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**Politically driven cycles in fiscal policy:
In depth analysis of the functional components of government expenditures***

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Abstract

This article analyses the incidence of politically driven cycles on the functional components and sub-components of government expenditures over a group of 18 European countries during the period 1990-2012. An LSDVC estimator is employed in the empirical analysis. The results point out to the presence of political opportunism at aggregated and disaggregated levels of public expenditures, but no significant evidence of partisan or other political effects is found. The expenditure components that have proved to be more related to that behaviour are public services, health, education and social protection. These include items able to generate more visible outcomes to voters and, consequently, of increasing government's chance of re-election.

Keywords: Government Expenditures; Political Cycles; Elections; Europe, Fiscal Policy.

JEL classification: E60, H72, D78.

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1. Introduction

Two commonly held beliefs are that macroeconomic conditions are a relevant determinant of election results, and that governments prefer to stay in office rather than out of office. As a result one should also consider that governments' economic policies are determined by both economic and political considerations. Over the years a significant body of economic and political literature has tried to analyze voters and governments' behaviour in order to unveil the precise nature of the relationship between politics and the economy.

This paper explores the political determinants of fiscal policy choices. Everybody intuitively seems to think that if cutting taxes and entering on a sort of spending frenzy can bring electoral advantages to politicians, then they will actually do it, or at least try to do it. This and other more sophisticated assumptions are put to the test by a vast literature, but in general, an inherent weakness of a significant portion of these studies is that they rely on highly aggregated data, namely total expenditures, total revenues, current expenditures, capital expenditures or public deficits. With this type of data nothing can be said about the way governments allocate their expenditures inside those broad aggregates, hence, the picture researchers are getting is hazy. Assuming that governments actually increase spending in election years, we might immediately ask: in what areas are they spending more? Which components are preferred? Probably not all expenditure components are increased because we know that between buying more submarines or increasing the wages of public servants there is a difference in terms of the electoral output that is generated by each choice. Furthermore, finding evidence (or not) of political manipulations in total expenditures, total revenues or public deficits does not assure similar conclusions when checking inside these big aggregates. This means that the exploration of political cycles on the sub-levels of government expenditures is empirically relevant and can provide a better

understanding of the subject. Also by analyzing the vast range of expenditures that are at the disposal of governments, we are put a step closer to the reality of fiscal choices and policies.

Only a few papers have looked, in the political perspective, to where and how the main components of public expenditures and revenues are allocated (see, for instance: Potrafke, 2010; Katsimi and Sarantides, 2012; Enkelman and Leibrecht, 2013; Morozoumi et al., 2014; and Castro and Martins, 2016). In this paper we go as far and as deep as the available data allows us in order to analyse whether electoral motives and government ideology can be observed at deeper disaggregated levels of public expenditures in a set of developed countries. Hence, using data for 18 European countries over the period 1990-2012, we test for the presence of those effects in the functional components and sub-components of public expenditures. This represents an important step forward relatively to the previous literature, as it allows us to identify (and understand) which items inside the main components of public expenditure are indeed being (or not) politically manipulated by incumbents. A comparison between some sub-groups of countries is also provided.

An LSDVC estimator is used in the empirical analysis and the results point out to the presence of political opportunism at the aggregated and disaggregated levels of public expenditures, but no significant evidence of partisan or other political effects is found. The expenditure components that have proved to be more related to that behaviour are public services, health, education and social protection. These are expenditure components that include items that tend to generate more visible outcomes to voters, which might justify why they are preferred. Hence, a more disaggregated analysis is provided as a way of identifying those components and clarifying that issue.

This article is organized as follows. Section 2 presents a brief review of the relevant literature. Section 3 describes the data and presents the econometric model. The main

results are presented and discussed in section 4. Some robustness checks are provided in section 5 and section 6 concludes.

2. Literature review

The political business cycles and partisan theories are the main theoretical frameworks that indicate how governments affect macroeconomic outcomes. The political business cycles theories are divided into models that assume agents with adaptive expectations (Nordhaus, 1975) and more recent models that adopt rational expectations (Rogoff and Sibert, 1988; and Rogoff, 1990). The main implication of these theories is that all politicians implement expansionary policies before elections with the objective of maximizing their electoral support and after the elections contractionary measures are required to correct the artificial unbalance generated previously. However, the assumption of rational agents tends to reduce this ability of policymaker's to induce the political cycle. Empirical studies suggest that favourable economic conditions benefit governments (Hibbs, 2006) but opportunistic behaviour appears to gather more support in developing countries (see, for instance, Shi and Svensson, 2006; Brender and Drazen, 2008; and Vergne, 2009).

Alternatively, both the adaptive (Hibbs, 1977) and rational (Alesina, 1987; Alesina and Sachs, 1988) versions of the partisan theory view politicians as heterogeneous, arguing that different parties have different policy objectives, behaving, when in office, in a partisan manner. Specifically, left-wing parties are relatively more concerned with unemployment (growth) than with inflation, whereas right-wing parties are especially worried with inflation control. In general, empirical evidence points out that partisan behaviour seems to be more recurrent in developed countries (see Alesina et al., 1992, 1997).

The aim of this paper is to test for the presence of politically motivated cycles in the components of public expenditures. Governments' fiscal policy has been an important topic

in the political and economic literature. Hence, the extension of the traditional approaches to fiscal policy is straightforward: boosts in expenditures and/or revenue reductions prior to elections should signal opportunistic behaviour, while in the partisan perspective left-wing governments are more prone to budget deficits than their counterparts. Rogoff and Sibert's (1988) seminal model of political budgetary cycles is an adverse selection model underlining competence and asymmetric information. A further refinement made by Rogoff (1990) highlighted the need to search budgetary cycles inside the broad aggregates, especially in the composition of government spending. The model considered that the most efficient way for governments to signal competence is to divert spending from capital spending to current spending, thus favouring transfers and more visible programs. The idea is to increase those expenditures that send the strongest competence signals to the electorate and preferably those that are also noticeable immediately.

Both at national and multi-national level, empirical results have provided evidence of political fiscal policy manipulation. Shi and Svensson (2002a, b; 2006), using multi-country data, consistently capture political budget cycles and show that the effect is significantly stronger in less developed countries. For a set of developed countries, Persson and Tabellini (2003) find a political revenue cycle but not a political cycle in expenditures, budget or transfers. Focusing on EU countries, Andrikopoulos et al. (2004) also do not find a fiscal electoral cycle. However, Mink and de Haan (2006) report a budget deficit increase in electoral years in EU member states. They also show that left governments are slightly more prone to deficits than their counterparts. Efthyvoulou (2012) also concludes that governments across the EU tend to generate budgetary opportunistic cycles, but that these tend to be much larger in the Eurozone countries.

In this paper go inside the main budget aggregates and analyze whether political motives can be observed at deeper levels of European countries' public expenditures.

Akhmedov and Zhuravskaya (2004), Veiga and Veiga (2007), Drazen and Eslava (2010), Aidt et al. (2011) and Sakurai and Menezes-Filho (2011) found political opportunism at aggregated and disaggregated levels of public expenditures in Russia, Portugal, Colombia and Brazil, but restricted to the local/municipal level of government.¹

At the national level, the results found by Blais and Nadeau (1992) for Canada suggest a short pre-electoral cycle observable on road expenditures and social services. Also considering an economic decomposition of public expenditures, Katsimi and Sarantides (2012) and Morozoumi et al. (2014) show that elections tend to shift public spending towards current expenditures at the cost of public investment using a panel of countries. Brender and Drazen (2013) also disaggregate public spending but building a composite index, which does not allow us to identify what spending components are affected and how in election years.

Looking at functional components of public expenditures, Potrafke (2010) finds that incumbents increase the growth of public health expenditures in election years, while Enkelman and Leibrecht (2013) conclude that election cycles are mainly found in the new democracies of Eastern Europe and in categories such as social welfare, general public services, environmental protection and infrastructures. Finally, Castro and Martins (2016) found political opportunism in health, social welfare and general public services when analysing Portuguese public expenditures.

In this paper, we take a step forward in the analysis of politically driven cycles by looking for their presence in a panel of European countries at the level of the functional components of government expenditures and, most importantly, at the deeper level of their

¹ In particular, Akhmedov and Zhuravskaya (2004), Veiga and Veiga (2007) and Drazen and Eslava (2010) provide evidence of a strategic opportunistic behaviour in the composition of local/municipal (investment) expenditures, especially in highly visible items to the electorate: infrastructure spending, buildings, roads and general constructions.

sub-components. The exploration of political cycles in the sub-levels of government expenditures is expected to provide a better understanding of the politically motivated cycles. As far as we are concerned, no other study has dig so deep inside public expenditures to unveil the hidden complexity of politically driven cycles. Furthermore, by analyzing the vast range of expenditure components at the disposal of governments, we can become more aware of the reality of fiscal choices and public policies.

3. Data and model specification

To explore the presence of opportunism and partisan effects in the composition of government expenditures, we collected annual data for 18 European countries over the period 1990-2012.² These data were obtained from the Eurostat Database.

The analysis developed in this study is based on a break-down of government expenditures as defined by the OECD in its Classification of the Functions of the Government (COFOG).³ It classifies government expenditure data from the System of National Accounts by the purpose for which the funds are used, also called functional decomposition. The first-level of this classification splits public expenditures into ten functional components: (i) general public services; (ii) defence; (iii) public order and safety; (iv) economic affairs; (v) environmental protection; (vi) housing and community amenities; (vii) health; (viii) recreation, culture and religion; (ix) education; (x) social protection. The second-level disaggregates each first-level group into up to nine sub-components.

² The countries (data availability) considered in this study are: Austria (1995-2012), Belgium (1990-2012), Denmark (1990-2012), Finland (1990-2012), France (1995-2012), Germany(1991-2012), Greece (1990-2012), Iceland (1998-2012), Ireland (1990-2012), Italy (1990-2012), Luxembourg (1990-2012), Netherlands (1995-2012), Norway (1990-2012), Portugal (1990-2012), Spain (1995-2012), Sweden (1995-2012), Switzerland (2005-2012), United Kingdom (1990-2012).

³ See, for example, OECD (2015): Government at a Glance.

