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It's a matter of confidence: Institutions, government stability and economic outcomes

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It's a matter of confidence.

Institutions, government stability and economic outcomes.

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Abstract

The effect of constitutional structures (such as the effect of a presidential *vs.* a parliamentary system) over policy outcomes has been widely studied in the economic literature. In this paper, we investigate whether stable parliamentary systems and unstable parliamentary systems behave differently in terms of the policy outcomes they implement. We show that accounting for the stability of parliamentary systems generates results that are more robust compared to the previous literature. More precisely, we find that stable parliamentary systems are significantly different both from presidential and from unstable parliamentary ones. Moreover, we show that this result is robust to changes in the set of countries, and to changes in the definition of stability. Finally, we discuss how these results are consistent with the presence of a *selection effect* in parliamentary systems.

Keywords: presidential system, parliamentary system, confidence requirement, government stability

JEL Classification: C72, D72

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1　Introduction

It is universally acknowledged that constitutional structures do shape the incentives of the political actors so to transform political ideas into policies. Starting with the seminal work of Persson and Tabellini (2003) - hereafter PT - most of the existing literature has focused on the differences between parliamentary and presidential systems. Recent literature (e.g. Blume *et al.*, 2009) has highlighted how those findings are not robust to changes such as, for example, the set of countries and the time span. Furthermore, some authors (e.g. Voigt, 2011b) have suggested that the distinction between parliamentary and presidential systems may simply be too coarse and that possible extensions include the use of more fine grained variables to classify constitutional systems.

We remain in the same stream of thoughts and, hence, consider the presence of the confidence requirement the key variable to distinguish parliamentary from presidential systems.[1] Interestingly, such constitutional feature of parliamentary systems is used in different ways, depending on the country. In some cases, the confidence requirement does indeed generate frequent changes of government, thus replacing possibly bad politicians and generating a different government composition (*selection effect*). In other countries, the confidence requirement acts as a credible threat and may induce either the executive to behave better (*disciplining effect*) or the parliament to accept more frequently the executive's misbehavior. Hence, parliamentary systems perform differently in presence of different structural characteristics of the politicians such as, for example, the quality of the information available and/or the alignment of interests with the citizens. Given this complexity, we investigate more deeply the characteristics of countries that adopt a parliamentary constitution by considering the stability of the government as a proxy to distinguish different parliamentary systems. We

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[1]The confidence requirement has a twofold function in parliamentary constitutions: on the one side, the legislature can prevent the government from governing through a no-confidence vote; on the other side, the government itself resigns if one of its main initiatives is defeated, that is the confidence vote procedure. For a detailed review of the confidence requirement, see Lijphart (1999).

measure stability as inversely related to the frequence of changes in the government composition, which is clearly correlated with the effective use of the confidence requirement. Hence, we contribute to the literature by refining the standard classification (see PT, 2003) introducing stable and unstable parliamentary systems.

We explore whether stable and unstable parliamentary systems behave differently in terms of the policy outcomes they implement. We show that this finer classification of constitutional systems (presidential, stable parliamentary, unstable parliamentary) delivers more robust results. In detail, we find that stable parliamentary systems are significantly different both from presidential and unstable parliamentary ones. Moreover, we find that this result is robust to changes in the set of countries included in the dataset and in the definition of stability. These empirical findings are consistent with the theoretical analysis of Cella *et al.* (2014), where the authors link stability to a lower quality of legislators which in turn implies that selection is less effective in stable parliamentary systems. As a consequence, these systems generate policy outcomes that are further away from the presidential ones.

This paper links two strands of the political economy literature. First of all, it belongs to the field of empirical constitutional economics, as we compare the effects that constitutions have on policy outcomes (for a survey of the recent developments see Voigt, 2011a, 2012). The novelty of our work is in the introduction of the finer classification of parliamentary systems, according to our stability measures.

This paper belongs also to the theoretical political economy literature that focuses on the differences (and their consequences) between parliamentary and presidential structures. Persson *et al.* (1997, 2000) claim that parliamentary constitutions generate a political system that translates into higher legislative cohesion if compared to presidential ones, that instead guarantee a better separation of powers and therefore accountability. Diermeier and Vlaicu (2011) show that higher cohesion implies higher legislative success and they highlight how the presence of the confidence requirement changes the intertemporal incentives of politicians. The idea that being a member of the ruling coalition lengthens the time horizon for politicians

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is present also in Diermeier and Feddersen (1998a, 1998b). Voigt (2011a), following Brennan and Kliemt (1994), discusses how parties may respond differently to the confidence requirement due to the longer time horizon they face compared to individual politicians such as presidents in presidential systems. This difference in the discount factors may lead to the implementation of different policies across systems.

