outcome variables between election years and non-elections years were compared (Table A1). None of the differences was shown to be significant. The closest outcome for the share of expenditures spent on police protection was only marginally significant ($p = 0.093$). Thus, overall, the biases mentioned earlier are unlikely to have an effect and thus the budget data for all years of a narrow majority distribution of seat shares in a certain state house were included in the analysis.

For the final analysis, the data were cleaned in several ways. Firstly, to make a comparison between the Democratic and Republican majorities possible, all instances in which another party than one of these two held the majority in a state house were

deleted. Secondly, observations in which no party held the absolute majority with more than half the seats in the house were deleted, too. Lastly, all observations for the state North Dekota after 1998 were deleted as well, as the state introduced a staggered election for all subsequent elections. Half of the representatives who all hold a four year term are re-elected every second year. This staggering made the identification of Democratic and Republican seat shares difficult, leading to the deletion of these observations. Of the 1868 data points that the merged data set included, 116 observations were deleted due to one of the reasons mentioned above, totaling to 6.21% of the complete dataset.

The dataset after merging and cleaning thus comprised 1752 data points including the state house seat shares of the Democratic, Republican and of other parties, the expenditures and revenues of the state and its GDP for the fiscal years 1970 until 2008. The amount of years covered in the data set varies slightly between states, as elections are held at different years in different states. States which did not held elections in 1968 thus exhibit fewer data entries than states which did.
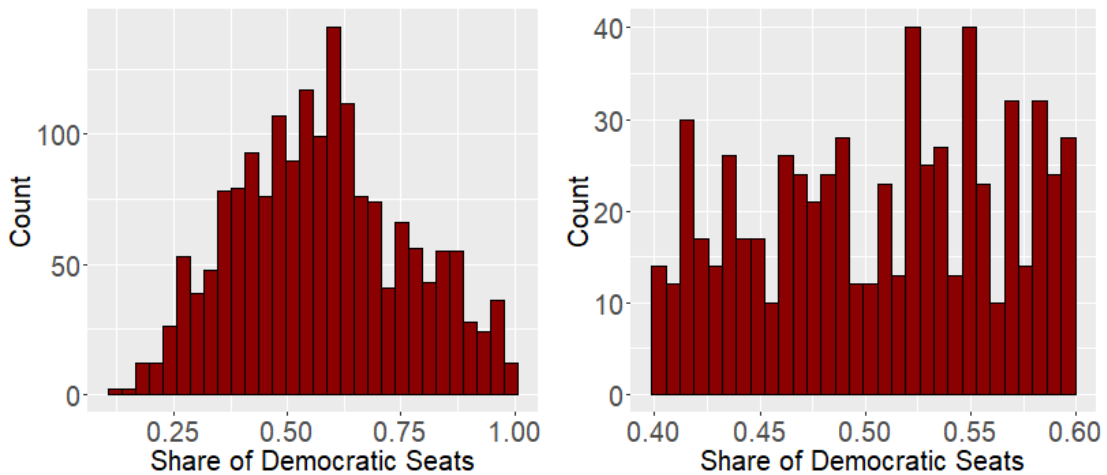
Figure 1: Histograms of the democratic seat shares

Figure 1 shows the distribution of seat shares that were allocated to the Democratic party. This distribution is roughly normally distributed, however slightly skewed towards a Democratic majority. As is true for the general distribution, the Democratic party also holds the majority more often than the Republican party at close margins, although to a lesser extent (Table A2).

Table A3 shows the descriptive statistics for all outcome variables at the narrow 5%

margin and for the complete seat share distribution. Overall, around 6.3% of GDP were raised in taxes and about 12.9% of the GDP were expenses of the government. The share of expenditures going to education, public welfare, health and hospitals, police protection and other expenses were respectively about 34, 17, 6, 1 and 42%, as was found in other studies, too (Beland & Oloomi, 2017).

The descriptive statistics additionally show that there exists variation in the different outcome variables indicating that the allocation of resources to different expenditure categories is not rigidly enforced. However, it is important to know if this variation only reflects between state variation in expenditures or if variation also exists within one state. Thus, the question is whether there only exist differences between states while individual states always have a similar expenditure structure, or whether an individual state also allocates different shares of expenditures to different categories in different years. If the latter is not the case, that would hint towards a routine process of budgeting in which the shares of the budget allocated to a certain expenditure category is fixed by law or by convention within one state. In order to investigate this, the standard deviation of each outcome variable across time was computed for each state. Figure 2 exhibits the boxplots of these standard deviations per outcome variable, depicting the median, the 25th and the 75th percentile, as well as the outliers. As can be seen, most expenditure categories show a certain degree of variation within states and across time, making a budgeting process fully determined by convention unlikely.

In order to estimate the effect of the governors party affiliation and compare it to the one of the majority party in the state lower house, the vote shares of each candidate in the gubernatorial elections are needed additional to the dataset described before. These could be retrieved from the ICPSR dataset 7757 (Inter-university Consortium for Political and Social Research, 1995) which contains the candidate and constituency statistics of elections in the United States between 1788 and 1990. Unfortunately, all election data after 1990 are not publicly available and could not be purchased due to limited available funds, which is why a shorter dataset is used for the second part of the analysis.

