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The Euro Zone Peripheral Countries' Sovereign Debt Crisis: Also a Case of Non-Mature Democracies?

Summary: The euro zone peripheral countries face a profound sovereign debt crisis threatening the very existence of the euro as we know it. Therefore, the study of the various factors contributing to this crisis is of the utmost importance. Given the set of the twelve initial member States, the euro zone peripheral countries (Portugal, Greece, and Spain) have in common the fact that they are recent democracies. Independently from other valid approaches to this question, the specific contribution of this paper is to focus on the role played by institutional and political variables in the behavior of fiscal variables. We show that the behavior of these variables is indeed statistically different from the one observed for the other euro zone countries, which are mature democracies. These outcomes are also in line with what that literature expects from the relationship between non-mature democracies and the incidence of election year budget cycles.

Key words: Fiscal policy, Political budget cycles, New democracies.

JEL: H2, H5, H6.

The euro zone is going through very difficult times. Greece, Ireland, and Portugal (GPS) have been intervened by the European Commission, the European Central Bank, and the International Monetary Fund. These institutions provided them with financial assistance in exchange for substantial general government expenditure cuts and increased revenues, taxes and otherwise, in order to reduce budget deficits and public debt to sustainable levels, as well as deep structural reforms. Furthermore, financial markets have shown continual doubts on the ability of Spain to go without a similar intervention. More recently, the same doubts began afflicting Italy, forcing a government change to a more technocratic-oriented one, as had been the case in Greece a short while ago.

Except for Ireland, those are all southern European countries. On the other hand, it is widely agreed that Ireland's sovereign debt problems arose from a bubble burst in its banking sector. In addition, Greece, Portugal and Spain share the important characteristic of being recent democracies, which set them apart from the other nine initial euro zone member States. In Portugal and Greece, the dictatorships in power collapsed in 1974; in Spain, the death of Franco in 1975 opened way to democracy under the leadership of the new king.

To the diverse and complimentary economic literature that provides the theoretical foundations to this paper, governments' actual management of public finances is the outcome of a political process between politicians and voters by means of which both groups try to improve their welfare. The explanatory factors considered by that literature's numerous contributions fall under diverse categories. For illustrative purposes, we mention the role played by pressure groups, the ideological orientation of the political parties in government, institutional variables imposed by constitutional rules, the level of political fragmentation, and the role played by political budget cycles. For these cycles to happen, the theory requires several prerequisites, mainly the country's degree of economic development and the overall quality of its democracy in connection to the transparency of the budgetary process. This factor includes the ability of voters to access and decode economic and political information in order to restrict the ability of politicians to manipulate fiscal variables for electoral purposes.

The main goal of this paper is to analyze the impact of political and institutional variables on fiscal variables (like total government expenditures, social security expenditures, total tax revenues, and the budget surplus) of the GPS, in the context of mature democracies versus non-mature democracies.

We apply panel data estimation techniques, and we use annual data from the initial eleven funding members of the euro zone plus Greece in the period from 1976 to 2008.

The paper is organized as follows: Section 1 reviews the abundant related and diverse literature on which this paper has its theoretical foundations; Section 2 describes the model to be tested and the data set used; Section 3 presents and discusses the estimated results. Finally, Section 4 draws the conclusions.

1. The Budget as a Political Process

William D. Nordhaus (1975) and Assar Lindbeck (1976) were the first to think about the economic implications of elections, giving rise to the so-called opportunistic view. In order to boost their probabilities of re-election, incumbents try to stimulate economic growth and reduce unemployment in election years at the expense of more inflation, hence generating political business cycles. Given that this approach lacked empirical and theoretical support (Alberto Alesina and Nouriel Roubini 1992), it was later modified by various authors among whom Susanne Lohmann (1998), Kenneth Rogoff and Anne Sibert (1988), Rogoff (1990), Torsten Persson and Guido Tabellini (1990, 2002), and Min Shi and Jakob Svensson (2006) into what is currently known as political budget cycles. With the same opportunistic goal in sight, before elections politicians manipulate the level of fiscal variables directly under their control, such as expenditures, and fiscal revenues. Therefore, countries would face expansionary fiscal pre-election cycles, and then contractionary post-election fiscal cycles intended to correct for the distortions arising from the former. However, the ability to pursue political budget cycles in levels might be constrained by institutional factors imposing limits on public finances, like in the value of the deficit and in the stock of debt as a proportion to GDP, as in the euro zone. Therefore, manipulation of the composition of revenues and expenditures, rather than their levels, is another possibility pre-

dicted by this literature (Rogoff 1990). Following this hypothesis, incumbents would prefer to allocate extra funds to visible expenditures in detriment of less visible ones, for instance, more social transfers but less investment (Rober J. Franzese 2002; Allan Drazen and Marcela Eslava 2005, 2006; James E. Alt and David Dreyer Lassen 2006a, 2006b). However, the empirical literature is not conclusive in this respect since whilst some authors find evidence supporting political budget cycles, no matter the country's degree of economic development, others do not (Christina Schneider 2010, p.128).

The approaches to political budget cycles are adverse selection and moral hazard-based models focusing on three elements: (i) signaling of competence by politicians to voters; (ii) rational expectations formation by voters coupled with incomplete information; (iii) strategic behavior on by both politicians and voters. The assumption of incomplete information relates to voters' and politicians' ignorance of politicians' actual competence levels, as well as to the hidden efforts they undertake. These efforts, leading to lower taxes, higher expenditures and deficits, or to the re-composition of expenditures, are observable by the public only with a time lag, serve to distort voters' perception of politicians' competence, favoring their odds of re-election. The transparency of the budgetary process is a central element to this theory. The ability of the public to access and understand information on the budget in due time is crucial to reduce the occurrence of political budget cycles, and might be impaired in many ways. The opaqueness of the whole set of rules on how budgets are prepared, approved and executed is one such way. Another likely way are all sorts of barriers that electors have to overcome to access existing information; for example, no full access to the media owing to economic, legal or other types of constraints, or then the information provided is intentionally distorted. This latter case includes government decisions leading to the elimination of some expenditure items from the government budget by means of transferring them to entities outside the government perimeter, or even the manipulation of important statistical data as was apparently the case in Greece. Electors' experience with the actual workings of a democracy also impacts upon the transparency of the budgetary process in the sense that the more experienced they are, the more difficult it is for politicians to hide and distort relevant information (Adi Brender and Drazen 2003, 2005, 2007). Transparency considerations have thus led the literature to think over the effects of recent versus mature democracies on the incidence of political budget cycles, and the hypothesis tested is that in non-mature democracies transparency is low, subjecting the countries involved to those cycles (Maria de Los Angeles Gonzalez 2002). Brender and Drazen (2003, 2005) conclude that the political budget cycles found by the empirical literature are due to samples that include both mature and non-mature democracies simply because that is a specific attribute of new democracies. Akhmed Akhmedov and Ekaterina Zhuravskaya (2004) also find strong evidence supporting sizable and short-lived political budget cycles in the case of the recent Russian democracy, which came into existence after the implosion of the communist dictatorship, and conclude that their magnitudes decrease with democracy, and transparency.