The paper is organized as follows: Section 2 discusses in depth the empirical and theoretical background, Section 3 presents the data, Section 4 introduces the results and Section 5 concludes.

2   Empirical and theoretical background

We present in details the empirical and theoretical background of our findings, in order to highlight the novelty of our work.

On the empirical side, we closely relate to Persson and Tabellini (2003), where the authors compare constitutional systems - presidentialism *vs.* parliamentarism - and electoral rules - majoritarian *vs.* proportional - in order to identify the differences, if any, in a number of relevant social and economic indicators. The main result concerns the size of the central government: presidential regimes spend systematically 5% less than their counterpart, and this difference increases by an additional 5% if the country has adopted a majoritarian electoral system instead of a proportional one.[2] The authors also consider the effects on government's revenues, social welfare expenditure as percentage of the GDP, total factor productivity and the corruption level.

However, a number of papers question the accuracy of the authors' claim of causality. The main criticisms can be classified into four categories: i) the overall robustness of the empirical analysis (Blume *et al.*, 2009); ii) the

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[2]In order to investigate the causal effect of adopting a different constitutional/electoral system, PT builds two dummy variables: *PRES*, which is equal to one under presidentialism and zero otherwise, and *MAJ*, which is equal to one for majoritarian electoral systems and zero otherwise. As far as the constitutional form of government is concerned, PT split up countries according to the legal existence of the motion of confidence, so that presidential countries where the government is subject to a confidence requirement - as for instance France - are classified as parliamentary.

construction of the explanatory variable (Voigt, 2011b); iii) the exogeneity of the explanatory variable (Hayo and Voigt, 2013; Acemoglu, 2005); iv) the transmission channels (Voigt, 2011b; Robinson and Torvik, 2008).

As for the first issue, Blume *et al.* (2009) replicate and extend the PT (2003) analysis to explicitly test the robustness of the causal effect. The authors expand the original dataset by adding thirty-one countries and updating economic indicators. The regression coefficients concerning the treatment variable *PRES* turn out to be smaller in magnitude and - above all - no longer statistically significant. On the other hand, the treatment variable *MAJ* preserves its significance levels. Table 1 summarises the main results of PT (2003) and Blume *et al.* (2009). Part of the political economy

Table 1: PT (2003) and Blume *et al.* (2009) Regressions' Summary

DATASET	PT			Blume *et al.*	
DEP. VAR.	CGEXP	CGREV	SSW	CGEXP	CGREV
	(1)	(2)	(3)	(4)	(5)
PRES	-5.18^{***}	-5.00^{**}	-2.24^{**}	-3.75	-2.70
	(1.93)	(2.47)	(1.11)	(2.42)	(-1.14)
MAJ	-6.32^{***}	-3.68^{*}	-2.25^{*}	-6.13^{***}	-3.10^{*}
	(2.11)	(2.15)	(1.25)	(1.99)	(1.74)
MAJPRES	-10.37^{***}		-3.91		
	(3.03)		(2.41)		
Observations	80	76	69	92	88
Adjusted R^2	0.71	0.68	0.81	0.59	0.57

Notes: CGEXP is the central government expenditure; CGREV is the central governmet revenue; SSW is the central government expenditure in social services and welfare. White heterosckedasticity-consistent standard errors in parentheses. All the regressions include the following controls: *age, lyp, trade, prop1564, prop65, gastil, federal, oecd, lpop, africa, asiae, laam, col_uka, col_espa, col_otha*. Blume *et al.* do not account for the dependent variable *SSW* due to the lack of data.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

literature (Acemoglu, 2005; Voigt, 2011b) questions the characterization of the treatment variable *PRES* from a twofold perspective (critiques ii and iii): on the one side, they ask for a finer partition of countries, taking into account the heterogeneity within each group; on the other side, they sustain the endogenous nature of the constitutional form of government, noting that it is an equilibrium outcome rather than an exogenous characteristic. As for the latter issue, Hayo and Voigt (2013) attempt to empirically analyse the reasons for which a country changes the form of government, thus endogenizing the constitutional choice. In the same context, Robinson and Torvik (2008) investigate the constitutional variation between presidentialism and parliamentarism, trying to understand the prevalence of presidentialism in African countries. Finally (critique iv) there is a need for an analysis of possible transmission channels.