The election results for the governor are again used for all fiscal years between two gubernatorial elections, as is done for the state lower house and in prior research Beland and Oloomi (2017), with the frequency of elections varying between two to four years, depending on the state. Additionally, the election data were merged with the prior dataset based on the fiscal years as was done for the house, too. Therefore, the
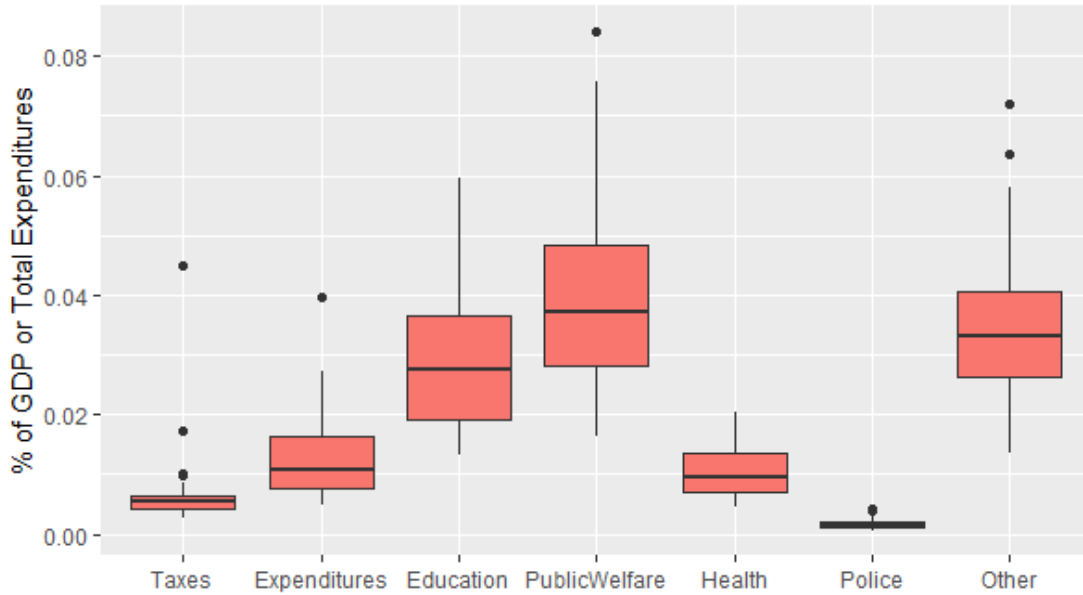
Figure 2: Boxplots of the standard deviations of the outcome variables per state over time (taxes and expenditures as % of GDP, all other as % of total expenditures)

estimates for the effect of the governor's ideology and the complementary comparative analysis for the state lower house were conducted between the years 1970, which is the fiscal year after the first available results of the election for the lower house, and 1995, due to the aggregation procedure. While the Democratic seat share was again used as the running variable for estimating the effect of the lower house, the victory margin of the governor, which is the difference in vote shares between the winner and the second place holder in the gubernatorial election within one state, was used for estimating the effect of the governor on economic policy. The victory margin is expressed in negative terms if the governor is Republican and positive if he or she is Democratic. Also here, governors that were neither Republican nor Democratic were dropped in order to compare the effect between two parties only. In total, this dataset contains 1050 datapoints. The lower house was slightly less often ruled by the Democratic party at a close seat share margin, but states were more often administrated by a Democratic governor when the gubernatorial election was close (Table A4). The descriptive statistics for the gubernatorial and legislative election results as well as for the expenditure and tax data for this smaller dataset are provided in the appendix (Table A4, A5 and A6).

Methodology

When estimating the effect of the ideology of the state lower house majority party on the amount of taxes and expenditures and the structure of the expenditures, endogeneity is a likely problem when all data are included in the analysis. This is the case as economic conditions in a certain state may require a certain economic policy response and may equally lead to a different voter distribution along ideological lines, favoring one party over the other. Due to this endogeneity problem, a simple regression analysis would not yield a causal effect of the party ideology in the state lower house on economic policy making.

To solve the endogeneity problem, a regression discontinuity design (RDD) is used at the margin of a very narrow majority in the state house. If in a state any of the two parties wins the majority in the lower house by a very narrow margin, then the victory of that party, and therefore also which majority presides in the house, is assumed to be attributable to chance, rather than to structural differences between the states. Therefore, it is assumed that close to the 50% margin, states and structural differences between them are randomly distributed between Democratic or Republican majorities in the lower house. This method solves the endogeneity issue that usually arises and can therefore be used to estimate the causal effect of the ideology of the majority party in the state lower house on the economic policy.

To implement this RDD analysis, the following regression equation is used:

$$y_{it} = \alpha + \beta f(DemShare_{it}^{L}) + \gamma f(DemShare_{it}^{R}) + \delta DemMajority_{it} + \zeta_t + \eta_i + \epsilon_{it}$$

where i represents a certain state and t a certain year. y denotes the outcome variable (such as the tax rate or the share of a certain expenditures category) and $f(DemShare^L)$ and $f(DemShare^R)$ denote functions of the running variable to the left and to the right of the 50% threshold. This is done in order to allow for different slopes of the regression line among Republican and Democratic state house majorities and to allow for different polynomials. $DemMajority$ is a dummy variable which takes the value of one if the Democratic Party has the majority in the state lower house and zero otherwise. δ is therefore the coefficient of interest to estimate the causal effect of the ideology of the

party on the respective outcome variable. ζ_t denotes year fixed effects and η_i are state fixed effects in order to account for structural differences across different years and states. These fixed effects were included in prior studies using a similar methodology, too (Beland & Oloomi, 2017).

