Original Research

Do Political Factors Affect Fiscal Consolidation? Evidence From Spanish Regional Governments

Alberto Vaquero-García[1], María Cadaval-Sampedro[2], and Santiago Lago-Peñas[1] (iD)

Abstract

This paper empirically examines the political factors behind the different fiscal consolidation paths across Spanish regions over the period 2004 to 2017. Spanish regions provide an interesting case study due to both the strong fiscal decentralization and the deep impact of the so-called "Great Recession" on subcentral budget constraints in Spain. The estimates confirm that governments react to fiscal imbalances by reducing expenditure growth, but this reaction depends on the electoral budget cycle and the results of elections. Fiscal consolidation tends to stop in election years and is boosted by changes in the incumbent. By contrast, neither ideology nor fragmentation of government systematically affects the dynamics of fiscal adjustment.

Introduction

The conventional theory on the political costs of fiscal austerity argues that governments face electoral costs when they reduce budget deficits by cutting spending or raising taxes. Conversely, an expansion of deficits increases the odds of electoral success insofar as voters reward short-run benefits and do not understand the future costs implied by the government's budget constraints (Buchanan & Wagner, 1977). However, the empirical evidence on the electoral effects of austerity is less conclusive than the conventional theory implies. Many governments that have engaged in austerity have been re-elected, and governments with more lax policies have been driven from power (Alesina et al., 2019). Moreover, the influence of political factors on deficits has received increasing attention in the economic literature over the past two decades, both theoretically and empirically (Alesina & Tabellini, 1990; Persson, 2001; Persson & Svensson, 1989; Roubini & Sachs, 1989a, 1989b). In particular, research has examined governments' willingness to take unpopular decisions and comply with fiscal targets depending on divided control (Clingermayer, 1991; Poterba, 1994), institutional and fiscal rules (Bohn & Inman, 1996; Rose, 2006; Von Hagen, 1991), right-wing versus left-wing governments (Pettersson-Lidbom, 2001), political budget cycles, and changes of incumbents (Drazen & Eslava, 2005; Persson & Tabellini, 2003; Shi & Svensson, 2006).

Most of this empirical research has used national-level data. However, an increasing number of studies are focusing on state or local governments, benefiting from richer and more homogeneous data sets than cross-country studies (Borge, 2005). Relying on regions involves controlling for many institutional or cultural aspects that are difficult to deal with when using cross-country data.

In this context, the analysis of the Spanish case is particularly interesting for two reasons. First, the regional decentralization in Spain is very strong. According to the OECD decentralization database (http://www.oecd.org/tax/federalism/fiscal-decentralisation-database.htm), Spain is in the world top five in both tax and expenditure on regional decentralization. Moreover, Spain ranked second in 2010 in the Regional Authority Index (RAI) defined and computed by Hooghe et al. (2016). Second, Spain is one of the countries that has been most affected by the so-called "Great Recession." In particular, the fiscal deficit and public debt have risen sharply since 2008 (Mussons-Olivella, 2020).

[1]GEN (Universidade de Vigo), Ourense, Spain
[2]University of Santiago de Compostela, Spain

Corresponding Author:
Santiago Lago-Peñas, Facultade de Ciencias Empresariais e Turismo, GEN (Universidade de Vigo), Campus Universitario, Ourense 32004, Spain.
Email: infogen@uvigo.es

While the regional public debt expressed as a percentage of the national GDP was below 10% in 2008, it was over 25% in 2014. In 2016, only Canada was above the OECD countries with regional fiscal tiers. Regional fiscal consolidation has become a serious concern in Spain since 2012, when new legislation on budgetary stability was approved, paying particular attention to the regional fiscal tier (Lago-Peñas, 2015). Although the rules on regional budgetary adjustment are uniform, the cross-sectional pattern of deficits is far from homogeneous, and one can hardly explain it relying on economic and financial arguments only (Zabalza, 2021). Using a panel data set of the 17 Spanish regions over the period 2004 to 2017, we show that the electoral cycle and changes of governments can be a matter for fiscal consolidation while ideology and strength cannot.

The paper is organized as follows. Section 2 reviews the literature on the political and institutional determinants of fiscal consolidation. Section 3 presents the dynamics of the regional public finances in Spain over the period 2004 to 2017. Section 4 develops the econometric analysis and discusses the results. Section 5 concludes.

Literature Review

A large theoretical and empirical literature has explained the differences in fiscal consolidation paths and the persistence of budget deficits. The political determinants of fiscal imbalances lean on different kinds of arguments that we try to sum up in this survey and that we incorporate into our empirical model: the political business cycle, the potential effect of ideology, the types of political systems and institutional factors, and the decision-making process. Table 1 summarizes the empirical articles discussed below.

