Campaign finance regulations and policy convergence: The role of interest groups and valence

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Abstract

Regulation of campaign finance of political parties and candidates is intended to decrease the political influence of special interest groups and enhance the public interest in electoral outcomes. I investigate empirically the consequences of campaign financing regulations and find that public funding leads parties platforms to diverge whereas ceilings on individual contributions lead to platform convergence to the median voter outcome. I relate these consequences to differences in valence or intrinsic popularity of parties. I also show that platform divergence is associated with a ban on corporate donations and with requirements of public disclosure of parties income statements.

JEL classification: D72; D78
Keywords: Interest groups; Political campaigns

1. Introduction

In the archetypical democracy, public policy is guided by the will of the people and the "one man, one vote" principle. In reality, policies are diverted away from the will of electors toward the interests only of certain groups of the society. Parties need to spend large amounts of money on campaign activities and the incentive to receive financial means from various sources is strong. The main aim of campaign finance regulation is to make parties' income and expenditure more transparent for both the regulatory authorities and the public, and to decrease the incentive to seek financial sources that could distort the political agenda of parties. Two stylized facts can be observed in campaign financing. Firstly, campaign advertisements are paid by groups whose objectives differ from the median voter's objectives. Secondly, campaign advertising contains very little hard information. It is focused on persuasion, possibly by using non credible information (**?**).

In this paper I make a first attempt to empirically test the effect of different campaign financing institutions on the location of parties in a spatial model of competition. I link different strands of literature: theoretical predictions about party positions, literature on campaign finance regu-

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lations, and empirical studies that have found that campaign expenditures do have an effect on vote shares. The link is known by the term "valence", which, loosely speaking, comprises all the non–policy characteristics of parties. I use the terms "valence", "non–spatial" and "non–policy" characteristics interchangeably. Some of these characteristics remain unaffected by campaign activity (e.g., looks of candidates), whereas others might be altered during campaigns, in which parties aim to affect the views of voters with regard to, for example, their competence. Intuitively, valence is a concept similar to goodwill in accounting – it comprises the characteristics of a party, other than its policy, which account for electoral success. I believe that access to financing sources has a crucial effect on how effectively parties are able to build their popular image. The fact that empirical studies on the link between campaign finance provisions and policy positions are lacking, provides the main motivation for this study.

I find that caps on individual contributions are associated with the convergence of platforms, whereas other commonly found measures, such as direct public funding, public disclosure of income statements, and a ban on corporate donations lead to adoption of more polarized positions. I also consider possible welfare implications of my results.

I base the analysis of policy convergence on the theoretical predictions of **?** and **?**, who find that greater differences in non–policy characteristics among competing parties should result in more divergent positions, as well as on the broad literature analyzing the influence of special interests on parties' platforms.

The theoretical literature on different campaign finance institutions is vast. With regard to public funding, it is usually argued that replacing "tainted money" from interest groups with tax–financed "clean money" leads to welfare improvement by decreasing the incentives to offer policy favors to contributors. Moreover, it encourages better representation of voters' preferences, unlike the private funding system, in which parties need to satisfy ideological preferences of only certain groups of the society (**???**). However, public financing may freeze competition between parties and exclude new competitors, which is crucial for preferences representation (**??**). The above suggestions are intuitive, but are yet to be tested in a formal way.

Most of the theoretical work assessing the effect of campaign expenditure has stressed the informational aspect of campaigning (**?**). **?** assumes that campaign activity provides voters with truthful information about the quality of a candidate. Giving qualified candidates an electoral advantage potentially benefits all citizens, as it results in better leaders. In this study, the crucial assumption is that campaigning can persuade voters, even if the quality of the candidate is poor.

Given the adopted view on campaign activity, there is no potential for welfare improvement by providing financial means to better quality candidates. This crucial difference between the assumptions of **?** and ours does not allow us to refer to informative campaigning.

For the purpose of this study important theoretical insights have been provided by **?**, who finds that the evaluations of candidates are influenced by voters' beliefs about the sources of income at politicians' disposal. More precisely, a rational voter would evaluate the quality of a candidate (or a party) as lower if he expects that he (it) is involved in bargaining with interest groups. These findings have also been confirmed by recent experimental results of **?**, who find that voters react negatively to campaigns funded with private money. In particular, the probability of voting for a candidate (even one with the same political affiliation as the voter) decreases in the number of advertisements that the voter has seen.

There also exists a well–established empirical literature on how diverse campaign financing rules affect election outcomes. **?** analyzes the role of contribution limits on the closeness of election and finds that contribution caps narrow the margin of victory. Moreover, **?** tests whether campaign expenditures by the House of Congress candidates are more productive in increasing vote shares when candidates run in the states that limit contributions. The results show that campaign expenditures are more productive when candidates run in states with campaign contribution limits, which suggests a positive influence of the transparency of income sources on valence creation. As explained by **?** contribution limits can make a candidate's campaign advertisement more productive because voters attach more credence to advertisements financed without an exchange of money for policy favors. Furthermore, in states with contribution limits, incumbent and challenger spending are equally productive, and spending by both candidates is quantitatively important in increasing their vote shares. This does not mean that the entrant necessarily wins in states with contribution limits, but the results show that each dollar spent on campaign activities by both incumbents and entrants yields a significantly higher increase in the vote share in those states.

The number of empirical studies on the relationship between party positions and non–spatial characteristics is limited. Recent work by **?** finds that incumbents with a greater valence place themselves closer to their district medians, while disadvantaged challengers take the more extreme policy positions. This is consistent with the theoretical findings of **?**. **?** analyzes the 2004 US presidential primaries and similarly finds that the difference in candidates' valence varies positively with political polarization. Thus, if candidates differ widely in terms of the non–policy characteristics, we can observe a divergence from the center of the electoral distribution. I am not

aware of any empirical work of this nature for multiparty systems.

In the next section, I briefly describe the findings of **?** and **?** as well as other theoretical studies related to the subject of this study. I also formulate hypotheses on how diverse campaign finance institutions affect policy convergence. In Section 3 I describe the data and the empirical approach, concentrating in particular on the practical aspects of campaign finance law. In Section 4 I report the results. Section 5 briefly discusses the welfare implications of my results. Section 6 concludes and discusses methodological concerns.

2. Theoretical predictions

2.1. The role of valence and special interests

Let us briefly restate the assumptions and findings of **?**. Each of the parties in the set $P = \{1, \ldots, j, \ldots, p\}$ chooses a policy, $z_j \in X$ and declares it to the electorate prior to the election, where X is an open convex subset of Euclidean space, R^w, with w finite. Formally, the utility of a voter is given by

$$u_{ij} = \lambda_j - \beta||x_i - z_j||^2 + \varepsilon_{ij}, \tag{1}$$

where λ_j is the valence of party j, x_i is the ideal point of the voter, z_j is the party's policy (declared before the election takes place), and ε_{ij} is the stochastic error (for each voter assumed to be drawn from the same probability distribution). That is, the basic framework is a probabilistic voting model. It is assumed that valences are exogenous and can be ranked $\lambda_p > \lambda_{p-1} > \cdots > \lambda_1$. The cumulative distribution of the error terms is assumed to be C^2–differentiable, so that the individual probability functions ρ_{ij} will also be C^2–differentiable in the strategies z_j, and therefore vote shares V_j defined as

$$V_j(z) = \frac{1}{n} \sum_{i \in N} \rho_{ij}(z) \tag{2}$$

are also C^2–differentiable. ρ_j is the individual probability of voting for j and n denotes the cardinality of the set of voters N. The mean voter theorem of **?** shows that the joint mean vector $\mathbf{z}^* = (x^*, \ldots, x^*)$, that is a vector of positions, in which each x is the mean in a particular dimension, is a Nash equilibrium in the situation of zero valence. This relies on the assumption of the concavity of vote share functions, which cannot, in general, be assured. **?** defines a weaker equilibrium concept – a local Nash equilibrium (LNE).

Definition 1. *A strategy vector* $\mathbf{z}^*$ *is a local Nash equilibrium (LNE) iff, for each agent* $j \in P$*,*

there exists a neighborhood X_j of z_j^* in X such that

$$V_j(z_1^*, \ldots, z_j^*, \ldots, z_p^*) \geq V_j(z_1^*, \ldots, z_j, \ldots, z_p^*) \quad \textit{for all } z_j \in X_j. \tag{3}$$

That is, for the strategy vector z_j^*, the vote function attains a local maximum, given the equilibrium strategies of the other candidates. It can be readily seen that this definition does not rely on the global concavity of voters' probabilities functions, but the LNE is defined as the local maximum of the vote function given positions of all other parties.