A very similar methodology is used for estimating the effect of the governor's party affiliation on the economic policy using the following regression equation:

$$y_{it} = \alpha + \beta f(VictoryMargin_{it}^L) + \gamma f(VictoryMargin_{it}^R) + \delta DemGovernor_{it} + \zeta_t + \eta_i + \epsilon_{it}$$

The subscripts and most coefficients have the same meaning. However, instead of the vote share of the democratic party, the victory margin of the governor is used as the running variables, again fitted using different functions of the variables value and allowing the slopes to differ on the left and the right side of the threshold. The running variable is represented by $f(VictoryMargin_{it}^L)$ and $f(VictoryMargin_{it}^R)$, respectively. Additionally, $DemGovernor$ is a dummy variable indicating if the sitting governor is affiliated with the Democratic or Republican Party, taking a value of one in the first case and zero in the latter. δ is therefore again the coefficient of interest.

The random allocation to a Democratic or Republican majority in the lower house, or to a Democratic or Republican governor, is assumed to be valid for a close threshold. The regression equations are therefore estimated for each outcome variable at the margin instead of over the whole bandwidth of seat shares or victory margins. In order to investigate whether the estimated effects vary depending on the bandwidth, the regression equations will always be estimated for the 5%, 10% and 15% margin. Additionally, the optimal bandwidth will be estimated for each outcome variable using the Imbens-Kalyanaraman Optimal Bandwidth Calculation (Imbens & Kalyanaraman, 2009). Thus in total, the regression equations will be estimated four times for each outcome variable and the results of the estimations will be compared.

Estimating a causal effect using an RDD analysis relies on the single assumption that the running variable is continous. If this is the case, then the randomness at the threshold is ensured and the estimated effect is free of endogeneity. If the running variable is not continous, then sorting of subjects above or below the threshold is likely to have occured, violating the assumption of randomness at the threshold. Sorting is unlikely

to happen in the current scenario, as the seat shares of the Democratic and Republican Party are determined by the official election results and no party is able to individually sort in or out of the majority, assuming that no manipultaion of the votes occured. This is reflected in the distribution of the seat shares in Figure 2. However, to investigate this assumption more formally, a McCrary test will be performed to assure the continuity of the running variable and therefore the robustness of the results (McCrary, 2008).

Results

Effects of the legislature

First, the effects of the ideology of the majority party in the states lower house on the economic policy will be estimated. As it is commonly done in an RDD analyis, visual indications for the effects will be obtained before completing the statistical analysis. The indicators for the size of the government finances, the total taxes and total expenditures as a share of GDP, are shown in Figure 2 as a function of the running variable, the Democratic seat share. The datapoints represent the underlying data, as well as the averages binned by percentages, and additionally a linear regression line is shown. All graphs use the calculated Imbens-Kalyanaraman Bandwidth. As a multivariate regression can not be depicted in a graph, the regression line represents the predicted values using only the running variable and the majority indicator dummy as predictors. As the final analysis includes state and year fixed effects, the regression line differs from the effects found in the statistical analysis.

As can be seen from the graph, no structural break seems to occur at the 50% seat share margin, indicating that Democratic and Republican majorities raise taxes using similar tax rates. Equally, the expenditures as a share of GDP also hardly differ between Republican and Democratic majorities in the state lower house.

The effects of the ideology of the majority party in the state lower house on different categories of the expenditures as a percentage of total expenditures are depicted in a similar way in Figure 3. Also here, no structural breaks can be observed in the data. If at all, the education and public welfare expenditure exhibit a slight jump in the regression line, while all other categories clearly do not. The graphs thus indicate a negligible effect of the house majority on the composition of the state expenditures.
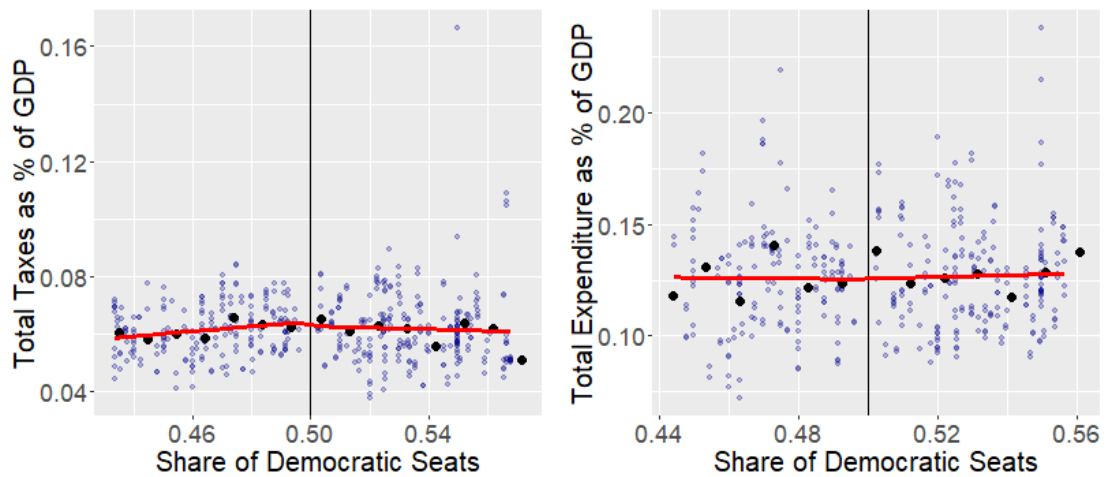
Figure 3: Party affiliation effects of the lower house on relative taxes and expenditures