The total general government expenditures (*TotExpd*) and each of those ten components (and respective sub-components) are used as dependent variables in this analysis.⁴ Following Alesina et al. (1997), some political variables were added to the dataset to control for opportunistic and partisan effects and for political support: (i) a dummy variable that takes the value of 1 in the year of national legislative elections, and 0 otherwise (*ElectYr*); (ii) a dummy variable that takes the value of 1 when there is hegemony or dominance of left-wing parties in the cabinet, and 0 otherwise (*LeftGov*); (iii) and a dummy variable that takes the value of 1 when a single party or coalition has majority in the parliament, and 0 otherwise (*MajGov*). The data for these variables were collected from the Comparative Political Data Set I.⁵ Additionally, we also obtained data from the Eurostat Database to control for the economic environment using the unemployment rate (*Unemp*), and for demographic issues or country-dimension considering its population (*Pop*). A complete description of the variables and some descriptive statistics can be found in Tables A.1 and A.2 in Annex.

Looking at the descriptive statistics (see Table A.2 in the Annex) we observe that, on average, the total real government expenditures per capita in the group of countries analysed is close to 14 thousand of Euros, while the components in which governments tend to spend more are public services, economic affairs, health, education and social protection. Therefore, we expect that these components might be the ones in which the government has more margin to act politically. This is a hypothesis that we intend to test in our empirical analysis.

⁴ See Table 1 for the definition of each component and sub-component.

⁵ *LeftGov* was computed from the *gov_party* variable in the CPDS database (it is equal to 1 when *gov_party* is equal to 4 and 5, i.e. when there is dominance or hegemony of left-wing parties). *MajGov* was computed from the *gov_type* variable in the CPDS database (it is equal to 1 when *gov_type* is equal to 1, 2 and 3, i.e. government formed with a party(ies) with a majority of seats in the parliament).

We employ a dynamic panel data model to test for the predictions of the opportunistic and partisan theories on the components (and sub-components) of government expenditures:

$$\text{LnExpdC}_{it} = \alpha + \gamma \text{LnExpdC}_{it-1} + \beta_1 \text{ElectYr}_{it} + \beta_2 \text{LeftGov}_{it} + \beta_3 \text{MajGov}_{it} + \delta_1 \text{Unemp}_{it} + \delta_2 \text{LnPop}_{it} + v_i + e_{it} \quad (1)$$

where $i=1, \dots, 18$, $t=1990, \dots, 2012$; the natural logarithm of ExpdC_{it} represents the log of one of the components (or sub-component) of government expenditures. The coefficient on the lag of the dependent variable (γ) measures its persistence, while the coefficients β_1 , β_2 , β_3 measure, respectively, the impact of the opportunistic, partisan and political support effects on the expenditure components; δ_1 and δ_2 are the coefficients for the additional economic and demographic controllers. Regarding the last components, v_i is the individual effect of each country i , and e_{it} is the error term.⁶

Given the presence of individual effects v_i , the model can be estimated assuming that those effects as fixed or random. However, the lagged value of the dependent variable would be correlated with the error term even if the latter is not serially correlated. This implies that OLS estimates (random or fixed effects) will be biased and inconsistent. Although the fixed effects estimator gains consistency as the number of time periods increases, in our analysis its number is not big enough ($T=23$) to rely on its estimates.

The estimators that take into account that bias can be grouped into: (i) instrumental variables estimators; (ii) and bias-corrected estimators. According to the large sample properties of the generalized method of moments (GMM), the dynamic estimator proposed by Arellano and Bond (1991) is adequate when there is a clear dominance of cross sections

⁶ Time dummies and a time trend were also considered in other specifications but as they have proved not to be relevant they are not included in our baseline model. Moreover, our results and conclusions do not change with their inclusion. Those results are not reported here, but are available upon request.

over time periods in the sample. This is not the case in our panel, in which the cross sectional dimension is small ($N=18$), and about the same as the number of time periods ($T=23$). This means that dynamic panel data estimator developed by Arellano and Bond (1991) is not the most suitable procedure to solve the problem. More specifically, given our panel structure, it will also be biased if employed to this analysis. Hence, a bias-corrected estimator is more appropriated here. Therefore, we apply Bruno's (2005a, b) bias-corrected least squares dummy variable estimator (LSDVC) for dynamic panel data models with small N (and not large enough T). In the regressions, we employ the Blundell and Bond (1998) estimator as the initial estimator. In this case the instruments are collapsed as suggested by Roodman (2009), which makes sure that we avoid using invalid or too many instruments. Following Bloom et al. (2007), we undertake 50 repetitions of the procedure to bootstrap the estimated standard errors.⁷ The empirical results from panel data analysis using the LSDVC estimator are presented and discussed in the next section.

4. Empirical results

The results from the estimation of political opportunism and partisan effects in the components of public expenditures are presented in Table 1. We start by inspecting whether those effects are present at the aggregated level, i.e. in total general government expenditures. We use the natural logarithm of its real value per capita ($LnTotExpd$) as it allows us to easily and intuitively interpret the results in terms of percentages and mitigate possible heteroscedasticity problems in the error term (Wooldridge, 2013, p. 278).

⁷ Bootstrapping the standard errors is a common practice when this estimator is applied because Monte Carlo simulations proved that the analytical variance estimator performs poorly for large coefficients of the lagged dependent variable (see Bruno, 2005a, b). We should also stress that our results do not qualitatively change with more repetitions (100, 200 or even 500) or when the Arellano and Bond (1991) or Anderson and Hsiao (1982) estimators are used as initial estimators.

[Insert Table 1 around here]

The results presented in column (1) show that governments tend to increase total public expenditures (per capita) by about 1.3% during election years (*ElectYr*). These results are in line with the findings of other studies focusing on the UE (Mink and de Haan, 2006; and Efthyvoulou, 2012). Nevertheless, no effects are found in terms of government orientation (*LeftGov*) or political support (*MajGov*). Therefore, no matter whether a right-wing or left-wing government is in office, or whether it has a ruling majority or not, the behaviour is always the same: acting opportunistically to increase the chances of winning the elections. Additionally, we also observe that public expenditures are behaving procyclically – contrary to the Keynesian view – as they tend to increase (decrease) when the economic situation improves (deteriorates): for each percentage point increase in the unemployment rate (*Unemp*), total public expenditures per capita decrease by more than 0.5%. The demographic conditions, here measured by the natural logarithm of total population (*LnPop*), have not proved to be relevant for the level of total government spending per capita.

Empirical studies using this level of data aggregation on fiscal variables clearly dominate the literature and are consistently finding politically driven budgetary cycles. However, their findings do not say how policymakers use public expenditures to generate their expected outcome at the ballots. The results in column (1) do not allow us to figure out which components of public expenditures are being employed opportunistically near the elections. Moreover, they cannot also guarantee the complete absence of partisan movements inside the total expenditure aggregate.

Hence, following Rogoff (1990) – who has already highlighted the need to search budgetary cycles inside the broad aggregates, especially in the composition of government

spending – we consider the ten functional components of government expenditures (as defined by the OECD) to uncover this reality. The results are presented in columns (2)-(11) of Table 1 and clearly indicate that the functional items in which expenditures are increased during elections are public services, health, education and social protection.⁸ These are the items in which governments tend to spend more in proportion to the total expenditure (as it is clear in the descriptive statistics – see Table A.2). Hence, the results confirm our hypothesis: the bigger categories of public expenditure are especially targeted by opportunistic governments. The results also seem to conform to the theoretical expectations because of the strong positive signalling to voters and the quick visibility that characterizes these categories. Nevertheless, only the reasons behind the opportunistic boost of public services seem a bit unclear. As this category includes transfers of a general character between different levels of government, it is possible that increased spending in this sub-category may be happening in election years because they may be related to the quick conclusion of infrastructures (at the local or regional level) that can be beneficial to the government's popularity, or to other highly visible items like, for example, the sponsorship of cultural and/or recreational local events.

However, similarly to the findings for total expenditures, no effects are found regarding the political orientation and support of the party(ies) in office. This means that spending preferences seem to converge across governments while ideology retires to the background.

When we look at the impact of the controllers, a worse economic environment has a negative impact in the almost all the components, except in public services. In this

⁸ Like for total expenditures, the natural logarithm of each expenditure component is used as dependent variable, which makes its interpretation easier. In particular, during election years spending in public services per capita tend to be 3.5% higher. Moreover, smoothing the scale of measure of the dependent variable, using logs, can also mitigate possible heteroscedasticity problems in the error term (see Wooldridge, 2013, p. 278).

particular case, an increase in the unemployment rate generates an increase in public services (in line with the Keynesian view), which, as we will verify later, might be related to an increase in public debt transactions due to the economic slowdown. However, in general, expenditures tend to decrease when the economic conditions deteriorate. Regarding the demographic scale effect, we find that per capita expenditures on public services, economic affairs and housing tend to increase with the population (a higher population demands for more spending per capita in this fields), while spending on recreation and education per capita presents the opposite effect (items in which economies of scale are easier to reach).

Finally, total government expenditures and all the components exhibit a reasonable degree of persistence, as the coefficient associated to the respective lagged dependent variables is always highly significant. Hence, this evidence supports the use of our dynamic panel framework.

However, we reach a point in which we are tempted to ask which items, deep inside of each component, are being indeed opportunistically manipulated? If we are able to uncover that mystery we can have a clearer picture of this behaviour. This is something that, as far as we are concerned, no study has yet considered. To proceed with this analysis, we collected data on items or sub-components of each component of public expenditures available from the Eurostat database, even though they present a shorter time span (1995-2012) than the previous data and also some missing data for a few countries/components. Nevertheless, we ended up with reasonably good sets of panel data for each sub-component, which allows us to proceed with a more fine-tuned empirical analysis. The results are presented in Tables 2 and 3. The structure of the model used in these estimations remains identical to the analysis for the first level components, in the sense that each

equation is related to the respective sub-component and estimated using the LSDVC estimator over the same political variables and controllers.

[Insert Table 2 around here]

[Insert Table 3 around here]

A primary interest regarding these results is to see the origin of public services' electoral importance. Both Enkelman and Leibrecht (2013) and Castro and Martins (2016) find it to be strongly significant. Unfortunately, data on transfers of a general character between different levels of government (*TransfGen*) are missing or of poor quality for most countries, which made it impossible to test our earlier hypothesis. Available results show that the only statistically relevant sub-component is expenditures on executive and legislative organs, financial and fiscal affairs and external affairs (*ExecAff*) and that opportunism is the only effect found. When we look at the expenditures lodged in this sub-item (see Eurostat, 2011) we conjecture that the management costs of public funds and public debt may be increasing in electoral years. That might be the case, not just because this sub-item is associated with the ability to increase spending in other categories but also because the Eurostat states that the interests connected to delayed debt payments are often included in this sub-category. Debt payments in electoral years are probably not in the best interest of opportunistic governments as they tend to divert resources from electorally efficient spending. Another source of extra spending in this sub-category is related to physical amenities provided to the chief executive, the legislature and their aides, and to commissions and committees created by the chief executive. Normally politics intensifies in electoral years, so one should expect to see an increase in those expenditures, although,

per se, they probably cannot account for a political cycle, more so because they may or may not be electorally driven.

