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THE INFLUENCE OF SPENDING ON ELECTION  
OUTCOMES IN LATVIA**

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# **Buying the Hearts and Minds: the Influence of Spending on Election Outcomes in Latvia**

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## **Abstract**

This paper presents an econometric analysis of the relationship between the results of elections and the campaign expenditures of political parties in Latvia. The elections examined are the 2002 Saeima elections, 2004 European Parliament, and 2005 municipal elections. Since Latvian empirical research into this issue has so far been limited, the authors base their research on models developed for the United States, adapting them to analysis of the multiparty political system. A regression model that accounts for possible simultaneous causality and unobserved quality differences between parties is gradually developed. The result of the analysis demonstrates that campaign spending positively correlates with the performance of the parties. However, once simultaneity is taken into account, the effect of expenditure seems to disappear or become very small. This suggests that the actual impact of spending on election results is negligible.

## Introduction

Elections represent one of the most important events in the political life of a country, since their outcome can fundamentally change national policy. The huge significance of election results means that significant effort is often invested into trying to explain the results of previous polls, to determine what caused those results, and to predict the results of the next ones. The answers to these questions can be of enormous interest to various stakeholders, ranging from the competing parties to observers; and from the institutions responsible for regulating elections and campaigning to the voters themselves.

Various explanations have been proposed for the issue of what determines the outcome of elections in Latvia. A feature of the Latvian political system is the division of parties into those that are affiliated with ethnic Latvians (so-called “Latvian” parties) and those that are backed by members of ethnic minorities (“Russian” parties). It is often said that this distinction is the primary factor in the decision that the voters make, with most voters supporting parties that represent their ethnic group (Auers and Ikstens, 2005, 96-97), with economic policies of the parties being less significant. Others note the tendency of the electorate to support parties that are formed recently before the elections. (Ikstens, 2001)

Campaign spending by political parties has become a factor that has caused much discussion in recent years. Campaign expenditures in Latvia in proportion to one voter are high, significantly exceeding those of countries such as Austria, France, or Sweden. (Čigāne, 2003, 4) This suggests that political parties perceive campaign spending, particularly promotional spending, as an important factor determining the outcome of the voting.

The attitude of the public towards campaign spending has been overwhelmingly negative. According to an SKDS survey, 70% of Latvian citizens believe that the law should limit pre-election expenditures of political parties, while only 15% are of the opinion that political advertisements provide an accurate image of parties. 19% of respondents endorse a complete ban on all political advertising. (2003)

These feelings have pushed the Saeima (parliament) to pass tougher laws regulating political party financing and spending. Measures adopted in recent years include an upper limit on campaign spending (equal to LVL 0.20 per voter), restrictions on donations from certain groups of people, and, recently, a ban on all advertising in the electronic media during the last three months before elections.

Public attention to this issue is also driven by suspicions of a possible link between campaign contributions and corruption. According to a report by the Open Society Institute,

political corruption is a serious problem for Latvia, with the ability of private interests to affect the legislative process being particularly destructive (“Corruption and Anti-corruption Policy in Latvia”, 2002). As campaign contributions present opportunities for illicit lobbying, it is unsurprising that significant attention has been focused on them – and, indirectly, on campaign spending and its ability to influence the vote.

With the next Saeima elections coming up in October 2006, the issue of how campaign expenditures affect election outcomes in Latvia becomes one of primary importance for political parties, policy-makers, the academic community, and the general public. Unfortunately, despite the enormous attention focused on the problem, so far there has been little quantitative research using statistical methods, aimed at solving this. Our research question therefore is: **how do campaign expenditures affect the outcome of elections in Latvia?** In answering it, we will also analyze the effect of other factors that can interact with campaign spending.

The thesis consists of several parts. In Section 2, the previous literature on the topic is reviewed. Section 3 presents the methodology. In Section 4 we describe and analyze the results, while Section 5 finishes with general conclusions, implications, and suggestions for further research.

## Literature Review

In this section, we will first review general approaches to the problem of determinants of election outcomes that exist in the literature on public choice. This part will focus on the U.S., since this is where many of these studies have taken place. Next, we will look at specific factors that are suggested as key variables that affect voter choice. We will concentrate on works that analyze the relationship between campaign spending and election results, but we will also look at other factors that affect outcomes, since they may be used as controls. Finally, we will review existing statistical methods of estimating the influence of these factors.

### General Approaches

Systematic research of electoral behavior in the U.S. began in the late 1940s, when reliable statistical data and methods became available. The first attempt to explain election results came from the Columbia school. (Fiorina, 1997, 393) These scholars came to the conclusion that the way citizens vote depends entirely on the social group they belong to – that is, their ethnicity, religion, occupation, class, and so on. Political campaigns and media

advertising do not significantly affect the result. In other words, “A person thinks politically as he is socially. Social characteristics determine political preference.” (Lazarsfeld, Berelson, and Gaudet, qtd. in Fiorina, 1997, 393)

A competing theory was developed by the Michigan school. The work of these researchers, intertwined with psychological theory, led them to the conclusion that social characteristics, while important, are not the decisive factor in elections. A far more significant influence came from the “party identification” of each individual voter. This identification was an emotional attachment rather than a rational choice – it was absorbed from childhood, changed rarely, and generally resembled a religious affiliation. (Campbell *et al.*, qtd. in Fiorina, 1997, 394) Consequently, no environmental factors are important in determining the outcome of elections; rather, the voter’s choice is shaped by the influences of his or her family, community, and so on.

Finally, many scholars believe that electoral choice depends primarily on current issues and the positions of the parties relative to these. In their view, citizens do not simply vote for the parties that promote the interests of their social group, or for parties to whom they have traditionally been attached throughout their lives. Rather, they are far more involved and ideological, and choose candidates whose stance on key issues is close to their own. (Nie, Verba, and Petrocik, qtd. in Fiorina, 1997, 396) Consequently, external influences (including promotional campaigns) must be the main determinants of election outcomes.

In our research, we will use the first and the third approaches. The reason for this is that we do not think that the ideas of the Michigan school are relevant to the Latvian situation. Indeed, in contrast to the U.S., where these researchers worked, the Latvian political system is very young, the spectrum of parties is quickly changing, and most voters grew up in a system with no political competition. In such a situation, it is highly unlikely that any lasting party loyalties have formed. Thus, we will base our research on the assumption that Latvian citizens vote either based on the social group they belong to, or on external factors.

## **Specific Factors**

### ***Spending***

Political advertising is often named as one of the key factors affecting the result of the polls. Specifically, the share of campaign expenditures is sometimes seen as an important determinant of the share of votes – as Shepard put it, “it has long been considered axiomatic that public receptiveness towards products, ideas, and candidates can be altered by

promotional campaigns.” (1977) On the other hand, some scholars suggest that the media effect is often exaggerated. (Fiorina, 1997, 411) There are also studies that fail to see any positive relationship between shares of expenditures and shares of votes in most elections. (Nice, 1987; Levitt, 1994) Those who believe that campaign spending does affect the outcome often state that the effect of expenditures is different for different parties. In particular, they often find that spending by incumbent parties has a smaller effect on the distribution of votes than spending by challengers. (Jacobson, 1978, 1990) While there has been comparatively little research in this field in Latvia, most researchers still believe that spending affects the outcome of elections in a major way. (Auers and Ikstens, 2005, 83-84; Ikstens, Smilovs and Valeckis, 2003, 11-13) According to Snipe, “it is outside doubt that election results depend on money.” (2003, 16) Other authors note the growing importance of financial resources in determining the result of a campaign, stressing the possibility that this may induce the parties to work towards the interests of contributors. (Ikstens, “Partiju finansēšana Latvijā: problēmas un alternatīvas”, 2003, 78; Kažoka, 2005)