The Political Business Cycle

The so-called first-generation models of the political budget cycle emphasize the incumbent government's intention to secure re-election by maximizing its expected vote share at the next election. Subsequent papers developed adverse-selection-type models, which emphasize temporary information asymmetries regarding politicians' competence level in explaining election cycles in fiscal policy. Under these models, all types of government will incur excessive pre-election deficits, regardless of their level of competence (Mink & De Haan, 2006).

The degree of responsiveness of fiscal policy to the economic cycle has been the subject of many empirical debates. Brender and Drazen (2005) and Persson and Tabellini (2003) found no pre-election changes in either public spending or deficits/surpluses for a wide sample of developed and developing economies. By contrast, Schuknecht (1994) and Shi and Svensson (2006) concluded that spending increases significantly before an electoral process, returning to a balanced budget after the elections. Alt and Lassen (2006) identified a

persistent pattern of electoral cycles in low-transparency and politically more polarized countries.

Using data for subnational governments, Drazen and Eslava (2005) found changes in expenditure composition over the electoral cycle for Colombian municipalities, while Aidt et al. (2011) and Veiga and Veiga (2007) showed that the political business cycle affects the level of fiscal deficit for Portuguese municipalities. The opportunistic behavior of state governments was also reflected in the results of the study by Chang et al. (2009) for the United States.

The Effect of Ideology

A second array of papers has investigated the potential effect of ideology. Allan and Scruggs (2004) confirmed that right-wing incumbents are more prone to making spending cuts than left-wing governments. Hübscher (2016) obtained a different result when examining the political factors that determine the capacity of governments to implement fiscal reforms in times of austerity. Ribeiro and Jorge (2015) investigated whether the political–ideological situation of Portuguese municipalities affects their debt level, and they showed a statistically significant political–electoral relationship. The paper by D'almeida and Mourao (2017) did not support this result at the central level.

Types of Political Systems and Institutional Factors

A third group of papers has investigated how political systems affect the behavior of policy makers. Alesina et al. (1999) suggested that political and institutional factors affect fiscal compliance for 20 Latin American and Caribbean countries. Persson and Tabellini (2000) found that large fiscal imbalances have occurred in countries with proportional electoral systems—rather than presidential ones—and in countries with coalition governments and unstable governments. Woo (2003) noted that social polarization, political factors, and institutional structures have a significant impact on the explanation of fiscal deficits.

Decision-Making Process

The seminal papers by Roubini and Sachs (1989a, 1989b) focused on disagreement among various decision makers. They argued that the decision-making process is often fragmented among several political agents and that spending increases due to political pressures will be much smaller with more fragmented political power. Further empirical studies on the impact of political variables on budget deficits have confirmed the previous arguments. Blais et al. (2010) corroborated the argument that coalition governments find it difficult to decrease spending under difficult fiscal conditions but also to increase it even in a more favorable context because each member of the coalition has veto power.

Table 1. Main Empirical Articles Explaining the Political Determinants of Fiscal Imbalances According to Different Kinds of Arguments and Levels of Government.

Authors	Sample	Main findings
The political business cycle: central level		
Schuknecht (1994)	35 developing countries	The paper related the theory of political business cycles to fiscal balances.
Persson and Tabellini (2003)	60 democracies over the period 1960 to 1998	Pre-election tax cuts are a universal phenomenon, while post-election fiscal adjustments are only present in presidential democracies.
Brender and Drazen (2005)	68 democratic countries	Stronger political deficit cycles occur in less developed countries with lower levels of democracy.
Alt and Lassen (2006)	19 OECD countries in the 1990s	Budget institutions and fiscal transparency affect budget outcomes.
Shi and Svensson (2006)	85 countries over the period 1975 to 1995	The paper showed a relationship between political budget cycles and countries' level of development.
Mink and De Haan (2006)	Euro area countries in 1999 to 2004	The results are in line with third-generation political business cycles, which are based on moral hazard.
The political business cycle: subnational level		
Drazen and Eslava (2005)	Colombian municipalities from 1987 to 2000	The paper found changes in expenditure composition over the electoral cycle.
Chang et al. (2009)	State level in the United States from 1951 to 2004	The paper provided strong support for partisan political business cycles.
Veiga and Veiga (2007)	Portuguese municipalities for the period 1979 to 2001	The paper revealed the opportunistic behavior of local governments in the level and composition of public expenditure.
Aidt et al. (2011)	Portuguese municipalities from 1979 to 2005	The results are consistent with the theoretical model on the rational political business cycle and show that opportunism leads to a larger margin of victory.
The effect of ideology: central level		
Allan and Scruggs (2004)	18 countries for the years 1975 to 1999	The paper confirmed the effect of traditional partisanship on the welfare state and imbalances.
Hübscher (2016)	16 advanced OECD countries over the period 1978 to 2009	An ideological representation of government does not affect the size of budget deficits, and strategic considerations play a major role in the timing of fiscal consolidation.
The effect of ideology: subnational level		
Ribeiro and Jorge (2015)	Portuguese municipalities during the period 2004 to 2013	There is a statistically significant relationship for the political–electoral cycle.
Types of political systems and institutional factors		
Alesina et al. (1999)	20 Latin American and Caribbean countries between 1980 and 1992	Political and institutional factors affect fiscal compliance.
Woo (2003)	57 developed and developing countries for the period 1970 to 1990	Budgetary and government institutions influence fiscal outcomes.
D'almeida and Mourao (2017)	Portugal over the period 1974 to 2012	Inter-party differences have no significant impacts on public finances' performance.
Decision-making process		
Roubini and Sachs (1989b)	13 countries over the period 1972 to 1985	Larger coalition governments exhibit higher deficits than one party.
Roubini and Sachs (1989a)	The OECD's industrial democracies (1960–1986)	Countries with a weak government and with many political parties in the coalition reduce deficits more slowly than others.
Blais et al. (2010)	33 parliamentary democracies over the period 1972 to 2000	Coalition governments find it difficult to decrease spending under difficult fiscal conditions in contrast to single-party governments.
Dellepiane and Hardiman (2015)	Ireland and Greece (paired comparisons of Ireland with Britain and Greece with Spain)	Political variables are decisive in understanding debt and fiscal consolidation.