For the controllers the results are in line with the expectations and with the ones obtained in the *PubServ* equation in Table 1. Here we confirm that the unexpected positive impact of *Unemp* on *PubServ* might be due to the pressure that a worse economic environment puts on public debt transactions (*DebtTrs*). In the other items the impact is negative as expected.

Regarding the sub-components of expenditures on defence, the results indicate no presence of opportunistic, partisan or political support effects in any of them, which is in line with the findings reported in Table 1 for defence (the same can be said for the controllers). However, when we look at the results for public order and economic affairs we are faced with two interesting surprises: even though no evidence of opportunism is found for each of those components, when we dig deeper we find that expenditures in police services (*Police*, in public order) and in agriculture, forestry, fishing and hunting (*Agric* in Economic Affairs) are significantly increased during election years (2.5% in the first sub-item and 6.1% in the second). Probably governments want to reinforce their popularity within the workforce of these sectors and also with the increased spending on police they want to signal competence and increase the voters' sympathy towards them by assuring more general safety in election years. No other political effects are found and the signs and significance of the coefficients on the controllers are, in general, consistent with the ones reported in Table 1 for each component. The same happens for the controllers in the environmental protection items. However, despite no opportunistic effects are found, left governments seem to spend more on other expenditures of that component (*OthEnvir*). On the contrary, left (and majority) governments tend to spend less in community development (*ComDev*) in what concerns to housing and community amenities (see Table 3).

The expenditure component in which more political opportunism is found in its items is health. As far as our disaggregated analysis goes, per capita expenditures in all items of health tend to increase significantly in years of elections, ranging from estimated rises of 2.5% in hospital services (*HospServ*) to 7.1% in medical products, appliances and equipment (*MedProd*). The strategy of providing better health care to the populations in election years is consistent with political opportunism as it can improve governments' popularity in all segments of the voting population. Additionally, we also find some partisan effects: left-wing governments spend more on public health services (*PubHlth*) and on research and development in health (*HlthRD*) than centre or right-wing parties. Although these partisan results conform to the theoretical expectations, the regression for the component itself only shows opportunistic effects (see Table 1). It is only when we dig deeper in the analysis of its sub-components that we realise the real importance of the opportunism and are able to extract some partisan effects. Taking into account not only the case of health expenditures, but also public order and economic affairs (analysed above), it seems that some of the more aggregated data conceals the political manipulation of public expenditures. It is only when we look "under the microscope" that we really become aware of some important aspects of government's behaviour regarding fiscal policy.

Recreation remains a component in which, even disaggregating the analysis for its components, no significant political effects are found. On the contrary, for education and social protection we have some interesting results. First, it has become clear that most of the opportunism on expenditures in education is related to an increase in pre-primary and primary education (*Prim*) during election years. This is the basis of all educational system and voters tend to take a special attention and be very concerned with the quality of education of their young children (qualification of the teachers, infrastructures, materials,...). Second, some partisan effects are found for secondary (*Second*) and general

education expenditures not defined by level (*Genr*), sub-components of education in which left-wing governments tend to spend more. Third, our results also point out that majority governments are more prone than minority ones to cut expenditures at higher levels of education (*Tert*).

Another universally accepted “good” policy that tends to provide dividends at the ballots is to improve the protection of the sick and of those with disabilities. Our results show that these expenditures are higher during election periods (*SickDis* in social protection). Despite no significant opportunism is found in unemployment protection (*UnemPrt*), our results indicate that they tend to increase when the unemployment rate rises, which, in the particular case of this item, is in line with what we would expect. We should note that regarding the other items, a deterioration of the economic activity has as consequence a cut in their spending.

Apart from these findings, no other results are found. Nevertheless, we should stress that the lack of information for some countries in some sub-components and the shorter time period might affect the quality of the results in comparison with the ones obtained for the main components. However, the results for the sub-components are, in general, qualitatively, quantitatively and statistically consistent with the ones for the respective components of public expenditures. Most importantly, they provide a rich set of outcomes that help us get a clearer view of where the political manipulation of expenditures actually happens.

5. Robustness checks

To check the robustness of our results we decided to separate the analysis into three blocks or sub-groups of countries. The first sub-group that we consider is formed by Nordic countries (Denmark, Finland, Iceland, Norway and Sweden). These are considered to have

well established democracies, with a long tradition and have the reputation of being more concerned in keeping public accounts balanced. On the opposite side – not only geographically – we have the South European countries (Greece, Italy, Portugal and Spain), which are characterized by more unstable and younger democracies, that traditionally exhibit more unbalanced public accounts and growing public debts. In the middle, we have the remaining group of Central European countries (Austria, Belgium, France, Germany, Ireland, Luxembourg, Netherlands, Switzerland and the United Kingdom), also with well-established democracies as the Nordic, but with their own specificities and with a different agenda in what concerns to promote balanced public accounts. The idea here is twofold: (i) infer the presence of political opportunism (and possible partisan effects) in each of these three sub-groups; (ii) and emphasize the differences between them.

A first glance at the results reported in Table 4 reveals three interesting aspects. The first is that if we would focus only on the outcomes for total expenditures (column 1) we would conclude that no evidence of political effects is found for the Nordic countries. In fact, majority governments seem to be more prone to environmental and cultural/recreational spending, and some evidence of opportunism is also found in public services for this group of countries. It seems that Nordic countries have been successful in mitigating that electoral effect over total spending – probably with adjustments in the other components – while Southern countries do not. Secondly, this opportunism in general public services is common to all three groups of countries. Thirdly, following Brender and Drazen's (2005) claim, one would expect that Southern European countries, as younger democracies with a more pronounced history of unbalanced public accounts, might be characterized by a higher degree of political manipulation. However the majority of the opportunistic effects are found in the more established democracies of central Europe. Also the partisan effects found seem to be exclusive to this subset: left-wing governments are

more prone to increase total spending and expenditures in public order, recreation, education and social protection. Finally, in what concerns to the other coefficients (controllers, persistence,...), the results do not change much in comparison with the ones presented in Table 1 for all the countries.

[Insert Table 4 around here]

Similarly to what we did for the sample of all countries, we also tried to check political effects at a deeper disaggregated level (sub-components). Those results are presented in Table 5. Only the estimates for the political variables are reported to save space, but the missing results for the controllers are available upon request.

The results offer a great deal of extra information and in general confirm the findings reported in Table 3 for the sample of all countries. We can highlight some of the information that seems particularly interesting. Expenditures on executive affairs (*ExcAff*) remain as the item of public services in which a more significant rise is felt during election years, and continues to be common to all three sub-groups of countries. Nordic countries do not present additional significant increases in other sub-components of public expenditures. On the contrary, our results show that during election periods they cut spending on other public order expenditures (*OthPO*), waste water management (*WastWat*) and housing development (*HousDev*). As we pointed out above, this behaviour might be the reason why political opportunism is not found at the aggregated level: they compensate the rise in one item by decreasing the spending in others. Overall, their strategy might be more of reallocating than of increasing spending.⁹

⁹ Morozumi et al. (2014) also find a similar behaviour in established democracies, where governments seem to reallocate expenditure and revenue components in election years, keeping their total levels unchanged.

[Insert Table 5 around here]

On the contrary, Central European governments have a more widespread opportunistic behaviour that involves rises in police spending (*Police*), pollution abatement (*Pollut*), community development (*ComDev*), in all health items, primary school education (*Prim*), sickness and disability (*SickDis*) and family and children expenditures (*Family*) in years of elections. Almost all items related to the components in which political opportunism was identified for this group of countries (see Table 4).

For Southern European countries we uncover some additional opportunism regarding other expenditures items like agriculture (*Agric*), transports (*Transp*), hospital services spending (*HospServ*) and higher education (*Tert*). Undoubtedly, this analysis for the sub-components of public expenditures provides finer details about the way policy-makers try to maximize their chances of reelection that otherwise might remain hidden.

Regarding the partisan effects, they are still present in the group of Central countries, especially in what concern to sub-components of housing, education and social protection (*ComDev*, *OthHous*, *SubServ* and *Survivors*). But they are also observed in some items for Southern and Nordic countries.

We also did some additional sensitivity analysis to verify if our findings were robust to changes in the political variables, in the controllers and to cross effects between the variables (see Tables A.3 and A.4 in the Annex). Specifically, we begin by checking whether governments start to increase expenditures well before the elections year (see top of Table A.3 in the Annex). Thus, we add to the model a dummy that takes the value of one in the year before the elections (*YrBefElect*). The results indicate that governments prefer to act opportunistically in the elections year, and not before. Nevertheless, expenditures on economic affairs present a marginally significant increase in the year before elections, which can indicate that governments might be preparing the field for the election year.

Then, we replaced *YrBefElect* and *ElectYr* by a dummy that takes the value of one in the year after the elections, and 0 otherwise (*YrAftElect*) to test for the presence of a full or complete opportunistic cycle. Apart from defense, the coefficients on *YrAftElect* are all negative (in contrast to the positive ones on *ElectYr*), supporting the pos-electoral predictions of opportunistic models and the results found by Castro and Martins (2016).

Next, instead of using dummies to control for the electoral period, we employ a variable that controls for the timing of the elections by measuring the proportion of time that has elapsed since the last election, i.e. it measures the proportion of time a government is in office in a particular year, since it has been elected (*ElectTiming*).¹⁰ The results remain consistent with the ones discussed above and with the ones reported in Table 1.

Although with the previous changes no significant partisan or political support effects are found, we replaced the dummy variable *LeftGov* by a set of four dummies that act like a kind of fine-tuning for the partisan effects (see Table A.4): *Partisan1* (dummy variable that takes the value of one when there is hegemony of right-wing and center parties in office); *Partisan2* (dummy variable that takes the value of one when there is dominance of right-wing and centre parties in office); *Partisan3* (dummy variable that takes the value of one when there is balance of power between left and right-wing parties in office); and *Partisan4* (dummy variable that takes the value of one when there is dominance of social-democratic and other left parties in office).¹¹ In general the partisan effects found are weak

¹⁰ It is equal to 1 in the election year.