Our paper mainly addresses the first two critiques. First, our results prove to be robust to changes in the dataset and time span considered. Secondly, we introduce a finer classification of parliamentary systems, thus addressing the issue of in-group heterogeneity.

From a theoretical perspective, we interpret our result in light of Cella *et al.* (2014). The paper compares a two-period presidential and parliamentary system in an environment in which politicians may be either office or policy oriented, there is asymmetric information on the state of the world, and the efficient policy is state-dependent. The key feature of the parliamentary setup is the presence of the confidence vote, as in our empirical characterisation of parliamentary systems.

More precisely, different equilibria may emerge depending on structural characteristics (e.g. the expected quality of politicians). In the parliamentary system, the equilibria can be distinguished by the effective use (or not) of the confidence vote that replaces both the executive and legislative bodies. The authors find that the parliamentary system performs as the presidential one in the equilibrium where the confidence is always granted to the executive because the executive is disciplined by the mere existence of the confidence requirement. On the other side, in the equilibrium where the executive is not disciplined and the confidence vote is actively used (i.e.

the executive is replaced with positive probability) the performance of the parliamentary system depends on the quality of the legislative body. In detail, the outcome of the parliamentary system is closer to the outcome of the presidential one the higher is the probability that the legislative body replaces the executive with a vote of no-confidence. That is, the difference between the two systems decreases, the more unstable the parliamentary system is. The likelihood that politicians are replaced increases with the probability that the majority of the parliament is policy oriented. In other words a better "quality"of the parliament makes them willing to forgo their future personal rents from being in office in order to prevent the incumbent executive from implementing bad policies. The performance of parliamentary systems strenghtens as both the current policy and the future expected quality of the executive improve.

This theoretical analysis suggests that fully stable parliamentary systems behave exactly like presidential ones, while those systems that do replace their political establishment should be more different from presidential ones the greater their stability index. The predictions of the model for fully stable parliamentary systems are ambiguous, as we may not be able to empirically identify whether a parliamentary system is stable because it is in the equilibrium in which the executive is disciplined, or because it has a legislative body with a low performance. Hence, we suggest a possible transmission channel between stability and performance, thus partially addressing also the fourth critique.

3   Data

In order to facilitate the comparison with the previous literature we mantain the essential setting of PT (2003) and we start from their original dataset. The dataset is composed by 85 countries, somewhat balanced along the continents. It contains a wide set of data ranging from economic to social, cultural and political information.

We then test the robustness of our analysis by making use of the extended dataset as in Blume *et al.* (2009). The latter dataset enlarges the PT one

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up to 116 countries and updates some of the variables.[3] We further update certain variables that we use to perform robustness checks.[4]

We also use a set of political indicators to construct the explanatory variables. Political data are mainly drawn from the Database of Political Institutions - DPI (2012) - except when differently specified. The dataset has been collected by the Development Research Group of the World Bank. Additional robustness checks are performed by making use of the updated version of the Woldendrop *et al.* dataset (2000), which contains detailed information about government duration and termination over the period 1945-2012.[5]

3.1   Explanatory variables

The confidence requirement is rarely the explicit reason for a government collapse (approximately 40 cases upon over 800 elections in our dataset). However, the mere existence of the confidence requirement works - to a certain extent - as an incentive for a questioned government to resign before being dismissed by the use of a motion of no-confidence, thus favouring a cabinet reshuffle. According to this view, we collected data on government stability in terms of the capacity of governments to last till the end of their political term. We believe government stability represents a well-suited proxy for determining the effectiveness of the confidence requirement as an instrument to dismiss a questioned government.

Following PT (2003), we build the dummy variable $PRES$ that identifies countries according to the constitutional design in use, that can be either the presidential system or the parliamentary one, according to the legal existence of the motion of confidence. This is a restrictive definition of presidential systems, as presidential countries where the government is

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[3]In detail Blume *et al.* (2009) update the Productivity Level from 1988 in the PT dataset to 2000 and the Corruption Level from the period 1997-1998 to 1996-2004.