The impression of the visual inspections is supported by the results of the regression estimations including fixed effects. The estimation results for the coefficients for the Democratic majority are not significantly different from zero for effects on the size of the implemented economic policy (Table A7), neither for the amount of taxes nor for the amount of expenditures as a percentage of GDP. These results do not change with a varying bandwidth. Additionally, most coefficients for the effect of the Democratic majority on different expenditure categories are also non-significant (Table A8). Democratic majorities in the lower house do seem to spend comparable amounts as Republican majorities on education, health and hospitals and police protection. Overall, Democratic majorities, however, seem to spend comparatively less on public welfare expenditures and more on other expenditures. The effect on public welfare expenditures is relatively robust to different bandwidth and polynominal specifications and suggest that Democratic majorities spend between 2.8% and 6.8% less on public welfare than their Republican counterparts. The effect on other expenditures is not significant for a cubic polynominal specification, and includes a negative significant effect at a very close margin. However, overall, Democratic majorities seem to spend between 1.3% and 5.3% more on other expenditures than Republican majorities.
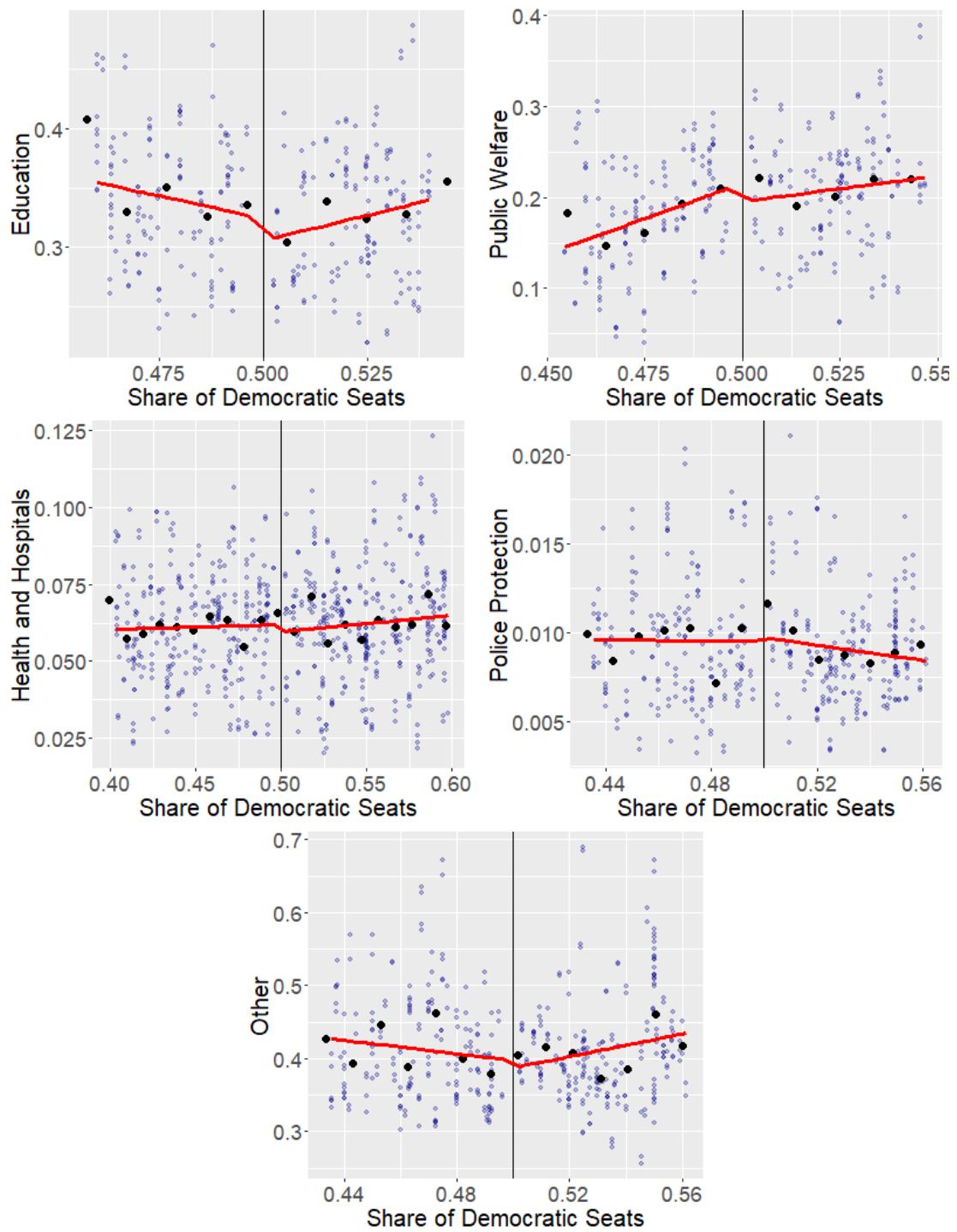
Figure 4: Party affiliation effects of the lower house on the share of different expenditures categories (expressed as % of total expenditures)

These results are to a certain extent in line with the expectations. The majority in the lower house does not seem to influence the size of the government finances, which is in accordance with other studies that also did not find an effect of the majorities party ideology in the lower house on the tax rate (De Magalhães & Ferrero, 2011). It is also in line with the notion that the governor provides the broad outline of the budget and thus dictates certain characteristics of the economic policy, among which may be the amount of taxes and expenditures.

However, while having no effect on the size of the implemented economic policy, the lower house does seem to affect the composition of the expenditures, as was hypothesized, given that the legislature needs to approve the budget and is involved in its construction. Yet, the direction of the effects are unexpected, as expenditures under Democratic majorities seem to be lower for public welfare and higher for other expenditures. Given that the Democratic party is traditionally associated with more redistributive policies, this effect is surprising and will be discussed in more detail.

