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Bachelor Thesis

**Deceitful spenders: examining the existence of political
budget cycles in Latvia**

Authors:

Toms Birzulis

Edgars Indriksons

Supervisor:

Nicolas Gavaille

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Abstract

This paper researches the existence of political budget cycles in Latvian municipalities in the period between 2009 and 2018. The results are derived from a unique dataset which includes monthly level data from almost all 119 Latvian municipalities. As this research is the first of its kind in Latvia, it gives the possibility to find out the effect of political budget cycles in a rather recent member country of the European Union and OECD.

Before the elections, we observed expansions and contractions in some budget categories, but the results did not indicate any concrete cyclical trends within the election period, therefore, no evidence on the presence of intentional voter manipulation using expansionary policies on a municipal level was found.

After conducting two interviews with professionals in the field, we came to a conclusion as to why political budget cycles in Latvia might not be observable and obtained some additional insights on what are the typical approaches of voter influencing in Latvia.

1. Introduction

For more than 30 years researchers have been intrigued by the theory of political budget cycles (PBC). Although the first models did not provide any significant evidence and left the topic up for debate, the following studies showed that in large sample periods there are some cases of voter manipulation. As the years went by, the theory has evolved, and both sides of the spectrum have been investigated. Starting from well-developed countries as researched by Veiga and Veiga (2007) to newly developed democracies by Akhmedov and Zhuravskaya (2004). But what about the middle ground?

This leads us to the case of Latvia - a developing country who is on the path of becoming more like its Nordic or Western European allies. We believe there is indirect evidence of politicians using their power to assure their re-appointment in local municipalities. Rather fascinating surveys have been carried out by SKDS (a private Latvian research center, n.d.) and by Kažoka and Stafecka (2017) who found that even though the majority of the society did not trust the local politicians more than half of the municipalities remained under the guidance of the same political leaders after the 2013 municipal elections.

Thus, in this paper, we are going to research whether opportunistically motivated politicians implement noticeable expansionary policies right before elections by examining the existence of political budget cycles (PBC) in Latvian municipalities. The theory suggests that voters evaluate the performance of incumbent politicians by paying attention to government spending and taxes right before the election and see the possible economic effects only after them (Rogoff and Sibert, 1988). We will examine the monthly data of municipal budget balance, total and different categorical expenditures on a range of independent variables, such as government transfers, lagged variables, election dummy variables, and various control variables in 119 Latvian municipalities. The existence of political budget cycles will be proven if there will be statistically significant evidence of abnormal changes in municipal budget variables within the election year. Research for the existence of PBC is not only important to prove that incumbent politicians are willing to use the available public policy tools to assure their re-election but to also provide information about the negative economic effects such municipal resource distribution initiates. For example, it might cause an increase in budget deficits or an unnecessary or perhaps even dangerous diversion from economic or social goals (Veiga and Veiga, 2007). Furthermore, the

results can serve as a catalyst and perhaps pinpoint possible policy instruments that can be used to prevent or at least lessen the negative effects of such problems in the first place. Also, there has not been any known studies on the existence of political budget cycles in Latvia, thus, our unique dataset can be used in further research.

Additionally, taking into account Akhmedov and Zhuravskaya concerns, Latvia is also a good choice of research because first, the State Treasury of Latvia oversees municipal financial reporting and provides monthly financial statements, thus, solving the data frequency issue which can arise when the data is observed only on yearly basis, creating underestimated and statistically insignificant political cycles. Second, the financial statements are based on a specific template as dictated by the law and provide a detailed breakdown of various functional and economical expenditure categories. This is important because previous research has shown that 'larger' macroeconomic variables provide mixed results on the existence of the PBC's and explain little about the possible effects. Access to such detailed variables, therefore, can reveal much more. Third, like Akhmedov et al. research on Russia, Latvia is also a rather young democracy, but in addition to that, it is also a relatively young member of European Union and OECD, providing us with additional exploratory potential on PBC links to democracies, transparency and its change over time.

Therefore, to sum it up, we propose the following research question:

- **Is there evidence of the existence of political budget cycles in Latvia's municipalities in the period of 2009-2018?**

The paper is structured as follows: the following chapter goes in more detail about the existing theoretical and empirical literature. Afterward, in methodology, a model with the required data is introduced and discussed. The paper ends with our achieved results, their discussion, and conclusions, remarks.

2. Literature review

Contemporary democratic theory suggests that elections allow the electors to evaluate the performance of politicians and discipline them in cases where the incumbents have underperformed, thus, it is possible that politicians in office could act and use their authority to carry out policies that are valuable and noticeable to the voters in order to get re-elected (Zielinski, Slomczynski and Shabad, 2005).

In the coming chapters, we will look at opportunistic political business and budget cycle models which analyze the changes in municipal budget categories before the elections.

2.1. The law on Latvian municipalities

In Latvia, municipalities are rather autonomous and the elected councils plan and oversee the execution of the municipal budget. Furthermore, the mayor is voted in by the majority vote of the newly elected politicians, hence, the chairperson of the municipality normally has ties or is from one of the coalition parties. As the mayor directly oversees the municipal finances, the coalition has a large influence on many large projects and the planning of municipal finances. Municipal elections in Latvia take place every four years in the first Sunday of June and every citizen of Latvia who has reached the age of majority is free to take part in the elections (the only exceptions are people who cannot vote due to mental illness or people serving a sentence in jail). The number of politicians that get elected in the council is determined by the number of citizens in that specific municipality and the municipal councils can have up to 19 members. The only exception is Riga municipality with 60 politicians. After the elections, the chairperson of the election committee schedules a meeting with all of the elected politicians in order to elect the new mayor of the municipality. Each member of the council is allowed to suggest a possible candidate for the mayor's position and the mayor is elected if he receives the majority vote (Law on Elections of the Republic City Council and Municipality Council, 1994).

The law On Local Governments (1994) mentions that each municipality has an individual municipal regulation that stipulates the management and decision-making processes and other guidelines. The incumbent politicians form and elect committees that oversee and rule on

different fields such as, municipal finance, municipal housing, social events, and municipal services. The elected mayor automatically becomes the chairperson of the finance committee which oversees the municipal budget and decides all other financial decisions. Other committee chairpersons get elected by the members of those committees (Law on Elections of the Republic City Council and Municipality Council, 1994).

2.2. The theory of political business cycles

The theory of political business cycles (PBC) has significantly evolved over time since the first and most know research paper on this topic was published forty-three years ago. Professor William D. Nordhaus (from Yale University) presented an idea that politicians in the office could exploit their authority right before the elections to influence macroeconomic variables that the society is conscious of. The reason behind these actions is to signal the electors that the incumbent politicians are carrying out efficient economic policies that would possibly translate into a greater number of votes for the particular group of politicians in power (Nordhaus, 1975).

The model observed the trade-off between unemployment and inflation (more widely known as the “Phillips curve”) a certain period of time before the elections. As the electors prefer to have a low unemployment rate, it would suggest a seemingly high inflation rate but as the research shows individuals are not fond of possible inflation because it causes issues like incorrect distribution of household resources, thus, the electors would rather choose unfluctuating price levels (Nordhaus, 1975). Continuing with the assumed preferences of the electors the author suggested that the electors are rational in their choices and they are not aware of the trade-off *per se*, thus, the electors do not evaluate the performance of incumbents to the best of their abilities at a given time period but they set a certain benchmark based on the previous economic accomplishments. Stemming from this the electors simply vote for the incumbents if they have performed to the level of this set benchmark and vice versa (Nordhaus, 1975).