In the following, I assume that the joint distribution of the error term is the Type I extreme value distribution. For all the minor assumptions necessary to prove the following theorem please refer to **?**. The following definitions are needed, however, to present the main theorem of **?**.

Definition 2. *The electoral covariance matrix.*

1 *The electoral covariance matrix is $\nabla^* = \frac{1}{n}\nabla$, where ∇ is $[(\xi_s, \xi_t)]_{w \times w}$ and $\xi_t = (x_{1t}, x_{2t}, \ldots, x_{nt}) \in R^N$ is the vector of the t-th coordinates of the set of n voters' ideal points and $(\cdot)$ denotes a scalar product.*

2 *The total electoral variance is*

$$\upsilon^2 = \sum_{r=1}^{w} \upsilon_r^2 = tr(\nabla^*), \tag{4}$$

where w is the dimensionality of the issue space.

Definition 3. *The convergence coefficient of the valence model.*

1 *Define*

$$\rho_j = \left[1 + \sum_{k \neq j} \exp(\lambda_k - \lambda_j)\right]^{-1}. \tag{5}$$

2 *The coefficient A_j for party j is*

$$A_j = \beta(1 - 2\rho_j). \tag{6}$$

3 *The characteristic matrix for party j is*

$$C_j = \left[2A_j\nabla^* - I_{w \times w}\right]. \tag{7}$$

4 The convergence coefficient of the model is

$$c = 2\beta(1 - 2\rho_1)\upsilon^2 = 2A_1\upsilon^2, \tag{8}$$

where valence is ranked so that $j = 1$ denotes the party with the lowest valence.

For the joint origin – the joint mean of the distribution of electoral preferences[2] to be an LNE the following necessary conditions must be met as given by Theorem 1.

Theorem 1. *(?) The joint origin in the valence model satisfies the first–order necessary condition for an LNE. The second–order necessary condition is that every eigenvalue of the characteristic matrix $C_1 = [2A_1\nabla^* - I]$ is negative.*
The necessary condition for the joint origin to be an LNE for the valence model is that $c < w$, where w is the dimensionality of the system.

A first–order necessary condition, which is always fulfilled whenever valence is determined exogenously, is provided in **?**. Intuitively an LNE at the joint origin is less likely the greater are parameters β, υ^2 and $\lambda_p - \lambda_1$. The convergence coefficient has a simple interpretation. If the variance of the electoral distribution is sufficiently large in contrast to the expected vote share of the lowest valence party at the electoral mean, then this party has an incentive to move away from the origin towards the electoral periphery.

Corollary 1. *In the two–dimensional case, a sufficient condition for the joint origin to be an LNE for the valence model is that $c < 1$.*

The most interesting conclusion from the above cited results for the purpose of this study is that whenever differences in valences of parties $\lambda_p - \lambda_1$ are large, we should observe more divergence in the equilibrium positions of parties. This result is very intuitive. It is not surprising that the candidate with a valence disadvantage will lose the election, if he chooses a platform identical to his opponent's. He thus has an incentive to choose a different platform. By moving away from the center, he captures the votes of the more extremely located electors, but he does not lose many votes from the centrist voters, as those anyway vote for the candidate with the valence advantage. Valence advantages then give rise to polarization. In the valence model of **?**, valence is exogenous with respect to a party's position. If valence is a function of the ideological stance, the results

[2]In the one–dimensional case it is simply the mean of the voters' preferences.

remain similar. Endogenous valence may be due to activists who provide contributions to parties (**?**). The utility function of voters is specified by

$$u_{ij} = \lambda_j + \mu_j(z_j) - \beta||x_i - z_j||^2 + \varepsilon_{ij}, \tag{9}$$

where $\mu_j(z_j)$ is the endogenous valence component. As given in **?** one may regard activist valence as a kind of endogenous valence since it is the consequence of bargaining between party and activists. A party that has in the past tended to adopt a policy position that favors a particular group may also benefit from the provision of resources, such as money and time, from activists belonging the group. It is shown in **?** that if we introduce the endogenous valence component, a necessary first–order condition for the equilibrium is given by the balance equation

$$\left[\frac{\mathrm{d}\epsilon_j}{\mathrm{d}z_j} - z_j^*\right] + \frac{1}{2\beta}\frac{\mathrm{d}\mu_j}{\mathrm{d}z_j} = 0, \tag{10}$$

where the bracketed term, the so–called "the marginal electoral pull" of party j, is a gradient vector pointing toward the weighted electoral mean. This weighted electoral mean is the point where the electoral pull is zero. The vector $\frac{\mathrm{d}\mu_j}{\mathrm{d}z_j}$ is called "the marginal activist pull" for party j. The balance condition informs us that activist varies positively with political polarization.

It is important to stress that **?** predicts a *positive* effect of activists on the valence of a party, i.e. it refers to the "grassroots" aspect of campaign financing. However, as noted in the introduction, rational voters can be expected to negatively assess the quality of a party if they find that it is involved in "parleys" with "plutocratic" funders. The balance between these two effects in practice will vary across countries, as these differ in terms of how much funding is raised from individual and corporate donations. In the UK, US, Germany and the Netherlands, small donations account for up to 80 per cent of income of parties, whereas in virtually every other country in our sample small donations and membership fees are much less important. I describe in more detail the consequences of these two different sources of funding for voters' perception in Subsection 2.3. The value of the convergence coefficient as defined in (3) and the strength of the activist pull as defined in (10) are also functions of the β parameter and the variance of electoral preferences. It is reasonable to assume that the variance of electoral preferences and the β parameter are not affected by campaign finance regulations, and I shall therefore assume they are not systematically influenced by the institutional set–up.

The conclusions drawn by **?** and **?** are similar. **?** examine a two–stage game. In the first step

parties choose platforms and later invest in costly valences. The marginal return to valence depends on platform polarization: the closer the platforms are, the more the election outcome is affected by valence. Consequently, candidates without policy preferences choose divergent platforms in order to avoid the competition in valence. Although in both models the parties have no policy preferences (they maximize votes), differences in valence cause them to adopt divergent positions in equilibrium.

Another two–party model with similar predictions is presented in **?**, who reports a positive relationship between platform polarization and differences in valence. Interpreting valence as campaign funds, one can explain an empirical fact in politics: campaign spending is positively correlated with political polarization. This relation has been observed e.g. in the United States during recent decades (**?**).

2.2. The relationship between valence and campaign finance regulations

Valence has been extensively analyzed and many different scholars have given this term diverse interpretations. Valence advantage can be the result of, for example a greater capacity to commit to a precise platform or party support (**?**). It can also be an effect of certain past events that have affected popular perception of a particular party, such as corruption. Another interesting interpretation of valence is provided by **?** in a model of party discipline. In their model, discipline screens potential members of a party on the basis of ideology. Thus, more disciplined parties have less dispersed distributions of members' ideal points. Holding the mean ideology constant, the resulting decrease in dispersion generates valence for risk–averse voters. A prominent interpretation of valence is that it is built up by advertising or other campaign activities, as argued among others by **?** and **?**. I adopt their approach. Based on their findings, I assume that valence results from persuasive campaigning for a name recognition. The production of valence is not directly modeled, but it is simply assumed that in the production process more campaign funds lead to an increase in the parameter λ of the party.

Figure 1: Relationship between expenditure and valence.

Figure 1 shows the relationship between the level of campaign expenditure[3] and party valence in parliamentary elections in the United Kingdom, Canada, and Poland[4]. The estimates of valence used in Figures 1 and 2 are obtained as residuals (constants) from the MNL estimations of the

[3]Sources: Official reports of electoral commissions of Poland (**?**), Canada (**?**), and the United Kingdom (**?**).
[4]The choice of countries is limited by the availability of data.

probabilistic model of **??**, **?**, and **?**. In these models, valence is the part of the electoral result that remains unexplained by the spatial distance between the candidates and the voters, whereas spatial distance is calculated as the Euclidean norm between the positions of each party and each voter in a space spanned over two dimensions extracted via principal components analysis. The curve represents a fractional polynomial regression fit of the model, in which the level of valence is a function of both own expenditure and spending of all other parties in each election. We can observe a non–linear relationship between the level of relative spending and the level of valence, which is commonly found in both majoritarian (e.g., **?**) and proportional representation systems (e.g., **?**). We observe decreasing marginal return to spending, which implies that parties that have already gathered a substantial stock of valence are not able to alter their popular image as much as their less–known competitors.

Figure 2: Relationship between differences in expenditure and differences in valences between the parties.