Comparison of the effects of the legislature and the executive

The previous results show the effects of the party affiliation of the majority of the legislature on econmoic policy only. Given that economic policy is determined jointly by the legislature and the executive, estimating the effects of the party affiliation of both institutions and comparing the estimates may yield a more detailed picture. Therefore, the previous analysis is repeated for close elections of the governor and close seat share distributions among state lower houses for the time span between 1970 and 1990.

As in the previous analysis including data on a longer period of time, the party affiliation of the majority in the state lower house does not seem to significantly affect the size of the government finances (Table A9). Neither do Democratic majorities raise more taxes, nor do they spend significantly more than Republican majorities do, no matter the polynomial specification or the bandwidth used in the estimation. Again, this result is in line with previous research (De Magalhães & Ferrero, 2011) and seems to indicate that, no matter the time span, the house does not influence the size of the economic policy.

In comparison to the estimation on the financial data up to 2008, the majorities party affiliation in the lower house does not seem to influence the composition of the expendi-

tures either when only using data up to the year 1995 (Table A10). Democratic majorities thus seem to spend on average a roughly equal share on the different expenditure categories as the Republican majorities between 1970 and 1995. This is contrary to the expectations and the previous estimation for the complete dataset and may have several implications that all need further investigation, for example the possibility that the importance of party affiliation in setting policies changes over time or that the differences found when including more recent data may be the result of the political polarization towards more extreme political positions.

A concern regarding the difference in results when using a smaller compared to a larger dataset may be that the insignificance of the effects might be produced by the lower number of observations instead of a change in the influence of the house and an actual absence of an effect. However, the number of observations is still well above the minimum for estimating a regression, and additionally, while being statistically significant, the coefficients are also systematically larger in absolute terms for the estimation including more recent data for the categories in which an effect was found. This indicates that the results indeed differ depending on the dataset used for the estimation.

In comparison to the lower house, the party affiliation of the governor does seem to have an effect on the size of economic policy (Table A11), and more specifically on the amount of taxes raised. Democratic governors seem to raise more taxes than Republican ones. This effect is apparent in all bandwidths and polynomial specifications except for at the 5% margin and the effect ranges between 0.4 to 1.4%. That Democratic governors tax more is in line with the traditional belief that the Democratic party redistributes resources to a greater extent than the Republican party. However, while it does seem to affect taxes, the party affiliation of the governor does not seem to matter for the amount of expenses as a share of GDP, as was shown in previous research, too (Beland & Oloomi, 2017).

Additionally, the governor does also seem to influence the composition of the budget. Democratic governors seem to spend less on health and hospital expenditures than Republican ones (Table A12). This effect again only disappears at a very narrow margin, but is robust across other bandwidths and polynomial specifications. The estimates indicate a negative effect of a Democratic governor between 0.9 and 2.0%. Other expenditure categories, such as public welfare and police protection, may also be affected, but the effects are less robust to variations of the analysis. The governors effect on the

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share of health care expenditure is in line with prior studies (Beland & Oloomi, 2017; Hill & Jones, 2017), while the direction has been found to vary.

In sum, thus, the party affiliation of the lower house majority party seems to have had little effect on the economic policy between 1970 and 1995, as different ideologies did not affect the size of the states tax collections and expenditures, nor the exact composition of the latter. The governor, however, does seem to influence the government finances to a larger extent. His or her party affiliation seems to have an effect on the collection of taxes and on the share of health care expenditure, affecting size and structure of the economic policy at the same time.

Robustness Check

All results found in the analysis can be interpreted as a causal estimate if the assumption of no sorting at the threshold is met. This is the only assumption that needs to be satisfied in an RDD analysis. Given that at close margins the treatment allocation is as good as random, the effect can be interpreted as causal if individuals can not actively inluence their position at the margin. As argued before, this is unlikely to occur in the setting at hand, as the majorities in the lower house or the position of the governor are allocated to a certain party only based on the votes that were cast, leaving no room for manipulation. To test if sorting occured at the threshold, a McCrary density test was conducted for each of the three investigated datasets, the seat shares of the state lower houses between 1970 and 2008, between 1970 and 1995 and the victory margin of the governor between 1970 and 1995. None of the tests show a significant result, indicating that sorting did not occur and that the effects can indeed be interpreted as causal (Table A13).

Conclusion

In this paper, the effect of the ideology of the majority party in the lower house of the U.S. states on the amount of taxes, expenditures and the composition of the expenditures has been investigated and compared to estimated effects of the executive, the governor. The results indicate that the house does not affect the amount of taxes the state raises or its amount of expenditures, no matter if the effects are estimated including data on more

recent years or not. However, expenditure composition is affected by the lower houses majority party when including more recent years in the analysis, affecting the share of public welfare expenditures and other expenditures. When using data until 1995 only, the compositional effect disappears as well, indicating little effect of the ideology of the majority party on economic policy overall.

Little research has investigated the effect of the legislature which makes a theoretical explanation for the results of this study difficult. However, the studies that did investigate a similar research question have found no effect of the party affiliation of the majority in the lower house on the size of economic policy, too (De Magalhães & Ferrero, 2011). The question remains whether this is due to the fact that houses choose not to affect these variables or if the house is not able to influence these variables in the first place. Given that the governor does seem to affect these same variables, it is plausible to assume that the house is either bound by his dictations or by external rules that prevent the house from influencing the size of economic policy, such as state budgeting rules. De Magalhães and Ferrero (2011) state that the absence of this effect is due to the latter of the two. Yet, the results of this study make the first explanation possible, too, and further research should investigate the causes of the absence of an effect in more detail.