In order to comprehend if the theory of political business cycles is visible in reality, the author decided to look at the data from nine countries: United Kingdom, Australia, Canada, United States, New Zealand, Germany, Japan, France, Sweden. At first, Nordhaus explained that the evidence of high unemployment and deflation right after the elections and an increase in inflation

before the next elections would point out to the existence of PBC in these countries (Nordhaus, 1975). The results indicated that for most of the countries this cycle was not existent or quite moderate but for three of the nine countries (Germany, United States, New Zealand) the political business cycles were noticeable. Nordhaus (1975) pointed out as he called “a textbook example” of a political business cycle created by the politicians during President Nixon's administration from 1968 when inflation rose by almost 3% and then right before the elections the administration informed about their intention to decrease it.

In 1977, Duncan MacRae published his research paper in which he described the theory that opportunistic decision making by incumbent politicians is possibly the cause of business cycles rather than some unexpected economic events. To test his hypothesis of PBC the author observed inflation and unemployment data of four election terms in the United States since 1957 till 1972. The analysis of data included two different economic variable prediction methods which assumed short-sighted and strategically voting electors. There was only some statistically significant evidence of the existence of political budget cycles and the results also indicated that the method of short-sighted electors that vote by their preferences is not better in explaining political business cycles than the method of strategic voting (MacRae, 1977).

Alberto Alesina and Nouriel Roubini (1992) investigated quarterly data from democratic OECD countries in the time period from 1960 to 1987. The authors examined different opportunistic and partisan models some of which are also mentioned in this paper. The authors used the model presented by Nordhaus (1975) to examine the changes in unemployment and the growth of output in more than 15 countries (Alesina and Roubini, 1992). The results for opportunistic business cycles were quite dubious leaning more towards the notion that there was no significant evidence of the existence of PBC in these countries. Only in Germany and New Zealand, there was some evidence of possible manipulation with previously mentioned macroeconomic variables, but the results are more supportive to the trend in previous studies of inconclusive results which could suggest that there are some faults in the assumptions and the model itself.

Although the previous research on the trade-off between unemployment and inflation provided inconsistent empirical evidence of the existence of political business cycles, it created a foundation on which further and more statistically significant research could be built upon.

2.3. Political budget cycles on a municipal level

Rogoff and Sibert (1988) introduced a completely different way how to think about political budget cycles. Although they praised the works of Nordhaus (1975) and MacRae (1977) they noted that the theory of political budget cycles is much more complicated, and it can be assessed in many different ways rather than only with the previously suggested tradeoff between unemployment and inflation.

The authors presented the theory that incumbents due to the asymmetry of information can recognize their achievements faster than the electors can, thus, they will try to communicate it to the voter in order to receive more votes in the coming elections (Rogoff and Sibert, 1988). The authors assumed that in the model electors evaluate the achievements of the incumbent politicians by “their level of competency” which can be defined as the ability to efficiently act with the provided revenue (Rogoff and Sibert, 1988, p. 2). The model of competency included two factors of which one was the tax level set by the incumbents and the second was a seigniorage tax which can be used to correct any imbalances caused by the previously set tax rate (Rogoff and Sibert, 1988).

The authors mentioned that the signaling from the government arises at the beginning of a period when they set the level of taxes and at this point, the electors can evaluate the competency of the incumbents. In an election year, after the tax rate has been set, the electors vote for their chosen party and the effect or the amount of seigniorage tax that needs to be introduced to adjust any budget shortages is visible by the electors only after the elections (Rogoff and Sibert, 1988). Despite the author's equation of social welfare that implied the necessity to not use any seigniorage tax, the lag on the visibility of effects caused by tax rate allows the incumbents to exploit the asymmetry of information and set intentionally low tax rates before the elections. The inadequately low tax rate implies an immense degree of competency by the incumbents as they can carry out their policies with a modest amount of revenue, thus, generating more votes for the incumbents (Rogoff and Sibert, 1988).

The significance of the model developed by Rogoff and Sibert (1988) is that it created the possibility to test for the existence of political budget cycles in different ways. The authors suggested that the asymmetry of information remains intact in other applications of the model,

thus, the method suggested by Rogoff and Sibert (1988) can be applied to analyze, for example, government spending and investments, which also can be used to signal incumbent's competency right before the elections.

In 2004, Akhmed Akhmedov and Ekaterina Zhuravskaya used the analysis mentioned by Rogoff and Sibert (1988) in their study on the existence of political budget cycles in “a young democracy” as the Russian Federation became a democratic country since the collapse of Soviet Union at the beginning of the 1990s. The authors observed monthly data from 159 regional elections from 1996 to 2003 which included social expenditures, growth, inflation and other budget categories in Russia's municipalities, hence, as mentioned in previous literature the existence of political budget cycles would suggest an increase in municipal expenditures right before the elections in the observed municipalities.

Additionally, to investigate the variations in the amplitude of the cycles Akhmedov and Zhuravskaya (2004) used the model by Rogoff (1990) which was improved by the contributions of Gonzalez (2000) and Shi and Svensson (2002). The model implied that the “voter awareness, informational transparency, and democracy” can diminish the amplitude of the cycle and it can be assessed by observing the level of democracy, education, urbanization and media independence (Akhmedov and Zhuravskaya, 2004).

The evidence indicated significant changes in the explored variables right before the elections and after them. Throughout the years budget expenditures increased by an aggregate amount of 18% within the election year, first variations were noticeable 9 months before elections when normally the expenditures increased by 7% and by 13% one month prior to the elections. Subsequently, the expenditures decreased dramatically after the elections and in only two months the municipal spendings decreased by 17%. Spending in categories such as healthcare, education, and culture that seemingly are more visible to the electors increased by 14% right before the elections and then decreased by 18% in two months after the electors gave their votes. Additionally, there was a huge increase in media spendings as in a half year before the elections spending in this category increased by 23% followed by a 32% drop after the elections, thus, suggesting that the incumbents used media to signal their competence and achievements before the elections in order to increase their popularity (Akhmedov and Zhuravskaya, 2004). The authors mention that the expansion in spendings was backed by a rise in tax revenues and

increases in the budget deficit and contrasting with the Nordhaus (1975) the authors did not find significant evidence that the incumbent politicians use the trade-off in inflation and unemployment to assure their re-election. Also, the authors found that “education, urbanization, media freedom, democracy, government transparency and time” decreased the amplitude of the political budget cycles and the effects were stronger for transparency, media freedom and time (Akhmedov and Zhuravskaya, 2004).

The model and data frequency used by Akhmedov and Zhuravskaya (2004) presents a good framework for studies in young democracies as it allowed the authors to find significant evidence of political budget cycles in a small time period. The use of frequent data is crucial in our research as Latvia was a member of the Soviet Union and the annual municipal data are available to a certain extent and we believe that this study points in the right direction as to how one should carry out further research on the existence of political budget cycles.