Source. Authors' elaboration.

Table 2. Main Empirical Articles Explaining the Political Factors That Affect Subnational Fiscal Consolidation in Spain.

Authors	Sample	Main findings
Leal and López-Laborda (2015)	Spanish regions for the period 2003 to 2012	The probability of compliance with fiscal targets drops in election years.
Delgado-Téllez et al. (2017)	Spanish regions over the period 2002 to 2015	The probability of fiscal non-compliance increases in election years.
Lago-Peñas et al. (2017)	Spanish regions during the period 2005 to 2015	A change of incumbent increases compliance in post-election years. Political affinity between the central and the regional incumbents also increases compliance.
Artés and Jurado (2018)	3,147 Spanish municipalities over the period 2003 to 2010	Smaller deficits are driven mainly by single-party majority governments.

Source. Authors' elaboration.

Dellepiane and Hardiman (2015) reviewed the results of fiscal consolidation in Ireland, Greece, the United Kingdom, and Spain between 1980 and 1990 and concluded that policy variables are decisive in explaining the fiscal consolidation process.

Finally, Table 2 summarizes the main empirical papers that have focused on the political factors that affect fiscal consolidation in Spain. The influence of the electoral cycle was confirmed by Delgado-Téllez et al. (2017) and Leal and Lopez-Laborda (2015). Lago-Peñas et al. (2017) showed that compliance with fiscal targets increases in post-election years with a change of incumbents and ideological coincidence of regional and central governments. Finally, Artes and Jurado (2018) indicated that single-party majority governments lead to lower deficits.

Regional Public Finances in Spain 2004 to 2017: Some Stylized Facts

The dynamics of regional public finances from 2004 to 2017 can be divided into four periods, according to the evolution of the deficit (Figure 1) and both expenditures and non-financial revenues (Figure 2).

Between 2004 and 2007, both revenues and expenditures expanded, yielding a slight surplus for the median region. Balanced budgets were the rule. In the 2-year period 2008 to 2009, three factors explain the observed jump in expenditures, revenues, and deficit ratios over the regional GDP. First, the drop in the nominal GDP increased all the ratios. Second, the response of most regions to the recession was to increase the expenditures to boost the demand. Third, in 2008 and 2009, the central government granted resources in advance as if nothing were happening. At this point, it is important to bear in mind that most regional taxes are collected by the Spanish Tax Agency. The central government transfers advances to regional governments. Once final information on the actual tax collected is known (2 years later), it compensates for positive or negative differences between advances and actual revenues. See Lago-Peñas et al. (2017) for an in-depth review of this evolution and a critical review of the Spanish regional fiscal framework.
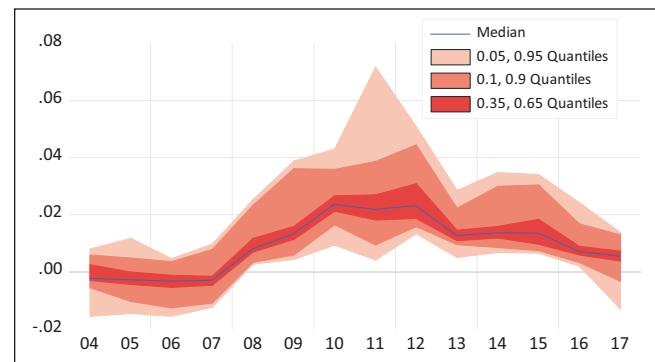