¹¹ The basis-category is *Partisan5* which refers to those governments in which there is hegemony of social-democratic and other left-wing parties. Like the *LeftGov* variable, those five partisan dummies were computed from the variable *gov_party* in the CPDS database.

and no clear (or significant) trends are identified; moreover, no significant effects are observed at the aggregated level (total spending).¹²

Different controllers to our models are also tested (second block of results in Table A.4). Replacing *Unemp* by the growth rate of real GDP (*RealGDPgr*) and *LnPop* by the percentage of people in total population with age lower than 15 (*Young*) and with 65 and over (*Elderly*). Qualitatively, the main conclusions of this study are not affected with the use of these other proxies for economic environment and demographic issues.¹³

As a final exercise, we decided to test the cross-effects between the expenditures components. We replaced the dependent variable in the previous components-equations by the logarithm of the ratio of each component relatively to the others (and to total expenditures). This means that now we are measuring the relative effects between the components when the covariates change. The results are presented in Table 6, but only for the coefficient on *ElectYr*.¹⁴

[Insert Table 6 around here]

Each line in Table 6 presents the political effect for the log of the ratio of the respective component to each of the other components that are in each column. The results clearly show that expenditures in public services increase significantly in elections years relatively to almost all the other components of public expenditures (ranging from 1.8% to

¹² We also replaced *MajGov* by *GovSup>50%*, which corresponds to a dummy that takes value of one when the seat share of all parties in government is higher than 50% (in this case, weighted by the numbers of days in office in a given year), however, no significant effects are found.

¹³ We also tried to test for the interaction effects between *ElectYr* and *LeftGov*, *MajGov* and *Unemp* (or *RealGDPgr*), but the respective coefficients were always statistically insignificant. Those results are not reported here to save space, but they are available upon request.

¹⁴ Each regression was estimated with the same covariates used in our baseline model, but the estimates on their coefficients are not reported here to save space; however, they are available upon request.

3.6%), and inclusive relatively to total expenditures (where the relative rise is of about 2.3%).¹⁵ Overall, the results are consistent in showing public services as the component that is privileged by governments to generate the necessary conditions for them to obtain the required support to win the elections.

6. Conclusions

This paper analyses the presence of opportunism, partisan and political support effects in the functional components and sub-components of public expenditures using data for 18 European countries over the period 1990-2012. The empirical analysis points out to a strong presence of political business cycles at the aggregated and disaggregated levels of public expenditures, contrasting with the weak and limited evidence found for the partisan cycles. Furthermore, some effects would remain undetected if we relied solely on traditional aggregate data. The amount of relevant information found by the in depth analyses of government expenditures is quite significant, enabling us to better understand what is actually being politically driven. The components of public spending identified as being significantly manipulated in election years are: public services, health, education and social protection. These are chosen probably because they aggregate items that tend to generate more visible outcomes to voters. Furthermore, it seems that the bigger categories of expenditure are especially targeted by governments near elections. A deeper analysis of their sub-components reveals more precisely the nature of the expenditures actually increasing in election years. We found that was the case of (i) expenditures on all health items; (ii) expenditures on primary education; (iii) expenditures on sickness and disability. Reinforcing the budget on these categories is seen across all segments of the population as

¹⁵ Note also that health expenditures increase, in election years, relatively to environment, but the effect is only very marginally significant.

a “good” policy, hence increasing governments’ popularity. These are highly visible policies, with quick short term effects and very much consistent with political opportunism.

Our results also show that public services have proved to be the component that is more robust and consistent across alternative model specifications. The only sub-category found to be always targeted in election years is expenditures on executive and legislative organs, financial and fiscal affairs and external affairs. The management costs of public funds and public debt included inside this sub-category might be a relevant source for the cycle found at this level. Hence, this study contributes to the understanding of the hidden complexity of political business cycles hidden inside the main aggregates of public expenditures.

We also conclude that political opportunism in Central European countries ranges over several components, while in Nordic and South European countries it is concentrated in public services. But Nordic countries seem to have been able to mitigate this evidence in total expenditures by making surgical negative adjustments in the other components.

Finally, we also verify that a worse economic environment exerts a negative impact in the almost all the components, while the demographic effects are more or less dependent on the specificities of each component.

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Tables

Table 1. Political opportunism and partisan effects in the components of public expenditures

Dep. Variables: <i>Log of (per capita)</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	TotExpd	PubServ	Defence	PubOrder	EconAff	Environm	Housing	Health	Recreat	Educ	SocProtect
<i>ElectYr</i>	0.013** (0.006)	0.035*** (0.007)	0.005 (0.016)	-0.002 (0.023)	-0.001 (0.024)	0.002 (0.016)	0.009 (0.032)	0.017* (0.010)	0.011 (0.012)	0.013** (0.007)	0.016*** (0.006)
<i>LeftGov</i>	-0.002 (0.009)	-0.001 (0.010)	-0.015 (0.023)	0.049 (0.032)	-0.035 (0.037)	0.031 (0.022)	0.052 (0.043)	0.021 (0.016)	0.018 (0.017)	0.013 (0.010)	0.003 (0.008)
<i>MajGov</i>	0.004 (0.012)	0.021 (0.013)	-0.006 (0.031)	0.009 (0.043)	-0.005 (0.042)	0.003 (0.029)	-0.007 (0.060)	0.002 (0.020)	0.006 (0.022)	-0.009 (0.013)	0.012 (0.011)
<i>Unemp</i>	-0.006*** (0.001)	0.003** (0.001)	-0.010*** (0.003)	-0.007* (0.004)	-0.015*** (0.005)	-0.012*** (0.003)	-0.024*** (0.006)	-0.009*** (0.002)	-0.010*** (0.002)	-0.007*** (0.001)	-0.002** (0.001)
<i>LnPop</i>	0.064 (0.093)	0.166** (0.077)	-0.147 (0.173)	0.055 (0.265)	1.145*** (0.304)	-0.057 (0.203)	0.584* (0.351)	-0.188 (0.156)	-0.345** (0.154)	-0.161* (0.096)	0.063 (0.103)
<i>LnTotExpdpc(-1)</i>	0.934*** (0.026)										
<i>LnPubServpc(-1)</i>		0.940*** (0.024)									
<i>LnDefencepc(-1)</i>			0.817*** (0.034)								
<i>LnPubOrderpc(-1)</i>				0.901*** (0.025)							
<i>LnEconaffpc(-1)</i>					0.542*** (0.043)						
<i>LnEnvironmpc(-1)</i>						0.873*** (0.030)					
<i>LnHousingpc(-1)</i>							0.494*** (0.034)				
<i>LnHealthpc(-1)</i>								0.959*** (0.025)			
<i>LnRecreatpc(-1)</i>									0.960*** (0.024)		
<i>LnEducpc(-1)</i>										0.970*** (0.022)	
<i>LnSocProtectpc(-1)</i>											0.945*** (0.026)
No. Observations	346	346	346	346	344	346	346	346	346	346	346
No. Countries	18	18	18	18	18	18	18	18	18	18	18

Notes: See Tables A.1 and A.2 in Annex. Bootstrapped standard errors are in parentheses; significance level at which the null hypothesis is rejected: ***, 1%; **, 5%; and *, 10%. The logarithm of the real value of each expenditure component per capita is used as dependent variable in each equation. A bias-corrected least squares dummy variable (LSDVC) estimator for dynamic panel data models is employed. The Blundell and Bond (1998) procedure is used as the initial estimator. We undertake 50 repetitions of the procedure to bootstrap the estimated standard errors. The results do not qualitatively change with more repetitions (100, 200 or 500) or when the Arellano and Bond (1991) or Anderson and Hsiao (1982) estimator are chosen as initial estimators.

Table 2. Sub-components analysis (part I)

Dep.Vars.: <i>Log of (p.c.)</i>	1. Public Services							2. Defence					3. Public Order				
	(1.1) ExecAff	(1.2) ForAid	(1.3) GServ	(1.4) BasicRD	(1.5) GServRD	(1.6) OthServ	(1.7) DebtTrs	(2.1) MilDef	(2.2) CivDef	(2.3) FMilAid	(2.4) DefRD	(2.5) OthDef	(3.1) Police	(3.2) Fire	(3.3) Courts	(3.4) Prisons	(3.5) OthPO
<i>ElectYr</i>	0.033** (0.017)	0.039 (0.037)	0.030 (0.031)	-0.016 (0.151)	0.011 (0.049)	0.062 (0.072)	0.011 (0.021)	-0.006 (0.019)	-0.044 (0.072)	0.022 (0.060)	-0.092 (0.072)	0.100 (0.117)	0.025** (0.011)	0.015 (0.016)	0.011 (0.015)	0.002 (0.018)	-0.061 (0.051)
<i>LeftGov</i>	-0.004 (0.021)	0.059 (0.039)	0.007 (0.035)	0.134 (0.172)	0.094 (0.071)	0.091 (0.090)	-0.008 (0.024)	0.008 (0.022)	-0.035 (0.084)	-0.046 (0.087)	-0.054 (0.094)	0.081 (0.123)	0.007 (0.012)	-0.007 (0.017)	-0.017 (0.015)	0.010 (0.020)	0.001 (0.070)
<i>MajGov</i>	0.009 (0.027)	-0.069 (0.056)	-0.086* (0.047)	0.152 (0.173)	0.083 (0.073)	-0.037 (0.101)	0.013 (0.031)	-0.038 (0.029)	0.022 (0.161)	0.049 (0.090)	0.039 (0.122)	-0.120 (0.175)	0.002 (0.015)	-0.033 (0.023)	-0.012 (0.021)	-0.019 (0.027)	0.070 (0.092)
<i>Unemp</i>	-0.008** (0.003)	-0.039*** (0.007)	-0.021*** (0.006)	0.027 (0.026)	-0.025*** (0.010)	-0.012 (0.016)	0.008** (0.004)	-0.011*** (0.004)	0.003 (0.029)	-0.014 (0.012)	0.006 (0.020)	-0.026 (0.026)	-0.008*** (0.002)	-0.011*** (0.003)	-0.012*** (0.003)	-0.010*** (0.003)	0.005 (0.012)
<i>LnPop</i>	0.414 (0.296)	2.689*** (0.613)	0.790* (0.427)	2.908* (1.736)	-0.702 (0.497)	2.644*** (0.802)	0.952*** (0.236)	0.536** (0.249)	-0.416 (1.740)	1.381* (0.819)	0.733 (1.215)	-0.180 (1.425)	0.102 (0.226)	0.771*** (0.237)	0.737*** (0.216)	0.549* (0.296)	-0.274 (0.603)
<i>DepVar(-1)</i>	0.777*** (0.052)	0.621*** (0.051)	0.754*** (0.050)	0.351*** (0.077)	0.931*** (0.039)	0.643*** (0.062)	0.988*** (0.038)	0.778*** (0.052)	0.586*** (0.080)	0.802*** (0.063)	0.740*** (0.060)	0.703*** (0.053)	0.942*** (0.044)	0.816*** (0.037)	0.821*** (0.031)	0.813*** (0.048)	0.872*** (0.045)
No. Observ.	229	223	229	202	198	214	229	229	153	199	184	179	229	229	229	229	223
No.Countries	17	16	17	15	15	15	17	17	13	15	14	13	17	17	17	17	17