### ***Other factors***

#### *Social identification*

Much Latvian research suggests that one of the key factors affecting the voters’ decision is ethnicity. Specifically, it is usually argued that there are “Latvian” and “Russian” parties, characterized by different attitudes to issues such as citizenship, official language, policy towards Russia, educational policy, and so on. It is often observed that ethnic issues dominate the elections, with ethnic Latvians tending to vote for “Latvian” parties, while representatives of ethnic minorities vote for “Russian” parties. (Auers and Ikstens, 2005, 96-97; Andersons, 2004; Krastiņš, 2004) Similar ethnic splits in patterns of voting are also noted during referenda, such as the popular vote on EU accession. (Eglājs, 2003)

In addition, the individual’s economic well-being is sometimes proposed as a way of social identification. For example, it is often assumed that less wealthy individuals would be more likely to vote for parties that support income redistribution policies. Measures of prosperity, such as income levels and unemployment, have been proposed as factors affecting election results. (Shepard, 1977) In Latvia too, this factor can also be a significant determinant of voting. For instance, it is sometimes stated that regional economic disparities can explain the different results of the EU accession referendum across the country. (Smagars, 2003) Whether such differences exert any influence on election outcomes (e.g.

whether the less prosperous regions tend to vote more for left-wing parties) is an open question, although it is usually assumed that ethnic considerations take precedence over economic issues in the minds of most voters (Krastiņš, 2004).

### *External influences*

A factor that can affect the outcome of elections is the economic situation. It is often believed that voters will more readily support the government now in office if economic conditions are favourable. Some researchers find that the share of votes received by the ruling party positively correlates with change in real disposable income per capita. (Abramowitz and Segal, 1986) Additionally, unemployment level is often used to represent economic conditions, and incumbent candidates are often assumed to be at a disadvantage when unemployment is high. (Gerber, 1998) At the same time, other studies show that the effect of economic conditions in the U.S. House elections disappeared after 1960. (Radcliff, 1988)

In addition, the nature of the party itself can have some influence on the outcome of voting. For instance, some research indicates the existence of incumbency advantage – a situation when the ruling party receives more votes on average. (Erikson and Palfrey, 1998, 371) In addition, some Latvian researchers find that parties formed shortly before an election and that promise to change the situation receive an advantage. (Ikstens, 2001) This is demonstrated by the highly successful performance of Tautas Partija in 1998, and Jaunais Laiks in 2002.

### **Estimation Methods**

Methods used for estimating determinants of election outcomes are inevitably connected with the structure of the country's political system. A common distinction between political systems that is relevant to this discussion divides them into two-party systems and multiparty systems. This difference is crucial for analysis, since an empirical study of elections in a two-party system can proceed with only one variable – the share of votes received by one of the parties – being taken into account, as the result of the other party is a linear function of that of the first party.

On the other hand, when elections in a multi-party system are analysed, the share of votes received by each party has to be taken into account. This means that either the data has to be arranged in a panel (with observations varying across parties, election years, and possibly territorial units), or the results of each party have to be regressed separately.

We will now review the methods commonly used under each of these frameworks.



### ***Two-Party Methods***

Most of the empirical research on the influence of spending on elections has taken place in the United States. As a result, the vast majority of models developed so far have been tailored to the two-party system. One consequence of this is that many studies look at the incumbent's and challenger's shares of votes and campaign spending separately.

One method used to examine determinants of election outcomes is pattern recognition (Lichtman and Keilis-Borok, 1989). The algorithm, designed to work with small samples, relies on a set of questions about elections, to be answered "yes" or "no"; each option is numbered 1 or 0, respectively. Each question describes a factor expected to affect the outcome (e.g. whether the incumbent is a major national figure); and the questionnaire is constructed with "yes" answers favouring incumbents. All elections are divided according to their results into incumbent victories and incumbent defeats, marked 1 and 0, respectively. The researchers then correlate the sum of the answers corresponding to an election with the election result, to show that the questionnaire is indeed a relevant predictive tool.

A more widely used method is cross-sectional ordinary least squares (OLS) estimation. This is employed by Tufte (1975, 817), Abramovitz and Segal, (1986, 436), and others. Typically, a share of votes received by a party or candidate was regressed on the share of total spending or on absolute spending levels. Other control factors are also added. In most cases, the share of votes is expressed as a linear function of spending, although others – such as Jacobson (1990, 337) – believe that as expenditures grow, their effect must decrease.

While pooled OLS is probably the most commonly used model, several researchers criticize its use. For instance, Levitt states that cross-sectional OLS studies fail to take account of the "quality" of candidates – unobservable factors that make some candidates more attractive to voters than others. (1994) If these factors are present, OLS will not produce unbiased and consistent estimates. In addition, Levitt points out that certain district specific factors – the inclination of voters in some regions to vote for a specific party or candidate – may also be present. Since these effects are also typically unobservable, they may also invalidate the analysis.

Attempts to correct these flaws in the standard pooled OLS analysis have had limited success. Green and Krasno incorporate a proxy variable for the candidate's quality, which measures a candidate's appeal to voters and his or her political skill on an eight-point scale. (1988) Yet the explanatory power of their model changes little from the addition of the proxy variable, the R-squared only increasing from 0.596 to 0.624. Since it is very unlikely that

quality has such a trivial influence on the outcome of elections, Levitt believes that this result might mean that the proxy for quality is unsatisfactory. This is unsurprising, given the inherent difficulty of quantifying the attractiveness of a candidate or party to voters.

At the same time, attempts to include district-specific factors have been mainly focused on including the result of the party in previous elections, as Jacobson does. (1978) Yet this variable also correlates with campaign spending in those elections, with the quality of the candidates involved, and so on. (Levitt, 1994) Thus, it cannot serve as a good control variable.

Levitt proposes an alternative way of tackling this problem. Instead of using control variables for candidate-specific and district-specific factors, he uses a panel data set with dummy variables for candidates (to capture quality effects) and for districts (to capture district-specific effects). The inclusion of these dummies captures all of the variability in results (variability across regions and across candidates) in each year. Consequently, Levitt limits the sample to only those candidates that participated in the polls several times.

A further problem present with OLS analysis is the issue of causality. Normally, OLS assumes that causality is one-directional, and that all regressors are exogenous. In other words, it is assumed that the correlation between any independent variable and the error term is zero. With the models described here, this is not necessarily the case. In an influential study, Jacobson shows that, while campaign expenditures certainly influence the probability of electoral victory, it is plausible that they themselves depend on the expected result of the vote. (1978) Indeed, most spending is covered by campaign contributions, and if sponsors are assumed to be rational investors, they are more likely to support a candidate who has a higher chance of winning. Since the expected result of elections is fairly close to the actual one, reciprocal causality is in place.

To address this problem, Jacobson proposes a two-stage least squares (TSLS) approach, where spending is first estimated using a set of instrumental variables, and the estimated spending is then used as a regressor for the outcome of elections. The instruments that he uses describe the power or political experience of a candidate, since it is assumed that more experienced or more powerful candidates have better connections with potential contributors, and hence raise funds more easily. Jacobson's instrumental variables include whether the candidate has ever held office, whether the candidate holds a leadership position, the number of consecutive years the incumbent has held his or her position, and others.