The population's level of education is generally regarded as a proxy for the transparency of the budgetary process on the grounds that the higher it is the higher

voter's ability to understand and decode information. That is why the literature refers to mature democracies and developed countries' voters as fiscal conservatives. However, in the framework of new democracies where by definition electors are politically less experienced, the inclusion of education with that purpose in mind is not necessarily a sound choice. In that particular political context, and especially in comparatively less developed countries with strong emigration traditions, as is the case with the GPS, it is quite possible that education plays a different role on the budget. The emulation of consumption patterns prevailing in the more developed euro zone countries, coupled with fiscal illusion, might play a stronger influence. In fact, when these countries were preparing their accession to the euro zone one of the difficulties most emphasized by government officials and academics alike was precisely that. If that is the case, then the sign of the estimated coefficient on the level of education is reversed.

Alan H. Meltzer and Scott F. Richard (1981) theorize that population groups whose incomes are lower than average favor income redistribution in their favor, vote on political parties that respond positively to their preferences and, in the process, lead to a deterioration of the fiscal budget unless higher enough taxes are levied on other population groups. Elderly population is one such possible group. The influence played by pressure groups such as trade unions is equally stressed in the economic literature by authors such as Mancur Olson (1965), Gary S. Becker (1983), and John R. Lott and Lawrence W. Kenny (1999). These perspectives are closely related to the so-called partisan approach first introduced by Douglas A. Hibbs (1977) who stresses the ideological bias of political parties and governments. The idea is that they serve the ideological and economic preferences of their constituencies. Left wing parties and governments favor income redistribution and low unemployment, whereas right wing governments emphasize economic efficiency and low inflation. That is, higher expenditures are expected in the first case, resulting in a bias towards fiscal deficits. However, the soundness of this approach requires political parties whose programs and practices remain static with respect to the usual ideological tenets, instead of converging to the center of the political spectrum over time.

Political fragmentation is given much emphasis in the economic literature (Alesina and Roberto Perotti 1996; Yianos Kontopoulos and Perotti 1999; Mark Hallerberg, Rolf Strauch, and Jürgen von Hagen 2007). In general, it is assumed that the higher political fragmentation is, the weaker the government. The expected outcomes are higher expenditures, lower revenues, and higher fiscal deficits owing to the government's failure to oppose competing groups pressing for budgetary benefits. Under this perspective, the budget becomes a common good with asymmetrically distributed benefits and costs among community members. Roubini and Jeffrey Sachs (1989a, 1989b) provide empirical evidence in favor of this hypothesis; however, Per-Anders Edin and Henry Ohlsson (1991) and Jakob Haan and Jan Egbert Sturm (1994) dispute their findings on several grounds. In fact, there is abundant historical evidence showing that coalition governments, and even caretaker or non-party governments, are often empowered to provide countries with the political strength required to solve their most severe problems.

In spite of its intuition, the degree of social inequality is rarely taken into account by the empirical literature. To the best of our knowledge, Aandrew Berg and Sachs (1988) and Jaejoon Woo (2003) are the few examples available. Woo assumes that higher Gini coefficients lead to higher deficits on the assumption of underlying incentives to undertake populist policies for income redistribution. The sign he expects for that estimated coefficient is debatable because high social polarization means in fact low-income redistribution, therefore lower taxation and social transfers than would be required to achieve a more balanced income distribution.

2. Model and Data Set

From the well-known budget constraint of the government, assuming no monetization of the budget deficit, we derive the relationship between changes in the period's stock of debt and the budget balance:

$$\Delta D_t = (G_t - T_t) \quad (1)$$

where the symbols stand for: t , time period t ; G_t , government expenditures; T_t , government fiscal revenues; and ΔD_t , change in the period's government's stock of debt.

Thus, government's debt is a function of its budget balance and, consequently, of all factors explaining government's expenditures and revenues.

A panel data approach, controlling for countries' and time fixed effects, is used to estimate the effects of political and institutional variables on some selected fiscal variables. Since the data set includes all the countries, it seems to be preferable to employ the fixed effects estimation. Besides, Hausman test (Jerry A. Hausman 1978) indicates that fixed effects specification is preferable to a random effects model.

The model tested is:

$$F_{i,t} = \alpha_0 + \alpha_i + \omega_t + \beta_1 UD_{i,t} + \beta_2 ELD_{i,t} + \beta_3 GOVP_{i,t} + \beta_4 GOVF_{i,t} + \beta_5 GINI_{i,t} + \beta_6 SECED_{i,t} + \beta_7 YELEC_{i,t} + \beta_8 PYELC_{i,t} + \gamma X_{i,t} + \varepsilon_{i,t} \quad (2)$$

where $F_{i,t}$ is a fiscal dependent variable in country i in year t . The selected dependent variables are total government expenditures, social security expenditures, total tax revenues, and the budget surplus, all in proportion to GDP. All these five variables are general government's. Total tax revenues evaluated in this manner turn out to be the countries' effective average tax rate.