Dep.Vars.: <i>Log of (p.c.)</i>	4. Economic Affairs								5. Environmental Protection						
	(4.1) GenAff	(4.2) Agric	(4.3) Energy	(4.4) Constr	(4.5) Transp	(4.6) Communic	(4.7) OthInd	(4.8) EAffRD	(4.9) OthEAff	(5.1) Waste	(5.2) WastWater	(5.3) Pollut	(5.4) Protect	(5.5) EnvirRD	(5.6) OthEnvir
<i>ElectYr</i>	-0.020 (0.073)	0.061* (0.036)	-0.059 (0.080)	0.013 (0.068)	0.028 (0.034)	-0.023 (0.143)	-0.001 (0.040)	-0.028 (0.026)	-0.016 (0.096)	-0.003 (0.043)	-0.106 (0.066)	0.121 (0.086)	-0.060 (0.039)	0.021 (0.069)	-0.010 (0.028)
<i>LeftGov</i>	0.024 (0.084)	-0.012 (0.037)	0.135 (0.088)	0.110 (0.101)	0.013 (0.038)	-0.251 (0.153)	-0.024 (0.048)	0.017 (0.030)	0.088 (0.111)	0.020 (0.048)	-0.099 (0.070)	0.043 (0.152)	0.040 (0.041)	-0.021 (0.103)	0.063** (0.030)
<i>MajGov</i>	0.027 (0.112)	-0.034 (0.048)	-0.033 (0.123)	-0.067 (0.090)	-0.012 (0.051)	-0.066 (0.204)	-0.057 (0.057)	-0.025 (0.040)	0.113 (0.143)	0.053 (0.064)	0.006 (0.097)	-0.146 (0.198)	-0.001 (0.054)	-0.013 (0.126)	0.027 (0.045)
<i>Unemp</i>	0.027* (0.014)	-0.026*** (0.006)	0.006 (0.016)	-0.031* (0.016)	-0.023*** (0.006)	-0.073*** (0.027)	-0.026*** (0.007)	-0.009 (0.006)	-0.032* (0.018)	-0.011 (0.008)	-0.016 (0.011)	-0.047** (0.023)	-0.028*** (0.009)	-0.046*** (0.016)	-0.009* (0.005)
<i>LnPop</i>	2.976*** (1.024)	0.715* (0.389)	1.906* (1.092)	-0.073 (0.869)	1.771*** (0.488)	4.045** (1.632)	0.589 (0.449)	0.394 (0.531)	0.488 (1.177)	1.187** (0.548)	0.533 (0.706)	3.335*** (1.481)	1.299** (0.623)	3.535*** (1.194)	0.785* (0.414)
<i>DepVar(-1)</i>	0.604*** (0.080)	0.506*** (0.062)	0.675*** (0.056)	0.713*** (0.050)	0.623*** (0.065)	0.312*** (0.065)	0.825*** (0.048)	0.925*** (0.054)	0.722*** (0.063)	0.792*** (0.037)	0.839*** (0.054)	0.459*** (0.086)	0.710*** (0.044)	0.554*** (0.075)	0.668*** (0.044)
No. Observ.	229	229	223	222	229	229	222	223	229	229	214	216	222	214	223
No.Countries	17	17	16	16	17	17	17	16	17	17	16	16	16	16	16

Notes: See Tables 1 and Table A.1 in Annex. Bootstrapped standard errors are in parentheses; significance level at which the null hypothesis is rejected: ***, 1%; **, 5%; and *, 10%. Data for *TransfGen*, (in Public Services) and *PubOrdRD* (in Public Order) are missing for most of the countries; the lack of variability makes impossible to run the model for the respective equations.

Table 3. Sub-components analysis (part II)

Dep.Vars.: <i>Log of (p.c.)</i>	6. Housing Amenities						7. Health						8. Recreation					
	(6.1) HousDev	(6.2) ComDev	(6.3) WatSup	(6.4) StrLight	(6.5) HousRD	(6.6) OthHous	(7.1) MedProd	(7.2) OutPServ	(7.3) HospServ	(7.4) PubHlth	(7.5) HlthRD	(7.6) OthHlth	(8.1) Sports	(8.2) Culture	(8.3) Broadcast	(8.4) Religious	(8.5) RecrRD	(8.6) OthRecr
<i>ElectYr</i>	0.022 (0.089)	0.015 (0.087)	0.072 (0.046)	0.019 (0.042)	0.059 (0.103)	0.159 (0.105)	0.071** (0.034)	0.054** (0.027)	0.024*** (0.008)	0.047** (0.024)	0.063** (0.028)	-0.008 (0.050)	0.017 (0.016)	0.016 (0.020)	0.001 (0.085)	0.033 (0.035)	0.010 (0.073)	-0.089 (0.074)
<i>LeftGov</i>	-0.010 (0.122)	-0.266*** (0.099)	0.050 (0.083)	0.044 (0.069)	-0.092 (0.130)	0.055 (0.132)	0.004 (0.052)	0.008 (0.041)	0.001 (0.011)	0.062** (0.030)	0.065** (0.030)	-0.032 (0.058)	0.011 (0.017)	0.029 (0.021)	-0.049 (0.097)	-0.046 (0.056)	0.112* (0.067)	-0.024 (0.091)
<i>MajGov</i>	-0.055 (0.151)	-0.310** (0.135)	-0.038 (0.079)	0.095 (0.090)	0.074 (0.114)	0.330* (0.198)	-0.013 (0.045)	-0.005 (0.036)	-0.011 (0.014)	-0.005 (0.037)	0.004 (0.041)	-0.058 (0.076)	-0.030 (0.024)	-0.027 (0.029)	0.076 (0.121)	-0.084 (0.068)	0.041 (0.090)	-0.152 (0.122)
<i>Unemp</i>	-0.039** (0.018)	-0.022 (0.016)	-0.033*** (0.010)	-0.010 (0.010)	-0.015 (0.020)	-0.001 (0.018)	-0.021*** (0.008)	-0.017*** (0.006)	-0.012*** (0.002)	-0.010** (0.005)	-0.008* (0.005)	-0.005 (0.010)	-0.021*** (0.003)	-0.018*** (0.004)	-0.007 (0.016)	-0.032*** (0.008)	-0.004 (0.014)	-0.029** (0.014)
<i>LnPop</i>	3.042*** (1.068)	-0.068 (0.972)	0.840 (0.668)	0.544 (0.992)	0.387 (1.499)	0.857 (1.780)	0.644 (0.460)	0.560 (0.386)	0.116 (0.164)	0.354 (0.419)	-0.696 (0.461)	1.395* (0.750)	0.161 (0.294)	-0.658** (0.326)	-1.148 (1.070)	-0.851* (0.480)	0.595 (0.816)	-0.706 (0.886)
<i>DepVar(-1)</i>	0.345*** (0.067)	0.939*** (0.040)	0.704*** (0.044)	0.910*** (0.086)	0.780*** (0.067)	0.840*** (0.044)	0.820*** (0.041)	0.888*** (0.043)	0.964*** (0.029)	0.892*** (0.036)	0.991*** (0.042)	0.815*** (0.058)	0.877*** (0.036)	0.811*** (0.047)	0.910*** (0.043)	0.700*** (0.044)	0.645*** (0.048)	0.902*** (0.049)
No. Observ.	227	203	212	145	145	166	222	222	212	223	229	229	229	229	229	225	186	192
No.Countries	17	15	16	11	11	13	16	16	16	16	17	17	17	17	17	17	14	14

Dep.Vars.: <i>Log of (p.c.)</i>	9. Education								10. Social Protection								
	(9.1) Prim	(9.2) Second	(9.3) PosSec	(9.4) Tert	(9.5) Genr	(9.6) SubServ	(9.7) EducRD	(9.8) OthEduc	(10.1) SickDis	(10.2) Olders	(10.3) Survivors	(10.4) Family	(10.5) UnemPrt	(10.6) HousPrt	(10.7) SocExcl	(10.8) SocPrtRD	(10.9) OthSocP
<i>ElectYr</i>	0.019** (0.008)	0.006 (0.009)	0.099 (0.105)	0.013 (0.018)	0.001 (0.031)	0.027 (0.025)	0.007 (0.047)	-0.008 (0.031)	0.022** (0.011)	0.007 (0.011)	0.012 (0.015)	0.015 (0.013)	0.005 (0.026)	0.048 (0.074)	-0.031 (0.040)	0.081 (0.089)	0.011 (0.027)
<i>LeftGov</i>	0.012 (0.009)	0.022** (0.009)	-0.049 (0.123)	0.001 (0.019)	0.122*** (0.047)	0.011 (0.030)	-0.066 (0.069)	0.028 (0.034)	0.005 (0.012)	-0.009 (0.012)	0.026* (0.016)	-0.008 (0.014)	0.030 (0.029)	0.005 (0.121)	0.014 (0.045)	0.168 (0.142)	0.024 (0.031)
<i>MajGov</i>	-0.007 (0.012)	-0.008 (0.013)	0.093 (0.169)	-0.059** (0.025)	0.047 (0.054)	0.043 (0.039)	-0.121 (0.082)	0.007 (0.045)	-0.018 (0.016)	0.006 (0.016)	0.025 (0.021)	0.004 (0.019)	-0.024 (0.039)	-0.027 (0.139)	-0.043 (0.060)	-0.136 (0.135)	0.044 (0.040)
<i>Unemp</i>	-0.010*** (0.001)	-0.009*** (0.002)	-0.043*** (0.016)	-0.008*** (0.003)	-0.001 (0.007)	-0.012** (0.006)	-0.023** (0.010)	-0.012** (0.006)	-0.009*** (0.002)	-0.002 (0.002)	-0.002 (0.003)	-0.020*** (0.002)	0.011** (0.005)	-0.041*** (0.016)	-0.014* (0.007)	-0.022 (0.021)	-0.015*** (0.005)
<i>LnPop</i>	-0.111 (0.146)	0.151 (0.160)	1.210 (1.229)	-0.065 (0.205)	1.009** (0.421)	0.844 (0.525)	-0.002 (0.754)	0.112 (0.465)	0.366* (0.202)	0.645*** (0.214)	0.070 (0.161)	0.333 (0.298)	1.461*** (0.336)	2.357* (1.320)	1.424*** (0.530)	5.232*** (1.648)	-0.108 (0.349)
<i>DepVar(-1)</i>	0.996*** (0.027)	0.915*** (0.035)	0.637*** (0.058)	1.054*** (0.027)	0.593*** (0.042)	0.870*** (0.051)	0.981*** (0.041)	0.896*** (0.051)	0.937*** (0.034)	0.889*** (0.038)	0.980*** (0.029)	0.947*** (0.040)	0.811*** (0.057)	0.661*** (0.060)	0.738*** (0.053)	0.789*** (0.065)	0.939*** (0.035)
No. Observ.	229	229	161	229	216	223	222	229	229	229	229	229	229	212	229	185	229
No.Countries	17	17	12	17	15	16	17	17	17	17	17	17	17	16	17	15	17