Figure 1. The dynamics of regional deficit over the period 2004 to 2017 expressed as a share of regional GDP.
Source. Authors' elaboration based on Table 3.
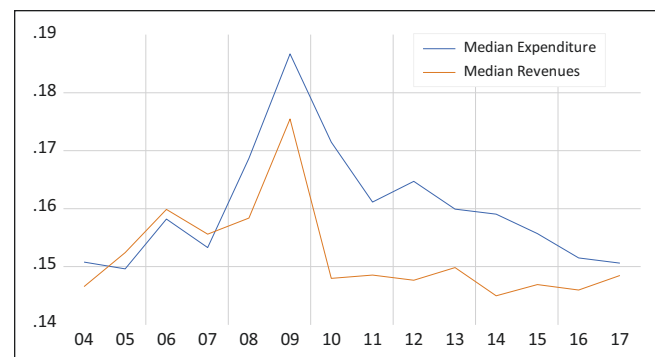*Note.* Negative values mean surplus.

Figure 2. The dynamics of median regional public expenditure and revenues over the period 2004 to 2017 expressed as a share of regional GDP.
Source. Authors' elaboration based on Table 3.

In 2010, the revenues dropped sharply as the central government was already aware of the depth of the crisis and its effect on public revenues. Granted advances collapsed, and regional expenditure cuts started. However, the latter were not enough to compensate for the negative effect of the Great Recession on tax collection. The median regional deficit crossed the threshold of 2% of the GDP, around one-eighth

Table 3. Variable Definitions and Data Sources.

Variable	Definition	Data source
E	Total non-financial expenditure expressed as a share of regional GDP	Spanish Treasury (https://www.hacienda.gob.es/es-ES/CDI/Paginas/InformacionPresupuestaria/InformacionPresupuestaria.aspx?report=237#tabla115)
R	Total non-financial revenues expressed as a share of regional GDP	Spanish Treasury (https://www.hacienda.gob.es/es-ES/CDI/Paginas/InformacionPresupuestaria/InformacionPresupuestaria.aspx?report=237#tabla115)
D	Total deficit expressed as a share of regional GDP	Spanish Treasury (https://www.hacienda.gob.es/es-ES/CDI/Paginas/InformacionPresupuestaria/InformacionPresupuestaria.aspx?report=237#tabla115)
Change	Dummy variable coded 1 if a change in the incumbent is observed in year $t-1$ and 0 otherwise.	http://www.ub.edu/OGC/index_es_archivos/index_es.htm
Coalition	Dummy variable coded 1 if the incumbent is a coalition, and 0 otherwise	http://www.ub.edu/OGC/index_es_archivos/index_es.htm
Ideology	Dummy variable coded 1 if the incumbent is leftist, and 0 otherwise	http://www.ub.edu/OGC/index_es_archivos/index_es.htm
Elections	Dummy variable coded 1 in the case of election years and 0 otherwise. When elections are held in the first quarter, value 1 is assigned to year $t-1$ (in most case, elections are celebrated in the second quarter)	Own elaboration based on http://www.infoelectoral.mir.es/publicaciones
Right_majority	Dummy variable coded 1 if the incumbent is rightist and it enjoys the support of a majority in the regional parliament, and 0 otherwise	http://www.ub.edu/OGC/index_es_archivos/index_es.htm

of the total regional expenditure. Since 2012, fiscal consolidation has focused on the expenditure side, progressively reducing the regional deficit to a median of 0.5% of the regional GDP in 2017. Revenues have not been relevant to the explanation of the deficit reduction since 2010, mostly due to limited tax autonomy. All the available empirical evidence shows that spending cuts have accounted for most of the regional fiscal consolidation in Spain. Moreover, the estimates made by the Independent Authority for Fiscal Responsibility (AIREF) for the year 2016 show that the net effect of accumulated changes in regional tax rates and tax benefits was close to zero (AIREF, 2016).

Econometric Analysis

To estimate the response of regional governments to deviations in deficits, we adopt the methodology suggested by Buettner and Wildasin (2006). This methodology relies on the seminal contributions by Dahlberg and Johansson (1994) and Holtz-Eakin et al. (1989), with the difference that the VECM includes the deficit under the hypothesis of stationarity. See also Esteller and Solé-Ollé (2005) for a discussion.

The starting point is a simplified version of the government budget constraint:

$$E_i - R_i = D_i \qquad (1)$$

where *E* is the expenditure, *R* is the non-financial revenues, and *D* is the deficit. Our attention focuses on the expenditure's reactions as the fiscal consolidation in Spanish regions

relies on the expenditure side, as we demonstrated above. Moreover, it is difficult to quantify revenues from discretionary tax choices with the available data on the Spanish fiscal federalism framework.