In 2007, Veiga and Veiga introduced their study on the presence of political budget cycles in Portuguese municipalities and whether there is a visible difference in the actions of mayors with contrasting political beliefs. Similarly, to Akhmedov and Zhuravskaya, the authors analyzed municipal expenditures to examine the existence of political budget cycles. Portugal's legal system worked in favor of this study as the elections are planned in fixed dates and by law, all municipal financial statements are structured similarly, also, the financial statements are available for everyone and published on the same website each year (Veiga and Veiga, 2007). The authors mentioned that Portuguese municipalities are reasonably independent of the government, in the sense, that they employ all municipal officials and they own their properties. Also, they can separately plan their budget, but some constraints can be carried out by the government to limit their spendings or the availability to use revenue streams. The dataset was obtained by gathering information from 1976 to 2000, in this period there were 8 elections and as the authors noted Portugal once again became a democratic country only in 1974, and thus, due to the low amount of observations it was important to choose the 278 municipalities for this research in order to achieve a larger sample and more visible patterns (Veiga and Veiga, 2007).

Since the municipal officials have the opportunity to manage the spendings of the municipality, the authors mentioned that it could be highly possible that political budget cycles could be examined in their municipal expenditures that are more noticeable to the electors (Veiga and

Veiga, 2007). Thus, the authors examined the presence of political budget cycles in the investment expenditures of Portuguese municipalities which are split into seven different divisions with additional sub-divisions: (1) Housing, (2) Acquisition of Land, (3) Miscellaneous Constructions, (4) Other Buildings, (5) Machinery and Equipment, (6) Transportation Material, (7) Other Investments (Veiga and Veiga, 2007). Also, Veiga and Veiga (2007) gathered data about the political beliefs of all mayors in order to determine whether the actions of left-wing oriented mayors are different from right-wing oriented and vice-versa, thus, it would be possible to conclude whether one of these beliefs will represent more "opportunistic behaving" mayors.

Veiga and Veiga (2007) presented some interesting findings as it was clear that in the election years the spendings increased by more than 10% in such divisions as (a) Other Buildings, (b) Miscellaneous Constructions, (c) Other Investments, indicating clear signs of the political budget cycle. Taking in consideration, that the evidence of PBC was more significant for "a" and "b", the authors decided to investigate the subdivisions of these previously mentioned expenditures and observed that spendings on road construction, housing, and additional works increased dramatically indicating that political budget cycles are existent in expenditures that are more salient in public discourse. The cumulative effects were quite staggering as the budget balance declined by 115% in the election year followed by a 10.5% decline in tax revenue and a 4% expansion in total expenditures in the same year (Veiga and Veiga, 2007). Particularly the effect on budget balance and tax revenue is corresponding to the political budget cycle mechanism mentioned by Rogoff and Sibert (1988) as there is a significant increase in expenditures right before the elections followed by the lag period after which there is a noticeable negative effect on the budget deficit and tax revenue. The problem that stems from the existence of political budget cycles is that after the elections it creates difficulties that affect the country's economy due to the incorrect distribution of municipal spendings. So, the authors suggested that implementing some legislation that could minimize the ability to manipulate with municipal spendings would improve the lives of all citizens (Veiga and Veiga, 2007)

More evidence supporting the existence of political budget cycles was found in Italy. Alesina and Paradisi (2015) investigated the control of tax revenue from Italian municipalities before the elections. Since the legislation of the so-called "unique municipal tax" (which is as a property tax) around fifty percent of municipal revenues now are dependent on this specific tax. This tax

act specified that there is a default rate of 0.4% which can be adjusted by the municipalities in the range of 0.2% - 0.6% and a different rate for additional residences which could also be adjusted. This legislation made the citizens more aware of the taxation processes as it implied new taxation on the person's main residences which was not taxed before this new ruling, thus, because of its features, the tax can be considered as a perfect instrument for manipulations before the elections (Alesina and Paradisi, 2015).

Although the tax act was abandoned in 2013, results suggested that in municipalities where elections were set to happen in 2013 the tax rate had been lowered the year before (in 2012). The authors calculated that the manipulation in municipalities that were awaiting elections caused a 6% decrease in tax revenues. It was also noted that at the beginning of the electoral term the tax rates were around 0.12% higher (and 0.36% higher for additional residence tax) than the year ahead of the upcoming elections (Alesina and Paradisi, 2015). Further on, the authors tested the effects of political budget cycles in small and large cities and certain regions. The effects were more substantial in cities with less than 15000 residents while large cities do not present any evidence of political budget cycles. Additionally, the authors observed that the tax rate before the elections was set higher in municipalities with budget deficit suggesting that the politicians want to minimize the deficit in the coming period by increasing taxes (Alesina and Paradisi, 2015).

The results presented by Alesina and Paradisi (2015) were quite conclusive and aligned with evidence from previous studies mentioned in our paper. There was a trend of executing policies that can be seen by the electors right before elections suggesting the incumbents abuse the power in order to possibly gain personal benefit which is the re-election in the office. The only drawback of the data is the use of yearly data. It is possible that analyzing monthly municipal data could provide more significant results as suggested by Akhmedov and Zhuravskaya (2004).

2.4. Changing the distribution of spending on budget categories

Drazen and Bender (2008) found that in some cases the voters were aware of the decrease in budget balance, hence, it had negative effects on the voting polls resulting in vote loss for the party in power. For example, an expansion of 1% in budget surplus would result in an approximate increase of 7-9% in the probability of reelection in developed countries suggesting a vice versa effect (Drazen and Bender, 2008).

In 2010, Drazen and Eslava presented a paper in which they proposed that incumbents can influence voters by increasing spending only in favorable budget categories, thus, not creating a negative effect on the total budget balance. They introduce a different criterion by which the electoral evaluates the performance of the incumbent politicians. The new approach defines that the voters are not aware of the incumbent's favorite spending categories, hence, it is impossible for the electoral to differ whether the incumbent's future policies will remain constant and they will continue to allocate resources for those specific budget categories or are they just trying to gain votes in the upcoming elections.

After analyzing yearly data from 1987 till 2002, the results showed a 20% increase in spending on housing and 6% increase on urban infrastructure and 10% increase on water and energy in the election year. At the same time, there was a 40% decrease in spending on transfers to pensioners followed by decreases in spending on short term employees, current transfers. All mentioned cutbacks and expansions were denoted as a change in spending of that specific category as a share of total municipal spending, thus, there was significant evidence on the possible manipulation with the budget composition in order to influence the voters.

As more and more research about political budget cycles has been conducted, one can see that there are more efficient ways how to examine PBC than ever before. To succeed in investigating such a complicated and sensitive topic it would be necessary to have a frequent and detailed data as suggested by Akhmedov and Zhuravskaya (2004) and Veiga and Veiga (2007). Due to some constraints or voter preferences, the incumbents are not always capable to successfully carry out expansionary policies to influence the electors, hence additional empirical in debt research would be useful to make sure that any other manipulation is not taking place.

3. Methodology

For our primary model, we will use the models used by Akhmedov et al. (2004) and Veiga and Veiga (2007). For our secondary model, we will use the model of Drazen and Bender (2008). This is due to three reasons which directly suit our research. First, the models have been designed to be applied on the municipal election level. Second, they account for the monthly frequency of the data. Third, the previous authors used a similar dataset to ours.