Another way to present the relationship between valence and expenditure is shown in Figure 2. The dependent variable is the difference in valences between pairs of parties in each election. This difference is a function of own spending and the expenditure of the opponent. More precisely, I regress the difference in valence on the difference in expenditure. Figure 2 depicts fitted values from this regression. We observe a positive relationship between the difference in valence and the difference in campaign expenditures. Combining the theoretical findings regarding the relationship between differences in valence and the parties' positions in the policy space with the assumption about the relationship between investment in campaign activity and valence creation, I hypothesize that there will be a link between campaign spendings and positioning of the parties in the policy space. In the next subsection I turn to a more precise description of how particular campaign institutions are expected to affect the platforms in the spatial model.

2.3. Hypotheses

Based on the theoretical predictions of **?** as well as the literature on special interests, I formulate the following hypotheses about the effect of diverse institutions on the policy convergence.

Hypothesis 1. *Limits on parties' spending and income should cause convergence in platforms.*

There are two channels for this effect. The first one is that the limit on campaign expenditure decreases the ability to create a popular image by campaign efforts for well–known parties, which should result in smaller differences in valences between the competitors. Thus, as predicted by the theory, a limit on campaign spending should be associated with more convergent platforms.

The second channel is the influence of interest groups or, using the nomenclature of **?**, party activists' contributions. Whenever private financing is involved, its effect on valence is unclear. On the one hand, valence is created endogenously by grassroots contributors, but on the other, rational voters knowing that parties can trade policies and non–policy favors for funding from plutocratic sources, might have poorer perceptions of parties' quality. I will assume, that there are two groups of voters in the society: informed and uninformed, and that campaign activity is by its nature persuasive (that is, it affects valence) and not informative. In the spatial context with probabilistic voting, uninformed means that the error term in the utility of the particular individual is high, and therefore her β parameter is low - hence, her probability of voting is less fragile to changes in platforms[5].

Parties distort their policy choices to attract money from interest groups and then use this money to attract the votes of the uninformed, at the cost of losing the votes of the informed electors. This relies on the assumption that only the informed voters have rational expectations about the interest groups' activities to distort platforms. In the event that the uninformed voters also had rational expectations, a majority of them would switch their votes to the unadvertised party and the advertising would actually lose parties' votes and none would be undertaken in equilibrium. This clearly contradicts factual observations. The overall effect of private financing on platforms will therefore depend on the strength of three effects: the increase in valence by persuading the uninformed voters, the centrifugal interest groups' pull, and the magnitude of the decrease in valence associated with policy distortions. In any case, as predicted by **?**, in equilibrium the lowest valence parties will be located furthest away from the center of electoral preferences. The opposite also holds: parties that distorted their platforms to the most radical positions will have the lowest valence. It is important to understand that the result holds *only* in equilibrium. The theoretical literature predicts that the relationship between the assessed quality of a party and its position runs in both directions and that the equilibrium results of **?** do not add any more insight to the question of causality.

It is argued that direct and indirect public funding promote representation, as both allow less–known parties to gather funds to compete with stronger ones. The existence of public funding should in principle positively affect the number of parties present, however, the effect on valence creation is again unclear. Whenever public funding is provided, it can lead to increasing differ-

[5]Since all errors in the model are drawn from the same distribution, the uninformed voters are those with errors located at the upper tail.

ences in valences and consequently lead to stronger divergence of policies. Such a freezing effect is suspected because the distribution of both direct payments and indirect subsidies (such as allocation of free broadcast time) tends to be proportional to past party success (**?**). The hypothesis of divergence as a result of public funding will therefore be true under the assumption that inequality of funding outstrips the effect of decreasing marginal return to campaign efforts. If the second channel for divergence, that is, the effect of activists, is also present, public financing can serve to decrease it by replacing "tainted money" with public means.

Hypothesis 2. *Public funding will cause divergence in platforms if the entry deterrence caused by the proportionality of funding outstrips the effect of purifying financing sources and decreasing marginal return to campaigning.*

A direct insight from Theorem 1 is that the lowest valence parties will locate their platforms furthest away from the joint origin. The converse relation is also true. Parties for which policy is strongly distorted away from the center will actually have the lowest valence, whenever there is a least one voter with rational expectations. Obligatory public disclosure of income sources and expenditure provides information about the sources of income and the potential for policy distortions to the voters, who otherwise are not able to monitor the lobbying activities. I therefore argue that public disclosure positively influences valences of parties that remain at the center of the distribution of preferences. The reason is that these are the ones that are willing to report legitimate funding and raise their credibility in terms of sources of funding. For low valence parties, whose positions have been determined by the influence groups, public disclosure means a further decrease in valence, which causes them to adopt even more radical positions.

Hypothesis 3. *Public disclosure of income should cause divergence in platforms.*

The case of a ban on corporate donations is more complicated. In this hypothesis I capture the difference between "grassroots" and "plutocratic" funding. The aim of a ban on corporate donations is to reduce "plutocratic" funding without affecting small contributions from individuals. That is why one should expect a different effect of a general ceiling on contributions and a particular one affecting corporate donations. At first sight, a ban should help restore a "one person – one vote" principle and reduce divergence of policies. However, as noted in the literature (**?**) such a ban merely replaces the flow of money from corporations to parties, with a soft money donations - which are not prohibited and weakly regulated. Therefore, I argue that, whenever the state is not able to enforce compliance with the law, by banning corporate donations, it has in practice less

control over the sources of income. The weakly regulated "soft" money drives the policies away from the median voter. Moreover, if corporations are interested in gaining access to the political scene, they might do so by accessing the small, outlying parties, which then, having secured the financing, have the incentive to move toward the center of the distribution.

Hypothesis 4. *A ban on corporate donations is associated with more divergence in platforms.*

Finally, an intuitive determinant of divergence of parties' positions is the effect of proportional representation (**?**). The effect of proportional representation versus plurality rule on divergence is twofold. First, by means of Duverger's Law it is associated with a higher number of parties than under plurality, and therefore perhaps more radical candidates. The empirical evidence for this effect is mixed. On the one hand **?** finds no evidence that average party policy extremism increases under proportional representation, nor that policy extremism increases in countries that feature large numbers of parties. On the other hand **?** reports a statistically significant effect of proportional representation on political extremism. The second effect is more interesting. **?** formulated a hypothesis that the convergence coefficient will be higher under proportional representation because of the usual necessity to form coalitions after elections. They argue that activist groups do not need to coalesce before the election to concentrate their influence. Activist groups linked to small parties can still have access to the government because the bargaining domain (the heart) in proportional representation systems will typically depend on the location of smaller parties. These theoretical predictions have not yet been empirically confirmed.

3. Data and methodology

3.1. Campaign finance institutions

Table 1: Campaign Finance Institutions – A Summary

Questions	No. of countries[a]
Is party financing regulated?[b]	34
Is there an obligatory public disclosure of financial statements?	32
Is there a limit on how much a party can raise?	4
Is there a limit on campaign expenditure?	21
Is there a limit on individual contributions?	25
Do parties receive direct public funding?	39
Do parties receive *equal* direct public funding?	3
Do parties receive indirect public funding (e.g., free media access)?	36
Do parties receive *equal* indirect public funding?	16
Is there a ban on corporate donations?	12
Total	46

[a] A number of countries in the sample in which the institution is in place.

[b] According to assessment of IDEA and Council of Europe, in some countries within the sample certain aspects of party financing laws are poorly regulated and practical enforcement of legal provisions is impossible.

A number of countries in the sample are characterized by a rather weak rule of law and imperfect enforcement procedures. In certain cases, particular regulations are *de jure* established, but are not enforced in practice. I therefore employ expert opinions in this empirical study, rather than directly use the legal provisions. I acknowledged a particular institution only when the experts' evaluation reports indicated the practical importance of a certain rule. The sources of expert reports are provided in Table 1 in the appendix. The data on party positions, is taken from **?** and refers to various elections in various years. Party funding laws have been subject to many changes, however it was possible to assess their practical importance. Nonetheless I excluded Belarus from the sample, as the electoral legislation in this country is not likely to be of practical importance.

The main problem associated with the interaction between policy divergence and campaign finance institutions is that the causality runs in both directions. A state legislative authority is likely to adopt strict rules in order to decrease the influence of special interest groups on platforms. If the legislator implements campaign finance institutions on a basis of divergence in platforms, they will be endogenous in the model. Table 2, taken from **?**, shows correlations between the index of electoral rules strictness and three different indices of corruption. Obviously, not all activities of party contributors should be seen as corruption, in particular, grassroots contributions are not. However, whether by the choice of particular policies or by non–policy favors, acting in the interests of particular agents in exchange for funding, could be considered corruption defined as "the abuse of entrusted power for private gain" (Definition of Transparency International).