Additionally, the lower house seems to have exerted little effect on the economic policy in the past, but did do so to a greater extent more recently. These results show that, at least in more recent times, the legislative is not completely powerless in influencing economic state policy and seems to be able to set its own focus in the structure of the expenditures. However, it remains unclear why the effect has changed over time. Possible explanations may be the increasing polarization in politics that has made differences between parties more evident, but many other plausible reasonings could be given.

Finally, the direction in which the majority parties in the lower house affect different expenditure categories is surprising, as Democratic majorities seem to spend less on public welfare than Republican majorities, while the Democratic party is traditionally associated with more generous welfare programs. This may be the case as the effect has been found for states in which the election outcome and thus the seat share distributions are very close. The majority party may therefore possibly enact policies that also appeal to voters that traditionally vote the party with the opposite ideology, in order to maxi-

mize the chances of winning the majority also in the next election. However, also this explanation is hypothetical and needs closer investigation.

While the house seems to have limited effects on the budget, the governors influence seems to be more extensive, influencing the amount of taxes raised and additionally the composition of expenditures. Democratic governors seem to raise more taxes, as is traditionally assumed and shown by past research (Besley & Case, 1995), but do spend less on health expenditures, contrary to common belief and to prior research (Beland & Oloomi, 2017). Concerning the effect on taxes, it has been shown that setting a slightly higher tax rate may increase the chances of a Democratic governor to be re-elected, making this result plausible (Lowry, Alt, & Ferree, 1998). Concerning the surprising effect on health expenditures, the same reasoning as for the results of the state lower house can be used and the finding can be potentially attributed to the politically competitive nature of the state. At the same time, the results of prior studies differ in their findings on the direction of the effect of the governors ideology on health care expenditures (Beland & Oloomi, 2017; Joshi, 2015), and this study does not align with them either. More reserach is needed to identify on which other factors the direction of the effects depend and how they interact with the party affiliation of the governor.

Despite the unclarity of the direction of the effects, the results overall suggest that the governor affected the agenda of economic policy and its concrete implementation more than the house did. Again, this raises the fundamental question whether this is a choice of the lower house, or if these effects reflect the inability to change the course of politics by the legislature. Possibly, the executive and budgeting rules determine much of the budget, and the legislative has little leeway to change this direction. However, given the results for more recent financial years, the legislature seems to be able to influence policy in some way, negating the notion that the hands of the legislature are completely tied by the executive. While the current research gives some primary indications into the relationship between the executive and the legislature in determining economic policy, future studies should investigate the connection closer and determine which dependencies exist.

The study at hand can claim to have investigated causal effects by exploiting the randomness of the party affiliation of the legislature and the executive at small majorities or winning margins. However, by doing so the external validity of the study is compromised, as the causal effects are only valid for the close margins. The further

the seat share distribution of a state house or the victory margin of a governor is away from a close outcome, the more unlikely it is that the allocation of the majority or position has been due to chance rather than structural differences. Thus, the findings may only pertain to states with close outcomes while the effects of party affiliations of the majority party in the house or the governer on economic policy may be different from the ones that were found in states with less narrow election outcomes. Further research could replicate the results using a methodology that includes the complete bandwidth of election outcomes, for example by using a fitting instrumental variable.

In addition to the external validity problem arising from the methodology employed, the results may additionally not pertain to other countries or level of governance than those investigated. Given that the two party system of the United States is relatively unique, studying the same research question in multi-party systems may be a worthwhile undertaking for future research and may extend the results of this study. On top, using a dataset including more recent data on government finances may yield additional insights and might be useful to pursue.

Despite these limitations, the study at hand contributes to the literature on the effect parties exert on economic policy by being one of the first to investigate the effects of the legislature instead of the executive in the U.S. states. In addition, this paper is also one of the few to compare the effects of the two institutions on economic policy and thus provides first indications for the relative importance of different institutions in determining economic policy. Accumulating more knowledge in this area is important for understanding the basic functioning of our democracies. This study contributed to this aim and future studies will hopefully further the knowledge on this topic.

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Appendix

Table A1: *Differences in Taxes and Expenditures between Election and Non-Election Years*

	Mean in Election Years	Mean in Non-Election Years	p-value
Total Taxes	0.063	0.063	0.598
Total Expenditure	0.129	0.130	0.194
Education	0.338	0.337	0.743
Public Welfare	0.173	0.174	0.832
Health and Hospitals	0.063	0.064	0.278
Police Protection	0.009	0.009	0.093.
Other	0.416	0.416	0.807

*** p < 0.001, ** p < 0.01, * p < 0.05, . p < 0.1

Table A2: *Summary Statistics State House Majorities between 1970 and 2008*

	5% margin	10% margin	15% margin	Total
Democratic Majorities				
Percentage	0.514	0.523	0.543	0.641
Count	72	161	260	1123
Republican Majorities				
Percentage	0.486	0.477	0.457	0.359
Count	68	147	219	629
Total				
Percentage	1.00	1.00	1.00	1.00
Count	140	308	479	1752

Table A3: *Descriptive Statistics of Outcome Variables for Different Democratic Seat Share Margins between 1970 and 2008*