In a later study, Gerber similarly employs the TSLS method, but uses a different set of instruments. (1998) In his analysis, which estimates the effect of spending on U.S. Senate

elections, Gerber uses the wealth of a candidate (since wealthy candidates can fund their campaigns more easily), the population of the state (since if the amount of campaign contributions is independent of the population, spending per capita is inversely related to population size), and spending in previous elections in the state in question (since it correlates with current spending, due to a similar fundraising environment).

### ***Multiparty Methods***

Attempts to develop statistical models for multiparty elections have so far been limited, partly due to the inherent difficulties of working with data from elections in a multiparty system. One of the first significant steps was made by Katz and King (1999). The model they develop is based on maximum likelihood estimation. This is able to predict regional distribution of votes based on spending levels by each party, regional economic conditions, ethnic composition of each district, and other factors.

While representing an important step forward, the King and Katz approach has its drawbacks. As Tomz, Tucker, and Wittenberg (2002) note, the model employs extremely complicated statistical methods. Additionally, the authors themselves admit that the approach is highly demanding computationally if more than three political parties are analysed.

Tomz, Tucker, and Wittenberg develop an alternative approach, based on seemingly unrelated regressions (SUR). Specifically, they analyse elections via a system of regression equations, with a separate regression for the natural logarithm of the ratio of each party's share of votes relative to the share of votes received by a reference party. Since the shares of votes by different parties are related to each other (as an increased log ratio for one party is equivalent to a decrease of log ratio for other parties), the error terms in regression are correlated. Therefore, the use of SUR is justified.

Unfortunately, the use of a separate regression equation for each political party eliminates the possibility of determining the influence of factors such as spending, since the coefficients obtained in each regression are likely to differ.

Another model is developed by Benoit (1998) for predicting the outcome of elections in Hungary. This model, however, uses the data from public opinion surveys as regressors. This is different from the "structural" models described here, which examine the influence of the underlying economic, political, social, and demographic factors. Polls data, also used in two-party systems by e.g. Erikson and Wlezien (1996), can help to predict the outcomes of future elections, but it can not be used to analyse the determinants of the outcome, since the

popularity of parties and candidates reflected in the polls is driven by the same factors as the outcomes of elections.

## Methodology

Since existing multiparty models are of little use for answering our research question, we will instead apply the models developed for two-party systems. To do this, we will treat each party in each region in each year as a separate observation.

To determine the effect of spending on election results, we will perform regression analysis. The dependent variable in all regressions will be the share of the total vote received by a certain party in a certain region in a certain election year (in this paper, the term “region” refers to districts and large cities).

The principal independent variable will be the party’s share of total campaign spending in the corresponding elections. The reason for using share of spending as opposed to absolute spending expressed as a monetary value is that the latter method would imply that a party’s performance in the polls would change with a change of its expenditures, irrespective of spending by other parties. Thus, if spending by all parties changes in the same direction, shares of votes received by parties would also move together. This is clearly unrealistic, since elections are essentially a zero-sum game and the sum of the shares of votes in each region must be equal to one.

We begin the analysis by determining the appropriate functional form for the share of expenditures. Next, we will employ several methods of estimating the effect of the share of spending on the share of votes. We will begin with a method that is relatively straightforward but requires several fairly restrictive assumptions. We will then gradually relax these assumptions, addressing the theoretical deficiencies of the initial method that were discussed by Levitt and Jacobson. This will require us to use more complex estimation techniques.

### Functional Specification

As described in the previous section, most researchers use either the linear functional form for campaign expenditures, or a form that allows the marginal effect of spending to diminish as the level of spending increases. In line with these two approaches, we test two potential specifications: share of votes as a linear function of the share of spending, and as a square root function.

There are several reasons for choosing the square root specification over some of the more widely used forms, such as the logarithmic and quadratic functions. In contrast to the

quadratic function, the square root function is increasing over its entire domain, which is probably more realistic, since it is unlikely that there is a point after which higher spending can reduce the share of votes. At the same time, it is more suitable than the logarithmic function, because the latter essentially examines percentage changes in the independent variable. Since spending is already expressed in relative terms in our specification, the use of the logarithmic function makes results difficult to interpret.

To determine whether the linear or the square root specification is more appropriate, we will perform a regression of the share of votes with both the above functions of spending as regressors. The functional form that has a coefficient significantly different from zero will be used in the subsequent analysis.

### **Pooled OLS Approach**

A pooled ordinary least squares (OLS) regression provides a useful starting point for analysis. The first specification will estimate the share of vote as a linear function of share of expenditures. The share of votes received by party  $i$  in region  $j$  in election year  $t$  would thus be:

$$V_{i,j,t} = \beta_0 + \beta_1 S_{i,t} + \varepsilon_{j,j,t},$$

where  $V_{i,j,t}$  is the share of vote,  $S_{i,t}$  is the share of spending, and  $\varepsilon_{j,j,t}$  is the error term.

The next specification used in the OLS method considers the effect of control variables. Following the theoretical framework, we choose two factors as controls: ethnicity and economic situation. Specifically, we may expect that the “Russian” parties receive a greater share of votes in regions where ethnic minorities constitute a greater share of the electorate. Similarly, we can presume that the ruling parties lose votes in regions with adverse economic conditions (which can be measured by the level of unemployment). To account for these factors, we add two pairs of variables.

To reflect ethnic effects, we include a variable measuring the share of ethnic minorities among voters, and an interaction term consisting of the share of minorities among voters times the binary variable that is equal to 1 if the party is “Russian” and 0 if it is not. Thus, the coefficients of these variables will reflect the effect of a change in the share of minorities on non-“Russian” parties relative to “Russian” parties.

To capture the economic dimension, we add a variable measuring the unemployment level in the district relative to the national level, and an interaction variable equal to the relative unemployment level times the binary variable (1 if the party was in government

immediately before the election, 0 otherwise). Similarly to the previous set of variables, this pair measures the effect of unemployment on the difference in results for parties that are/are not part of the ruling coalition.

The following specification is therefore used:

$$V_{i,j,t} = \beta_0 + \beta_1 S_{i,t} + \beta_2 ShM_{j,t} + \beta_3 ShM_{j,t} \cdot Rus_i + \beta_4 RU_{j,t} + \beta_5 RU_{j,t} \cdot Gov_i + \varepsilon_{j,j,t},$$

where  $ShM_{j,t}$  is the share of ethnic minorities among voters in region  $j$  in election year  $t$ ;  $Rus_i$  is 1 if party  $i$  is a “Russian” party, and 0 otherwise;  $RU_{j,t}$  is relative unemployment (measured as a percentage of national average) in region  $j$  in year  $t$ ; and  $Gov_i$  is 1 if party  $i$  was in government before the elections, and 0 otherwise.

### Introducing Party-Specific Factors

OLS regression with control variables provides some answers to the question of how spending affects election outcomes, but it inevitably omits some important factors. As shown by Levitt, significant variables that relate to each party as a whole, such as attractiveness of the party to voters, are often unobservable and are therefore left out when OLS regression is performed.

These factors may include the charisma of the party’s leaders, its ability to organize an effective campaign, appeal of the party’s ideology to the public, among other factors. Many of these are difficult if not impossible to quantify, and some, possibly, cannot even be identified. Consequently, we cannot account for them in a cross-sectional OLS model by adding control variables.

We therefore follow Levitt by using the OLS model with the addition of dummy variables for each party except one (to avoid multicollinearity). These binary variables capture the effect of all factors that apply to a party regardless of the region where it competes or the election year, but whose effect for each party might be different.