To measure the impact of political variables on the fiscal consolidation process, we add a vector of four variables (*POL*) affecting the impact of D_{t-1}. The list of regressors includes *Change* of incumbent, *Coalition*, *Ideology*, and *Elections*. In preliminary estimates, we also test the effect of the ideological coincidence of the central and regional governments, but the *p*-values were very high. Moreover, the results hold when *Coalition* is replaced with a dummy variable to identify incumbents supported by a parliamentary single-party majority. In a further step, we merge the variables *Coalition* and *Ideology* to create a new variable, *Right_majority*, to focus on the responses of the rightist majoritarian incumbents. Table 3 reports the definitions and data sources, and Table 4 summarizes the basic descriptive statistics. All the estimates are based on a yearly panel data set from 2002 to 2017 for the 17 Spanish regional governments.

The interactions between political variables and deficits capture the impact of the former on the response of governments to fiscal imbalances. As usual, the four political variables are also included in levels to avoid biases in the estimates of the interaction terms. Hence, the estimated specification is the following:

$$\Delta E_{it} = \alpha + \beta \cdot \Delta E_{it-1} + \delta \cdot \Delta R_{it-1} + \lambda \cdot D_{it-1} \\ + \sum_j \varphi_j \cdot POL_j + \sum_j \gamma_j \cdot POL_j \cdot D_{it-1} + \varepsilon_{it} \qquad (2)$$

Table 4. Descriptive Statistics.

Variables	M	Median	Maximum	Minimum	SD
E	0.165	0.161	0.298	0.080	0.041
R	0.154	0.149	0.284	0.073	0.040
D	0.011	0.009	0.089	−0.021	0.014
Change	0.084	0	1	0	0.278
Coalition	0.307	0	1	0	0.462
Ideology	0.370	0	1	0	0.484
Elections	0.231	0	1	0	0.422
Right_majority	0.332	0	1	0	0.472

Table 5. Panel OLS Estimates of Equation (2). Period 2004 to 2017.

	(1)	(2)	(3)	(4)
ΔE_{it-1}	−0.27** (2.08)	−0.26** (2.04)	−0.27** (2.09)	−0.25** (2.04)
ΔR_{it-1}	0.03 (0.22)	0.03 (0.25)	0.03 (0.26)	0.03 (0.30)
D_{it-1}	−0.32*** (2.79)	−0.35*** (3.22)	−0.24** (2.06)	−0.25** (2.19)
$Change_{it}$	0.003 (0.88)	0.003 (0.94)	0.003 (0.75)	0.002 (0.75)
$Coalition_{it}$	−0.0002 (0.10)	−0.0003 (0.21)		
$Ideology_{it}$	−0.001 (0.37)	−0.001 (0.34)		
$Elections_{it}$	−0.004 (1.53)	−0.004 (1.64)	−0.003 (1.39)	−0.004 (1.48)
$RIGHTMAJORITY_{it}$			0.00003 (0.02)	0.00004 (0.02)
$CHANGE_{it} \cdot D_{it-1}$	−0.31* (1.93)	−0.31** (1.98)	−0.30* (1.85)	−0.30* (1.88)
$COALITION_{it} \cdot D_{it-1}$	0.09 (0.91)	0.11 (1.13)		
$COLOR_{it} \cdot D_{it-1}$	0.06 (0.47)	0.07 (0.55)		
$ELECTIONS_{it} \cdot D_{it-1}$	0.32*** (2.74)	0.36** (2.50)	0.26* (1.81)	0.28** (2.04)
$RIGHTMAJORITY_{it} \cdot D_{it-1}$			−0.09 (0.82)	−0.12 (1.13)
Observations	210	210	210	210
R^2	.631	.665	.630	.652
Individual/period fixed effects	No/Yes	No/Yes	No/Yes	No/Yes

Note. In parenthesis, *t*-statistics using PCSE. In both columns (2) and (4), expenditure excludes interest payments.
***p, **p, and *p indicates statistical significance at .01, .05, and .10 levels, respectively.

Several additional comments on the econometric methodology are required. First, the individual fixed effects are redundant (non-significant) according to a Wald test of the preliminary specifications ($p = .15$), but the period fixed effects are highly significant ($p < .001$) and thus are included in the estimates. Given both the structure of the panel (a small *N* dimension and quite a large *T* dimension) and the low statistical significance of the individual effects, the panel ordinary least squares (OLS) method would be a better option than generalized method of moments (GMM) estimators (Beck & Katz, 2011). Moreover, Allison et al. (2017) and Moral-Benito et al. (2019) demonstrated the poor finite properties of panel GMM estimators in the case of small values of N. However, in Table 6, we replicate estimates including individual effects and implementing the difference-GMM Arellano–Bond estimator (Arellano & Bond, 1991) to avoid the so-called Nickell bias due to the inclusion of individual effects in autoregressive models (Nickell, 1981).