	Overall	5% bandwidth		Complete bandwidth	
		Democratic	Republican	Democratic	Republican
Total Taxes	0.063	0.062	0.063	0.065	0.059
	(0.013)	(0.010)	(0.008)	(0.013)	(0.012)
Total Expenditure	0.130	0.127	0.123	0.130	0.128
	(0.030)	(0.025)	(0.018)	(0.030)	(0.030)
Education	0.337	0.322	0.339	0.337	0.338
	(0.063)	(0.052)	(0.055)	(0.063)	(0.063)
Public Welfare	0.174	0.201	0.200	0.179	0.164
	(0.058)	(0.055)	(0.049)	(0.058)	(0.057)
Health and Hospitals	0.064	0.063	0.062	0.067	0.058
	(0.018)	(0.018)	(0.017)	(0.018)	(0.017)
Police Protection	0.009	0.010	0.009	0.009	0.009
	(0.004)	(0.004)	(0.003)	(0.004)	(0.003)
Other Expenses	0.416	0.404	0.390	0.408	0.431
	(0.073)	(0.051)	(0.053)	(0.069)	(0.077)

Standard deviations in parentheses

Table A4: *Summary Statistics of Govenors at the Victory Margins and House Majorities at the House Seat Share Margins between 1970 and 1990*

	5% margin	10% margin	15% margin	Total
Democratic Seat Share Margin				
Democratic Majority				
Percentage	0.484	0.479	0.559	0.705
Count	30	68	132	740
Total				
Percentage	1.00	1.00	1.00	1.00
Count	62	142	236	1050
Governor Victory Margin				
Democratic Governor				
Percentage	0.525	0.568	0.54	0.402
Count	64	134	204	422
Total				
Percentage	1.00	1.00	1.00	1.00
Count	122	236	378	1050

Table A5: *Descriptive Statistics of Outcome Variables for Different Democratic Seat Share Margins between 1970 and 1995*

	Overall	5% bandwidth		Complete bandwidth	
		Democratic	Republican	Democratic	Republican
Total Taxes	0.063	0.065	0.064	0.065	0.058
	(0.013)	(0.007)	(0.007)	(0.014)	(0.011)
Total Expenditure	0.124	0.133	0.122	0.126	0.120
	(0.026)	(0.022)	(0.022)	(0.027)	(0.022)
Education	0.344	0.303	0.354	0.343	0.347
	(0.068)	(0.043)	(0.063)	(0.065)	(0.075)
Public Welfare	0.151	0.177	0.166	0.160	0.130
	(0.052)	(0.053)	(0.039)	(0.051)	(0.049)
Health and Hospitals	0.066	0.061	0.065	0.069	0.059
	(0.018)	(0.018)	(0.014)	(0.018)	(0.014)
Police Protection	0.009	0.010	0.008	0.009	0.010
	(0.004)	(0.003)	(0.003)	(0.004)	(0.003)
Other Expenses	0.430	0.448	0.407	0.419	0.455
	(0.074)	(0.046)	(0.059)	(0.070)	(0.079)

Standard deviations in parentheses

Table A6: *Descriptive Statistics of Outcome Variables for Different Victory Margins of the Governor between 1970 and 1995*

	Overall	5% bandwidth		Complete bandwidth	
		Democratic	Republican	Democratic	Republican
Total Taxes	0.063	0.062	0.065	0.061	0.064
	(0.013)	(0.018)	(0.010)	(0.016)	(0.011)
Total Expenditure	0.124	0.125	0.122	0.121	0.126
	(0.026)	(0.030)	(0.021)	(0.025)	(0.026)
Education	0.344	0.346	0.360	0.336	0.349
	(0.068)	(0.077)	(0.061)	(0.071)	(0.066)
Public Welfare	0.151	0.147	0.137	0.157	0.147
	(0.052)	(0.050)	(0.062)	(0.055)	(0.051)
Health and Hospitals	0.066	0.063	0.061	0.066	0.066
	(0.018)	(0.018)	(0.016)	(0.017)	(0.018)
Police Protection	0.009	0.010	0.010	0.009	0.009
	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)
Other	0.430	0.435	0.431	0.432	0.429
	(0.074)	(0.087)	(0.074)	(0.074)	(0.076)

Standard deviations in parentheses

Table A7: *Effects of the House Majority Party on Taxes and Expenditures Relative to GDP between 1970 and 2008*

	5% bandwidth	10% bandwidth	15% bandwidth	IK bandwidth
Relative Total Taxes				$BW : 13.76\%$
Linear	0.003	-0.0003	-0.001	-0.001
Quadratic	0.013*	0.002	0.002	0.002
Cubic	0.007	0.004	0.003	0.003
Count	140	308	479	449
Relative Total Expenditure				$BW : 11.50\%$
Linear	0.003	-0.002	-0.004*	-0.001
Quadratic	0.010	0.002	-0.001	0.001
Cubic	0.042.	0.001	0.001	0.007
Count	140	308	479	377

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, . $p < 0.1$

Table A8: *Effects of the House Majority Party on Government Expenditure Structure between 1970 and 2008*

	5% bandwidth	10% bandwidth	15% bandwidth	IK bandwidth
Education				$BW : 8.31\%$
Linear	-0.015	-0.002	-0.012*	-0.0001
Quadratic	0.024	0.010	-0.012	0.009
Cubic	-0.083	0.013	0.018	0.046.
Count	140	308	479	281
Public Welfare				$BW : 9.41\%$
Linear	-0.036**	-0.028***	0.002	-0.033***
Quadratic	0.025	-0.043***	-0.028**	-0.044***
Cubic	0.035	-0.034	-0.061***	-0.052*
Count	140	308	479	298
Health and Hospitals				$BW : 19.71\%$
Linear	-0.002	0.001	-0.001	-0.0003
Quadratic	0.024.	0.002	0.004	-0.001
Cubic	0.097**	0.010	0.008	0.010*
Count	140	308	479	648
Police Protection				$BW : 12.92\%$
Linear	-0.0002	-0.0004	-0.001**	-0.001*
Quadratic	-0.004.	-0.0001	-0.0004	-0.0002
Cubic	0.003	-0.001	-0.0003	-0.001
Count	140	308	479	411
Other				$BW : 12.91\%$
Linear	0.053**	0.029***	0.013*	0.017**
Quadratic	-0.069*	0.031*	0.036***	0.037***
Cubic	-0.052	0.012	0.036*	0.030.
Count	140	308	479	411