The disadvantage of this model stems from a need to limit sample size. In our research, campaign spending is also a party-fixed variable, in a sense that it does not vary by districts. Thus, if each election year were to be examined separately, all of the effect coming from campaign spending would have been captured by the dummy variables. However, since several elections are considered, and since spending, as opposed to party-specific factors mentioned above, does vary across years, it is possible to estimate the effect of spending using a regression with fixed effects. Nevertheless, the fact that expenditures only vary across

years makes it necessary to exclude from the sample parties that participated in only one election. Consequently, sample size will be reduced in the regression with fixed effects, to avoid artificially high R-squared that might arise if we include parties that compete only once, as well as possible bias coming from the fact that the effect of spending will be captured by dummies for observations on those parties.

The resulting regression that uses the OLS approach but includes party-specific factors is:

$$V_{i,j,t} = \beta_0 + \beta_1 S_{i,t} + \beta_2 ShM_{j,t} + \beta_3 ShM_{j,t} \cdot Rus_i + \beta_4 RU_{j,t} + \beta_5 RU_{j,t} \cdot Gov_i + \sum \chi_i P_i + \varepsilon_{j,j,t},$$

where  $P_i$  is one of a set of dummy variables and is equal to 1 if the observation refers to party  $i$  and to 0 otherwise.

### Introducing Region-Specific Factors

While the addition of party dummies does capture some of the unobservable effects that the OLS misses, it still fails to account for effects that are specific for each region. It is possible that parties have strong support in some regions, and are less popular in others, due to the composition of the electorate (such as its ethnic, economic, occupational, or age structure), differences in local ideological allegiances, among others. While some of these effects are addressed by the use of controls for ethnic and economic factors, there remains a possibility that some other variables also affect election results.

We tackle this problem by replacing the set of binary variables for each party with a new set of dummies, with a variable for every combination of party and region. In other words, we create a separate dummy variable that reflects all observations relating to a particular party and region.

As in the model with party fixed effects, the only variability in campaign expenditures in this model comes from variation of expenditures across years. Thus, this specification shares the drawback of the previous model, namely, the need to reduce sample size to include only those parties that have competed several times. An additional downside is the increase of the number of variables that comes from a need to add a binary variable for each combination of party and region. This reduces the number of degrees of freedom, and threatens the validity of the results. Nevertheless, the model has the advantage of separating all party-specific factors and all factors specific to a particular country or district, reducing the possible bias of the coefficient on spending.

In contrast to the previous methods, there is no need to introduce control variables if party and region fixed effects are used. The reason is that economic and ethnic factors are themselves party- and region-specific, i.e. they are fully defined by party position and regional characteristics. Consequently, the effect of these factors is already captured by the dummy variables. The specification therefore is:

$$V_{i,j,t} = \beta_0 + \beta_1 S_{i,t} + \sum \chi_{i,j} PR_{i,j} + \varepsilon_{j,j,t},$$

where  $PR_{i,j}$  is one of a set of dummy variables and is equal to 1 if the observation refers to party  $i$  and region  $j$ , and to 0 otherwise.

While the inclusion of region-specific effects is a significant advantage of this method, the dramatic reduction of degrees of freedom (compared to the approach that uses party fixed effects) means that interpretation of the results obtained under the party and region fixed effects framework requires extreme caution. For this reason, further analysis will be based on the use of party fixed effects.

### **Introducing Simultaneous Causality**

We conclude the analysis by removing the assumption that was implicitly made initially – namely, that campaign expenditures do not depend on the outcome of elections. As described above, much of the past research suggests that this is not true. Indeed, expenditures are likely to be defined endogenously as a function of spending.

In such a situation, the endogenous dependent variable is correlated with the error term, which violates one of the assumptions behind the OLS model. The resulting OLS estimators are not consistent. We use a two-stage least squares (2SLS) approach to address this problem, as suggested by Jacobson.

It should be noted that even if simultaneous causality is not present, the 2SLS method yields estimates that are consistent, although not efficient (Gujarati, 1995, 670). Consequently, the use of the 2SLS framework gives relatively reliable estimates (compared to the OLS approach) whatever our assumptions are.

In this part, we apply Jacobson's model to the Latvian situation. The model consists of several equations. First, the share of votes received by a party depends on its share of total spending, as well as on control variables and unobserved factors introduced earlier. At the same time, spending depends on the willingness of sponsors to support the party through campaign contributions, and sponsors will more readily support a party if it is expected to gather a large share of votes.



But contributions (and spending) also depend on a party's power and incumbency status, as Jacobson suggests. We use the following variables to reflect incumbency status before elections:

- Whether the party was represented in the Saeima.
- Whether the party was represented in the Cabinet.
- Whether the party was represented in the Riga City Council.
- Whether the prime minister was a member of the party.
- The number of Saeima members that the party had.
- The number of Cabinet members that the party had.
- The number of Riga City Council members that the party had.

The use of variables reflecting the party's presence in each of these institutions, in addition to the size of this presence, is motivated by the fact that it is reasonable to expect that membership alone increases the power of the party irrespective of the number of members.

In keeping with Jacobson's approach, these variables are used as instruments to estimate the share of spending in the first stage of the subsequent 2SLS regression.

These variables are selected since they adequately represent the power of the party, which in turn enables it to maintain connections with potential sponsors, and helps it to collect (and spend) funds, as Jacobson reasons. Thus, they are relevant instruments. Their relevance will be further tested by performing an OLS regression of the share of total spending on the set of instrumental variables and examining the F-statistic.

We can also see that these instruments are exogenous. On the one hand, the result of the upcoming vote can in no way influence the party's power before the elections – it can only be affected by previous elections. On the other hand, incumbency should not affect the outcome of elections in any major way except through its effect on spending. Indeed, Green and Krasno (1988), as well as Erikson and Palfrey (1998), conclude that the main cause of the well-publicized incumbency advantage is the ability of the incumbent to decisively outspend the challenger.

The model that adds simultaneous causality to the party fixed effects regression described above looks as follows:

$$\begin{cases} V_{i,j,t} = \beta_{10} + \beta_{11}S_{i,t} + \beta_{12}ShM_{j,t} + \beta_{13}ShM_{j,t} \cdot Rus_i + \beta_{14}RU_{j,t} + \\ + \beta_{15}RU_{j,t} \cdot Gov_i + \sum \chi_i P + \varepsilon_{j,j,t} \\ S_{i,j,t} = \beta_{20} + \beta_{21}V_{i,j,t} + \beta_{22}Saeima + \beta_{23}Gov + \beta_{24}Riga + \beta_{25}PM + \beta_{26}SSeats + \\ + \beta_{27}GSeats + \beta_{28}RSeats + u_{j,j,t}, \end{cases}$$

where  $Saeima_{i,t}$  is a dummy variable equal to 1 if party  $i$  is represented in the parliament before the elections in year  $t$ , and 0 otherwise;  $Gov_{i,t}$  is a dummy equal to 1 if the party is part of the government, and 0 otherwise;  $Riga_{i,t}$  is a dummy equal to 1 if the party has its members in the Riga City Council;  $PM_{i,t}$  is a dummy equal to 1 if the Prime Minister was a member of the party, and 0 otherwise;  $SSeats_{i,t}$  is the number of seats in the parliament the party has;  $GSeats_{i,t}$  is the number of government ministers that are members of the party; and  $RSeats_{i,t}$  is the number of individuals that represent the party in the Riga City Council.

Similarly to the OLS fixed effects regression, and for the same reasons, the 2SLS regression with fixed effects requires us to reduce the sample size to those parties that competed more than once.