3.1. Description of the data

Our primary data source is the State Treasury of Latvia which is an independent entity under the Ministry of Finance. In addition to overseeing the government's budget execution, they also collect and aggregate public reports which according to the sc. 14.1. of Latvian Law on Budget and Financial Management (1994) must be published and available to the citizens. For this research, we will use the monthly budget execution report which according to the representative at the Treasury, is created by aggregating municipal State Treasury bank transactions, therefore it is based on actual cash flow during the respective month. The data is available from the year 2009 up until now, therefore our dataset will include 10 years from 2009 to 2018. Data before 2009 is not available on a monthly frequency basis and can only be gathered from the regional municipal archives. In total, the available data is for 14'280 observations (119 municipalities x 10 years x 12 months) on various budget items, however, we have obtained at lowest 13'266 and at highest 13'401 observations due to the following factors:

- In the year 2009, the Latvian government enacted its municipal administrative and territorial reform, which took the effect during the 2009 municipal elections. This reform merged the previously existing 553 territorial entities into the currently known 119 municipalities. Due to this reason, data for the majority of the current municipalities is only available starting from July 2009. Before that, financial data was collected on each one of the 553 respective territorial entities and is, therefore, missing from our dataset. However, there are some exceptions, such as republic cities or municipalities who remained unchanged during the reform.

- In 2010, Mērsraga municipality split off from the Rojas municipality with new elections, thus, to keep consistent with the data, we will exclude the period leading up to these elections and the following year from the dataset.
- During the data cleaning process, categorical bank transaction errors (when there is a positive and a negative value equalling to 0 in a future period) are replaced with 0, while other suspicious negative values are removed from the dataset. Both full and clean dataset versions are attached to the research and this difference does not affect the results.

As the State Treasury website is outdated, we created an automatic data scraper bot to download the financial statements. Then in line with the previous research and available data, we chose the budget positions that would suit our research. See Appendix A for a full list.

During our available sample period, there have been three municipal elections (Centrālā vēlēšanu komisija, n.d.). Specifically, we will examine the elections of 2009, 2013 and 2017 that take place on the first Saturday of June.

Secondary data for control variables like the number of inhabitants or the age structure in Latvian municipalities is obtained from the public database of the Central Statistical Bureau of Latvia and The Office of Citizenship and Migration Affairs (for latest January 1, 2019 data). The latter unfortunately was not available for the individual municipalities in the year 2009, therefore the country's average was used. As this is yearly data at the start of the respective period, we convert it to a monthly value using a linear function. Data for the municipal area in km² is obtained from the Ministry of Environmental Protection and Regional Development.

3.2. The models

To find the evidence of political budget cycles we will run three models. The first model will use *municipal budget balance per capita* as a dependent variable. According to Veiga and Veiga (2007), this is a good general choice because it accounts for both municipal revenues and expenditures. The second model will use different *municipal economical expenditure category items per capita* as the dependent variables (see Appendix A). The explanation for this is that incumbent politicians usually have very little control over municipal revenues, therefore perhaps

a larger effect in the change of expenditures can be found (Veiga and Veiga, 2007). Luckily, the data available from the State Treasury also contains functional expenditure categories. For this reason, we can also run our third model which will use different *municipal functional expenditure category items as a percentage share of the total municipal expenditures* as the dependent variables (see Appendix A). The reasoning here follows the idea introduced by Akhmedov et al. (2004) and Drazen and Bender (2008) that various categories where you spend the money can be just as important as how much you spend it. For example, sudden changes in the composition of the expenditures from less to more noticeable categories by the electorate can be also attributed to budget manipulation.

Following the work of Akhmedov et al. (2004) and Veiga and Veiga (2007), we use fixed effects in our model. This is done in order to account for individual effects in our municipalities that could arise from differences in geographical location, proximity to various resources, or other region-specific reasons. Additionally, as all municipal budgets experienced an economic shock after the 2008 crisis, we also account for discrepancies between years in our sample period. Finally, because the municipalities experience various income and expenditure levels across the year, we also control for the seasonality or monthly fixed effects. To further account for the possible effect of geography, population density and age structure on the dependent variables, we also include *% of the population under the age of 14*, *% of the population above the age of 65* and *municipal population density* control variables in our models. Additionally, as we are using panel data on a span of several years, we must account for the autoregressive component of the time series. For this reason, we will include the *lagged value of the dependent variable* in our models. We tested for optimal lag length using Akaike criterion, however, were unable to obtain an optimal solution, therefore to remain consistent with previous research we will proceed with the lag length of four as used in Akhmedov et al. (2004) work.

To test our hypothesis and capture the effects of possible political budget cycles, we must include in our model's *election period dummy variables*. For this Akhmedov et al. (2004) implemented $m_{j,i,t}$ which they defined as a monthly election 'cycle' dummy variable (p. 1311). This dummy $m_{j,i,t}$ equals 1 when t is j months away from the elections and it spans from $t - 12$ and $t + 12$ months. As the elections always take a place at a specific date each election year, adding such a number of dummy variables can create a state in which the model has not enough

degrees of freedom to output unbiased results. Therefore, to account for this, we will also implement $q_{j,i,t}$ or a quarterly election dummy variable that will replace the aforementioned $m_{j,i,t}$. Similarly, $q_{j,i,t}$ then equals 1 when t is j quarters away from the elections and it spans from $t - 4$ and $t + 4$ quarters. The analysis will then be conducted on a quarterly level and in the case of significant results will be further investigated on a monthly level. Nevertheless, we still test all of our models with $-4 m_{j,i,t}$ or $+4 m_{j,i,t}$ dummies in case a significant trend or abnormality is accidentally eliminated by the quarterly effect. Finally, the election month dummy itself is equal to 1 when j is 0, therefore in total, we use 33 election dummy variables covering the period of a year before and after the elections.

The existence of opportunistic political budget cycles will be proven if α_j estimations are significant and positive before the elections and significant and negative after the elections. Regardless, any other abnormalities during the election period will also be reported in the results.

$$Y_{i,t} = \sum \alpha_j m_{j,i,t} + \beta Y_{i,t-g} + \delta X_{i,t} + \tau_t + f_{i,s} + \epsilon_{i,t} \quad (1)$$

Budget balance denoted as $Y_{i,t}$. The cycle dummy $m_{j,i,t}$ denotes the election month or quarter. $\delta X_{i,t}$, denotes control variables: % pop below 14, % pop above 65, pop density. τ_t and $f_{i,s}$ denote municipality and time fixed effects.

Given that in the next models we do not account for the revenue side of the budget, we will also include *received government transfers* as an independent variable. According to Veiga and Veiga (2007), it is expected that it will have a strong positive effect on expenditures as politicians will spend more money when they also receive more money.

$$Y_{i,t} = \sum \alpha_j m_{j,i,t} + \beta Y_{i,t-g} + \text{gov. transfers}_i + \delta X_{i,t} + \tau_t + f_{i,s} + \epsilon_{i,t} \quad (2)$$

The dependent variables for different economical category expenditures denoted as $Y_{i,t}$. The cycle dummy $m_{j,i,t}$ denotes the election month or quarter. $\delta X_{i,t}$, denotes control variables: % pop below 14, % pop above 65, pop density. τ_t and $f_{i,s}$ denote municipality and time fixed effects.