As regressors, we include the institutional and political variables related to the various contributions of the literature reviewed in Section 2, as well as a set of control variables. $UD_{i,t}$ stands for trade union density measured as net union membership as a fraction of wage and salary earners. $ELD_{i,t}$ is the proportion of the country's total population aged at least 65 years old. $GOVP_{i,t}$ captures the ideological composition of the cabinet, and assumes values from (1) for hegemony of right-wing parties, up to (5) for hegemony of social democratic and other left wing parties. $GOVF_{i,t}$ is the level of legislative fragmentation; it takes values from (1) for single party majority governments, up to (6) for caretaker and non-party governments. $GINI_{i,t}$ is the analogous measure of relative income distribution and social cohesion.

$SECED_{i,t}$ is the level of secondary education, which increases with the values taken by that variable, measured as the percentage of the population that finished secondary school. To capture the effect of elections on the selected fiscal variables we include an indicator, $YELEC_{i,t}$, that is computed according to Equation (3) (we follow Franzese 2000, p. 63):

$$YELEC_{i,t} = \begin{cases} \frac{(M-1) + \frac{d}{D}}{12} & \text{in an election year} \\ 1 - \frac{(M-1) + \frac{d}{D}}{12} & \text{in a year before an election year} \\ 0 & \text{in all other years} \end{cases} \quad (3)$$

where M is the month of the election, d is the day of the election, and D is the number of days in that month. $YELEC_{i,t}$ takes values between approximately zero (if the election takes place on the 1st of January) and it increases as the date of the election approaches the end of the year (to a maximum of one if the election takes place on the last day of December), taking into account the timing of an election. Note that if there are elections in two consecutive years, in the first election year both the first and the second branch of Equation (3) have positive values, and $YELEC_{i,t}$ can be greater than 1. Since this is very unusual (it only happened three times in the entire sample), we cap $YELEC_{i,t}$ at one. In order to detect post-election year budget cycles or, for that matter, counter budget cycles intended to correct fiscal decisions taken in election years, we also include a variable $PYELEC_{i,t}$ defined as:

$$PYELEC_{i,t} = YELEC_{i,t-1} \quad (4)$$

$\mathbf{X}_{i,t}$ is a vector of control variables that includes the unemployment rate $U_{i,t}$, the degree of openness of the economy $OPENC_{i,t}$, and one period lagged general government stock of debt in proportion of GDP, $DEBT_{i,t-1}$. The unemployment rate, which has several advantages over alternatives such the output gap (see Abel L. Costa Fernandes and Paulo Mota 2011, p. 632) is included to control for the economic cycle. Trade openness is a variable very often present in fiscal policy models since early times. A first line of reasoning considers that open economies are exposed to world market fluctuations out of their control and, therefore, are subject to increased volatility of the business cycle. A way to manage this higher risk is through increased government intervention in the economy with particular emphasis on the social sector (see, e.g., Gunnar Myrdal 1960; David Cameron 1978). However, this analysis abstracts from the implications of increased international economic integration, and the progressive dismantling of tariff barriers, which tear down the effectiveness of those attempts to insulate national economies from unfavorable outside events. Therefore, these other circumstances could reduce both tax revenues and public expenditures as economies become increasingly more open (Raymond Vernon 1974). Additionally, openness should have a positive effect on economic growth, which contributes to the reduction of the debt to GDP ratio (Berg and Krueger 2003).

The lagged general government stock of debt to GDP ratio is included to control, for governments' reaction functions to an excessive public debt to GDP ratio in accordance to the fiscal rules imposed by the Maastricht Treaty. α_i is country i 's fixed effect, ω_t is period t 's fixed effect, and $\varepsilon_{i,t}$ is a white noise term.

To differentiate between mature and recent democracies, our countries' sample was divided by means of a multiplicative dummy taking the value of one for GPS, and zero for non-GPS countries. Then, to differentiate the effects in the five states presently in difficulties, we introduce a multiplicative dummy variable, $GPSII_{i,t}$, taking the value of one for the GPS plus Ireland and Italy, and zero for the others. Finally, we exclude the GPS from the sample and re-estimated the model for the remaining nine member states, with a multiplicative dummy variable, $II_{i,t}$, taking the value of one for Italy and Ireland, and zero for the other countries. With this latter model estimation, we test the hypothesis that the performance of these two developed and mature democracies do not differ significantly from the other seven member states with those same characteristics.

Except for the fiscal variables, data was collected from Comparative Political Data Set I (Klaus Armigeon et al. 2010). Data for general government's total expenditures, fiscal revenues, social security transfers and the budget surplus are from OECD Economic Outlook Statistics and Projections.

The model was estimated for the period 1976-2008 (32 years of observations), taking into account the 11 founding euro zone member States plus Greece that adopted the Euro in 2001. The choice of the initial year is explained by the fact that by then all the countries had become democracies. The panel is unbalanced due to missing observations.

The summary descriptive statistics by variable and by country are in Table 1.

3. The Estimated Results

Before estimating Equation (2) we performed panel unit root tests using the Levin, Lin Chu test with individual intercept and trend (see Andrew Levin, Chien-Fu Lin, and Chia-Shang James Chu 2002). We consider all the series that exhibit a continuum set of values. The statistics of the tests are -7.087, -7.106, -6.655 and -7.008, when we consider respectively total expenditures, social security expenditures, total tax revenues and budget surplus, together with the regressors. This means that we reject the existence of a common unit root process.

Tables 2 through 6 report the estimated results. We have first estimated the base line model for the 11 initial euro zone member states plus Greece. Then we carried on with our estimates, firstly introducing dummies for the GPS, followed by the addition of Italy and Ireland. Secondly, we excluded the GPS from the sample and re-estimated the model for the remaining nine member states, with dummies for Italy and Ireland.

In all cases the computed adjusted R^2 show that the model has high explanatory power, and provides strong and enlightening results.