## Data

### Election results

As explained above, the dependent variable is the share of votes received by each party in each region in each election year. The total number of regions is 33 – 26 districts and 7 main cities (Riga, Daugavpils, Jelgava, Jurmala, Liepaja, Rezekne, and Ventspils). The data on Latvian citizens who voted abroad is omitted, since they are usually not subjected to political advertising by the parties, and their economic status and ethnic composition is hard to determine; but the number of such voters is small in any case.

The elections examined in this paper are the 2002 parliamentary elections, the 2004 European parliament elections, and the 2005 local elections. Data on elections before 2002 is not used, since no reliable estimates for expenditures are available. We omit most of the data from the local elections of 2005, since these elections are characterized by the presence of many local candidates' lists competing only in some regions. Because little if any data is available on these lists, and because the parties competing in different districts were different, local elections cannot be analyzed in the same framework as nation-level elections if more

than one region is considered. Nevertheless, we include the data on the 2005 elections in Riga, because most of the major parties competed there, and because its large population means that the effects of specific local factors are less pronounced.

The official data on the number of votes received by each party in each region is available from the Central Election Commission (CVK). This number is divided by the total number of votes (taken from the same source) to obtain the share of votes for each party.

Over the 3 years of our observations, some parties changed names, others split or merged. We treat a party as the same entity across different years, unless it either splits or merges in a way that makes the successors significantly different from the parties that existed before the event.

In total, 33 different parties competed in three elections. 20 parties competed in the 2002 parliamentary elections, 16 in the European parliament elections, and 17 in the Riga local elections. As the number of regions is 33, and since each observation is the share of votes received by each party in each region, the total sample size is  $20 \cdot 33 + 16 \cdot 33 + 17 \cdot 1 = 1205$  observations.

Reduction of the sample for regressions with fixed effects leaves 12 parties in the dataset. The reduced sample size is 704 observations. This reduction might create bias, so the results from this regression should be treated with caution.

### **Campaign expenditures**

Data on campaign spending is available in the form of expenditure declarations provided by the Corruption Prevention and Combating Bureau (KNAB). It is possible, however, that parties misreport their expenditures in an attempt to hide some of their spending. This concern is echoed by some past research (Čigāne, 2003). Consequently, we will perform a separate set of regressions using campaign spending estimated by Providus.

Estimated expenditures are not fully compatible with reported expenditures, since the former consist of only advertising expenses, while the latter also include various other expenses such as rents, salaries, and others. However, these additional expenses are small compared to expenses on political advertising. Moreover, we can assume that these expenses are distributed more or less proportionally between parties, which means that they do not affect their shares of total expenses.

In the party declarations provided by KNAB, spending data is also available in individual categories (e.g. spending on radio advertisements, advertisements in public places, wages, rents, and so on). To make this data comparable with the numbers estimated by Providus, we

may add together all the advertising-related categories from this dataset (including public and private television, public and private radio, local and national press, advertisements in public places, and payments to legal persons for organizing and material creation services). Reported advertising expenditure appears to have a mean of 121,793 LVL, while the estimate reaches 148,331.2 LVL. The difference is less pronounced, but still present, in the maximum value – 1,002,790 LVL in the reported dataset, as opposed to 1,072,055 LVL among the estimates. These differences indicate that parties either do indeed underreport their spending on advertising, or at least report some of it in other categories.

In addition, estimated expenditures do not contain data for the European Parliament elections of 2004. We therefore replace this with reported data for that year, assuming that the reported data for 2004 are correct. We believe that this assumption is reasonable, since spending in these elections was far lower than in national or local elections. At the same time, the obligation to stay below the legally defined limit for spending appears to be one of the main reasons why parties underestimate their expenses, which means that in the 2004 elections, parties did not have an incentive to conceal their spending.

It should also be noted that data for spending is only available at national level. Since our observations look at party performance in each region separately, we implicitly assume that spending affects all regions in the same manner. This assumption is probably realistic, since most spending is used to advertise on national television and radio, and in the national press. Moreover, even if remaining expenses are not distributed across regions equally, the data retains its validity if all parties distribute these expenses in the same proportion, since we are examining the parties' shares of expenditures, not the expenditures themselves.

### **Ethnic composition of the regions**

The Central Bureau of Statistics (CSB) holds data on the number of people of various ethnic groups in each region, as well as the total populations of these regions. However, not all of these people are citizens of Latvia; therefore, not all of them can vote. Consequently, we need to obtain data on the proportion of ethnic Latvians and ethnic minorities among Latvian citizens in each region.

The Naturalization Board (NP) provides data on the number of citizens in each region, but not on the ethnic composition of these groups. Consequently, we calculate the proportion of Latvians and non-Latvians among the citizens manually, by subtracting the number of ethnic Latvians from the number of citizens, and dividing it by the number of citizens to get the proportion of non-Latvians among citizens. This approach is not precise, since it assumes

that all ethnic Latvians are Latvian citizens. However, the number of ethnic Latvians who live in Latvia but are not citizens is very small – approximately 3000 as of July 2005, or less than 0.2% of the total number of citizens – so the result is not distorted by this imprecision.

The position of the parties on the ethnic issue is expressed as a binary variable (zero for a non-“Russian” party, 1 for a “Russian” party). The data on this is inferred from the parties’ political programs. The arithmetic average of this variable is 0.279, which shows that of the parties that participated in the three elections, we classified 27.9% as Russian.

### Unemployment Level in the Regions

The Central Bureau of Statistics provides information on the unemployment levels in various regions in different years. Expressed relative to the national average, this is used as an indicator of economic well-being. For example, the median level of relative unemployment in our sample is 1.105 (Bauska district in 2002). This implies that unemployment that year in Bauska district was 10.5% higher than the national average. For each observation, we employ the data for the latest date before each election.

### Party status

This factor is expressed in four categories: the position of the party in the Riga City Council, the Saeima, and the Cabinet prior to elections, and whether the Prime Minister at the time was a member of that party. These are all encoded in binary variables; in addition, the first three are assigned variables specifying the number of seats occupied. This data has been acquired from the websites of the Latvian Parliament (Saeima), the Cabinet (MK), and the Riga City Council (Riga Municipality Portal). We selected the latest entries at least a few days before the election, assuming that a span of a few days is too short for a party to benefit from, e.g., accepting a member from another party.

## Results

We begin by determining the appropriate functional form for the share of expenditures.

**Table 1. Regression with linear and square root forms of share of spending**

Share of spending, linear	<b>0.031</b> (0.112)
Share of spending, square root	<b>0.343***</b> (0.049)
Constant	<b>-0.012***</b> (0.003)
R-squared	<b>0.34</b>
Number of observations	1205

F-statistic	298.72
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\* - significant at 10%; \*\* - significant at 5%; \*\*\* - significant at 1%.

Heteroskedasticity-consistent standard errors are reported in parentheses.

Source: Compiled by authors using statistical software STATA

The coefficient on the linear form of spending is insignificant. Apparently, the impact of expenditures diminishes as the party's share of expenditures grows. Therefore, we will use the square root form of spending in all specifications.

The following tables report the results of regressions using the expenditures reported in parties' declarations and those estimated by Providus.