Table 2: Electoral rules and corruption.

BPI2002[a]	CPI2002[b]	WBCC2001[c]
-0.7014	-0.4694	-0.5133
(0.0075)[d]	(0.0904)	(0.0605)

[a] TI Bribe Payers Index
[b] TI Corruption Perception Index
[c] World Bank Corruption Control Index
[d] Std. errors in brackets

? notes that one cannot argue that strictness of rules causes corruption, or that the opposite relationship is true. Rather, an unobservable variable such as a country specific "corrupt culture" may lead to the adoption of contribution limits and the presence of corruptness. Thus, the correlation result may be due to the fact that countries that have an inherently more corrupt culture will introduce strict rules in order to address the problem of already high levels of corruption. In Table 3, I present the results of correlating particular institutions that I analyze with two measures of the quality of the state and its independence from political pressure estimated by the World Bank

(**?**)[6].

Table 3: Campaign finance institutions and the quality of governance.

Questions	GE[a]	CC[bc]
Is there an obligatory public disclosure of financial statements?	-0.2896	-0.3280
Is there a limit on how much a party can raise?	-0.3059	-0.3730
Is there a limit on campaign expenditure?	-0.1221	-0.1327
Is there a limit on individual contributions?	-0.5185	-0.5158
Do parties receive direct public funding?	0.0585	0.0798
Is there a ban on corporate donations?	-0.1118	-0.0447

[a]Government Effectiveness – capturing perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures.

[b]Control of Corruption – capturing perceptions of the extent to which public power is exercised for private gain, as well as "capture" of the state by elites and private interests.

[c]For both indicators a higher value denotes a higher quality of governance.

The results presented in Table 3 lead us to conclude that due to a strong correlation between a limit on individual contributions and the general level of the quality of governance, endogeneity bias caused by including this variable in the regressions could substantially affect the values of the coefficients and that it needs to be considered endogenous with respect to platforms' divergence. In the following regressions, I shall instrument for this variable using exogenous measures strongly correlated with corruptness level. Note that on the basis of theoretical considerations I could argue that each of the institutions is endogenous. I decided, however, to instrument for the one for which correlation could significantly distort the results. It does not exclude the possibility of endogeneity of other institutions, but low correlations between these and corruption indices suggest that the bias would be of lower magnitude.

3.2. Estimates of parties' positions

The estimates of the party positions in diverse ideological dimensions were obtained from a study by **?**. **?** present the estimates of party positions based on expert surveys in 45 countries. A total of 36 questions were asked, 13 of which were country specific (e.g. the sovereignty of Quebec in the case of Canada), 7 were specific only to a group of countries denoted as post–communist (e.g., the issue of privatization), 8 concerned European integration and the rest corresponded to general policy dimensions, such as economic policy, social world–view, environmental protection, immigration, and so on. For each question a possible value lies in the $[1, 20]$ interval, whereas the particular interpretation of the figure varies from dimension to dimension (e.g., for the tax policy dimension 1 indicates a far–leftist view, whereas 20 is the far right). For each dimension, the

[6]Note that diverse measures of quality of governance tend to be highly correlated with each other and with measures of corruption.

experts assessed the position of each party on a 1–20 scale. For example, an expert could state that the position of a party is 4 in the tax policy dimension, if this party supports a high level of interventionism or 17 if the party supports *laissez-faire*. The final estimates of positions are the averages over the experts' views. Moreover, each dimension has been given a score that defines its relative importance for the voters' decision in each country.

The data take the form of an unbalanced panel, in which for each country we observe from 7 to 14 dimensions of policy, with a total of 424 observations. For such a data structure it is not clear which dimension should be the "time" dimension and which the "cross–units" one. I allow for both possibilities. I specify a pooled OLS model, a pooled 2SLS model, a countries' random–effects model, and dimensions' random– and fixed–effects models[7].

When we allow for unobserved country effects, the error structure is

$$u_{kd} = \mu_k + \nu_{kd}.$$

μ_k reflects the unobserved characteristics of countries that have an influence on the dependent variable. We could think of unobserved governance characteristics or unobserved components of voters' in each country. As noted, since the tested institutions are constant across dimensions for each country, I can specify only a random–effects model for such an error structure. In this case, I assume that $\mu_k \sim \text{IID}(0, \sigma_\mu^2)$ and is independent of $\nu_{dk} \sim \text{IID}(0, \sigma_\nu^2)$ and that the institutions are also independent of the unobserved effect. This assumption is not necessarily valid if we think of the unobserved country effects as affecting implementation of particular campaign law provisions. One shall keep this in mind when analyzing the results.

With the unobserved dimensions' effects the error structure is

$$u_{kd} = \mu_d + \nu_{kd},$$

and μ_d reflects the unobserved effect for the same dimension in different countries. In this case, I can specify both the random– and fixed–effect models. In the fixed–effect model I assume that the unobserved characteristics of dimensions are constant across countries, thus there are systematic differences in the voting behavior, and as such in the positions of parties for diverse dimensions of policy. On the other hand, the random–effects model assumes that the unobserved effects

[7] As the tested institutions are constant across dimensions we are unable to specify the countries' fixed–effects model.

$\mu_d \sim \text{IID}(0, \sigma_\mu^2)$ are random and orthogonal to the institutions analyzed. This assumption will be valid if the institution has on average the same effect on the positions in each dimension, which can be questioned if we consider, for example, that the influence of interest groups on policies is more stressed in the tax/spending policy compared to e.g. the issue of the role of EU institutions. One can compare the results of both specifications by applying the Hausman test.

In every 2SLS specification I assume that the ceiling on contributions variable is endogenous, that is that this variable as well as policy divergence are simultaneously affected by the level of "corruptness" of a country. I instrument for the general level of "corruptness" of a country with two instruments: urbanization rate and education level measured as gross enrollment in tertiary schooling - variables that describe the level of development. Descriptive statistics of the instruments are presented in Table 4.

Table 4: Descriptive statistics of the instruments

	Urbanization Rate	Tertiary Education
Mean	68.60	56.39
Std. Dev.	13.20	18.99
Skewness	0.12	-.45
Kurtosis	2.49	2.37
No. Obs.	424	392

These should be exogenous with respect to both the choice of institutions and the policy divergence. These instruments,[8], have been found to be strongly correlated with the perception of corruption (see Table 3 in the appendix; see also, (**?**) for a further discussion regarding the instruments for corruption used in the literature), about which I hypothesize that it affects the decision to implement electoral rules. One should keep in mind that the instruments might not only capture the exogenous 'taste' for institutions, but also tertiary education is possibly a factor that facilitates monitoring of the government. However, the results of the IV regressions do not qualitatively differ from the OLS specifications.

For each specification I apply two measures of policy divergence. *The unweighted party extremism* for each country k and dimension d are defined as:

$$UPE_{kd} = \frac{1}{N} \sum_j |P_j - MV|, \tag{11}$$

where: P_j is the ideological position of party j, N is the number of parties, and MV is the mean

[8]Source: World Development Indicators, The World Bank

voter position[9].

The weighted party extremism is defined as:

$$WPE_{kd} = \sum_j VS_j |P_j - MV|, \tag{12}$$

where VS_j is vote share of party j.

Theoretical predictions of **?** relate the positions of parties to the mean of the electoral distribution. As a necessary simplification resulting from the lack of data, I set the mean of electoral preferences to 10.5 throughout the dimensions and countries. Due to a lack of data, I cannot directly control for the differences in the distributions of preferences across the analyzed countries. It is, however, possible to indirectly control for preference heterogeneity be ethnolinguistic fragmentation as defined in **?**. The dependent variables constructed as shown above represent divergence from the simplified mean of the distribution for each country and each dimension. Table 5 reports descriptive statistics for both measures.

Table 5: Descriptive statistics of the dependent variables

	Unweighted Party Extremism	Weighted Party Extremism
Mean	3.73	3.26
Std. Dev.	1.25	1.26
Skewness	.18	.47
Kurtosis	2.83	3.48
No. Obs.	424	424

? predicts a linear relationship between the difference in valences of parties and the convergence coefficient. Moreover, there is no obvious reason for why campaign finance institutions would affect convergence in a non–linear way. I therefore apply a linear specification for the equation describing the behavior of parties. Additionally, I control for the number of parties in the political scene, defined as the effective number of parties (see **?**)[10] and for the proportionality of the electoral system, measured by the Gallagher index of proportionality (**?**).