In their shares model, Drazen and Bender (2008) also controlled for municipal total spending to obtain the respective election period effect on the dependent variable.

$$Y_{i,t} = \sum \alpha_j m_{j,i,t} + \beta Y_{i,t-g} + \text{total expenditures per capita}_i + \delta X_{i,t} + \tau_t + f_{i,s} + \epsilon_{i,t} \quad (3)$$

The dependent variables for the different functional category as a % share of total expenditures denoted as $Y_{i,t}$. The cycle dummy $m_{j,i,t}$ denotes the election month or quarter. $\delta X_{i,t}$, denotes control variables: % pop below 14, % pop above 65, pop density. τ_t and $f_{i,s}$ denote municipality and time fixed effects.

4. Analysis of Results

Overall, the results of the first two models are weak and there is no evidence on the existence of political budget cycles (see Tables 1 and 2) on a quarterly level. Even if there is a trend - it is often very insignificant. In the case of the first model, the results of the budget balance are counter-intuitive to the previous research: the trend is opposite in a sense that a quarter before the elections the budget balance increases by 3.25 euros per capita, all else equals. Unfortunately, due to the lack of degrees of freedom, we must omit further quarters to preserve the accuracy of the findings.

Table 1

Fixed effects regression of the impact of the election year on municipal expenditures

T-statistics are written in the parentheses and ***, ** and * shows the statistical significance at 1%, 5%, and 10% levels, respectively.

Variable	Total Budget Balance (per capita)	Total Expenditures (per capita)	Spending on Wages (per capita)	Spending on Grants and Subsidies (per capita)
$q_{i,j-4}$	omitted	-1.465705 (-1.30)	omitted	-0.0539142 (-0.70)
$q_{i,j-3}$	omitted	3.820053 (2.26)**	0.8688015 (2.35)**	.0873032 (0.38)
$q_{i,j-2}$	-0.554811 (-0.41)	0.7611089 (0.31)	1.704238 (3.81)***	-0.3455275 (-1.88)**
$q_{i,j-1}$	3.249925 (1.90)*	-0.3180945 (-0.12)	0.4440328 (0.82)	-0.4210235 (-1.89)**
Elections ($q_{i,j=0}$)	1.893813 (0.73)	0.7510177 (0.23)	2.948488 (3.73)***	-0.6240975 (-1.92)**
$q_{i,j+1}$	-0.4818678 (-0.28)	6.833562 (2.05)**	3.16578 (2.60)***	-0.3476286 (-0.90)
$q_{i,j+2}$	omitted	3.906952 (1.08)	omitted	-0.4710043 (-2.29)**
$q_{i,j+3}$	omitted	-4.802013 (-3.39)***	omitted	-0.0005343 (-0.01)
$q_{i,j+4}$	omitted	-2.519974 (-1.99)**	omitted	.1251241 (1.52)
Observations	12921	12893	12903	12316
R²	17%	48%	63%	35%
Fixed effects	Municipalities, Years, Months	Municipalities, Years, Months	Municipalities, Years, Months	Municipalities, Years, Months

The success of the second model is more apparent as the trends are stronger and more significant. Take for example the total expenditures which experience a 6.83 euro per capita spike in spending one quarter after the elections. Additionally, we can also observe a 3.82 euro per capita increase in spending three quarters before the elections. Similar, just with an opposite

sign are the results for three and four quarters after the elections. There spending decreases by 4.80 and 2.52 euros per capita respectively.

Out of all budget items, we can observe the best results in wage expenditures per capita. Specifically, we can see that the wages increase throughout the whole election year (with an exception of the quarter before elections due to insignificant results). The magnitude is also surprising with a 2.95 and 3.17 euro per capita spending increase quarter after the elections and 0.87 to 1.71 euro per capita spending increase three and two quarters before the elections.

Almost consistently significant during the election period (except for the quarter after the elections) are the results for spending on grants and subsidies. It seems that during the whole election year the spending on this category drops by 0.35 to 0.62 euros per capita.

The remaining budget categories are too insignificant to be considered as successful results, albeit items such as social benefits, capital expenditures and spending on goods & services do seem to have a possible underlying trend. In the case of social benefits, we see some significant values that suggest an increase in spending in the previous year. A similar case is also observed for capital expenditures where there is a large decrease of 1.96 to 4.08 euros per capita in the upcoming year after the elections while in the case of the goods & services, there are a positive trend and a significant 0.58 euro per capita increase three quarters before the elections.

Table 2**Fixed effects regression of the impact of the election year on municipal expenditures**

T-statistics are written in the parentheses and ***, ** and * shows the statistical significance at 1%, 5%, and 10% levels, respectively.

Variable	Spending on Social Benefits (per capita)	Transfers Back to Government (per capita)	Capital Expenditures (per capita)	Spending on Goods and Services (per capita)
$q_{i,j-4}$	-0.048572 (-0.98)	0.087295 (0.58)	-2.2976557 (-0.32)	-0.4352445 (-1.61)
$q_{i,j-3}$	0.1170497 (1.82)*	0.3257049 (2.32)**	1.81646 (1.27)	0.5787752 (2.11)**
$q_{i,j-2}$	0.2339211 (2.40)**	0.1767035 (0.76)	-2.215101 (-1.15)	0.9504129 (1.15)
$q_{i,j-1}$	-0.2008009 (-1.62)	0.5463049 (2.30)	-3.549785 (-1.59)	0.7455779 (0.78)
Elections ($q_{i,j=0}$)	-0.3049823 (-2.28)**	0.1549585 (0.39)	-2.77455 (-1.01)	-0.3722385 (-0.33)
$q_{i,j+1}$	-0.0056874 (-0.04)	0.9534313 (3.21)**	0.7889073 (0.29)	1.241289 (1.17)
$q_{i,j+2}$	0.1581122 (1.02)	0.4319872 (1.37)	0.1194882 (0.04)	1.027605 (0.97)
$q_{i,j+3}$	-0.0170408 (-0.29)	-0.2985743 (-2.20)**	-4.08355 (-3.27)***	-0.2063164 (-0.73)
$q_{i,j+4}$	-0.3129708 (-6.38)***	-0.1935995 (-1.29)	-1.957009 (-1.90)**	-0.393348 (-1.61)
Observations	12801	12384	12608	12843
R²	57%	60%	34%	46%
Fixed effects	Municipalities, Years, Months	Municipalities, Years, Months	Municipalities, Years, Months	Municipalities, Years, Months

By further examining the monthly results, we can more specifically pinpoint the exact timing of the abnormalities in spending (see Table 3 and Table 4), however, as compared to quarterly level, no significantly better results are obtained. One improvement is in the budget balance where previously we saw an increase in the first quarter. On the monthly level, we can see that it is driven by a quite significant 4.90 and 7.67 euro per capita increase in budget balance two and three months before the elections. We then actually observe the opposite situation in the second model regarding the total expenditures, where they decrease by 6.77 euros per capita two months before the elections while significantly increase by 10.35 euros per capita two months after the elections. As far as the trend goes, it perfectly follows the wage expenditures, therefore we can reasonably say that wages are the main factor of the movement in total expenditures.