[4]Variables include: Social Protection for the period 1995-2012 (source: IMF/GFS), Expenditure on Education as Percentage of the GDP for the period 1995-2012 (source: IMF/GFS), Total Government Expenditure for the period 1990-2014 (source: World Economic Outlook), and the Country's Openness to Trade computed as the sum of imports and exports over the GDP for the period 1990-2014 (source: World Economic Outlook).

[5]Seki and Williams (2014).

subject to a confidence requirement (such as France) are classified as parliamentary. On the other side, we are left with a very heterogeneous set of parliamentary countries but we refine this classification by introducing a finer partition, thus reducing the ingroup heterogeneity.

In order to incorporate stability within the group of parliamentary countries, we mainly rely on the information available in the DPI dataset. The objective is to fix specific thresholds to classify parliamentary countries in stable and unstable ones. We construct two additional dummies $PARL$ $STAB$ and $PARL$ $UNSTAB$ to identify the two categories.

The most challenging aspect has been the choice of the index of stability. Throughout the paper we adopt the partition resulting from the index GOV $LIFE$, defined as follows:

$$GOV\ LIFE = \frac{\sum_i D_i / \sum_i E_i}{X_i},$$

where D_i represents the real number of years a government has been in office between two elections, E_i is a dummy which is equal to one when an election occurs, and X_i, is the legal length of any electoral term according to country-specific constitutional rules.[6] Thus, the numerator stands for the average length of any electoral cycle computed for each country i, and the index weights such length by the legal one. The index ranges from zero to one, with higher values that correspond to higher stability.

Given the index GOV $LIFE$, we create the dummy variable $PARL$ $STAB$ that takes value one for countries with an index values above the median and zero otherwise, and the dummy $PARL$ $UNSTAB$ that takes value one for countries with an index values under the median and zero otherwise.[7]

Therefore, in order to provide robustness checks we have considered three additional stability indexes.[8]

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[6]The index GOV $LIFE$ is built using the indicator $yrcurnt$ from the DPI dataset which is coded zero in an election year, and $X_i - 1$ in the year after the election.

[7]More precisely, we first drop three countries around the median in order to avoid a random assignment of countries due to measurement errors.

[8]The robustness checks are reported in Table 7 in the Appendix.

The first one - $GOV\ END$ - is the fraction of governments that are successful in reaching the legal term of the mandate. Again, higher values of the index correspond to higher stability.

The second index - $YEAR\ EXEC$ - is the average tenure of the head of the executive weighted by the legal length of any electoral term.[9] The higher the value of the index, the higher the stability. Note that this index may provide different results with respect to the previous ones, since it keeps counting the number of years a government has been in power even if an election occurs, when the incumbent government wins the election.

Finally, the index - $YEAR\ PARTY$ - is the average number of years the governing party has been in office weighted by the legal length of the electoral term. The index is increasing in stability. Again, the value of the index may differ from the previous ones, especially when a single party holds the power for a long time span.

3.2   Dependent variables

We adopt the dependent variables that are traditionally used in this literature, such as: the central government expenditures ($CGEXP$), the central government revenues ($CGREV$), and the central government expenditures on social services and welfare (SSW).[10] All variables are computed as percentage of the GDP and are averaged between 1990 and 1998, as in the PT dataset.

We also provide results for other dependent variables which include the expenditure on education, the social protection expenditure, the country openness, the level of corruption, the productivity, and the total government expenditure.[11] This last variable is of particular importance given that the accuracy of central government expenditure as a measure of the government size has been questioned in the literature (see Voigt, 2011b). We also account for the executive ideological position under the assumption

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[9]This index is built using the indicator $yearoff$ from the DPI dataset, which collects information about the number of years the head of the executive has been in office.

[10]Source: IMF/GFS Yearbook, IMF/IFS.

[11]Results are reported in the Appendix, Table 8-9-10-11.

that leftist executives should exhibit a larger public expenditure (Becher, 2013).[12]

3.3 Control variables

We mantain the usual set of control variables (see PT, 2003 and Blume *et al.*, 2009) that is chosen to relax the conditional independence assumption arising from the non-random distribution of the constitutional setting. As noted by PT (2003), the structural constitutional inertia makes it possible to exploit the history in order to account for cross-country variation in constitutional rules. However, the same historical characteristics determining the constitutional choice may also affect the outcome variable. This is the reason why indicators for the continental location and colonial history are always included in the estimations. Moreover, to explain the variation in constitutional rules, the following control variables always enter the regression specifications, unless when differently indicated: three dummies indicating the origin of the constitution,[13] the age of democracy, the distance from equator, the percentage of people having English as mother-tongue. Additional controls include economic indicators, the geographical location, demographic statistics and political characteristics.