Beginning with the results relative to general government expenditures (see Table 2), and taking the base line model first, there are no election or post-election

year budget cycles; education and governments' ideology are not statistically significant, but the coefficients on union density and elderly population are positive and significant, whereas legislative fragmentation and the *GINI* coefficient are significantly negative. Except for legislative fragmentation, which has a tightening effect upon expenditures, all signs are as expected. In our view, the strong institutional external constraints arising from the Treaty of Maastricht and the Stability and Growth Pact justify the effect of fragmentation. The data shows that, for the most part, the preparation and actual management of the new currency regime was not the responsibility of single party majority governments. On the other hand, the estimated coefficients on the control variables such as the unemployment rate and the one period lagged debt uncover anti-cyclical expenditure policies coupled with a slight effort on debt control.

Once we divide the sample between GPS and non-GPS countries, we find some striking differences. For the GPS, governments' ideology and fragmentation, education, and election and post-election year budget cycles are all significantly different from the same variables estimated coefficients for the other nine countries. While government ideology plays a restraining role among these, it is just the opposite among the GPS where, except for Portugal, social democratic and other left party have prevailed in government. These results confirm the role that the literature has come to expect from ideologies in the management of public expenditures. And now, even though legislative fragmentation continues to have a tightening effect upon expenditures, it is much weaker than among non-GPS, just -0.17 ; it sounds as if among GPS the external institutional constraints associated with the adoption of the euro were less strictly applied. Education is not relevant when it comes to non-GPS countries, but it is, and positively so when it comes to the GPS. Finally, in line with the literature, the GPS exhibit election year budget cycles reinforced by post-election year budget cycles. All considered, these empirical results show that the GPS have experienced significantly tough pressures on their public expenditures, different in nature from those experienced by their non-GPS counterparts.

When we add Italy and Ireland to the GPS set and re-estimate the model, the empirical results are unmistakably dissimilar, clearly distinguishing between these two different sets of countries. Now, governments' fragmentation, education, election-year, and post-election year budget cycles are not statistically different from those prevailing in the other seven countries. These results are qualitatively confirmed by the regressions reported on Table 6 where we have excluded the GPS and divided the remaining sample between Italy and Ireland, on one hand, and the other seven developed and democratically mature countries.

The outcomes on social security transfers on GPS exhibit striking differences relative to the rest of the sample (see Table 3). With the exception of union density, fragmentation, and the *GINI* coefficient, all the variables have significantly different estimated coefficients. The impact of the elderly population upon the dependent variable is positive, but unsurprisingly lower than among non-GPS. Our explanations for this are comparatively lower pensions and survival rates for retired citizens in the GPS countries. Government ideology contributes positively to this type of expenditures, that is, social transfers tend to increase as governments' ideology moves to the

left, and vice-versa, precisely what the theory expects; however, it plays no role among non-GPS.

It is as if in developed and mature democracies ideological polarization has vanished and its place taken by political competition, that is, non-ideological competition among political parties shown by a tendency to move towards the center of the political spectrum.

Concerning education, it has a negative influence among non-GPS, but a positive one among GPS. We rationalize the first of these results on the grounds of the positive association between education and personal income. The positive impact of this explanatory variable among GPS might be explained on similar grounds: GDP growth, which is a variable highly correlated with education, makes it more feasible to increase the level of income redistribution. Indeed, on the part of both Greece and Spain there were significant income redistribution efforts discernible in their shrinking GINI coefficients. This also applies to Italy and France, but not to Portugal and to the other countries in the sample. Besides, and most importantly, in the GPS there are election year budget cycles and positive post-election year budget cycles, that is, increased social expenditures on election years are reinforced in the following year. As Lunger Schuknecht (2000, p. 118) points out, some expenditure increases are difficult to reverse once installed. When we add Ireland and Italy, some of the estimated coefficients change significantly, most notably those related to political variables. The analysis of this dependent variable is complete when we look at Table 6 and see that the performance of Italy and Ireland is again no different from that of the other seven developed and mature democracies, except for union density. The most important result to retain with respect to the control variables is the estimated positive coefficient on the one period lagged debt; it shows that policies undertaken to control debt through general expenditures and taxation, as shown in Tables 2 and 4, produce socially negative effects demanding higher social expenditures.

With respect to fiscal revenues (see Table 4), all variables are significantly different among GPS countries in comparison to non-GPS nations, except for post-election year budget cycles. A result to be emphasized is the non-existence of political budget cycles in the developed and mature economies of the sample; moreover, post-election year cycles are absent in all cases. Union density and the Gini coefficient wield a stronger depressing effect upon GPS's fiscal revenues relative to the other countries. Even though elderly population calls for more fiscal revenues, for GPS's it does so for a value that is roughly half the case for non-GPS. Besides, among the latter education acts negatively upon taxes, the opposite being true for the GPS. Government's ideology is not statistically significant among non-GPS, but it is so among GPS. Once again, ideology plays its classical role in these countries: there, left-wing ideologies are more committed to redistribution through taxation, unveiling a strong ideological polarization along traditional lines typical of countries with infant democratic regimes. Among the GPS fragmentation concurs in the same positive direction validating the results already observed with expenditures, that is: coalition governments are not necessarily synonymous with political weakness as claimed by Roubini and Sachs (1989a, 1989b). Lastly, GPS experience election year positive taxation cycles. Even though tax cycles of this type run against conventional wisdom,

they might be explained by three factors: (i) under normal circumstances, fiscal measures applying in a particular fiscal year are inscribed in budgets produced and approved in the previous fiscal year which, combined with low levels of transparency, acts to prevent voters to be fully aware of what is going on; (ii) populist electoral campaigns directed at voters with lower than average incomes; (iii) the higher share of indirect taxation on fiscal revenues. Again, adding Ireland and Italy to the sub-sample brings out some significant qualitative changes, most notably the loss of statistical significance of the government fragmentation and election year budget cycles. Once more, Table 6 shows that in this respect Italy's and Ireland's performance is not statistically different from those pertaining to the other seven developed and mature democracies.