**Table 2. Results of regressions with reported data**

	Pooled OLS		OLS with party fixed effects	OLS with party and region fixed effects	2SLS with party fixed effects
	<b>Share of spending</b>	<b>0.357***</b> (0.015)	<b>0.418***</b> (0.02)	<b>0.231***</b> (0.036)	<b>0.185***</b> (0.038)
<b>Share of minorities</b>		<b>-0.022*</b> (0.012)	<b>-0.119***</b> (0.016)		<b>-0.119***</b> (0.016)
<b>"Russian" party? * share of minorities</b>		<b>0.076***</b> (0.026)	<b>0.387***</b> (0.03)		<b>0.388***</b> (0.03)
<b>Relative unemployment</b>		<b>0.005*</b> (0.003)	<b>0.011***</b> (0.003)		<b>0.01***</b> (0.003)
<b>Ruling party? * Relative unemployment</b>		<b>-0.029***</b> (0.004)	<b>-0.045***</b> (0.005)		<b>-0.043***</b> (0.005)
<b>Constant</b>	<b>-0.013***</b> (0.002)	<b>-0.025***</b> (0.004)	<b>0.036***</b> (0.01)	<b>0.036***</b> (0.01)	<b>0.082***</b> (0.013)
<b>R-squared</b>	<b>0.34</b>	<b>0.39</b>	<b>0.66</b>	<b>0.35</b>	<b>0.65</b>
Number of observations	1205	1205	704	704	704
F-statistic	573.14	125.16	56.51	24.14	51.23
Number of dummy variables			12	396	12
F-statistic on dummy variables			56.19	128.14	129.77
F-statistic on instrumental variables					178.02
First-stage R-squared					0.97

\* - significant at 10%; \*\* - significant at 5%; \*\*\* - significant at 1%.

Heteroskedasticity-consistent standard errors are reported in parentheses.

Source: Compiled by authors using statistical software STATA

**Table 3. Results of regressions with estimated data**

	Pooled OLS		OLS with party fixed effects	OLS with party and region fixed effects	2SLS with party fixed effects
	<b>Share of spending</b>	<b>0.297***</b> (0.014)	<b>0.345***</b> (0.017)	<b>0.172***</b> (0.031)	<b>0.161***</b> (0.033)
<b>Share of minorities</b>		<b>-0.021*</b> (0.013)	<b>-0.119***</b> (0.016)		<b>-0.119***</b> (0.016)
<b>"Russian" party? * share of minorities</b>		<b>0.073***</b> (0.026)	<b>0.389***</b> (0.031)		<b>0.388***</b> (0.03)
<b>Relative unemployment</b>		<b>0.004</b> (0.003)	<b>0.01***</b> (0.003)		<b>0.01***</b> (0.003)
<b>Ruling party? * Relative unemployment</b>		<b>-0.024***</b> (0.003)	<b>-0.043***</b> (0.005)		<b>-0.043***</b> (0.005)

<b>Constant</b>	<b>0.001</b> (0.002)	<b>-0.008*</b> (0.004)	<b>0.053***</b> (0.01)	<b>0.043***</b> (0.009)	<b>0.076***</b> (0.01)
<b>R-squared</b>	<b>0.27</b>	<b>0.31</b>	<b>0.66</b>	<b>0.36</b>	<b>0.65</b>
Number of observations	1205	1205	704	704	704
F-statistic	466.82	101.25	56.03	24.32	52.05
Number of dummy variables			12	396	12
F-statistic on dummy variables			66.94	4.10E+10	120.67
F-statistic on instrumental variables					876.01
First-stage R-squared					0.97

\* - significant at 10%; \*\* - significant at 5%; \*\*\* - significant at 1%.

Heteroskedasticity-consistent standard errors are reported in parentheses.

Source: Compiled by authors using statistical software STATA

It is evident from the regressions presented above that the use of officially reported campaign expenditures gives virtually the same results as the use of expenditures estimated by Providus. Indeed, variables that are significant when the former data is used are also significant in the latter specifications, and *vice-versa*. Additionally, the values of significant coefficients do not change much. Therefore, we will discuss both sets of results in parallel.

### Pooled OLS

The first regression yields a positive and significant coefficient on the share of campaign spending. This suggests that a party's share of spending positively correlates with its share of votes, i.e. that money spent on campaigning might have a positive impact on the result of elections. A glance at the R-squared from the two tables suggests that spending can explain approximately a third of the variation in election outcomes.

The second regression shows that ethnic and economic factors have an effect on the outcome of elections. Specifically, the coefficients on the variables representing them are statistically significant. The signs of the coefficients are also consistent with theoretical expectations – indeed, the coefficients suggest that government parties receive fewer votes in regions with higher unemployment, while “Russian” parties benefit from an increase in the share of minorities.

Furthermore, the addition of controls raises the coefficient on the share of expenditures. This suggests that in the first regression, ethnic composition and unemployment in the region are omitted variables that cause a negative bias in the coefficient on spending.

### Introducing Party-Specific Factors

When party-specific factors are introduced, the sample is reduced for reasons described in the Methodology section. This means that the results must be interpreted with caution due to a possible bias arising from a reduction of the sample. However, when this and subsequent

regressions were performed without the sample being reduced, the coefficients and their significance levels (unreported here) remained virtually the same.

Compared to the previous specification, the adjusted R-squared increases to above 0.6. This suggests that some party-specific factors other than expenditures are present, and that these have a substantial effect on election outcomes. This is further supported by the F-test on the dummy variables: the hypothesis that the coefficients on them are equal to zero is rejected.

The coefficient of the share of expenditures remains significant. But inclusion of fixed effects decreased the coefficient. This might mean that the coefficient initially obtained in the pooled OLS estimation was biased. Apparently, unobserved party-specific factors are correlated with spending, so that the coefficient on spending catches some of their effect. Since the sign of the bias is positive, we can conclude that parties that are successful for reasons other than spending also tend to have high campaign expenditures. These reasons can include professional campaigning, presence of visible and charismatic leaders, known past achievements, among others. Apparently, parties that have these characteristics are able to spend more than their competitors, perhaps because these factors help them raise funds.

It is noteworthy that the coefficients of all control variables have become larger (in their absolute values) than in the pooled specifications, especially the ones on the variables related to ethnic composition. The direct meaning of this is that the vote advantage of “Russian” parties in regions where more citizens are ethnic non-Latvians is more pronounced than estimated before. Similarly, the loss of votes for government parties in regions with high unemployment is higher if fixed effects are included.

### **Introducing Region-Specific Factors**

The next regression adds unobserved region-specific effects – i.e. effects that arise when a certain party competes in a certain region. These effects appear to be statistically significant, especially when the estimated data for spending is used.

The coefficient on spending changes when dummies are introduced to the model, meaning that there was some bias remaining in the previous specification. However, this bias was quite small because the coefficient on the share of spending changes only slightly, particularly with estimated expenditures. Additionally, the adjusted R-squared almost halves when party and region fixed effects are added, probably due to an increase in the number of regressors. This suggests that, while the influence of unobserved party characteristics on the outcome of elections is high (as shown by the previous regression), the impact of unobserved



regional characteristics is fairly low. Apparently, the control variables reflecting economic and ethnic dimensions sufficiently explain differences in regional party allegiances.

Overall, however, the results obtained from this specification should be interpreted with caution, since the reliability of the model suffers from a high number of variables relative to the number of observations, and a corresponding lack of degrees of freedom

### **Introducing Simultaneous Causality**

The final specification uses a two-stage least squares regression while keeping the party fixed effects. The results of the first-stage regression suggest that the instruments are valid. Indeed, the high F-statistic implies that the instrumental variables are jointly significant, confirming their relevance. Additionally, the high R-squared obtained in the first stage means that the instruments and exogenous variables explain almost all of the variation of the share of spending.

The second-stage R-squared exceeds 0.6, implying that the model still explains the variation in election results fairly well. The second-stage F-statistic – both on the dummy variables and on the regression as a whole – remains high, which means that the variables in question have a significant impact on the dependent variable, and that party-specific factors are still relevant.