4 Results

The empirical specification follows PT (2003). We modify the original setting to introduce a finer partition for parliamentary countries. We apply the dummy coding technique to account for heterogeneity in parliamentary systems. This choice generates three categories: $PRES$, $PARL\ STAB$ and $PARL\ UNSTAB$.

We estimate the model by making use of the multiple regression procedure, with two predictive dummy regressors that enter the regression equa-

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[12]Source: DPI, 2012. Results are reported in the Appendix, Table 8.

[13]The variables *con20, con2150, con5180*, respectively dating the constitution's origin before 1920, between 1921-1950, and between 1951-1980.

tion:

$$Y_i = \alpha + \beta_1 PARL\ STAB_i + \beta_2 PARL\ UNSTAB_i + \gamma_i X_i + \varepsilon_i,$$

where $PRES$ is the baseline category that represents the control group in our setting. We are interested in testing whether presidential systems differ from stable parliamentary ones ($\beta_1 \neq 0$), whether presidential systems differ from unstable ones ($\beta_2 \neq 0$) and whether stable and unstable parliamentary systems differ from each other ($\beta_1 \neq \beta_2$).

First, we replicate both the results of PT (2003) and Blume *et al.* (2009) to ensure comparability of results and homogeneity of data collection. We begin our analysis by splitting countries with a parliamentary constitution into stable and unstable ones. We find that the effect of parliamentary systems on central government expenditures mostly comes from the stable ones. The coefficient for stable parliamentary countries is indeed not only statistically significant but also slightly larger in magnitude when compared to PT (2003) results (Table 2, column 1 and 2). Moreover, the result is robust to the enlargement of the dataset introduced by Blume *et al.* (2009) (Table 2, column 3 and 4).

On the other side, we cannot reject the null-hypothesis that unstable parliamentary systems behave as presidential ones. Once again this result holds also when we adopt the larger dataset.[14] This evidence corroborates the idea that the criterion we follow to account for the heterogeneity in parliamentary countries is meaningful and statistically robust.

We then replicate the same exercise using the central government revenue - tax revenue - as dependent variable (Table 3). We show that the difference between presidential and stable parliamentary systems is the only significant one. Then - following the same PT (2003) structure - we check whether presidential governments have a smaller share of social welfare expenditure compared to parliamentary ones (Table 4). Theoretically, parliamentary systems stimulate collective action between the executive and the

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[14]The Wald test for $\beta_1 = \beta_2$ reports a p-value of 0.0132 and 0.0179 for regressions in Table 2 [columns 2 and 4, respectively].

Table 2: Constitutional impact on the central government expenditure

DATASET	PT		Blume *et al.*	
SPECIFICATION	PT	BCIM	PT	BCIM
DEP. VAR.	CGEXP	CGEXP	CGEXP	CGEXP
	(1)	(2)	(3)	(4)
PRES	−5.181***		−3.755	
	(1.93)		(2.42)	
PARL STAB		6.932***		5.206**
		(2.37)		(2.11)
PARL UNSTAB		1.383		1.734
		(1.87)		(1.98)
Observations	80	80	91	91
Adjusted R^2	0.631	0.643	0.592	0.599

Notes: CGEXP is the central government expenditure; PRES is the dummy that identifies presidential systems; PARL STAB is the dummy that identifies stable parliamentary systems according to the index GOV LIFE; PARL UNSTAB is the dummy that identifies unstable parliamentary systems according to the index GOV LIFE. White heteroskedasticity-consistent standard errors in parentheses. Following PT (2003), all the regressions include the following controls: *age, lyp, trade, prop1564, prop65, gastil, federal, oecd, lpop, africa, asiae, laam, col_uka, col_espa, col_otha*. The *specification* section refers to the difference between the PT explanatory variable *PRES* and our division between stable and unstable parliamentary countries.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Constitutional effects on central government revenues