The most important component of the interpretation of the coefficients is the sign, positive meaning a tendency toward more divergence. For the unweighted measure we can interpret and compare the values of coefficients directly. Notice that the maximum average distance from the mean on the $[1, 20]$ scale is 10 (when all parties are located at either of the two extremes) and

[9] It is assumed in each case to be located at the mean of the scale.

[10] The effective number of parties can be defined in terms of *seats* or *votes* obtained. These two measures tend to be different from each other in more disproportionate electoral systems. In this study I defined specifications using both measures and chose the one for which the predictive power of the model was greater.

the minimum is zero, whenever all parties locate at the mean. The value of the coefficient for the unweighted measure is the difference between the average distance of all parties from the mean with and without presence of a particular institution. Since the maximum distance is 10, it is easy to obtain the percentage difference by multiplying the value of the coefficient by 10. For example, a value of a coefficient of 0.5 means that when the institution is present, the average distance of parties from the mean increases by 5%. It is not as straightforward for the weighted measure. The interpretation of the sign of the coefficient remains the same, since the weights are all positive, but we cannot directly interpret the magnitude of the effect compared to the maximum distance.

4. Results

Tables 6 and 7 present results of regressions with the unweighted and weighted party extremism as the dependent variable[11].

The coefficient for ceiling on individual contributions is strongly significant and negative in all regressions for the weighted measure, whereas it is significant only in the dimension effects model for the unweighed measure. The size of the coefficient corresponds to about a quarter of the standard deviation of the dependent variable. This finding is consistent with the literature on interest group effect on policies, and it is consistent with the role of activists as provided in theory of **?**. I associate this result with decreasing the activist pull effect. Recalling equation 10, we observe that the strong activist pull can distort the optimal position away from the center of the electoral system, and that this effect will be accentuated in the case of well–established parties. If the funding is "grassroots–based", the distortion should be greater for well–established parties since they have many contributors. If the funding is "plutocratic–based" the distortion will also be greater for well–established parties, since only those have practical influence on chosen policies. The empirical observation suggests that when we do not control for the electoral success (that is, the dependent variable is the unweighted measure) we do not observe the change in distortion, but we do observe the change for the weighted measure. This means that the parties with a high level of support are more affected by the introduction of contribution limits. Additionally, observation of the empirical data on contributions and spending suggests that the contribution limits are binding only for large parties, providing explanation for the empirical finding.

[11] All pooled regression are conducted with robust standard errors clustered across dimensions of the same country.

Table 6: Unweighted party extremism divergence

Dependent variable	Unweighted party extremism[a]				
	Pooled OLS[b]	Pooled 2SLS[c]	Dimension Effects G2SLS		Country effects G2SLS
			RE	FE	RE
Ceiling on Contributions	-.33**	-.38**	-.47**	-.46**	-.42
	[-2.54]	[-1.67]	[-2.51]	[-2.73]	[-1.58]
Public Disclosure	.26**	.28**	.39***	.39***	.29
	[2.04]	[2.05]	[2.85]	[2.84]	[1.51]
Direct Public Funding	.53**	.52***	.70***	.70***	.60***
	[2.59]	[2.63]	[5.11]	[5.12]	[3.11]
Ban on Corporate Donations	.38***	.39***	.36***	.35***	.38**
	[2.68]	[2.62]	[3.22]	[3.07]	[2.29]
Post–communist	-.18	-.17	-.64***	-.71***	-.19
	[-1.44]	[-1.42]	[-4.58]	[-4.85]	[-1.28]
Effective number of parties	.03	.03	.05	.05*	.03
	[.85]	[.89]	[1.60]	[1.76]	[.53]
Proportionality	-.01	-.01	-.01	-.01	-.01
	[-.77]	[-.80]	[-.70]	[-1.14]	[-.19]
Ethnolinguistic fragmentation	.59	.61*	.44	.33	.65
	[1.61]	[1.76]	[1.56]	[1.17]	[1.62]
Constant	3.11***	3.11***	3.54***	3.15***	2.95***
	[9.71]	[9.92]	[15.38]	[14.25]	[9.08]
(Pseudo) R^2	.06	.06	.04	.04	.06
Cragg–Donald F–stat.[d]	–	113.547	113.547	94.269	113.547
Hansen–Sargan p–value	–	.27	.12[e]	.21[f]	.31
Hausman p–value	–	–	0.328		–
Obs.	424	392	392	381	392

[a] The standard error of the dependent variable equals 1.25
[b] t-Stat. in brackets, , Significance: *** 1 percent, ** 5 percent, * 10 percent
[c] z-Stat. in brackets
[d] **?**
[e] RE Sargan statistics obtained with **?**
[f] FE Sargan statistics obtained with **?**

Table 7: Weighted party extremism divergence

Dependent variable	Weighted party extremism[a]				
	Pooled OLS[b]	Pooled 2SLS[c]	Dimension Effects G2SLS		Country effects G2SLS
			RE	FE	RE
Ceiling on Contributions	-.27**	-.63***	-.67***	-.64***	-.63**
	[-1.79]	[-2.79]	[-3.47]	[-3.46]	[-2.21]
Public Disclosure	-.00	.16	.29**	.31**	.16
	[-.05]	[0.81]	[2.07]	[2.11]	[0.76]
Direct Public Funding	.08	.07	.34**	.36**	.22
	.56	[.44]	[2.41]	[2.54]	[1.08]
Ban on Corporate Donations	.44***	.47***	.47***	.47***	.46***
	[2.78]	[2.85]	[4.01]	[4.00]	[2.62]
Post–communist	-.20	-.15	-.59***	-.74***	-.18
	-1.46	[-0.93]	[-4.19]	[-4.82]	[-1.11]
Effective number of parties	-.06*	-.05	-.04	-.02	-.07
	-1.73	[-1.21]	[-1.38]	[-.71]	[-1.45]
Proportionality	-.01	-.01	-.01	-.01	-.01
	[-1.20]	[-.85]	[-.75]	[1.50]	[-1.40]
Ethnolinguistic fragmentation	.98**	1.12***	.97***	.92***	1.18***
	[2.35]	[2.84]	[3.37]	[3.15]	[2.77]
Constant	3.62***	3.61***	3.34***	3.25***	3.31***
	[14.73]	[14.52]	[11.98]	[13.71]	[9.54]
(Pseudo) R^2	.05	.03	.04	.04	.06
Cragg–Donald F–stat.[d]	–	113.547	113.547	94.269	113.547
Hansen–Sargan p–value	–	.69	.61[e]	.52[f]	.77
Hausman p–value	–	–	0.993		–
Obs.	424	392	392	381	392

[a] The standard error of the dependent variable equals 1.26
[b] t-Stat. in brackets, , Significance: *** 1 percent, ** 5 percent, * 10 percent
[c] z-Stat. in brackets
[d] **?**
[e] RE Sargan statistics obtained with **?**
[f] FE Sargan statistics obtained with **?**

This result is also in line with the empirical results of **?**, who finds (although, only for a two–party competition) that in states with contribution limits, incumbent spending and challenger spending are equally productive. In addition, spending by both candidates is quantitatively important in increasing their vote shares. In other words, limiting contributions while keeping platforms fixed increases the perception of the quality of all candidates. This is yet another confirmation of the hypothesis that limits bind only the large parties. As we saw in Table 3, the ceiling on individual contributions is more likely in countries with lower quality of governance, but it does have a significant effect on reducing the role of special interests on platforms.

The coefficient for direct public funding is positive and significant for the unweighted measure, whereas it is insignificant for the weighted measures in almost all specifications. For the unweighted measure it corresponds to about a half of the standard deviation of the dependent variable, thus it is quantitatively important. As I find almost no correlation between this institution and the quality of governance, I argue that the even more accentuated valence advantage of well–established parties is the cause of this effect. In other words, these two results show that proportional public funding retains the advantage of larger parties in campaign activities (by "larger" I understand the parties that have gained high share of votes in earlier elections). This conclusion is consistent with the observation that once the weighted party extremism is used as a dependent variable, public funding becomes insignificant, which implies that the most extreme parties in the sample receive very low support.

Public disclosure of income and expenditure statements has a positive effect on platforms' divergence, however, only for the dimension effects model. This provides weak evidence in support of hypothesis 3.

Ban of corporate donations turns out not to be significantly correlated with the quality of governance and perception of interest groups' activity, and at the same time it is related to high divergence of policies. My hypothesis that corporations interested in gaining access to the political scene try to access small, extremely located parties is reflected in the fact that although I find a significant effect of the ban on corporate donations on both measures, the coefficient is *larger* for the weighted extremism. If corporate donations are banned, the small parties need to rely on individual contributions of extremely located voters, thus the latter incentive is not present. I treated adoption of corporate bans as exogenous, but this finding suggests that it might be endogenous with regard to the quality of law enforcement – a matter that invites further study.