Second, the use of first differences and the inclusion of both the lagged endogenous variables on the right-hand side of the equation and the period fixed effects avoid autocorrelation problems. Third, both the Breusch–Pagan test and the Pesaran CD test detect the existence of cross-sectional dependence and the Lagrange multiplier test identifies cross-sectional heteroscedasticity. Hence, we replace the panel OLS (POLS) residuals with panel-corrected standard errors (PCSE) following the proposal by Beck and Katz (1995). Fourth, we perform the version of the Hausman test for endogeneity proposed by Davidson and Mackinnon (1993) on the three fiscal variables on the right-hand side of the equation. Significant endogeneity problems are clearly discarded. Finally, heterogeneity in slopes, especially for the main variable *DEF*, is not a relevant problem either.

The econometric results are reported in Table 5. In columns (2) and (4), interest payments are subtracted from variable *E* to check for potential bias in the results due to differences in the cost of the debt stock. As argued above, most of the fiscal adjustment relies on expenditure cuts (non-financial revenues are not relevant to the explanation

Table 6. GMM Estimates of Equation (2). Period 2004 to 2017.

	(1)	(2)	(3)
ΔE_{it-1}	−0.15** (2.06)	−0.15** (2.49)	−0.16*** (2.75)
ΔR_{it-1}	−0.19 (1.09)	−0.22 (1.37)	−0.20 (1.08)
D_{it-1}	−0.61*** (6.10)	−0.63*** (5.71)	−0.67** (7.23)
Change$_{it}$	0.004 (0.52)		0.006 (0.98)
Elections$_{it}$	−0.006 (1.56)		−0.006 (1.66)
RIGHTMAJORITY$_{it}$	0.002 (0.49)		
CHANGE$_{it} \cdot D_{it-1}$	−0.23 (1.16)	−0.14** (2.07)	−0.27* (1.82)
ELECTIONS$_{it} \cdot D_{it-1}$	0.42* (1.86)	0.24* (1.74)	0.28** (1.94)
RIGHTMAJORITY$_{it} \cdot D_{it-1}$	−0.14 (0.66)	−0.13 (1.08)	
Observations	180	180	180
RMSE	0.0102	0.0101	0.0103
Sargan test (*p*-value)	.12	.07	.13
A–B AR(2) (*p*-value)	.53	.32	.49
Individual/period fixed effects	Yes/Yes	Yes/Yes	Yes/Yes

Note. Instruments included lagged values of: ΔE_{it-1}, ΔR_{it-1}, and D_{it-1}, and period dummy variables.
***p*, **p*, and *p* indicates statistical significance at .01, .05, and .10 levels, respectively.

of expenditure dynamics) and the vector error correction model (VECM) works as expected: past fiscal imbalances push down expenditure. In other words, the higher the deficit in year $t−1$, the higher the probability of adjustments in expenditure. By contrast, changes in revenues do not affect expenditure.

Concerning the political variables, they are not significant in levels, but both *Change* and *Elections* are significant when interacting with deficit. The interpretation of this econometric result is that political variables themselves do not affect changes in expenditure, but they influence the effect of past imbalances on expenditure. Adjustments in expenditure to reduce the deficit are set aside in election years. The coefficient for the interaction *Elections*$_{it} \cdot D_{it-1}$ is very similar to the coefficient for D_{it-1} in absolute values but has the opposite sign. Hence, the effect of the deficit fades in election years. Regarding *Change*$_{it} \cdot D_{it-1}$, the econometric results confirm that a change of incumbents boosts fiscal consolidation and slows spending growth.

Regarding the statistical irrelevance of the interaction of deficit with *Ideology* and *Coalition*, the results hold when both variables are replaced with *Right_majority* (columns 3 and 4). Finally, including interest payments in the definition of *E* does not change the main results either.

As mentioned above, we also use the Arellano–Bond estimator as a robustness check, including individual effects. The instruments are the lagged values of deficit, expenditure, and revenues and a set of time period dummies (Table 6). The results are close to those in Table 5. Column 1 replicates column 3 in Table 5. In column 2, dummies in levels are excluded. Hence, the interactions capture the total effect of the corresponding variables. Finally, in column 3, irrelevant variables are set aside to increase the efficiency of the estimate. The statistical significances are very similar to those in Table 5, but the coefficient for *DEF* increases, involving a

stronger correction depending on the deficit in the previous year. In sum, ideology and governments' political support do not systematically matter for fiscal consolidation dynamics but the electoral cycle and changes of governments do.

Conclusions

In this paper, we assess the determinants of the response of Spanish regional governments to fiscal imbalances following the standard methodology proposed by Buetter and Wildasin (2006). After providing a brief review of both the theoretical and the empirical literature on the political determinants of fiscal imbalances, we examine the dynamics of regional public finances in Spain over the period 2004 to 2017 to measure the impact of political variables on the fiscal consolidation process.