Let us now address the variable budget surplus. The results are reported in Table 5. Some of the tensions uncovered on GPS either on expenditures or on taxes do not show up in the budget surplus, such being the cases with ideology, union density, elderly and education whose estimated coefficients are not statistically different from non-GPS member states. Besides the specific negative impacts upon the budget balance arising from the Gini coefficient, by far the most remarkable and influential results on the GPS are found on the negative and statistically significant estimated coefficients for political budget cycles and post-election year cycles, all of which are absent among non-GPS. Hence, not only political budget cycles do prevail as they are reinforced in the following year in a very significant manner, instead of being reversed through post-election cycles. That is, there is no budget consolidation in the year following elections. This is not difficult to understand if we bear in mind that winning political parties need to fulfill their promises made during electoral campaigns, for the sake of their own credibility, coupled with the difficulty to reverse expenditures when in the form of entitlements. Consequently, budgetary problems in these countries show a strong and distinct tendency to worsen in a snowball effect. On the other hand, the influence played by political fragmentation on the budget balance is positive, even though much smaller than among non-GPS countries. Once again, Table 5 completely differentiates between the cases of GPS, on one hand, and Italy's and Ireland's on the other. Finally, on what accounts the control variables, countercyclical policies are unveiled in spite of the asymmetrical nature of fiscal policy, as well as a significant effort to control governments' debt.

4. Conclusions

The empirical tests just reported unveil strong and illuminating facts about GPS's management of the critical fiscal variables. The behavior of the institutional and, most especially, political variables is indeed statistically different from the one exhibited by the other countries. Government ideology has the typical influence expected by the literature along the spectrum from right to left. On the other hand, the attainment of higher education levels by a population long repressed by previous dictatorships in their ability to follow other countries' consumption patterns has pressed for high government expenditures, as opposed to the conservative fiscal preferences exhibited by the more developed and mature countries. Besides, and contrary to the point of view expressed by Roubini and Sachs (1989a, 1989b), our results prove that

legislative fragmentation is not necessarily synonymous with weak governments; indeed, circumstances understood as national emergencies may lead to the formation of coalitions, and even of caretaker governments, in order to accomplish such vital national goals. On the budget balance, even though some of the tensions subjecting GPS expenditures are compensated on the revenue side, as it is the case with governments' ideology, the same is not true with the role played by the GINI coefficient and, most importantly, by electoral year budget cycles and post-election year effects, all contributing to the deterioration of that balance. These latter effects are strong and cumulative, and quite distinct from non-GPS since they are non-existent there. Accordingly, these tests confirm some predictions from the economic literature, especially that political budget cycles are specific to non-mature democracies and developing countries.

In view of the information we were able to collect by means of these tests, it is only reasonable to say that GPS's present crisis was not a surprise. In spite of their present difficulties, Italy and Ireland are undoubtedly in the group of the developed and mature democracies, rather than in the GPS group, lending empirical support to the idea that their problems are mainly caused by different factors.

Also, in light of the empirical results presented by this paper, it seems correct to conclude that the way governments manage public finances in response to institutional and political variables appears to have a strong impact upon the accumulation of debt, without excluding other possible and powerful causes which, however, are not the concern of this research.

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Table 1 Summary Statistics of the Fiscal Dependent Variables

		A	B	Fi	Fr	G	Gr	Ir	It	L	N	P	S
General government expenditures	Mean	50.4	52.1	46.7	51.3	46.1	38.3	43.6	46.4	39.6	51.2	41.1	37.2
	Std dev	4.5	4.7	8.8	2.7	2.9	8.0	7.5	6.3	1.7	5.2	4.7	7.0
	Variation 1976-2008	4.1%	-0.7%	23%	18.9	-9.6	75.6%	-13.0%	27.3%	-0.1%	-11.4%	54.1%	50.5%
General government tax revenues	Mean	39.6	41.3	39.9	40.2	25.3	25.7	31.1	34.4	34.7	40.3	26.3	25.8
	Std dev	3.4	4.1	5.2	4.0	1.6	5.2	2.8	7.0	4.7	3.3	6.7	7.6
	Variation 1976-2008	17.5%	11.6%	6.8%	15.8%	3.3%	48.3%	-11.4%	64.1%	16.2%	-7.6%	70.3%	79.1%
General government social transfers	Mean	17.3	12.8	13.8	17.0	16.5	12.7	11.3	15.2	16.7	19.3	10.5	13.0
	Std dev	2.3	1.9	4.9	1.0	20.1	3.4	3.1	1.7	3.6	6.6	3.5	2.9
	Variation 1976-2008	14.9%	0.6%	32.4%	1.2%	-2.9%	59.5%	-3.3%	11.8%	-51.0%	-124%	25.7%	10.5
General government surplus	Mean	-0.2	0.9	2.2	-0.5	-0.2	-0.9	-0.2	-1.1	1.0	0.4	-0.6	-1.0
	Std dev	1.5	3.9	3.7	1.1	1.9	2.8	4.0	3.9	2.1	1.9	2.2	2.5
	Variation 1976-2008	151.4%	169.7%	-45.4%	-142%	-207%	711.9%	-109.9	142.1%	161.1%	404.2%	114.3%	-195.1
$UDENSITY_{i,t}$	Mean	49.9	50.9	67.4	14.3	30.7	32.9	53.8	39.1	45.8	29.5	34.0	16.1
	Std dev	10.6	4.6	11.4	5.6	4.8	6.0	9.0	6.8	3.2	6.4	16.9	8.3
	Variation 1976-2008	-45.9%	-0.6%	6.9%	-62.6%	-42.9%	-35.8%	-44.5%	-33.3%	-15.3%	43.0%	70.2%	67.6%
$ELDERLY_{i,t}$	Mean	15.0	14.9	12.6	14.3	15.6	13.9	11.1	14.7	13.4	12.2	13.7	13.0
	Std dev	0.8	1.5	2.5	1.4	2.1	2.6	0.2	3.1	0.7	1.5	2.9	2.8
	Variation 1976-2008	14.7%	22.9%	52.3%	22.8%	39.5%	49.2%	0.9%	69.2%	6.1%	36.7%	52.6%	53.7%
$GOVP_{i,t}$	Mode	3	3	3	1	1	5	1	3	3	1	1	5
$GOVF_{i,t}$	Mode	2	2	3	3	2	1	2	3	2	2	1	4
$GINI_{i,t}$	Mean	42.9	35.7	42.9	42.7	46.5	44.9	44.4	45.5	36.5	41.1	53.0	39.8
	Std dev	4.2	6.9	5.7	4.5	4.6	3.6	3.0	3.7	4.4	2.3	4.3	4.3
	Variation 1976-2008	13.7%	13.2%	23.2%	-4.9%	21.9%	-9.9%	16.3%	-7.0%	12.3%	7.3%	24.1%	-19.5%
$SECED_{i,t}$	Mean	31.1	23.9	17.1	19.4	21.9	25.1	25.3	18.8	22.7	28.8	7.7	13.3
	Std dev	7.7	7.8	5.7	12.1	15.1	3.0	40.5	8.5	5.7	10.4	3.8	5.9
	Variation 1976-2008	64.2%	87.0%	5.3%	376.9%	506.7%	87.5%	48.0%	195.0%	80.4%	65.6%	218.4%	178.5%
$DEBT_{i,t}$	Mean	50.8	100.0	34.5	48.3	43.5	60.9	69.2	92.9	8.8	70.5	68.3	57.6
	Std dev	19.4	28.1	20.1	17.1	17.3	40.3	25.9	28.0	2.7	13.7	4.2	11.0
	Variation 1976-2008	152.4%	64.0%	411.3%	158.5%	176.4%	448.9%	-23.7%	39.3%	203.7%	27.5%	9.2%	-3.5%
$U_{i,t}$	Mean	4.2	7.7	6.9	9.0	8.3	8.7	10.5	9.1	3.0	5.4	6.4	13.2
	Std dev	0.5	2.3	4.0	1.7	1.5	1.7	5.1	1.5	1.0	2.0	1.6	3.2
	Variation 1976-2008	-5.0%	-2.8%	42.2%	59.2%	73.8%	10.0%	-54.7%	-9.5%	44.1%	69.6%	-6.1%	90.0%
$OPENC_{i,t}$	Mean	71.7	128.3	57.9	42.6	51.0	44.4	114.0	41.7	201.9	107.3	58.2	37.7
	Std dev	15.5	25.0	10.4	8.5	13.7	10.0	33.0	8.0	43.6	16.0	9.39	13.3
	Variation 1976-2008	73.6%	59.2%	67.2%	40.1%	111.7%	40.7%	62.7%	36.8%	83.1%	47.4%	82.1%	96.8%