Notes: See Tables 1 and 2 and Table A.1 in Annex. Bootstrapped standard errors are in parentheses; significance level at which the null hypothesis is rejected: ***, 1%; **, 5%; and *, 10%. *DepVar(-1)* represents the first lag of the respective dependent variable.

Table 4. Robustness check I: Nordic, Central and South European countries

<i>Log of (p.c.)</i>	TotExpd	PubServ	Defence	PubOrder	EconAff	Environm	Housing	Health	Recreat	Educ	SocProtect
Nordic	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<i>ElectYr</i>	0.002 (0.015)	0.042** (0.018)	-0.018 (0.036)	0.024 (0.019)	-0.022 (0.040)	-0.022 (0.031)	-0.073 (0.078)	0.012 (0.019)	0.022 (0.024)	0.006 (0.018)	0.018 (0.017)
<i>LeftGov</i>	-0.016 (0.020)	0.020 (0.023)	-0.041 (0.048)	-0.023 (0.026)	-0.073 (0.051)	0.016 (0.038)	0.081 (0.098)	-0.004 (0.024)	-0.017 (0.033)	0.001 (0.024)	-0.001 (0.022)
<i>MajGov</i>	0.033 (0.027)	0.029 (0.030)	0.057 (0.067)	0.024 (0.033)	0.068 (0.064)	0.112** (0.050)	0.175 (0.123)	0.015 (0.031)	0.076* (0.044)	0.022 (0.032)	0.027 (0.029)
<i>Unemp</i>	-0.006 (0.004)	0.005 (0.005)	-0.018* (0.009)	-0.011** (0.005)	-0.016 (0.010)	-0.013 (0.009)	0.006 (0.020)	-0.008* (0.005)	-0.010 (0.006)	-0.007 (0.005)	-0.001 (0.004)
<i>LnPop</i>	-0.405 (0.276)	0.173 (0.272)	-1.300** (0.645)	-0.309 (0.337)	-0.734 (0.635)	-1.123** (0.446)	-0.726 (1.184)	-0.533 (0.330)	-0.493 (0.445)	-0.556* (0.317)	-0.404 (0.322)
<i>DepVar(-1)</i>	0.967*** (0.062)	0.929*** (0.083)	0.961*** (0.074)	0.915*** (0.058)	0.604*** (0.103)	0.845*** (0.066)	0.359*** (0.112)	1.001*** (0.051)	0.876*** (0.084)	0.953*** (0.063)	0.994*** (0.067)
No. Observ.	97	97	97	97	97	97	97	97	97	97	97
No. Countr.	5	5	5	5	5	5	5	5	5	5	5
Central	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<i>ElectYr</i>	0.012* (0.007)	0.023*** (0.008)	-0.007 (0.015)	0.016** (0.007)	-0.022 (0.053)	0.011 (0.020)	0.053 (0.034)	0.026*** (0.007)	0.003 (0.009)	0.015** (0.006)	0.018*** (0.007)
<i>LeftGov</i>	0.033* (0.017)	-0.011 (0.015)	0.021 (0.027)	0.029** (0.013)	0.040 (0.088)	0.039 (0.037)	0.098 (0.060)	0.020 (0.013)	0.043** (0.017)	0.028** (0.012)	0.023* (0.014)
<i>MajGov</i>	0.004 (0.022)	0.032 (0.021)	-0.021 (0.039)	-0.006 (0.017)	-0.017 (0.081)	-0.017 (0.052)	0.001 (0.089)	-0.008 (0.019)	0.016 (0.024)	0.002 (0.016)	0.018 (0.017)
<i>Unemp</i>	-0.008*** (0.002)	0.003* (0.002)	-0.005 (0.005)	-0.007*** (0.002)	-0.018* (0.010)	-0.024*** (0.006)	-0.049*** (0.010)	-0.008*** (0.002)	-0.015*** (0.003)	-0.007*** (0.002)	-0.004** (0.002)
<i>LnPop</i>	0.462** (0.191)	0.121 (0.102)	-0.026 (0.171)	0.019 (0.163)	1.624*** (0.475)	0.590* (0.309)	1.459*** (0.401)	-0.100 (0.165)	0.101 (0.218)	-0.101 (0.142)	0.512*** (0.162)
<i>DepVar(-1)</i>	0.806*** (0.056)	0.946*** (0.038)	0.881*** (0.059)	0.920*** (0.045)	0.494*** (0.081)	0.763*** (0.052)	0.380*** (0.056)	0.948*** (0.035)	0.871*** (0.044)	0.967*** (0.037)	0.795*** (0.046)
No. Observ.	167	167	167	167	165	167	167	167	167	167	167
No. Countr.	9	9	9	9	9	9	9	9	9	9	9
South	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<i>ElectYr</i>	0.024** (0.012)	0.050*** (0.016)	0.035 (0.043)	-0.052 (0.098)	0.059 (0.057)	0.010 (0.037)	0.033 (0.075)	0.011 (0.040)	0.026 (0.039)	0.019 (0.018)	0.010 (0.011)
<i>LeftGov</i>	-0.017 (0.014)	-0.029 (0.019)	-0.040 (0.054)	0.166 (0.120)	-0.064 (0.067)	0.042 (0.050)	0.008 (0.095)	0.064 (0.053)	0.031 (0.048)	-0.008 (0.022)	-0.008 (0.012)
<i>MajGov</i>	-0.010 (0.018)	-0.002 (0.025)	-0.024 (0.071)	0.070 (0.147)	-0.041 (0.089)	-0.019 (0.061)	-0.092 (0.124)	0.026 (0.065)	-0.044 (0.059)	-0.032 (0.029)	0.003 (0.016)
<i>Unemp</i>	-0.004*** (0.002)	0.001 (0.002)	-0.014** (0.006)	-0.002 (0.014)	-0.018** (0.008)	-0.010* (0.006)	-0.022** (0.011)	-0.008 (0.006)	-0.010* (0.006)	-0.008*** (0.003)	-0.002 (0.002)
<i>LnPop</i>	0.689*** (0.199)	0.593** (0.256)	0.415 (0.608)	-0.345 (1.666)	2.316** (0.906)	-0.236 (0.775)	-0.573 (1.145)	-0.086 (0.844)	-0.708 (0.686)	0.301 (0.325)	0.646*** (0.167)
<i>DepVar(-1)</i>	0.811*** (0.066)	0.949*** (0.055)	0.631*** (0.100)	0.899*** (0.060)	0.314*** (0.116)	0.896*** (0.089)	0.577*** (0.112)	0.927*** (0.085)	0.975*** (0.064)	0.898*** (0.081)	0.896*** (0.043)
No. Observ.	82	82	82	82	82	82	82	82	82	82	82
No. Countr.	4	4	4	4	4	4	4	4	4	4	4

Notes: See Table 1. Bootstrapped standard errors are in parentheses; significance level at which the null hypothesis is rejected: ***, 1%; **, 5%; and *, 10%. Nordic countries: Denmark, Finland, Iceland, Norway and Sweden; Central countries: Austria, Belgium, France, Germany, Ireland, Luxembourg, Netherlands, Switzerland and the United Kingdom; South countries: Greece, Italy, Portugal and Spain.

Table 6. Opportunistic effects in the ratios between the public expenditure components

	PubServ	Defence	PubOrder	EconAff	Environm	Housing	Health	Recreat	Educ	SocProtect	TotExpd
PubServ	--	0.029*	0.036[†]	0.036[†]	0.032**	0.021	0.018[†]	0.024*	0.022***	0.019***	0.023***
	--	(0.016)	(0.024)	(0.024)	(0.016)	(0.034)	(0.012)	(0.013)	(0.008)	(0.007)	(0.007)
Defence		--	0.004	0.007	0.002	-0.006	-0.014	-0.009	-0.009	-0.011	-0.008
		--	(0.032)	(0.030)	(0.023)	(0.038)	(0.021)	(0.021)	(0.014)	(0.015)	(0.015)
PubOrder			--	0.013	-0.003	-0.001	-0.019	-0.014	-0.014	-0.017	-0.013
			--	(0.026)	(0.020)	(0.035)	(0.015)	(0.018)	(0.023)	(0.023)	(0.022)
EconAff				--	-0.007	-0.009	-0.026	-0.024	-0.015	-0.015	-0.013
				--	(0.026)	(0.036)	(0.022)	(0.023)	(0.022)	(0.023)	(0.021)
Environm					--	-0.003	-0.016[†]	-0.011	-0.011	-0.013	-0.010
					--	(0.033)	(0.013)	(0.015)	(0.015)	(0.015)	(0.015)
Housing						--	-0.013	-0.013	-0.007	-0.006	-0.004
						--	(0.031)	(0.032)	(0.033)	(0.034)	(0.031)
Health							--	0.006	0.004	0.002	0.005
							--	(0.008)	(0.010)	(0.010)	(0.010)
Recreat								--	-0.001	-0.004	-0.001
								--	(0.011)	(0.011)	(0.011)
Educ									--	-0.003	0.001
									--	(0.005)	(0.005)
SocProtect										--	0.002
										--	(0.005)
TotExpd											--
											--

Notes: Bootstrapped standard errors are in parentheses; significance level at which the null hypothesis is rejected: ***, 1%; **, 5%; and *, 10%. [†] denotes statistical significance at 10% level on one-tail. Each line presents the electoral effect (*ElectYr* coefficient, where each regression was estimated with the same covariates as in the baseline model) for the logarithm of the ratio of the respective component to each of the other components that are in each column. The estimates for the coefficients on the other regressors are not reported here to save space, but they are available upon request.