Table 3**Fixed effects regression of the impact of the election year on municipal expenditures**

T-statistics are written in the parentheses and ***, ** and * shows the statistical significance at 1%, 5%, and 10% levels, respectively.

Variable	Total Budget Balance (per capita)	Total Expenditures (per capita)	Spending on Wages (per capita)	Spending on Grants and Subsidies (per capita)
$m_{i,j-4}$	1.814474 (1.10)	-1.840589 (1.19)	-0.1102422 (-0.18)	0.2174435 (0.98)
$m_{i,j-3}$	4.902821 (2.07)**	-1.990534 (-1.12)	-0.4705656 (0.59)	0.0080966 (0.04)
$m_{i,j-2}$	7.668335 (3.44)***	-6.767392 (-4.05)***	-2.018735 (-2.95)***	0.2298802 (0.59)
$m_{i,j-1}$	-0.7170128 (-0.34)	1.09399 (0.58)	1.143085 (1.65)	-0.1090372 (-0.38)
Elections ($m_{i,j=0}$)	2.307803 (0.87)	-1.124946 (-0.50)*	2.468325 (3.21)	-0.1721114 (-0.63)
$m_{i,j+1}$	-0.2993624 (-0.12)	10.35094 (2.26)**	5.397604 (2.29)**	-0.1978152 (-0.67)
$m_{i,j+2}$	-1.377842 (-0.58)	2.338306 (0.70)	2.448921 (1.51)	0.5135664 (0.74)
$m_{i,j+3}$	1.466334 (0.55)	-2.603031 (-0.94)	-0.0803078 (-0.06)*	0.1225679 (0.32)
$m_{i,j+4}$	-0.2366661 (-0.09)	-0.4707657 (-0.14)	-0.3526983 (-0.28)	0.164102 (0.39)
Observations	12921	12893	12903	12316
R²	17%	48%	63%	35%
Fixed effects	Municipalities, Years, Months	Municipalities, Years, Months	Municipalities, Years, Months	Municipalities, Years, Months

Although insignificant on the quarterly level, on a monthly level the spending on social benefits is very significant throughout the time before and after the elections (except for the month after elections) and carries a decrease in spending of 0.29 to 0.55 euros per capita.

Transfers back to the government are primarily significant after the elections, where they seem to steadily drop to -1.19 euro per capita spending following a 1.32 euro per capita increase right after the elections. Capital expenditures seem to possess a unique negative trend before the elections and a positive trend afterward. Unfortunately, only one value is significant, specifically two months before the elections spending on capital expenditures decreases by 4.13 euros per capita. Goods and services category seems to have a more uncertain up and down trend with a few significant values. For example, three months before and during the elections spending decreases by 1.18 and 1.06 euros per capita respectively. While interestingly one month after the elections it increases by 2.38 euros per capita.

Table 4**Fixed effects regression of the impact of the election year on municipal expenditures**

T-statistics are written in the parentheses and ***, ** and * shows the statistical significance at 1%, 5%, and 10% levels, respectively.

Variable	Spending on Social Benefits (per capita)	Transfers Back to Government (per capita)	Capital Expenditures (per capita)	Spending on Goods and Services (per capita)
$m_{i,j-4}$	-0.3077472 (-3.22)***	-0.3770382 (-2.70)***	-0.4594862 (-0.35)	-0.478614 (-1.10)
$m_{i,j-3}$	-0.3941904 (-3.86)***	0.220779 (1.03)	-1.34663 (-1.00)	-1.180398 (-2.87)***
$m_{i,j-2}$	-0.554056 (-6.34)***	-0.3093241 (-1.55)	-4.130245 (-3.48)***	0.293352 (0.76)
$m_{i,j-1}$	-0.2853843 (-2.94)***	0.062388 (0.32)	-1.49055 (-1.00)	0.4785384 (1.03)
Elections ($m_{i,j=0}$)	-0.4523203 (-4.64)***	-0.4392885 (-1.71)*	-1.665223 (-1.11)	-1.062229 (-2.03)**
$m_{i,j+1}$	-0.0542561 (-0.36)	1.316946 (0.032)**	2.295406 (1.08)	2.382964 (2.10)**
$m_{i,j+2}$	-0.315913 (-2.55)**	-0.1846651 (-0.65)	0.6188868 (0.27)	-0.3942898 (-0.56)
$m_{i,j+3}$	-0.5386063 (-5.27)***	-0.3880599 (-2.65)***	-0.3073692 (-0.15)	-1.128352 (-2.16)**
$m_{i,j+4}$	-0.3729196 (-1.47)	-1.190068 (-4.01)***	0.2591299 (0.14)	0.0103863 (0.01)
Observations	12801	12384	12608	12843
R²	57%	60%	34%	47%
Fixed effects	Municipalities, Years, Months	Municipalities, Years, Months	Municipalities, Years, Months	Municipalities, Years, Months

Unfortunately, the third model returned worse results than the previous two (see Table 5 and Table 6). Here, the theory suggests that politicians shift the spending from less to more noticeable categories, therefore we define the functional budget expenditure variables as shares of the total expenditures (they all equal up to 100% of total municipal expenditures).

The first category we examined was the spending on government services as a share of municipal expenditures. The estimators for cycle dummies were mostly insignificant but with one exception - the quarter right before the elections. After investigating further, on a monthly level the share of total expenditures spent on government services increased for all 4 months leading up to the elections and peaked at a 1.68% higher share one month before the elections. At the same time, the share of spending on social security decreased all 4 months before the elections and during the election month. Even though the decrease was not as immense as the increase in the share of spendings on government services, it still was around 0.5% lower each

month. Hence, it can be suggested that there could possibly be some trade-off between the “favorable” and “less-favorable” budget categories.

Table 5

Fixed effects regression of the impact of the election year on the share of municipal expenditure categories

T-statistics are written in the parentheses and ***, ** and * shows the statistical significance at 1%, 5%, and 10% levels, respectively.

Variable	Spending on Government Services (share of municipal total expenditure)	Spending on Economic Development (share of municipal total expenditure)	Spending on Territory and Housing (share of municipal total expenditure)	Spending on Education (share of municipal total expenditure)	Spending on Social Security (share of municipal total expenditure)
$q_{i,j-4}$	omitted	0.3801936 (1.36)	-0.4532187 (-1.02)	-0.2532245 (-0.63)	-0.1557787 (-1.05)
$q_{i,j-3}$	0.4283725 (0.30)	0.5463389 (1.30)	-0.6187341 (-0.56)	-0.6869157 (-1.41)	0.0110777 (0.06)
$q_{i,j-2}$	-0.0428933 (-0.21)	0.116818 (0.25)	-0.434184 (-0.51)	-0.1034077 (-0.13)	-0.2180593 (-1.07)
$q_{i,j-1}$	1.063476 (2.65)***	-0.0311969 (0.05)	-0.8689687 (-0.93)	0.0269006 (0.03)	-0.5521238 (-1.94)*
Elections ($q_{i,j=0}$)	0.6019751 (0.75)	-0.0056277 (-0.01)	0.1241859 (0.12)	-0.1536174 (-0.13)	-0.6698059 (-1.71)*
$q_{i,j+1}$	0.8086192 (0.74)	0.6015868 (0.78)	-0.918601 (-0.74)	-0.7458685 (-0.59)	-0.432829 (-1.23)
$q_{i,j+2}$	omitted	0.9249681 (1.19)	-1.589541 (-0.91)	-1.508749 (-1.16)	0.0899963 (0.24)
$q_{i,j+3}$	omitted	-0.9929004 (-2.67)***	1.054653 (1.34)	0.4985938 (0.90)	-0.2781992 (-1.95)*
$q_{i,j+4}$	omitted	-0.4301582 (-1.42)	0.2227483 (0.30)	0.4448793 (1.05)	-0.3203634 (-2.16)*
Observations	12507	12539	12513	12825	12802
R²	15%	56%	33%	53%	69%
Fixed effects	Municipalities, Years, Months	Municipalities, Years, Months	Municipalities, Years, Months	Municipalities, Years, Months	Municipalities, Years, Months