Note: A-Austria; B-Belgium; Fi-Finland; Fr-France; G-Germany; Gr-Greece; Ir-Ireland; It-Italy; L-Luxembourg; N-Netherlands; P-Portugal; S-Spain.

Source: Authors' estimations.

Table 2 Estimation Results – Fiscal Dependent Variable: General Government Expenditures

Variables	(I) Baseline		(II) GPS countries		(V) GPS plus Ireland and Italy		
	Coefficient	t-statistic	Coefficient	t-statistic	Variables	Coefficient	t-statistic
α_0	41.84***	5.39	40.78***	4.80	α_0	29.35***	3.95
<i>U</i>	1.30***	11.23	1.34***	12.79	<i>U</i>	1.19***	10.95
<i>DEBT</i> _{<i>t</i>-1}	-0.04*	-1.79	-0.04*	-1.77	<i>DEBT</i> _{<i>t</i>-1}	-0.03	-1.37
<i>OPENC</i>	-0.07**	-2.40	-0.06**	-2.07	<i>OPENC</i>	-0.08**	-2.48
<i>UD</i>	0.13**	2.19	0.10	1.24	<i>UD</i>	0.32***	5.27
<i>ELD</i>	0.69**	2.13	0.86***	2.68	<i>ELD</i>	1.54**	3.18
<i>GOVP</i>	-0.23	-1.53	-0.35**	-2.36	<i>GOVP</i>	-0.41***	-2.63
<i>GOVF</i>	-0.87***	-3.42	-1.29***	-3.69	<i>GOVF</i>	-1.17***	-3.81
<i>GINI</i>	-0.23***	-7.01	-0.22***	-6.86	<i>GINI</i>	-0.25***	-6.10
<i>SECED</i>	-0.02	-0.47	-0.04	-0.72	<i>SECED</i>	0.05	1.36
<i>YELEC</i>	-0.21	-0.31	-0.11	-0.16	<i>YELEC</i>	-0.42	-0.72
<i>PYELC</i>	0.66	1.39	0.66	1.16	<i>PYELC</i>	0.65**	1.30
<i>UD * GPS</i>			-0.10	-0.46	<i>UD * GPSII</i>	-0.38***	-5.94
<i>ELD * GPS</i>			-0.31	-0.74	<i>ELD * GPSII</i>	-1.41***	-4.68
<i>GOVP * GPS</i>			0.57***	2.73	<i>GOVP * GPSII</i>	0.49*	1.71
<i>GOVF * GPS</i>			1.12**	2.40	<i>GOVF * GPSII</i>	0.44	1.29
<i>GINI * GPS</i>			-0.11	-0.67	<i>GINI * GPSII</i>	0.28*	1.62
<i>SECED * GPS</i>			0.68**	2.29	<i>SECED * GPSII</i>	0.09	0.544
<i>YELEC * GPS</i>			0.27*	1.71	<i>YELEC * GPSII</i>	0.67	0.54
<i>PYELC * GPS</i>			0.25*	1.69	<i>PYELC * GPSII</i>	0.33	0.23
OBS / countries	230 / 12		230 / 12		230 / 12		
Time / country	Yes / Yes		Yes / Yes		Yes / Yes		
Fixed effects	Yes / Yes		Yes / Yes		Yes / Yes		
Adjusted R Squared	0.90		0.90		0.91		
DW	0.55		0.61		0.61		
F statistic	29.45		26.00		28.29		

Note: ***, **, and * indicate significance at 1, 5 and 10 percent respectively. *t*-statistics based on White cross-section consistent standard errors.

Source: Authors' estimations.