ANNEX

Table A.1. Description of the Variables

Variable	Description
<i>TotExpd</i>	Total general government expenditure, real value (base year: 2005), millions of Euros.
<i>PubServ</i>	General public services, which comprises the following items: (i) Executive and legislative organs, financial and fiscal affairs, and external affairs (<i>ExecAff</i>); (ii) Foreign economic aid (<i>ForAid</i>); (iii) General services (<i>GServ</i>); (iv) Basic research (<i>BasicRD</i>); (v) R&D general public services (<i>GServRD</i>); (vi) Other general public services (<i>OthServ</i>); (vii) Public debt transactions (<i>DebtTRS</i>); (viii) Transfers of a general character between different levels of government (<i>TransfGen</i>).
<i>Defence</i>	Defence expenditures, which comprises the following items: (i) Military defence (<i>MilDef</i>); (ii) Civil defence (<i>CivDef</i>); (iii) Foreign military aid (<i>FMilAid</i>); (iv) R&D defence (<i>DefRD</i>); (v) Other defence expenditures (<i>OthDef</i>).
<i>PubOrder</i>	Public order and safety, which comprises the following items: (i) Police services (<i>Police</i>); (ii) Fire-protection services (<i>Fire</i>); (iii) Law courts (<i>Courts</i>); (iv) Prisons (<i>Prisons</i>); (v) R&D public order and safety (<i>PubOrdRD</i>); (vi) Other public order and safety expenditures (<i>OthPO</i>).
<i>EconAff</i>	Economic affairs expenditures, which comprises the following items: (i) General economic, commercial and labour affairs (<i>GenAff</i>); (ii) Agriculture, forestry, fishing and hunting (<i>Agric</i>); (iii) Fuel and energy (<i>Energy</i>); (iv) Mining, manufacturing and construction (<i>Constr</i>); (v) Transport (<i>Transp</i>); (vi) Communication (<i>Communic</i>); (vii) Other industries (<i>OthInd</i>); (viii) R&D economic affairs (<i>EAffRD</i>); (ix) Other economic affairs expenditures (<i>OthEAff</i>).
<i>Environm</i>	Environmental protection expenditures, which comprises the following items: (i) Waste management (<i>Waste</i>); (ii) Waste water management (<i>WastWater</i>); (iii) Pollution abatement (<i>Pollut</i>); (iv) Protection of biodiversity and landscape (<i>Protect</i>); (v) R&D environmental protection (<i>EnvirRD</i>); (vi) Other environmental protection expenditures (<i>OthEnvir</i>).
<i>Housing</i>	Housing and community amenities, which comprises the following items: (i) Housing development (<i>HousDev</i>); (ii) Community development (<i>ComDev</i>); (iii) Water supply (<i>WatSup</i>); (iv) Street lighting (<i>StrLight</i>); (v) R&D housing and community amenities (<i>HousRD</i>); (vi) Other housing and community amenities expenditures (<i>OthHous</i>).
<i>Health</i>	Health expenditures, which comprises the following items: (i) Medical products, appliances and equipment (<i>MedProd</i>); (ii) Outpatient services (<i>OutPServ</i>); (iii) Hospital services (<i>HospServ</i>); (iv) Public health services (<i>PubHlth</i>); (v) R&D health (<i>HlthRD</i>); (vi) Other health expenditures (<i>OthHlth</i>).
<i>Recreat</i>	Recreation, culture and religion expenditures, which comprises the following items: (i) Recreational and sporting services (<i>Sports</i>); (ii) Cultural services (<i>Culture</i>); (iii) Broadcasting and publishing services (<i>Broadcast</i>); (iv) Religious and other community services (<i>Religious</i>); (v) R&D recreation, culture and religion (<i>RecrRD</i>); (vi) Other recreation, culture and religion expenditures (<i>OthRecr</i>).
<i>Educ</i>	Education expenditures, which comprises the following items: (i) Pre-primary and primary education (<i>Prim</i>); (ii) Secondary education (<i>Second</i>); (iii) Post-secondary non-tertiary education (<i>PosSec</i>); (iv) Tertiary Education (<i>Tert</i>); (v) General education expenditures not defined by level (<i>Genr</i>); (vi) Subsidiary services to education (<i>SubServ</i>); (vii) R&D education (<i>EducRD</i>); (viii) Other education expenditures (<i>OthEduc</i>).
<i>SocProtect</i>	Social protection expenditures, which comprises the following items: (i) Sickness and disability (<i>SickDis</i>); (ii) Old age (<i>Olders</i>); (iii) Survivors (<i>Survivors</i>); (iv) Family and children (<i>Family</i>); (v) Unemployment protection (<i>UnemPrt</i>); (vi) Housing protection (<i>HousPrt</i>); (vii) Social exclusion (<i>SocExcl</i>); (viii) R&D social protection (<i>SocPrtRD</i>); (ix) Other social protection expenditures (<i>OthSocP</i>).
<i>ElectYr</i>	Dummy variable that takes de value of 1 in the year of legislative elections; 0 otherwise.
<i>LeftGov</i>	Dummy variable that takes de value of 1 when there is hegemony or dominance of left-wing parties in the cabinet; 0 otherwise.
<i>MajGov</i>	Dummy variable that takes the value of 1 when a single party or coalition has majority in the parliament; 0 otherwise.
<i>Unemp</i>	Unemployment rate.
<i>Pop</i>	Population, in thousands.

Notes: All government expenditure components are in real values (base year: 2005).

Sources: OECD (2009), *Government at a Glance*; Eurostat (<http://ec.europa.eu/eurostat/data/database>); Comparative Political Data Set I (<http://www.cpbs-data.org/>).

Table A.2. Descriptive Statistics

	Obs	Mean	Std.Dev.	Min.	Max.
<i>TotExpdpc</i>	365	13.915	5.299	4.381	32.934
<i>PubServpc</i>	365	2.009	0.662	0.777	3.727
<i>Defencepc</i>	365	0.415	0.236	0.003	1.109
<i>PubOrderpc</i>	365	0.433	0.152	0.002	1.088
<i>EconAffpc</i>	365	1.380	0.731	0.127	7.985
<i>Environmpc</i>	365	0.225	0.165	0.022	0.855
<i>Housingpc</i>	365	0.240	0.166	0.020	1.517
<i>Healthpc</i>	365	1.868	0.835	0.130	5.552
<i>Recreatpc</i>	365	0.372	0.254	0.010	1.465
<i>Educpc</i>	365	1.665	0.758	0.356	4.155
<i>SocProtectpc</i>	365	5.307	2.430	1.028	13.217
<i>ElectYr</i>	414	0.261	0.440	0	1
<i>LeftGov</i>	414	0.264	0.441	0	1
<i>MajGov</i>	414	0.742	0.438	0	1
<i>Unemp</i>	414	7.373	4.097	0.469	25.126
<i>Pop</i>	414	21765.280	24942.880	254.800	82502.000

Notes: All the government expenditures are in thousands of Euros per capita (in real values, base year: 2005); the unemployment rate is in percentage; and the total population is in thousands. Time period: 1990-2012 (annual data); Countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