Insofar as most of the fiscal adjustment is based on spending cuts, our attention is focused on this variable. The results confirm that past fiscal imbalances push down expenditure and that this effect depends on politics. Confirming the electoral budget cycle hypothesis, fiscal consolidations tend to stop in electoral years. Moreover, when elections involve changes in incumbents, both the expenditure adjustment and the fiscal consolidation are boosted. Interestingly, the effect of both political variables is not direct but conditioned on the size of the fiscal deficit: they only modify the fiscal adjustment path, boosting, or stopping it. By contrast, the ideology of the incumbent and the political support of the incumbent do not systematically affect choices relating to expenditure dynamics.

Concerning future research, we plan to complement the methodological approach used in this paper with an analysis of changes in fiscal policy stances, following Ramey (2011), and then to check whether those exogenous policy shocks are explained by the political factors considered in this paper.

ORCID iD

Santiago Lago-Peñas [iD] https://orcid.org/0000-0003-4601-8655

References

Aidt, T. S., Veiga, F. J., & Veiga, L. G. (2011). Election results and opportunistic policies: A new test of the rational political business cycle model. *Public Choice*, *148*, 21–44.

AIReF. (2016). *Informe sobre el establecimiento de los objetivos individuales de estabilidad presupuestaria y deuda pública para las Comunidades Autónomas*. https://www.airef.es/es/centro-documental/informes/objetivos-ccaa/informe-completo-sobre-el-establecimiento-de-los-objetivos-individuales-de-estabilidad-presupuestaria-y-deuda-publica-para-las-ccaa/

Alesina, A., Favero, C., & Giavazzi, F. (2019). *Austerity: When it works and when it doesn't*. Princeton University Press.

Alesina, A., Hausmann, R., Hommes, R., & Stein, E. (1999). Budget institutions and fiscal performance in Latin America. *Journal of Development Economics*, *59*(2), 253–273.

Alesina, A., & Tabellini, G. (1990). A positive theory of fiscal deficits and government debt. *Review of Economic Studies*, *57*(3), 403–414.

Allan, J., & Scruggs, L. (2004). Political partisanship and welfare state reform in advanced industrial societies. *American Journal of Political Science*, *48*(3), 496–512.

Allison, P., Williams, R., & Moral-Benito, E. (2017). Maximum likelihood for cross-lagged panel models with fixed effects. *Socius: Sociological Research for a Dynamic Word*, *3*, 1–17.

Alt, J., & Lassen, D. (2006). Fiscal transparency, political parties and debt in OECD countries. *European Economic Review*, *50*(6), 1403–1439.

Arellano, M., & Bond, S. R. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *Review of Economic Studies*, *58*(2), 277–297.

Artés, J., & Jurado, I. (2018). Government fragmentation and fiscal deficits: A regression discontinuity approach. *Public Choice*, *175*(3–4), 367–391.

Beck, N., & Katz, J. (1995). What to do (and not to do) with time-series cross-section data. *American Political Science Review*, *89*(3), 634–647.

Beck, N., & Katz, J. (2011). Modelling dynamics in time-series-cross-section political economy data. *Annual Review of Political Science*, *14*, 331–352.

Blais, A., Kim, J., & Foucault, M. (2010). Public spending, public deficits and government coalitions. *Politic Studies*, *58*(5), 829–846.

Borge, L. (2005). Strong politicians, small deficits: Evidence from Norwegian local governments. *European Journal of Political Economy*, *21*, 325–344.

Bohn, H., & Inman, R. (1996). *Balanced budget rules and public deficits: Evidence from the U.S. States* (NBER WP 5533).

Brender, A., & Drazen, A. (2005). Political budget cycles in new versus established democracies. *Journal of Monetary Economics*, *52*(7), 1271–1295.

Buchanan, J. M., & Wagner, R. E. (1977). *Democracy in deficit*. Academic Press.

Buettner, T., & Wildasin, D. E. (2006). The dynamics of municipal fiscal adjustment. *Journal of Public Economics*, *90*, 1115–1132.

Chang, C., Kim, Y., & Ying, Y. (2009). Economics and politics in the United States: A state-level investigation. *Journal of Economic Policy Reform*, *12*(4), 343–354.

Clingermayer, J. C. (1991). An intergenerational transfer model of state debt financing. *Public Choice*, *72*, 13–21.

Davidson, R., & MacKinnon, J. G. (1993). *Estimation and inference in econometrics*. OUP.

Delgado-Téllez, M., Lledó, V., & Pérez, J. J. (2017). *On the determinants of fiscal non-compliance: An empirical analysis of Spain's regions* (IMF WP/17/5). https://www.researchgate.net/publication/314714210_On_the_Determinants_of_Fiscal_Non-Compliance_An_Empirical_Analysis_of_Spain%27s_Regions

D'almeida, A., & Mourao, P. (2017). The irrelevance of political party differences for public finances: Evidence from public deficit and debt in Portugal (1974–2012). *European Review*, *25*(4), 560–587.

Dellepiane, S., & Hardiman, S. (2015). Fiscal politics in time: Pathways to fiscal consolidation in Ireland, Greece, Britain, and Spain, 1980–2012. *European Political Science Review*, *7*(2), 189–219.