Other variables that I tested for, as listed in Table 1: ceiling on the overall amount of financial means that can be collected by a party, ceiling on expenditure, and indirect public funding, were found not to have a significant effect on platforms' divergence. It is somehow surprising that the effective number of parties is only weakly correlated with the policy extremism. On the other hand, as found by e.g. **?**, increasing the number of parties is not necessarily associated with increasing extremism. Moreover, as found by **?** and **?**, the effect of the electoral system might work indirectly through the number of parties. Therefore, once I control for the electoral system, the effect of the number of parties turns insignificant. Additionally, the number of parties is strongly correlated with the dimensionality of politics (**?**). In our data, dimensions are analyzed separately, therefore this effect is not present. Statistics describing identification of the model with the instruments suggest that the instruments are not weak. Moreover, according to the Hausman test results, we do not observe systematic differences in the estimated parameters for the dimensions' fixed– and random–effects specifications, which means that we can trust the random–effects estimates and these are more efficient. Finally, the results of the estimation also hold for a pooled OLS specification, which does not account for the potential endogeneity of institutions. The magnitude of the coefficients also does not differ substantially.

I employed certain robustness checks to test the sensitivity of the results. The results of various specifications are reported in the appendix. I first tested the effects of restricting the sample to the proportional representation countries. The results are reported in Tables 4 and 5 in the appendix. Restricting the sample to countries defined as having a proportional representation electoral system retains all the conclusions that I have drawn to this point.

For a more subtle analysis of the effect of proportionality I additionally divided the whole sample into groups according to the Gallagher index of proportionality (**?**). I divided the whole sample into three subsamples on the basis of the percentile values, i.e., the cut–off points are 33rd and 67th percentiles of the empirical distribution, which correspond to values of 5.845 and 8.2 of the Gallagher index of proportionality. I denote these subsamples *low*, *medium*, and *high disproportionality* countries. Results for estimations across the subsamples are shown in Tables 6, 8, 10, 7, 9, and 11 in the appendix.

In Table 8, I present descriptive statistics for the dependent variables by groups of proportionality. We see that there are no significant differences in the empirical distributions of these variables between the groups that account for the diversity of effects that we observe.

Table 8: Descriptive statistics of the dependent variables by groups of proportionality

	Unweighted Party Extremism			Weighted Party Extremism		
Gallagher Index	(1.33, 5.845]	(5.845, 8.2]	(8.2, 19.13]	(1.33, 5.845]	(5.845, 8.2]	(8.2, 19.13]
Mean	3.78	3.71	3.70	3.49	3.14	3.17
Std. Dev.	1.20	1.27	1.27	1.15	1.35	1.23
Skewness	-.07	.38	.20	.20	.71	.50
Kurtosis	2.43	3.14	2.85	2.62	3.51	4.33
No. Obs.	140	151	149	140	151	149

The significant role of public funding seems to be restricted to the cases of countries characterized by the high value of the Gallagher proportionality index. For these cases, large parties retain advantage by virtue of the fact that the electoral system is disproportionate, forcing the smaller competitors to adopt extreme positions to effectively counter these two combined barriers to entry. Conversely, the effects of ban on corporate donations and ceilings on contributions are significant only for the countries characterized by the lower index of proportionality.

5. Normative implications

The model that I have used does not have welfare predictions. However, we would like to know whether convergence or divergence of policies is socially preferable. A difficulty in deriving welfare conclusions is that campaign contributions come from groups of voters whose preferences can be at odds with one another. A welfare measure would therefore have to reconcile the different preferences of voters regarding policy outcomes. Because of valence differences, low-valence parties move away from the median voter. Given the quadratic loss function, if there were no valence effects, convergence of party platforms would be social-welfare improving. However, with valence entering the utility of voters, social welfare consequences of convergence and divergence are complex.

In the empirical model, I did not assume any specific distribution of voters' preferences, however I did assume that the median voter's preferences lie in the middle of the scale, which implies that the distribution of preferences is symmetric. Therefore, if the welfare measure is a utilitarian social welfare function, we may conclude that divergence of policies from the median voter's preferences necessarily decreases social welfare.

Design of policy can take into account the result that public funding of parties leads to divergence of party platforms from the median voter's ideal policy, if the median voter is regarded as having socially desirable preferences. On the other hand, I showed that ceiling on individual con-

tributions moves the platforms toward the median position. These results can serve as a guideline for policy with regard to funding of political parties, based on presumptions about the role of the median voter in determining socially optimal policy.

6. Conclusions

The results show that there is a significant correlation between certain provisions of campaign financing law and policy convergence in the spatial context. I find a robust effect that a ceiling on individual contributions is associated with more convergent platforms. Direct public funding, on the other hand, is associated with more divergent policies. This effect is stronger in the cases of countries characterized by high disproportionality of the electoral system, favoring well–known competitors. Additionally, I find that a ban on corporate donations is not an effective tool for fighting interest groups' influence on platforms, as it decreases the extent to which the state is able to control the sources of income. Please note that I interpret the empirical findings in light of the theory of **?** and **?**, but these results *per se* do not provide the test of the theory, as valence is not a part of the empirical model. Assuming, however, that the valence theory is correct, it offers a sound and consistent economic explanation for the effects observed in the data.

The results have major policy implications. As noted in the introduction, theoretical scholars argue that public funding can serve as a device to freeze party competition. The results presented in this work show that this actually might be true. More precisely, that the proportionality of funding pushes less–known parties away from the median voter so that they cannot effectively compete against the well–established parties. Apparently, this mechanism has a stronger effect than the purification of funding from the influence of the interest groups. This result shows that the policymakers might need to reconsider the mechanism of party financing toward one that is more egalitarian.

In this study, I focused only on the effect that various institutions have on parties' positions. However, as noted, these institutions are most probably endogenous with respect to variables describing the quality of governance and party extremism. There may be other determinants affecting the decision to introduce certain measures. These are not analyzed herein and their examination is left for future work. Another way that the theoretical predictions of **?** could be tested is to analyze directly the campaign expenditures for individual parties on their positions in the issue space. However, in many countries there are no rules for public disclosure of expenditure statements, and in some cases there is no obligation at all to register campaign expenditure. As

a result, access to the necessary data will be limited to countries in which such rules are in place.

Another way to improve on the quality of estimates would be to broaden the sample of the countries tested. This would be subject to certain shortcomings, however. The sample comprises well–developed countries for which one has access to credible data regarding electoral law and the positioning of platforms. Broadening the sample would require the inclusion of less–developed countries with potentially unstable political situations and a weak enforcement of law. This could introduce doubt regarding the quality of data used. One can also criticize the assumption of exogeneity of the level of education. It might indeed have an effect on the demand for regulation, and thus be endogenous with respect to the institutions. Future research on this topic should concentrate on finding the methodology of studying the issue of interdependence between policy divergence and institutions which would account for the endogeneity problem. I am aware that there are limitations to interpretations of coefficients estimated in this study, but as stated this is a first attempt to test empirically the role of diverse campaign law institutions on policy positions of parties. Concern must be given to the issue of potential endogeneity of the ban on corporate donations and the practical enforcement of campaign law provisions.

Acknowledgments

This work emerges from my doctoral dissertation written at the Department of Economics, University of Vienna under the supervision of Dennis C. Mueller and Gerhard Sorger. I thank them for vital comments and assistance. The study earned the Wicksell Prize 2011 for the best paper by a young economist by the European Public Choice Society. An earlier version of this paper was presented at the meeting of the Scottish Economic Society 2011, the Public Choice Society Meeting 2011, and the annual meeting of the European Public Choice Society 2011. I am grateful to the participants of these events and especially to Karl Schlag, Arthur Schram, and Emanuel Gasteiger for their helpful comments. I thank Heinrich Ursprung and Arye L. Hillman for their valuable assistance. I also thank the two anonymous referees who contributed their valuable input.

Appendix: Tables

Table 1: Sources of data on institutions

Funding of Political Parties and Election Campaigns	?
Party and Campaign Funding in Eastern Europe: A Study of 18 Member Countries of the ACEEEO	?
Money in politics: a study of party financing practices in 22 countries	?
Evaluation Report on Slovenia on Transparency of Party Funding	?
Evaluation Report on the United Kingdom on Transparency of Party Funding	?
Evaluation Report on Luxembourg on the Transparency of Party Funding	?
Evaluation Report on Turkey on Transparency of Party Funding	?
Evaluation Report on Greece on Transparency of Party Funding	?