Importantly, the coefficient on spending loses its significance when reported data on spending is used. At the same time, use of estimated data yields a coefficient that is still significant at 5%, but is numerically small. In fact, even the difference between the maximum value of the share of estimated spending (0.36) and its minimum value (0) causes a difference in the share of votes equal to approximately  $0.085 * (\sqrt{0.36} - \sqrt{0}) = 0.051$ , or 5.1%. Since this is a difference between the share of votes of a party that spends nothing and that of a party that spends over a third of total campaign expenditures, 5.1% seems to be rather small.

This suggests that when possible simultaneity is taken into account, spending has either no impact on the outcome of the vote, or a very small impact. This, in turn, means that the high and significant coefficients obtained in previous regressions were a result of a correlation between the share of votes and the share of campaign expenditures, which is present because of the expected share of votes affecting campaign spending, not the other way around.

In other words, some parties are considered to be more likely to show better results in elections, for reasons other than spending. These parties are able to attract more campaign contributions from sponsors than their competitors. This is because donors are apparently

more willing to support parties that are expected to win, perhaps because sponsors expect some favours from these parties after they win. As a result, parties that are expected to win amass greater financial resources, and are therefore able to spend more. This spending, however, has a small impact on the outcome of elections by itself.

The coefficients on the share of minorities and on the interaction between the share of minorities and a binary variable showing whether the party is “Russian” have not changed substantially. We can therefore conclude that ethnicity has a substantial impact on the outcome of the vote by giving “Russian” parties an advantage in regions with a higher share of minorities. In other words, voters belonging to ethnic minorities are more likely to support “Russian” parties, which corresponds to the general consensus in the literature.

The magnitude of the advantage that the “Russian” parties can receive in regions with a high share of ethnic minorities is rather high: the share of votes cast for a “Russian” party increases by, on average, almost 0.4 percentage points if the share of minorities increases by 1 percentage point. Holding other factors constant, the difference between the share of votes received by a “Russian” party in the region with the highest (0.75; Daugavpils in 2004) and the lowest (0.03; Ventpils district in 2004) shares of minorities is  $0.388 * 0.75 * 1 - 0.388 * 0.03 * 1 = 0.279$ , or 27.9 percentage points.

The final specification also leaves unchanged the coefficients on variables representing the effect of the economic situation in the region. Namely, government parties receive fewer votes in regions where unemployment is higher relative to the national average. The difference between the shares of votes received in the region with the highest unemployment (3.23 times the national average; Rezekne district in 2004) and the region with the lowest unemployment (0.51 of the national average; Riga in 2004) is  $-0.043 * 0.51 * 1 - (-0.043 * 3.23 * 1) = 0.117$ , or 11.7 percentage points, all other factors being equal.

The fact that ethnicity affects the outcome of elections means that social identification is an important determinant of the way citizens vote. This corroborates the theory of the Columbia school. At the same time, regions in which the economic situation is relatively unfavourable (indicated by a high level of unemployment) tend to offer less support to ruling parties. This implies that citizens are aware of current economic trends, which means that they are more involved than the Columbia school holds them to be. This supports the approach taken by researchers such as Nie, Verba, and Petrocik. (qtd. in Fiorina, 1997, 396) Consequently, we can say that both theories can be applied to explain the Latvian situation.

Finally, the F-statistic on dummy variables in the second stage of the 2SLS regression equals 129.77 (120.67 if estimated data on spending is used). This demonstrates that unobserved party-specific factors are still important in determining the outcome of elections.

## Conclusions and Implications

The ordinary least squares regressions show a positive relationship between campaign expenditures by political parties and their performance in elections. However, when simultaneous causality is accounted for, this effect seems to disappear or become very small.

We can therefore conclude that the relationship between campaign spending and election outcomes does not arise from the outcomes being affected by campaign expenditures. Rather, a reverse causality can be observed: a party that is likely to gather a high proportion of votes attracts comparatively more campaign contributions, and is therefore able to spend more. Thus, spending in itself has a negligible effect on the outcome of elections.

This conclusion runs contrary to much of the research done previously in Latvia, although some U.S. studies demonstrate similar results (e.g. Nice, 1987). At the same time, the fact that sponsors are more likely to support parties that have a high chance of performing well may mean that campaign contributions frequently entail an expectation of future benefits (perhaps in the form of favourable political decisions) arising from having a friendly political force in power. This indirectly supports the prevalent opinion that the danger of state capture by special interest groups is significant (Kažoka, 2005).

The fact that campaign expenditures do not influence the outcome of elections in a major way also suggests that recent efforts to limit promotional spending are unlikely to influence the results of the vote. Nevertheless, we refrain from evaluating the usefulness of such regulation, since discussion of its value in combating political corruption is outside the scope of this paper.

In line with the general consensus, ethnic factors appear to be important in determining election results. Indeed, given the variation in the share of minorities among voters across regions, ethnic differences alone can cause the shares of votes received by a “Russian” party to differ by as much as 28 percentage points. This supports the theory proposed by the Columbia school.

The economic situation in the region also seems to be an influential factor in encouraging voters to support or oppose the current government, which corresponds to the theory that stresses the importance of current events and parties’ positions with regard to these in motivating voters to support particular parties. We can therefore say that each of the theories

explains part of the factors that determine the outcome of elections. At the same time, the importance of the economic situation leads us to question the views of observers who believe that ethnic identification overshadows all other factors.

Additionally, we can conclude that certain unobserved effects give some parties an advantage that does not vary across regions and time. This may include factors such as charisma of a party's leaders, the general attractiveness of its ideology, its ability to plan an effective campaign, among others. At the same time, no major regional party allegiances were detected, beyond those defined by ethnic and economic characteristics.

### **Suggestions for further research**

One of our major concerns in this analysis was sample size, which only included data for three elections due to limited availability of information. Therefore, an obvious way to enhance this research is by increasing the sample when new data becomes available. In particular, data for the 2006 parliamentary elections can be added to the sample.

In addition, while expenditures as a whole do not seem to have a major effect on the outcome of elections, certain types of expenditures may be more significant than others. Consequently, analysis of aggregated expenditures can be extended into analysis of the components of the parties' expenditures (such as spending on television, radio, press, or other advertising).

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## Appendix A

**Table 4. Descriptive statistics**

Variable	Median (mean for Russian)	Standard deviation	Minimum	Maximum
Share of votes	0.013	0.084	0.0002	0.538
Share of spending	0.030	0.064	0	0.262
Share of estimated spending	0.020	0.082	0	0.357
Share of minorities	0.132	0.166	0.031	0.755
Unemployment	1.105	0.703	0.512	3.233
„Russian” party?	0.279	0.449	0	1

Sources: CVK, KNAB, CSB, NP, authors.