Drazen, A., & Eslava, M. (2005). *Electoral manipulation via expenditure composition: Theory and evidence* (NBER Working Paper 11085).

Holtz-Eakin, D., Newey, W., & Rosen, H. (1989). The revenue–expenditure nexus: evidence from local government data. *International Economic Review*, *30*, 415–429.

Hooghe, L., Marks, G., Schakel, A. H., Osterkatz, S. C., Niedzwiecki, S., & Shair-Rosenfield, S. (2016). *A postfunctionalist theory of governance. Volume I: Measuring regional authority*. OUP.

Hübscher, E. (2016). The politics of fiscal consolidation revisited. *Journal of Public Policy*, *36*(4), 573–601.

Lago-Peñas, S. (2015). Remaining challenges to budgetary stability in Spain. *SEFO*, *4*(2), 53–61.

Lago-Peñas, S., Fernández-Leiceaga, X., & Vaquero-García, A. (2017). ¿Por qué Incumplen las Comunidades Autónomas? *Investigaciones Regionales/Journal of Regional Research*, *37*, 7–29.

Leal, A., & López-Laborda, J. (2015). Un Estudio de los Factores Determinantes de las Desviaciones Presupuestarias en las Comunidades Autónomas en el Período 2003–2012.

Investigaciones Regionales/Journal of Regional Research, *31*, 35–58.

Mink, M., & De Haan, J. (2006). Are there political budget cycle in Euro Area. *European Union Politics*, *7*(2), 191–211.

Moral-Benito, E., Allison, P., & Williams, R. (2019). Dynamic panel data modelling using maximum likelihood: An alternative to Arellano-Bond. *Applied Economics*, *51*, 2221–2232.

Mussons-Olivella, J. M. (2020). Fiscal responsiveness to public debt: An analysis of regional debt limit uncertainty in Spain. *Hacienda Pública Española/Review of Public Economics*, *233*(2), 55–83.

Nickell, S. (1981). Biases in dynamic models with fixed effects. *Econometrica*, *49*(6), 1417–426.

Persson, T. (2001). *Do political institutions shape economic policy?* (NBER, WP 8214).

Persson, T., & Svensson, E. (1989). Why a stubborn conservative would run a deficit: Policy with time-inconsistent preferences. *The Quarterly Journal of Economics*, *104*(2), 325–345.

Persson, T., & Tabellini, G. (2000). Political economics and macroeconomic policy. In J. Taylor & M. Woodford (eds.), *Handbook of macroeconomics*. North-Holland.

Persson, T., & Tabellini, G. (2003). *The economic effects of constitutions: What do the dataSay?* MIT Press.

Pettersson-Lidbom, P. (2001). An empirical investigation of the strategic use of debt. *Journal of Political Economy*, *109*(3), 570–583.

Poterba, J. M. (1994). State responses to fiscal crises: The effects of budgetary institutions and politics. *Journal of Political Economy*, *102*(4), 799–821.

Ramey, V. A. (2011). Identifying government spending shocks: It's all in the timing. *Quarterly Journal of Economics*, *126*(1), 1–50.

Ribeiro, N. A., & Jorge, S. (2015). Political-ideological circumstances and local authorities' debt: Evidence from Portuguese municipalities. *Contemporary Economics*, *9*(2), 155–170.

Roubini, N., & Sachs, J. (1989a). Government spending and budget deficits in the industrial countries. *Economic Policy*, *4*(8), 100–132.

Roubini, N., & Sachs, J. (1989b). Political and economic determinants of budget deficits in industrial democracies. *European Economic Review*, *33*, 903–938.

Rose, S. (2006). Do fiscal rules dampen the political business cycle? *Public Choice*, *128*, 407–431.

Schuknecht, L. (1994). *Political business cycles and expenditure policies in developing countries* (IMF Working Paper 121). https://www.imf.org/en/Publications/WP/Issues/2016/12/30/Political-Business-Cycles-and-Expenditure-Policies-in-Developing-Countries-1253

Shi, M., & Svensson, J. (2006). Political budget cycles: Do they differ across countries and why? *Journal of Public Economics*, *90*, 1367–1389.

Veiga, L. G., & Veiga, F. J. (2007). Political business cycles at the municipal level. *Public Choice*, *131*, 45–64.

Von Hagen, J. (1991). A note on the empirical effectiveness of formal fiscal restraints. *Journal of Public Economics*, *44*, 199–210.

Woo, J. (2003). Economic, political, and institutional determinants of public deficits. *Journal of Public Economic*, *87*(3–4), 387–426.

Zabalza, A. (2021). The provision of public services under conditions of financial stress: Evidence from Spanish autonomous communities. *Hacienda Pública Española/Review of Public Economics*, *236*(1), 65–104.