Table 3 Estimation Results – Fiscal Dependent Variable: General Government Social Transfers

Variables	(I) Baseline		(II) GPS countries		(III) GPS plus Ireland and Italy		
	Coefficient	t-statistic	Coefficient	t-statistic	Variables	Coefficient	t-statistic
α_0	6.43	0.91	6.88	0.95	α_0	-8.07	-1.61
U	0.71***	8.76	0.71***	11.11	U	0.77***	11.11
$DEBT_{t-1}$	0.02	1.60	0.03**	2.32	$DEBT_{t-1}$	0.05***	3.52
$OPENC$	0.02	0.64	0.02	0.90	$OPENC$	-0.02	-1.05
UD	-0.14***	-2.93	-0.21***	-3.07	UD	0.24**	2.21
ELD	1.24***	3.69	1.62***	3.84	ELD	1.80***	3.42
$GOVP$	-0.02	-0.23	-0.13	-1.34	$GOVP$	-0.07	-0.47
$GOVF$	-0.57***	-2.99	-0.72***	-2.61	$GOVF$	-0.28	-0.92
$GINI$	-0.13***	-5.36	-0.14***	-5.36	$GINI$	0.02	0.40
$SECED$	-0.13***	-4.19	-0.20***	-5.31	$SECED$	0.02	0.44
$YELEC$	-0.01	-0.02	0.09	0.14	$YELEC$	0.13	0.22
$PYELC$	0.22	0.42	-0.11	-0.17	$PYELC$	0.32	0.60
$UD * GPS$			-0.10	-0.65	$UD * GPSII$	-0.70***	-8.60
$ELD * GPS$			-1.39***	-3.42	$ELD * GPSII$	-1.87***	-4.56
$GOVP * GPS$			0.47***	2.86	$GOVP * GPSII$	0.30	1.26
$GOVF * GPS$			0.43	1.15	$GOVF * GPSII$	-0.01	-0.03
$GINI * GPS$			-0.12	-1.09	$GINI * GPSII$	-0.31***	-2.85
$SECED * GPS$			0.77**	2.77	$SECED * GPSII$	0.52***	5.54
$YELEC * GPS$			0.57*	1.65	$YELEC * GPSII$	-0.25	-0.38
$PYELC * GPS$			0.67*	1.66	$PYELC * GPSII$	0.31	0.36
OBS / countries	230 – 12		230 - 12		230 – 12		
Time / country	Yes / Yes		Yes / Yes		Yes / Yes		
Fixed effects							
Adjusted R Squared	0.73		0.74		0.84		
DW	0.24		0.28		0.37		
F statistic	8.83		7.95		13.91		

Note: ***, **, and * indicate significance at 1, 5 and 10 percent respectively. *t-statistics based on White cross-section consistent standard errors.

Source: Authors' estimations.

Table 4 Estimation Results – Fiscal Dependent Variable: General Government Tax Revenues

Variables	(I) Baseline		(II) GPS countries		(III) GPS plus Ireland and Italy		
	Coefficient	t-statistic	Coefficient	t-statistic	Variables	Coefficient	t-statistic
α_0	34.86***	9.69	34.72***	10.21	α_0	33.04***	8.87
<i>U</i>	0.28***	3.51	0.35***	4.75	<i>U</i>	0.35***	4.82
<i>DEBT</i> _{<i>t</i>-1}	0.03**	2.31	0.03**	2.24	<i>DEBT</i> _{<i>t</i>-1}	0.03**	2.39
<i>OPENC</i>	-0.03**	-2.09	-0.03*	-1.78	<i>OPENC</i>	-0.04**	-2.37
<i>UD</i>	-0.03	-0.74	-0.09**	-2.08	<i>UD</i>	0.15*	1.98
<i>ELD</i>	1.03***	4.40	1.23***	4.80	<i>ELD</i>	0.23	0.69
<i>GOVP</i>	-0.01	-0.11	-0.11	-1.24	<i>GOVP</i>	-0.06	-0.73
<i>GOVF</i>	-0.16	-1.25	-0.26	-1.52	<i>GOVF</i>	0.02	-0.09
<i>GINI</i>	-0.10***	-3.74	-0.07***	-2.87	<i>GINI</i>	0.001	0.22
<i>SECED</i>	-0.16***	-5.82	-0.19***	-6.28	<i>SECED</i>	-0.07	-1.60
<i>YELEC</i>	-0.37	-0.71	-0.30	-0.55	<i>YELEC</i>	-0.46	-0.91
<i>PYELC</i>	-0.51	-1.21	-0.54	-1.18	<i>PYELC</i>	-0.76	1.67
<i>UD * GPS</i>			-0.27**	-2.33	<i>UD * GPSII</i>	-0.17**	-2.26
<i>ELD * GPS</i>			-0.65**	-2.27	<i>ELD * GPSII</i>	0.42*	1.74
<i>GOVP * GPS</i>			0.49***	3.94	<i>GOVP * GPSII</i>	0.40**	2.56
<i>GOVF * GPS</i>			0.47*	1.78	<i>GOVF * GPSII</i>	-0.16	-0.60
<i>GINI * GPS</i>			-0.41***	-4.85	<i>GINI * GPSII</i>	-0.17**	-2.11
<i>SECED * GPS</i>			1.01***	5.95	<i>SECED * GPSII</i>	0.25***	3.24
<i>YELEC * GPS</i>			0.77*	1.8	<i>YELEC * GPSII</i>	0.36	0.57
<i>PYELC * GPS</i>			0.82	1.31	<i>PYELC * GPSII</i>	0.79	1.03
OBS / countries	230 – 12		230 – 12		230 / 12		
Time / country	Yes / Yes		Yes / Yes		Yes / Yes		
Fixed effects							
Adjusted R Squared	0.92		0.93		0.93		
DW	0.47		0.54		0.60		
F statistic	36.25		35.01		38.82		

Note: ***, **, and * indicate significance at 1, 5 and 10 percent respectively. t-statistics based on White cross-section consistent standard errors.

Source: Authors' estimations.