## Appendix B

Table 5. 2002 Saeima elections

List No	Party	Votes	Share of votes	Spending, LVL	Share of spending	"Russian"	Had seats in Riga	Had seats in Saeima	Cabinet members	Prime Minister	Number of seats in Riga	Seats in Saeima	Number of ministers
1	Apvienība "Tēvzemei un Brīvībai"/LNNK	53,396	0.054	477,948	0.091	no	yes	yes	yes	no	11	15	5
2	Politisko organizāciju apvienība "Par cilvēka tiesībām vienotā Latvijā"	189,088	0.191	265,892	0.051	yes	yes	yes	no	no	13	16	0
3	Sociāldemokrātiskā Labklājības partija	13,234	0.013	38,704	0.007	yes	no	no	no	no	0	0	0
4	Krievu partija	4,724	0.005	2,982	0.001	yes	yes	no	no	no	1	0	0
5	Latvijas Sociāldemokrātiskā strādnieku partija	39,836	0.040	388,739	0.074	no	yes	yes	no	no	14	12	0
6	"Progresīvā CENTRISKĀ partija"	1,229	0.001	53,614	0.010	no	no	no	no	no	0	0	0
7	"Jaunais laiks"	237,452	0.240	460,198	0.088	no	no	no	no	no	0	0	0
8	Tautas partija	165,246	0.167	1,367,949	0.262	no	yes	yes	yes	no	6	25	7
9	"Latvijas Pirmā Partija"	94,752	0.096	531,007	0.102	no	no	no	no	no	0	0	0
10	Latviešu partija	3,919	0.004	1,005	0.000	no	no	no	no	no	0	0	0
11	Latvijas Atdzimšanas partija	2,555	0.003	3,841	0.001	no	no	no	no	no	0	0	0
12	"Brīvības partija"	2,078	0.002	39,318	0.008	no	no	no	no	no	0	0	0
13	"Sociāldemokrātu savienība - SDS"	15,162	0.015	158,052	0.030	no	no	yes	no	no	0	5	0
14	"Latvijas Apvienotā Republikāņu partija"	826	0.001	29,644	0.006	no	no	no	no	no	0	0	0
15	Savienība "Latvijas ceļš"	48,432	0.049	738,038	0.141	no	yes	yes	yes	yes	5	20	3
16	"Politiskā apvienība "Centrs""	5,819	0.006	127,389	0.024	no	no	no	no	no	0	0	0
17	Partija "Mūsu zeme"	1,349	0.001	2,635	0.001	no	no	no	no	no	0	0	0
18	Latgales Gaisma	15,948	0.016	36,376	0.007	yes	no	no	no	no	0	0	0
19	Māras zeme	1,446	0.001	1,657	0.000	no	no	no	no	no	0	0	0
20	"Zaļo un Zemnieku savienība"	93,758	0.095	503,292	0.096	no	yes	no	no	no	3	0	0
	Total	990,249	1.000	5,228,282	1.000								

Source: Compiled by authors from CVK, KNAB, NP, CSB, Riga Municipality Portal, Saeima, MK

## Appendix C

**Table 6. 2004 European Parliament elections**

List No	Party	Votes	Share of votes	Spending, LVL	Share of spending	"Russian"	Had seats in Riga	Had seats in Saeima	Cabinet members	Prime Minister	Number of seats in Riga	Seats in Saeima	Number of ministers
1	Latvijas Sociālistiskā partija	9480	0.017	3,031	0.007	yes	yes	yes	no	no	1	5	0
2	Tautas partija	38324	0.067	65,178	0.141	no	yes	yes	yes	no	6	20	6
3	Konservatīvā partija	9716	0.017	78,316	0.169	yes	no	no	no	no	0	0	0
4	Latgales Gaisma	8439	0.015	2,697	0.006	yes	no	no	no	no	0	0	0
5	Apvienība "Tēvzemei un Brīvībai"/LNNK	171859	0.301	47,143	0.102	no	yes	yes	no	no	9	7	0
6	Politisko organizāciju apvienība "Par cilvēka tiesībām vienotā Latvijā"	61401	0.107	22,740	0.049	yes	yes	yes	no	no	6	6	0
7	"Apvienotā sociāldemokrātiskā labklājības partija"	12871	0.023	9,907	0.021	yes	yes	no	no	no	2	0	0
8	Tautas saskaņas partija	27506	0.048	24,207	0.052	yes	yes	yes	no	no	3	9	0
9	"Zaļo un Zemnieku savienība"	24467	0.043	31,186	0.067	no	yes	yes	yes	yes	3	12	4
10	"Latvijas Pirmā Partija"	18685	0.033	29,345	0.063	no	no	yes	yes	no	0	14	7
11	Latvijas Sociāldemokrātiskā strādnieku partija	27468	0.048	36,085	0.078	no	yes	no	no	no	17	0	0
12	"Jaunais laiks"	113593	0.199	97,134.00	0.210	no	no	yes	no	no	0	26	0
13	Savienība "Latvijas ceļš"	37724	0.066	9,027	0.019	no	yes	no	no	no	5	0	0
14	Kristīgi demokrātiskā savienība (KDS)	2362	0.004	1,467	0.003	no	yes	no	no	no	1	0	0
15	Politiskā organizācija (partija) "Eiroskeptiķi"	5481	0.010	1,845	0.004	no	no	no	no	no	0	0	0
16	"Sociāldemokrātu savienība - SDS"	1988	0.003	3,774	0.008	no	no	no	no	no	0	0	0
	Total	571364	1.000	463,084	1.000								

Source: Compiled by authors from CVK, KNAB, NP, CSB, Riga Municipality Portal, Saeima, MK

## Appendix D

**Table 7. 2005 Municipal elections (results in Riga)**

List No	Party	Votes	Share of votes	Spending, LVL	Share of spending	"Russian"	Had seats in Riga	Had seats in Saeima	Cabinet members	Prime Minister	Number of seats in Riga	Seats in Saeima	Number of ministers
1	Latvijas Pirmā Partija	11,772	21.521	239,938	129.022	no	0	1	1	0	0	14	3
2	Apvienība "Tēvzemei Un Brīvībai"/Lnnk	17,461	31.921	169,217	90.993	no	1	1	0	0	9	7	0
3	Jaunais Laiks	36,684	67.064	164,326	88.363	no	0	1	1	0	0	24	6
4	Tautas Partija	24,094	44.048	162,490	87.376	no	1	1	1	1	6	20	5
5	Politisko Organizāciju Apvienība "Par Cilvēka Tiesībām Vienotā Latvijā"	27,728	50.691	47,412	25.495	yes	1	1	0	0	6	6	0
6	Jaunais Centrs	14,545	26.590	96,388	51.831	yes	1	0	0	0	4	0	0
7	Tautas Saskaņas Partija	8,771	16.035	85,056	45.737	yes	1	1	0	0	3	9	0
8	Savienība "Latvijas Ceļš"	6,303	11.523	109,130	58.682	no	1	0	0	0	5	0	0
9	Politiskā Organizācija "Latvijas Kalve"	1,154	2.110	78,286	42.097	no	0	0	0	0	0	0	0
10	Zaļo Un Zemnieku Savienība	5,711	10.441	154,627	83.148	no	1	1	1	0	3	12	3
11	Latvijas Sociāldemokrātiskā Strādnieku Partija	19,388	35.444	138,915	74.699	no	1	0	0	0	17	0	0
12	Darba Partija	3,693	6.751	81,923	44.052	no	1	0	0	0	1	0	0
13	Politiskā Patriotiskā Apvienība "Dzimtene", Latvijas Sociālistiskā Partija	23,532	43.020	21,198	11.399	yes	1	1	0	0	3	5	0
14	Kristīgi Demokrātiskā Savienība	545	0.996	6,984	3.756	no	1	0	0	0	1	0	0
15	"Latvijas Jaunatnes Partija"	359	0.656	1,697	0.913	yes	0	0	0	0	0	0	0
16	Sociāldemokrātu Savienība-Sds	370	0.676	12,387	6.661	no	0	0	0	0	0	0	0
17	"Mūsu Latvijai"	547	1.000	1,860	1.000	yes	0	0	0	0	0	0	0
	Total	202,657	370.488	1,571,834	845.222								

Source: Compiled by authors from CVK, KNAB, NP, CSB, Riga Municipality Portal, Saeima, MK