At first glance, there were no significant results on a quarterly level for spending on economic development, housing and territory, and education but the monthly results provided some additional insights. For example, one month before the elections, the share of spending on economic development was lower by 1.05% implying that to offset this decrease there must be another category which has an increase at the same period. The contender for this is education as the month before the elections that share of spending increased by 1.56%.

Table 6

Fixed effects regression of the impact of the election year on the share of municipal expenditure categories

T-statistics are written in the parentheses and ***, ** and * shows the statistical significance at 1%, 5%, and 10% levels, respectively.

Variable	Spending on Government Services (share of municipal total expenditure)	Spending on Economic Development (share of municipal total expenditure)	Spending on Territory and Housing (share of municipal total expenditure)	Spending on Education (share of municipal total expenditure)	Spending on Social Security (share of municipal total expenditure)
$m_{i,j-4}$	0.719702 (1.98)**	-0.0092549 (-0.02)	-0.0324981 (-0.07)	1.202638 (2.19)**	-0.5924839 (-2.92)***
$m_{i,j-3}$	0.9688186 (2.54)**	-0.0928982 (-0.19)	-0.0160833 (-0.03)	0.8292171 (1.58)	-0.5633276 (-2.72)***
$m_{i,j-2}$	1.324937 (3.17)***	-0.0575599 (-0.13)	-0.1308692 (-0.30)	0.6896035 (1.32)	-0.5034694 (-2.59)**
$m_{i,j-1}$	1.680515 (3.74)***	-1.050215 (-2.17)**	-0.2234763 (-0.39)	1.559498 (2.45)**	-0.4910978 (-2.35)**
Elections ($m_{i,j=0}$)	0.8803357 (1.27)	-0.5925104 (-1.43)	1.102921 (2.26)**	0.9596412 (1.50)	-0.5781824 (-2.60)**
$m_{i,j+1}$	0.5192676 (1.00)	-0.1320062 (-0.26)	-0.5423485 (-0.73)	0.4232689 (0.51)	-0.3961557 (-0.98)
$m_{i,j+2}$	0.8077026 (1.63)	-0.7185293 (-1.17)	0.2564823 (0.33)	0.6289119 (0.68)	-0.6514349 (-1.78)*
$m_{i,j+3}$	1.812171 (0.67)	0.3050561 (0.45)	-0.2911489 (-0.49)	0.746213 (0.85)	-0.4337527 (-1.64)
$m_{i,j+4}$	0.3872232 (0.65)	-0.2325713 (0.37)	-1.293772 (-0.87)	0.1115446 (0.15)	0.2290495 (0.70)*
Observations	12507	12539	12513	12825	12802
R²	15%	56%	33%	53%	69%
Fixed effects	Municipalities, Years, Months	Municipalities, Years, Months	Municipalities, Years, Months	Municipalities, Years, Months	Municipalities, Years, Months

In addition to the previously mentioned results, there were no indications and statistically significant evidence that indicates a possible manipulation with some other municipal budget categories. The same as for the regressions on governmental expenditures, the analysis of the budget categories as a share of total spending also provided many insignificant and underwhelming results.

5. Discussion of results

Due to the underwhelming results in terms of insignificant coefficients and uncertain trends we cannot conclude the existence of political budget cycles in Latvia during the period of 2009 to 2018.

However, our research has successfully brought to our attention some unique and interesting findings. In order to have more insights into the mechanisms of the municipalities and to confirm some of the secondary findings, we conducted two informal interviews. Both participants wanted to remain anonymous due to the sensitive topic of our conversations, thus, we will refer to them as:

- Person Nr.1 - an academic, businessman and a previous candidate in Latvian municipal elections.
- Person Nr.2 - retired Latvian politician, several times elected as a mayor of a Latvian municipality, once elected in Latvian parliament.

Both participants mentioned that voter manipulation in Latvia is often based on the visible and more favorable municipal spending categories. They also confirmed that to their knowledge, incumbents often do use their power and spend municipal administrative resources in order to help their party achieve better results in the upcoming elections. However, Person Nr. 2 mentioned that in recent years the situation has drastically improved due to the implementation of extensive municipal election laws and administrative-territorial reform. According to him, many of the smaller pre-reform 553 municipal entities were rarely ever audited or overseen. However, both participants also mention that the mechanism at play is not as the theory of political budget cycles would suggest. Normally, the incumbents in Latvia try not to deviate away from the planned budget in order to not trigger any reaction from the opposition or the Corruption Prevention and Combating Bureau which oversees the election process. In many cases, to prevent this deviation and stick to the yearly budget, some expenditure items are re-classified under different budget codes. Person Nr. 2 even explains that this is not hard to do, as the resources of the Corruption Bureau are limited, and even if uncovered, incumbents can continue to try and justify the inclusion of these items under the respective budget code. We believe that the previous reasons can be part of the explanation for why we were unable to

uncover political budget cycles. And more specifically, if incumbents are reluctant to deviate from the functional budget categories, this can explain why the third model for the shares of total expenditures had so poor results.

Participants then gave additional reasons why the overall results are poor. First, Person Nr. 2 mentioned that our research does not cover a supposedly very powerful tool at the incumbent politician's disposal - municipality owned companies. According to him, it is often the case when a specific enterprise may try to influence their own employees, provide incumbents political party with goods and services or take under its budgets some parts of expenditures. Second, he also mentioned that a significant portion of election costs are usually covered by official and unofficial party donations. Therefore, the pressing need to abnormally use the municipal administrative resources on re-election campaign and risk a public scandal does not fully exist. Third, Person Nr. 1 (later confirmed by Person Nr. 2) mentioned that in order to honor their agreements, many incumbents well before the election period prepare extensive contracts for various goods and services so to secure a guaranteed payment in case the politician is not re-elected. From a research perspective, this means that the actual cash flows can take place anytime during the year and therefore disturb the formation of a noticeable cycle.