Table 2: A list of countries in the sample

Albania	Greece	Norway
Australia	Hungary	Poland
Austria	Iceland	Portugal
Belgium	Ireland	Romania
Bosnia	Israel	Russia
Bulgaria	Italy	Serbia
Canada	Japan	Slovakia
Croatia	Latvia	Slovenia
Cyprus	Lithuania	Spain
Czech Republic	Luxembourg	Sweden
Denmark	Macedonia	Switzerland
Estonia	Malta	Turkey
Finland	Moldova	Ukraine
France	Netherlands	United Kingdom
Germany	New Zealand	United States

Table 3: Correlations between the instruments and the measures of governance quality

	GE[a]	CC[b]	RL[c]
Urbanization	0.46	0.47	0.41
Education	0.62	0.60	0.57

[a]Government effectiveness
[b]Control of corruption
[c]The rule of law

Table 4: Unweighted party extremism divergence – proportional representation countries

Dependent variable	Unweighted party extremism				
	Pooled OLS[a]	Pooled 2SLS[b]	Dimension Effects G2SLS		Country effects G2SLS
			RE	FE	RE
Ceiling on Contributions	-.33***	-.34	-.42**	-.44**	-.37
	[-2.72]	[-1.54]	[-2.29]	[-2.37]	[-1.40]
Public Disclosure	.27	.27**	.34**	.36**	.22
	[2.29]	[1.96]	[2.22]	[2.29]	[1.02]
Direct Public Funding	.72***	.72***	.79***	.82***	.64***
	[3.66]	[3.74]	[5.27]	[5.44]	[3.01]
Ban on Corporate Donations	.25*	.25*	.29**	.27**	.34*
	[1.79]	[1.83]	[2.34]	[2.14]	[1.91]
Post–communist	-.09	-.09	-.54***	-.61***	-.10
	[-.74]	[-.75]	[-3.65]	[-3.90]	[-.64]
Effective number of parties	.06*	.06*	.08***	.09***	.06
	[1.69]	[1.69]	[2.73]	[2.83]	[1.38]
Ethnolinguistic fragmentation	.52	.54	.43	.38	.56
	[1.25]	[1.37]	[1.45]	[1.25]	[1.33]
Constant	2.77***	2.77***	2.92***	2.77***	2.85***
	[9.04]	[9.25]	[9.68]	[11.03]	[8.21]
(Pseudo) R^2	.06	.06	.05	.05	.07
Cragg–Donald F–stat.[c]	–	98.564	98.564	91.605	98.564
Hansen–Sargan p–value	–	.13	.17[d]	.40[e]	.19
Hausman p–value	–	–	0.386		–
Obs.	376	344	344	334	344

[a]t-Stat. in brackets, Significance: *** 1 percent, ** 5 percent, * 10 percent
[b]z-Stat. in brackets
[c]**?**
[d]RE Sargan statistics obtained with **?**
[e]FE Sargan statistics obtained with **?**

Table 5: Weighted party extremism divergence – proportional representation countries

Dependent variable	Weighted party extremism				
	Pooled OLS[a]	Pooled 2SLS[b]	Dimension Effects G2SLS		Country effects G2SLS
		RE	FE	RE	
Ceiling on Contributions	-.13	-.57**	-.64***	-.65***	-.61*
	[-1.00]	[-1.99]	[-3.26]	[-3.28]	[-1.92]
Public Disclosure	-.06	.17	.37**	.41**	.21
	-.40	[.82]	[2.26]	[2.46]	[.82]
Direct Public Funding	.20	.23	.40**	.43***	.23
	[1.31]	[1.50]	[2.50]	[2.70]	[.93]
Ban on Corporate Donations	.35**	.38**	.34**	.32**	.38*
	[2.14]	[2.20]	[2.56]	[2.39]	[1.76]
Post–communist	-.10	-.06	-.52***	-.62***	-.10
	[-.75]	[-.46]	[-3.38]	[-3.76]	[-.58]
Effective number of parties	-.03	-.02	-.00	.00	.03
	[-.99]	[-.52]	[-.13]	[.05]	[-.63]
Ethnolinguistic fragmentation	.86**	1.11**	1.03***	1.04***	1.16**
	[1.89]	[2.54]	[3.27]	[3.24]	[2.50]
Constant	3.31***	3.31***	3.29***	3.23***	3.40***
	[13.31]	[13.44]	[10.27]	[12.05]	[8.22]
(Pseudo) R^2	.03	.02	.02	.02	.02
Cragg–Donald F–stat.[c]	–	98.564	98.564	91.605	98.564
Hansen–Sargan p–value	–	.86	.99[d]	.91[e]	.85
Hausman p–value	–	–	0.138		–
Obs.	376	344	344	334	344

[a] t-Stat. in brackets, Significance: *** 1 percent, ** 5 percent, * 10 percent
[b] z-Stat. in brackets
[c] **?**
[d] RE Sargan statistics obtained with **?**
[e] FE Sargan statistics obtained with **?**

Table 6: Unweighted party extremism divergence – low disproportionality countries

Dependent variable	Unweighted party extremism				
	Pooled OLS[a]	Pooled 2SLS[b]	Dimension Effects G2SLS		Country effects G2SLS
			RE	FE	RE
Ceiling on Contributions	-.19**	-.47	.02	.00	.11
	[-2.07]	[-.69]	[.06]	[.02]	[.17]
Public Disclosure	.03	.27	.01	.09	-.22
	[.11]	[.44]	[.03]	[.23]	[-.34]
Direct Public Funding	.48**	.45*	.59**	.53*	.51
	[2.01]	[1.85]	[2.01]	[1.79]	[1.16]
Ban on Corporate Donations	.74***	.75***	.65***	.58***	.74**
	[5.51]	[4.97]	[3.13]	[2.85]	[2.25]
Post–communist	-.42***	-.48***	-.79***	-1.06***	-.37
	[-4.33]	[-2.61]	[-2.97]	[-3.56]	[-1.02]
Effective number of parties	-.06	-.06	-.04	-.02	-.06
	[-1.26]	[-1.22]	[-.75]	[-.38]	[-.73]
Ethnolinguistic fragmentation	1.51***	1.22***	.63	.17	1.23
	[3.08]	[3.13]	[.97]	[.25]	[1.41]
Constant	3.54***	3.53***	3.50***	3.38***	3.51***
	[15.81]	[15.94]	[10.00]	[10.71]	[7.42]
(Pseudo) R^2	.08	.06	.06	.05	.07
Cragg–Donald F–stat.[c]	–	24.584	24.584	21.254	24.584
Hansen–Sargan p–value	–	.43	.72[d]	.75[e]	.59
Hausman p–value	–	–	0.850		–
Obs.	140	140	140	136	140

[a] t-Stat. in brackets, Significance: *** 1 percent, ** 5 percent, * 10 percent
[b] z-Stat. in brackets
[c] **?**
[d] RE Sargan statistics obtained with **?**
[e] FE Sargan statistics obtained with **?**

Table 7: Weighted party extremism divergence – low disproportionality countries

Dependent variable	Weighted party extremism				
	Pooled OLS[a]	Pooled 2SLS[b]	Dimension Effects G2SLS		Country effects G2SLS
			RE	FE	RE
Ceiling on Contributions	.12	-1.10	-.67	-.59	-.70
	[.46]	[.75]	[-.96]	[-1.52]	[-.66]
Public Disclosure	.35	-.33	.73	.64	.69
	[1.69]	[-.90]	[.62]	[1.37]	[.85]
Direct Public Funding	.00	-.34	.73**	.73**	.76
	[.00]	[-1.04]	[2.02]	[2.14]	[1.15]
Ban on Corporate Donations	-.26	.24	.25	.38*	.38
	[-1.06]	[1.06]	[.64]	[1.65]	[.89]
Post–communist	.02	.02	-.21	-.63**	.22
	[.25]	[.12]	[-.47]	[-2.22]	[.61]
Effective number of parties	-.09	.01	.03	.12	.12
	[-1.66]	[.18]	[.39]	[1.24]	[.63]
Ethnolinguistic fragmentation	2.41***	2.39***	1.88***	1.63**	2.38***
	[4.23]	[4.96]	[2.94]	[2.48]	[3.00]
Constant	3.41***	3.79***	3.82***	2.31***	1.76
	[10.69]	[13.71]	[11.85]	[3.15]	[1.28]
(Pseudo) R^2	.02	–[c]	.03	.02	–
Cragg–Donald F–stat.[d]	–	24.584	24.584	21.254	24.584
Hansen–Sargan p–value	–	.43	.18[e]	.18[f]	.49
Hausman p–value	–	–	0.894		–
Obs.	140	140	140	136	140