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, . $p < 0.1$

Table A9: *Effects of the House Majority Party on Taxes and Expenditures Relative to GDP between 1970 and 1995*

	5% bandwidth	10% bandwidth	15% bandwidth	IK bandwidth
Relative Total Taxes				$BW : 12.47\%$
Linear	0.025^*	-0.002	0.001	-0.002
Quadratic	0.006	0.001	-0.003	0.004
Cubic	-0.110^*	0.009	0.004	0.017
Count	62	142	236	190
Relative Total Expenditure				$BW : 15.63\%$
Linear	0.038^*	-0.004	-0.001	-0.002
Quadratic	0.026	-0.005	-0.006	-0.005
Cubic	0.008	-0.009	-0.001	-0.011
Count	62	142	236	254

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, . $p < 0.1$

Table A10: *Effects of the House Majority Party on Expenditure Structure between 1970 and 1995*

	5% bandwidth	10% bandwidth	15% bandwidth	IK bandwidth
Education				$BW : 22.74\%$
Linear	0.117	0.016	-0.002	0.0002
Quadratic	0.113	0.027	-0.023	-0.002
Cubic	-0.253	0.071.	0.023	-0.003
Count	62	142	236	406
Public Welfare				$BW : 11.27\%$
Linear	0.005	-0.013	0.010	0.010
Quadratic	0.065	-0.005	0.005	-0.039*
Cubic	0.735***	0.017	-0.051*	0.010
Count	62	142	236	178
Health and Hospitals				$BW : 18.57\%$
Linear	-0.009	-0.004	-0.010***	-0.008***
Quadratic	-0.022	-0.016.	-0.007	-0.008*
Cubic	-0.096	-0.031*	-0.001	0.0003
Count	62	142	236	312
Police Protection				$BW : 9.89\%$
Linear	-0.0001	0.001*	-0.001*	0.001*
Quadratic	-0.002	0.002	0.0005	0.002.
Cubic	-0.028**	-0.0001	0.002.	0.00003
Count	62	142	236	140
Other				$BW : 18.01\%$
Linear	-0.112.	0.0002	0.003	-0.0004
Quadratic	-0.154*	-0.008	0.024	0.022.
Cubic	-0.358	-0.057	0.027	0.034
Count	62	142	236	306

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, . $p < 0.1$

Table A11: *Effects of the Governor's Party Affiliation on Taxes and Expenditures Relative to GDP between 1970 and 1995*

	5% bandwidth	10% bandwidth	15% bandwidth	IK bandwidth
Relative Total Taxes				$BW : 19.67\%$
Linear	-0.008	0.004.	0.004*	0.003*
Quadratic	-0.015	0.014***	0.006∗	0.005*
Cubic	0.053	0.013*	0.013**	0.012***
Count	122	236	378	482
Relative Total Expenditure				$BW : 8.48\%$
Linear	-0.005	0.004	0.005.	0.003
Quadratic	-0.007	-0.006	-0.002	-0.005
Cubic	0.074	-0.012	-0.007	-0.010
Count	122	236	378	208

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, . $p < 0.1$

Table A12: *Effects of the Governor's Party Affiliation on Government Expenditure Structure between 1970 and 1995*

	5% bandwidth	10% bandwidth	15% bandwidth	IK bandwidth
Education				$BW:12.63\%$
Linear	-0.042*	0.004	-0.001	0.003
Quadratic	-0.088.	0.006	-0.009	-0.004
Cubic	0.288.	0.085***	0.016	0.025
Count	122	236	378	314
Public Welfare				$BW:12.15\%$
Linear	0.015	-0.002	-0.005	0.004
Quadratic	-0.026	0.036**	0.021**	0.021*
Cubic	-0.834***	0.018	0.022.	0.034*
Count	122	236	378	292
Health and Hospitals				$BW:10.05\%$
Linear	-0.017.	-0.009**	-0.004.	-0.008**
Quadratic	0.045*	-0.017***	-0.010**	-0.016***
Cubic	-0.048	-0.020**	-0.017***	-0.019**
Count	122	236	378	242
Police Protection				$BW:10.17\%$
Linear	-0.004**	-0.0002	0.00003	0.0001
Quadratic	-0.012***	-0.001.	-0.001*	-0.002*
Cubic	0.026**	-0.005***	-0.001***	-0.004***
Count	122	236	378	242
Other				$BW:13.40\%$
Linear	0.048*	0.008	0.010	0.007
Quadratic	0.082	-0.023	-0.001	-0.001
Cubic	0.568***	-0.079***	-0.020	-0.031.
Count	122	236	378	332

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, . $p < 0.1$

Table A13: *McCrary Test to Check for Sorting*

	5% bandwidth	10% bandwidth	15% bandwidth
House Elections 1970-2008	0.450	0.776	0.791
House Elections 1970-1995	0.479	0.720	0.390
Gubernatorial Elections 1970-1995	0.828	0.560	0.111

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, . $p < 0.1$