Table 5 Estimation Results – Fiscal Dependent Variable: General Government Surplus

Variables	(I) Baseline		(II) GPS countries		(III) GPS plus Ireland and Italy		
	Coefficient	t-statistic	Coefficient	t-statistic	Variables	Coefficient	t-statistic
α_0	5.96	1.16	8.16	1.45	α_0	12.01**	2.24
<i>U</i>	-0.78***	-10.1	-0.76***	-8.53	<i>U</i>	-0.74***	-8.38
<i>DEBT</i> _{<i>t</i>-1}	0.12***	6.96	0.12***	6.62	<i>DEBT</i> _{<i>t</i>-1}	0.12***	6.6
<i>OPENC</i>	0.02	1.21	0.02	0.94	<i>OPENC</i>	0.03*	1.73
<i>UD</i>	-0.10	-1.60	-0.14**	-1.98	<i>UD</i>	-0.20**	-2.55
<i>ELD</i>	-0.34	-1.29	-0.27	-0.89	<i>ELD</i>	-0.95***	-3.84
<i>GOVP</i>	0.30***	2.67	0.28***	2.82	<i>GOVP</i>	0.24**	2.26
<i>GOVF</i>	0.56***	3.20	0.84***	3.40	<i>GOVF</i>	1.07***	3.21
<i>GINI</i>	0.16***	4.76	0.18***	6.15	<i>GINI</i>	0.17***	5.26
<i>SECED</i>	-0.05	-1.22	-0.08	-1.60	<i>SECED</i>	-0.10**	-1.82
<i>YELEC</i>	0.003	0.01	0.002	0.003	<i>YELEC</i>	0.06	0.11
<i>PYELC</i>	-0.79*	-1.79	-0.68	-1.55	<i>PYELC</i>	-1.04***	-2.87
<i>UD * GPS</i>			0.08	0.404	<i>UD * GPSII</i>	0.27**	2.28
<i>ELD * GPS</i>			-0.39	-0.63	<i>ELD * GPSII</i>	0.63*	1.92
<i>GOVP * GPS</i>			-0.003	-0.01	<i>GOVP * GPSII</i>	0.22	0.81
<i>GOVF * GPS</i>			-0.51*	-1.83	<i>GOVF * GPSII</i>	-0.69*	-1.84
<i>GINI * GPS</i>			-0.34**	-2.40	<i>GINI * GPSII</i>	-0.14	-0.94
<i>SECED * GPS</i>			-0.01	-0.03	<i>SECED * GPSII</i>	0.19	1.14
<i>YELEC * GPS</i>			-0.23*	1.70	<i>YELEC * GPSII</i>	-0.21	-0.22
<i>PYELC * GPS</i>			-0.40*	1.90	<i>PYELC * GPSII</i>	0.47	0.53
OBS / countries	230 – 12		230 - 12		230 – 12		
Time / country	Yes / Yes		Yes / Yes		Yes / Yes		
Fixed effects							
Adjusted R Squared	0.72		0.74		0.76		
DW	0.80		0.87		0.88		
F statistic	8.70		8.00		8.68		

Note: ***, **, and * indicate significance at 1, 5 and 10 percent respectively. *t-statistics based on White cross-section consistent standard errors.

Source: Authors' estimations.

Table 6 Estimates for Ireland and Italy in the Context of the Nine Developed and Mature Democracies Eurozone Founding Countries

Variables	(I) Expenditures		(II) Tax revenues		(III) Social transfers		(IV) Surplus	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
α_0	26.89***	3.75	31.68***	8.31	-7.37	-1.32	13.36**	2.5
<i>U</i>	1.28***	11.13	0.28***	3.53	0.80***	10.62	-0.80***	-10.74
<i>DEBT</i> _{<i>t</i>-1}	-0.03	-1.16	0.03**	2.45	0.05***	3.45	0.11***	6.55
<i>OPENC</i>	-0.06*	-1.76	-0.03	-0.18	-0.03	-1.36	0.03*	1.94
<i>UD</i>	0.27***	5.37	0.08	1.24	0.23***	3.17	-0.14*	-2.02
<i>ELD</i>	1.44***	3.39	0.60**	2.21	1.45***	3.82	-1.12***	-3.80
<i>GOVP</i>	-0.24*	-1.67	0.01	0.09	0.11	1.01	0.31***	2.86
<i>GOVF</i>	-0.57**	-2.06	-0.07	-0.29	-0.46*	-1.91	0.40**	2.41
<i>GINI</i>	-0.25***	-6.96	-0.07***	-2.78	0.003	0.11	0.15***	4.03
<i>SECED</i>	0.04	1.37	-0.12***	-3.27	0.02	0.051	-0.08	-1.60
<i>YELEC</i>	-0.37	-0.61	-0.50	-0.99	-0.10	-0.19	0.03	0.06
<i>PYELC</i>	0.64	1.39	-0.73	-1.56	0.26	0.53	-1.09***	-2.91
<i>UD * II</i>	-0.42***	-2.68	-0.11	-0.83	-0.75***	-7.77	0.17	0.88
<i>ELD * II</i>	-2.95**	-1.7	-1.02	-0.96	-1.60	-1.26	1.57	1.08
<i>GOVP * II</i>	0.24	0.37	0.45	1.16	0.21	0.53	0.02	0.07
<i>GOVF * II</i>	-0.38	-1.00	-0.05	-1.16	-0.12	-0.34	0.20	0.64
<i>GINI * II</i>	0.69***	2.88	0.27*	1.80	-0.21	-1.29	0.16	0.95
<i>SECED * II</i>	0.51	0.72	0.60	1.22	0.38	0.77	-0.24	-0.36
<i>YELEC * II</i>	1.22	0.79	0.71	0.83	-0.08	-0.10	-0.13	-0.11
<i>PYELC * II</i>	0.46	0.28	0.87	1.07	0.36	0.35	0.96	00.81
OBS / countries	204 - 9		204 - 9		204 - 99		204 - 9	
Time / country	Yes / Yes		Yes / Yes		Yes / Yes		Yes / Yes	
Fixed effects								
Adjusted R ²	0.92		0.93		0.783		0.76	
DW	0.65		0.60		0.37		0.93	
F statistic	29.95		36.34		13.10		8.86	

Note: ***, **, and * indicate significance at 1, 5 and 10 percent respectively. †-statistics based on White cross-section consistent standard errors.

Source: Authors' estimations.