[a] t-Stat. in brackets, Significance: *** 1 percent, ** 5 percent, * 10 percent
[b] z-Stat. in brackets
[c] The model is jointly insignificant.
[d] **?**
[e] RE Sargan statistics obtained with **?**
[f] FE Sargan statistics obtained with **?**

Table 8: Unweighted party extremism divergence – medium disproportionality countries

Dependent variable	Unweighted party extremism				
	Pooled OLS[a]	Pooled 2SLS[b]	Dimension Effects G2SLS		Country effects G2SLS
			RE	FE	RE
Ceiling on Contributions	-.29*	-.76*	-1.08***	-1.07***	-1.09
	[-1.98]	[-1.63]	[-3.12]	[-3.02]	[-1.52]
Public Disclosure	.29	.62*	.70**	.74**	.65
	[1.66]	[1.95]	[2.06]	[2.08]	[.97]
Direct Public Funding	.63**	.70**	.52	.54	.51
	[2.18]	[2.52]	[1.51]	[1.54]	[.71]
Ban on Corporate Donations	.17	.21	.33	.31	.36
	[1.01]	[.97]	[1.48]	[1.33]	[.76]
Post–communist	.10	.10	-.38	-.63**	.07
	[.61]	[.58]	[-1.51]	[-2.12]	[.19]
Effective number of parties	.07*	.09**	.08	.08	.06
	[1.97]	[2.55]	[1.30]	[1.30]	[.50]
Ethnolinguistic fragmentation	.06	.49	.48	.49	.51
	[.09]	[.64]	[.77]	[.78]	[1.35]
Constant	2.63***	2.52***	3.16***	3.27***	2.94**
	[4.58]	[4.76]	[4.48]	[4.71]	[2.07]
(Pseudo) R^2	.03	.01	.02	.02	.02
Cragg–Donald F–stat.[c]	–	26.052	26.052	24.173	26.052
Hansen–Sargan p–value	–	.73	.52[d]	.44[e]	.86
Hausman p–value	–	–	0.865		–
Obs.	151	139	139	134	139

[a] t-Stat. in brackets, Significance: *** 1 percent, ** 5 percent, * 10 percent
[b] z-Stat. in brackets
[c] **?**
[d] RE Sargan statistics obtained with **?**
[e] FE Sargan statistics obtained with **?**

Table 9: Weighted party extremism divergence – medium disproportionality countries

Dependent variable	Weighted party extremism				
	Pooled OLS[a]	Pooled 2SLS[b]	Dimension Effects G2SLS		Country effects G2SLS
			RE	FE	RE
Ceiling on Contributions	-.22	-1.02*	-.97***	-.96***	-.99
	[-1.02]	[-1.65]	[-2.88]	[-2.82]	[-1.40]
Public Disclosure	.21	.76	.87**	.89**	.86
	[.81]	[1.60]	[2.45]	[2.43]	[1.21]
Direct Public Funding	.44	.55*	.73**	.73**	.78
	[1.48]	[1.85]	[2.07]	[2.05]	[1.03]
Ban on Corporate Donations	.49	.43	.45**	.44*	.43
	[1.80]	[1.58]	[1.99]	[1.91]	[.90]
Post–communist	.17	.17	-.36	-.64**	.22
	[1.06]	[.77]	[-1.37]	[-2.17]	[.55]
Effective number of parties	.01	.05	.15	.15	.12
	[.18]	[1.02]	[1.51]	[1.52]	[.59]
Ethnolinguistic fragmentation	.29	1.03	1.05	1.03	1.10
	[.38]	[1.25]	[1.55]	[1.28]	[.79]
Constant	2.46***	2.26***	2.03***	2.25***	1.75
	[3.27]	[4.31]	[2.60]	[2.96]	[1.10]
(Pseudo) R^2	–[c]	.01	.02	.01	.04
Cragg–Donald F–stat.[d]	–	26.052	26.052	24.173	26.052
Hansen–Sargan p–value	–	.59	.36[e]	.32[f]	.80
Hausman p–value	–	–	0.741		–
Obs.	151	139	139	134	139

[a] t-Stat. in brackets, Significance: *** 1 percent, ** 5 percent, * 10 percent
[b] z-Stat. in brackets
[c] The model is jointly insignificant.
[d] **?**
[e] RE Sargan statistics obtained with **?**
[f] FE Sargan statistics obtained with **?**

Table 10: Unweighted party extremism divergence – high disproportionality countries

Dependent variable	Unweighted party extremism				
	Pooled OLS[a]	Pooled 2SLS[b]	Dimension Effects G2SLS		Country effects G2SLS
			RE	FE	RE
Ceiling on Contributions	-.72**	-.53	-.90***	-.99***	-.70
	[-2.02]	[-1.41]	[-2.57]	[-2.63]	[-1.01]
Public Disclosure	-.21	-.25	-.17	-.17	-.20
	[-.32]	[-.60]	[-.48]	[-.44]	[-.28]
Direct Public Funding	1.32**	1.18**	1.39***	1.44***	1.23*
	[2.97]	[2.50]	[3.99]	[3.98]	[1.73]
Ban on Corporate Donations	-.17	.05	-.13	-.14	-.09
	[-.23]	[.07]	[-.25]	[-.25]	[-.08]
Post–communist	.22	-.02	.16	.14	.15
	[.34]	[-.04]	[.33]	[.27]	[.17]
Effective number of parties	-.00	.03	-.06	-.08	.00
	[-.04]	[.13]	[-.34]	[-.51]	[.02]
Ethnolinguistic fragmentation	.31	.25	.14	-.01	.31
	[.66]	[.51]	[.25]	[-.02]	[.29]
Constant	3.13***	2.89***	3.44***	3.39***	3.12***
	[2.85]	[2.57]	[6.07]	[5.99]	[2.82]
(Pseudo) R^2	.15	.15	.15	.14	.15
Cragg–Donald F–stat.[c]	–	123.244	123.244	99.244	123.244
Hansen–Sargan p–value	–	.21	.11[d]	.09[e]	.43
Hausman p–value	–	–	0.996		–
Obs.	133	113	113	105	113

[a] t-Stat. in brackets, Significance: *** 1 percent, ** 5 percent, * 10 percent
[b] z-Stat. in brackets
[c] **?**
[d] RE Sargan statistics obtained with **?**
[e] FE Sargan statistics obtained with **?**

Table 11: Weighted party extremism divergence – high disproportionality countries

Dependent variable	Weighted party extremism				
	Pooled OLS[a]	Pooled 2SLS[b]	Dimension Effects G2SLS		Country effects G2SLS
			RE	FE	RE
Ceiling on Contributions	-.31	-.33	-.29	-.27	-.30
	[-.74]	[-.93]	[-.93]	[-.85]	[-.66]
Public Disclosure	-.54	-.05	.16	.13	.10
	[-.91]	[-.23]	[.47]	[.36]	[.19]
Direct Public Funding	.46	.17	.05	.09	.01
	[1.07]	[.78]	[.17]	[.27]	[.03]
Ban on Corporate Donations	-.18	.49	.88*	.80	.89
	[-.23]	[1.39]	[1.69]	[1.48]	[1.13]
Post–communist	.02	-.34	-.76*	-.71	-.64
	[.04]	[-.81]	[-1.67]	[-1.40]	[-1.02]
Effective number of parties	-.21	-.16	-.19	-.19	-.20
	[-1.39]	[-1.34]	[1.15]	[-1.13]	[-.81]
Ethnolinguistic fragmentation	1.00	1.06*	.93	.65	1.14
	[1.45]	[1.80]	[1.60]	[1.68]	[1.28]
Constant	4.37***	3.82***	4.06***	3.89***	3.99***
	[5.87]	[9.55]	[7.44]	[7.25]	[5.15]
(Pseudo) R^2	.10	.15	.15	.15	.15
Cragg–Donald F–stat.[c]	–	123.244	123.244	99.244	123.244
Hansen–Sargan p–value	–	.49	.33[d]	.28[e]	.65
Hausman p–value	–	–	0.999		–
Obs.	133	113	113	105	113

[a] t-Stat. in brackets, Significance: *** 1 percent, ** 5 percent, * 10 percent
[b] z-Stat. in brackets
[c] **?**
[d] RE Sargan statistics obtained with **?**
[e] FE Sargan statistics obtained with **?**