The participants then gave their opinion on some of our most significant results. First, a significant increase in expenditures after the elections, most of which seems to be driven by wages. Here both participants agree that these costs are associated with the compensation packages for the old politicians and expenditures associated with the newly elected politicians. Second, when asked about election organization associated costs, both participants inform us that the elections are funded by the Central Election Commission, and even if there are any costs that might be associated to the organization, then they are negligible. Third, both participants had no idea for the cause of an increase in budget balance and a decrease in spending before the elections. Despite that, Person Nr. 2 mentioned that it is often the case that right before the elections the mayors or the politicians attend local social events and “ribbon cutting” opening ceremonies just to talk with a journalist about the important projects they have carried out during their term. He later also mentions that this is the official campaigning time which is closely overseen by the Corruption Bureau, therefore politicians are reluctant to act recklessly. Fourth, our results show a sudden increase in percentage share of education spending one month before

the election to which the participants answer that expenditures on education (especially pre-school as it is under the control of municipalities) are a very popular tool for politicians to use.

Other unexpected findings were the emphasis of significant effects outside the election year (see Appendix B). Most notably in the year before the elections and more precisely during the November and December months. This was detected in three categories. Total expenditures, Wage expenditures (the primary driver for the total expenditures) and Goods & Services. It seems that even accounting for the abnormalities in those specific months, the last quarter of the previous year sees an even larger additional amount spent on Wages and Goods & Services. This notion is confirmed by the participants. They inform us that usually last quarters of the financial period are outliers as incumbents must use up the remaining budget.

6. Conclusions

Due to the rather autonomous management system of Latvian municipalities and the availability of high-frequency financial data, Latvia is a good prospect for carrying out studies on political budget cycles. The intent behind our high-frequency data and a high number of observations were to provide significant evidence that was aligned with the previously done research showing an increase in municipal expenditures right before the elections followed by a decrease thereafter. Although municipal spending on wages and small share composition trade-offs between education, social security, and economic development were found during our research, no significant evidence of political budget cycles in municipal expenditures can be observed in Latvia from 2009-2018. It is possible that joining the European Union and OECD had a toll on the positive results as Latvia became exposed to many EU regulations and transparency campaigns. Also, the regional reform in Latvia merged many municipalities, thus, creating more large administrative regions adding additional responsibilities and regulations to the incumbent politicians making it more difficult to manipulate the municipal budget.

But not finding what you are looking for does not always mean that the thing does not exist, maybe you are just searching at the wrong place. Informal interviews with experienced politicians revealed interesting insights. Often enough, due to municipal budget planning politicians chose to influence voters by inflating their achievements and advertising them in local media. Also, a large part of influencing is done through companies that are under the control of the municipality and other sponsors.

In further research, the typical model should be accompanied by in-depth analysis of companies that are controlled by the municipal council, more precisely, one should research the paid-out bonuses year or other benefits within the election. Additionally, the municipalities should be audited within the election year to observe whether all expenditures are correctly accounted for in the right budget categories.

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Appendices

Appendix A. Financial statement budget items

The budget execution report is similar to a profit and loss statement, except that it shows an actual cash movement during the respective period. It has a revenue and expenditure side. The latter is broken up in an additional two categories: functional category, which categorizes expenditures according to the purposes and objectives for which they are intended and economic classification which identifies the type of expenditure incurred. We chose the main header items from all of these categories, as more specific categories were rarely populated by the majority of municipalities.

Main items:

Total Revenues (code: I.), Total Expenditures (code: II.)

Revenue items:

Total Transfers (this includes all transfers from all government entities, code: 5.0.), Total Transfers from Government budget (code: 18.0.0.0.).

Expenditure items (functional):

Government services (code: 01.000), Military security (code: 02.000), Public Order and Security (code: 03.000), Economic Operation/Development (code: 04.000), Environmental Protection (code: 05.000), Territory & Housing (code: 06.000), Healthcare (code: 07.000), Recreation, Culture & Religion (code: 08.000), Education (code: 09.000), Social Security (code: 10.000).

Expenditure items (economical):

Wages (code: 1000), Goods & Services (code: 2000), Services (under Goods & Services, code: 2200), Stock, Goods, Resources, Items, Inventory and Office items (under Goods & Services, code: 2300), Other Non-Admin expenses (under Goods & Services, code: 2800), Subsidies & Grants (code: 3000), Capital Expenditures (code: 5000), Social Benefits (code: 6000), Transfers for Municipal Budget Expenses (code: 7200), International Cooperation projects (code: 7700).

Appendix B. Additional effect on the previous year

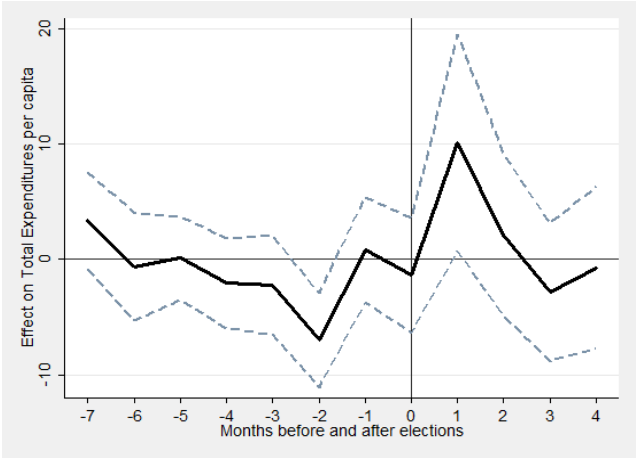


Figure B1. Effect on Total Expenditures per capita. Created by Authors.

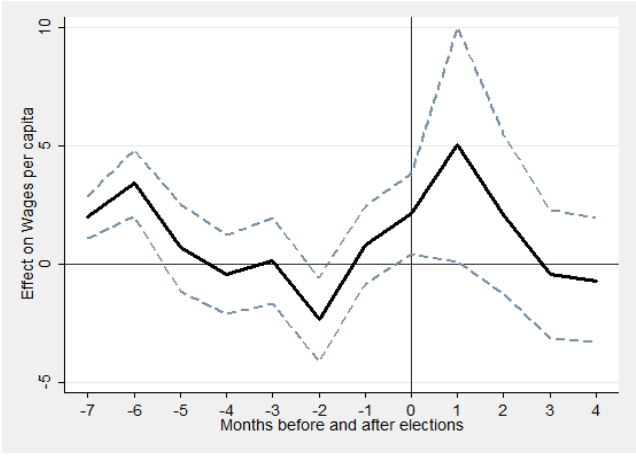


Figure B2. Effect on Wages per capita. Created by Authors.

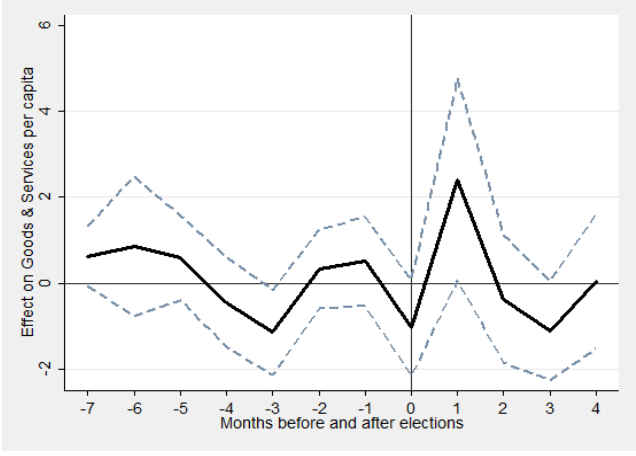


Figure B3. Effect on Goods & Services per capita. Created by the Authors.