Table A.3. Sensitivity analysis I: Electoral timing

<i>Log of (p.c.)</i>	TotExpd	PubServ	Defence	PubOrder	EconAff	Environm	Housing	Health	Recreat	Educ	SocProtect
Before	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<i>YrBefElect</i>	0.006 (0.008)	-0.008 (0.009)	-0.007 (0.020)	0.035 (0.030)	0.048* (0.029)	0.016 (0.020)	0.047 (0.041)	0.001 (0.014)	0.025 (0.015)	0.002 (0.009)	-0.003 (0.008)
<i>ElectYr</i>	0.015** (0.007)	0.033*** (0.008)	0.003 (0.018)	0.010 (0.026)	0.013 (0.024)	0.007 (0.018)	0.025 (0.036)	0.018 (0.012)	0.019 (0.013)	0.014* (0.008)	0.015** (0.007)
<i>LeftGov</i>	-0.003 (0.009)	-0.001 (0.010)	-0.015 (0.023)	0.048 (0.032)	-0.036 (0.037)	0.031 (0.022)	0.050 (0.043)	0.021 (0.016)	0.017 (0.017)	0.013 (0.010)	0.003 (0.008)
<i>MajGov</i>	0.004 (0.012)	0.020 (0.014)	-0.007 (0.031)	0.011 (0.043)	-0.001 (0.042)	0.004 (0.029)	-0.004 (0.061)	0.002 (0.020)	0.008 (0.022)	-0.009 (0.013)	0.012 (0.011)
<i>Unemp</i>	-0.006*** (0.001)	0.003** (0.001)	-0.010*** (0.003)	-0.007 (0.005)	-0.015*** (0.005)	-0.012*** (0.003)	-0.024*** (0.006)	-0.009*** (0.002)	-0.010*** (0.002)	-0.007*** (0.001)	-0.002** (0.001)
<i>LnPop</i>	0.063 (0.093)	0.167** (0.078)	-0.146 (0.174)	0.041 (0.266)	1.127*** (0.305)	-0.065 (0.202)	0.556 (0.352)	-0.189 (0.156)	-0.352** (0.155)	-0.162* (0.097)	0.063 (0.103)
<i>DepVar(-1)</i>	0.934*** (0.026)	0.940*** (0.024)	0.817*** (0.034)	0.902*** (0.025)	0.542*** (0.042)	0.874*** (0.030)	0.495*** (0.034)	0.959*** (0.025)	0.960*** (0.024)	0.970*** (0.022)	0.945*** (0.026)
No. Observ.	346	346	346	346	344	346	346	346	346	346	346
No. Countr.	18	18	18	18	18	18	18	18	18	18	18
After	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<i>YrAftElect</i>	-0.006 (0.007)	-0.004 (0.009)	0.016 (0.018)	-0.027 (0.026)	-0.014 (0.025)	-0.010 (0.018)	-0.028 (0.036)	-0.018 (0.013)	-0.021 (0.014)	-0.014* (0.008)	-0.010 (0.007)
<i>LeftGov</i>	-0.003 (0.009)	-0.003 (0.010)	-0.015 (0.023)	0.049 (0.032)	-0.035 (0.037)	0.031 (0.022)	0.051 (0.043)	0.020 (0.016)	0.017 (0.017)	0.013 (0.010)	0.002 (0.008)
<i>MajGov</i>	0.003 (0.012)	0.021 (0.014)	-0.005 (0.031)	0.007 (0.043)	-0.006 (0.042)	0.003 (0.029)	-0.008 (0.060)	0.001 (0.020)	0.005 (0.022)	-0.009 (0.013)	0.012 (0.011)
<i>Unemp</i>	-0.006*** (0.001)	0.003** (0.001)	-0.010*** (0.003)	-0.007 (0.005)	-0.015*** (0.005)	-0.012*** (0.003)	-0.024*** (0.006)	-0.009*** (0.002)	-0.010*** (0.002)	-0.007*** (0.001)	-0.002* (0.001)
<i>LnPop</i>	0.062 (0.093)	0.170** (0.080)	-0.154 (0.173)	0.073 (0.266)	1.151*** (0.303)	-0.050 (0.204)	0.593* (0.351)	-0.182 (0.156)	-0.336** (0.155)	-0.164* (0.096)	0.064 (0.104)
<i>DepVar(-1)</i>	0.937*** (0.026)	0.937*** (0.025)	0.816*** (0.034)	0.900*** (0.025)	0.542*** (0.043)	0.873*** (0.030)	0.493*** (0.035)	0.960*** (0.025)	0.961*** (0.024)	0.973*** (0.022)	0.947*** (0.026)
No. Observ.	346	346	346	346	344	346	346	346	346	346	346
No. Countr.	18	18	18	18	18	18	18	18	18	18	18
Timing	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<i>ElectTiming</i>	0.018* (0.011)	0.035*** (0.013)	-0.007 (0.028)	0.018 (0.040)	0.027 (0.036)	0.011 (0.027)	0.053 (0.056)	0.024 (0.019)	0.029 (0.021)	0.022** (0.011)	0.019** (0.009)
<i>LeftGov</i>	-0.003 (0.009)	-0.002 (0.010)	-0.016 (0.023)	0.049 (0.032)	-0.034 (0.036)	0.031 (0.022)	0.052 (0.043)	0.020 (0.016)	0.018 (0.017)	0.013 (0.010)	0.002 (0.008)
<i>MajGov</i>	0.004 (0.012)	0.021 (0.014)	-0.006 (0.031)	0.009 (0.043)	-0.005 (0.042)	0.003 (0.029)	-0.006 (0.060)	0.002 (0.020)	0.007 (0.022)	-0.009 (0.013)	0.012 (0.011)
<i>Unemp</i>	-0.006*** (0.001)	0.003** (0.001)	-0.010*** (0.003)	-0.007 (0.005)	-0.015*** (0.005)	-0.012*** (0.003)	-0.024*** (0.006)	-0.009*** (0.002)	-0.010*** (0.002)	-0.007*** (0.001)	-0.002* (0.001)
<i>LnPop</i>	0.063 (0.093)	0.172** (0.079)	-0.148 (0.173)	0.058 (0.266)	1.155*** (0.302)	-0.056 (0.203)	0.581* (0.351)	-0.184 (0.158)	-0.338** (0.155)	-0.160* (0.097)	0.064 (0.104)
<i>DepVar(-1)</i>	0.935*** (0.026)	0.940*** (0.024)	0.817*** (0.034)	0.901*** (0.025)	0.539*** (0.043)	0.873*** (0.030)	0.493*** (0.035)	0.959*** (0.025)	0.959*** (0.024)	0.969*** (0.022)	0.945*** (0.026)
No. Observ.	346	346	346	346	344	346	346	346	346	346	346
No. Countr.	18	18	18	18	18	18	18	18	18	18	18

Notes: See Table 1. Bootstrapped standard errors are in parentheses; significance level at which the null hypothesis is rejected: ***, 1%; **, 5%; and *, 10%. Electoral timing is a variable that measures the proportion of time a government is in office in a particular year, since it has been elected (until the next election); it is equal to 1 in the election year. Variables for the interactions between *ElectYr* and *LeftGov*, *MajGov* and *Unemp* were also considered in other regressions, but the respective coefficients were always statistically insignificant. Those results are not reported here to save space, but they are available upon request.

Table A.4. Sensitivity analysis II: Political orientation, political support, economic environment and population

<i>Log of (p.c.)</i>	TotExpd	PubServ	Defence	PubOrder	EconAff	Environm	Housing	Health	Recreat	Educ	SocProtect
Orientation & Support	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<i>ElectYr</i>	0.012* (0.007)	0.027*** (0.008)	0.001 (0.017)	0.012 (0.025)	-0.009 (0.028)	0.004 (0.017)	0.014 (0.035)	0.020* (0.012)	0.009 (0.013)	0.016** (0.008)	0.017*** (0.006)
<i>Partisan1</i>	-0.001 (0.010)	0.011 (0.011)	0.021 (0.026)	-0.062* (0.036)	-0.003 (0.040)	-0.037 (0.025)	-0.093** (0.047)	-0.029 (0.018)	-0.024 (0.019)	-0.014 (0.011)	0.001 (0.009)
<i>Partisan2</i>	0.010 (0.017)	0.037* (0.019)	0.027 (0.044)	-0.100 (0.062)	0.072 (0.067)	-0.037 (0.042)	-0.066 (0.085)	-0.029 (0.030)	-0.013 (0.032)	-0.021 (0.019)	-0.003 (0.016)
<i>Partisan3</i>	0.003 (0.014)	0.022 (0.016)	0.036 (0.036)	-0.072 (0.052)	0.020 (0.051)	-0.018 (0.034)	-0.070 (0.069)	-0.030 (0.025)	0.005 (0.026)	-0.010 (0.015)	-0.014 (0.013)
<i>Partisan4</i>	-0.011 (0.016)	0.041** (0.017)	0.023 (0.040)	-0.064 (0.055)	-0.084 (0.059)	-0.026 (0.037)	-0.132* (0.075)	-0.030 (0.026)	-0.008 (0.028)	-0.004 (0.017)	-0.001 (0.014)
<i>GovSup>50%</i>	-0.002 (0.012)	0.011 (0.013)	-0.020 (0.032)	0.013 (0.044)	0.022 (0.044)	-0.016 (0.030)	-0.031 (0.061)	-0.001 (0.021)	0.002 (0.022)	-0.015 (0.013)	0.004 (0.011)
<i>Unemp</i>	-0.006*** (0.001)	0.003** (0.001)	-0.010*** (0.003)	-0.007 (0.005)	-0.014*** (0.005)	-0.013*** (0.003)	-0.024*** (0.006)	-0.009*** (0.002)	-0.010*** (0.002)	-0.007*** (0.001)	-0.002* (0.001)
<i>LnPop</i>	0.068 (0.097)	0.143* (0.087)	-0.142 (0.187)	0.136 (0.287)	1.099*** (0.326)	0.025 (0.211)	0.680* (0.389)	-0.172 (0.161)	-0.317** (0.160)	-0.141 (0.101)	0.055 (0.108)
<i>DepVar(-1)</i>	0.933*** (0.026)	0.928*** (0.024)	0.815*** (0.035)	0.900*** (0.025)	0.529*** (0.045)	0.869*** (0.030)	0.487*** (0.036)	0.960*** (0.025)	0.960*** (0.024)	0.971*** (0.022)	0.949*** (0.026)
No. Observ.	346	346	346	346	344	346	346	346	346	346	346
No. Countr.	18	18	18	18	18	18	18	18	18	18	18
Economy & Population	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<i>ElectYr</i>	0.012** (0.006)	0.037*** (0.007)	0.003 (0.016)	-0.002 (0.023)	-0.002 (0.024)	0.002 (0.016)	0.009 (0.032)	0.016 (0.011)	0.010 (0.012)	0.012* (0.007)	0.016*** (0.006)
<i>LeftGov</i>	-0.001 (0.009)	0.001 (0.010)	-0.012 (0.024)	0.052 (0.033)	-0.034 (0.038)	0.023 (0.023)	0.041 (0.045)	0.023 (0.016)	0.015 (0.017)	0.017* (0.010)	0.004 (0.009)
<i>MajGov</i>	0.009 (0.012)	0.028** (0.014)	0.006 (0.033)	0.025 (0.046)	-0.006 (0.044)	0.001 (0.031)	-0.038 (0.065)	0.014 (0.022)	0.014 (0.023)	0.002 (0.013)	0.014 (0.012)
<i>RealGDPgr</i>	0.004*** (0.001)	0.002 (0.001)	0.007** (0.003)	0.007 (0.004)	-0.002 (0.005)	0.009*** (0.003)	-0.001 (0.006)	0.007*** (0.002)	0.011*** (0.002)	0.007*** (0.001)	-0.001 (0.001)
<i>Young</i>	-0.003 (0.005)	0.002 (0.006)	-0.001 (0.013)	-0.001 (0.019)	-0.077*** (0.021)	-0.038*** (0.014)	-0.107*** (0.027)	0.005 (0.009)	-0.007 (0.010)	0.006 (0.006)	-0.001 (0.005)
<i>Elderly</i>	0.002 (0.005)	0.008 (0.006)	0.002 (0.013)	0.004 (0.017)	-0.041** (0.018)	-0.022* (0.011)	-0.079*** (0.025)	0.004 (0.008)	-0.004 (0.008)	0.007 (0.005)	0.003 (0.004)
<i>DepVar(-1)</i>	0.974*** (0.022)	0.965*** (0.028)	0.844*** (0.038)	0.901*** (0.028)	0.569*** (0.045)	0.865*** (0.032)	0.456*** (0.043)	0.972*** (0.028)	0.956*** (0.025)	0.999*** (0.020)	0.953*** (0.020)
No. Observ.	346	346	346	346	344	346	346	346	346	346	346
No. Countr.	18	18	18	18	18	18	18	18	18	18	18

Notes: See Table 1. Bootstrapped standard errors are in parentheses; significance level at which the null hypothesis is rejected: ***, 1%; **, 5%; and *, 10%. Variables for the interactions between *LeftGov*, *MajGov* (or *GovSup>50%*) and *Unemp* (or *RealGDPgr*) were also considered in other regressions, but the respective coefficients were always statistically insignificant. Those results are not reported here, but they are available upon request.

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