DATASET	PT		Blume *et al.*	
SPECIFICATION	PT	BCIM	PT	BCIM
DEP. VAR.	CGREV	CGREV	CGREV	CGREV
	(1)	(2)	(3)	(4)
PRES	−5.001**		−2.701	
	(2.02)		(1.14)	
PARL STAB		8.541***		6.997***
		(3.20)		(2.91)
PARL UNSTAB		−0.104		0.174
		(1.05)		(1.09)
Observations	76	76	87	87
Adjusted R^2	0.586	0.640	0.576	0.625

 Notes: CGREV is the central government revenue; PRES is the dummy that identifies presidential systems; PARL STAB is the dummy that identifies stable parliamentary systems according to the index GOV LIFE; PARL UNSTAB is the dummy that identifies unstable parliamentary systems according to the index GOV LIFE. White heteroskedasticity-consistent standard errors in parentheses. Following PT (2003), all the regressions include the following controls: *age, lyp, trade, prop1564, prop65, gastil, federal, oecd, lpop, africa, asiae, laam, col_uka, col_espa, col_otha*. The *specification* section refers to the difference between the PT explanatory variable *PRES* and our division between stable and unstable parliamentary countries.

 * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

legislative bodies given that political (long-term) incentives are more intense than policy (short-term) incentives (Diermeier and Vlaicu, 2011). This lack of coordination forces agenda setters under presidentialism to grant targeted benefits to powerful interest groups with the aim to gain consensus of crucial veto-players. The empirical results of PT (2003) seem to corroborate this hypothesis, with presidential countries that exhibit a social welfare expenditure that is approximately the 2.2% smaller than under parliamentarism. We show that also in this case the difference between the two constitutional systems appears driven by the behavior of stable parliamentary systems.

The dependent variable SSW - i.e. the amount of social welfare expenditure - is only available for a sub-group of countries in the PT dataset. Thus, no robustness checks involving the enlarged dataset have been possible. However, when estimating the effect of the constitutional design upon the amount of social welfare expenditure, PT (2003) slightly modify the original specification by dropping three control variables - i.e. $lpop$, $prop1564$ and $trade$ (Table 4, column 1). We show (Table 4, column 4) that our results are robust also to the inclusion of such omitted controls. Therefore the results of Table 4 support both the hypothesis that under parliamentarism countries with different characteristics may perform differently, and the idea that the share of social welfare expenditure over the GDP is larger the higher is the degree of coordination between the government and the legislature.

We test the robustness of the latter claim by changing the dependent variable. In Table 5, column 1-2, social welfare expenditure is substituted with the social protection expenditure and results confirm previous hypotheses. Moreover, columns 3-4 report the result of the impact of the constitutional design over the share of education expenditure as percentage of the GDP.

Given the strenght of the above results, and their robustness, we investigate more in depth a possible transmission channel that may originate them. In Section 2 we summarized how Cella et $al.$ (2014) implies that parliamentary systems where the confidence vote is never used are similar to presidential ones, while parliamentary systems where the confidence vote

Table 4: Constitutional effects on social welafare expenditure

DATASET	PT			
SPECIFICATION	PT-modified	BCIM-modified	PT	BCIM
DEP.VAR.	SSW	SSW	SSW	SSW
	(1)	(2)	(3)	(4)
PRES	−2.244**		−2.027	
	(2.03)		(1.59)	
PARL STAB		2.707**		3.366**
		(2.03)		(2.25)
PARL UNSTAB		−0.543		−0.487
		(1.48)		(2.46)
Observations	69	69	69	69
Adjusted R^2	0.759	0.775	0.753	0.783

Notes: SSW is the central government expenditure in social services and welfare; PRES is the dummy that identifies presidential systems; PARL STAB is the dummy that identifies stable parliamentary systems according to the index GOV LIFE; PARL UNSTAB is the dummy that identifies unstable parliamentary systems according to the index GOV LIFE. White heteroskedasticity-consistent standard errors in parentheses. PT-modified and BCIM-modified refer to PT (2003) specification of the model where the authors include all the standard controls - *age, lyp, prop65, gastil, federal, oecd, africa, asiae, laam, col_uka, col_espa, col_otha* - except that *lpop, prop1564* and *trade* are missing. Then, we re-estimate the model using the same specification as in previous tables.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Constitutional effects on social protection and education

DATASET	PT			
SPECIFICATION	PT	BCIM	PT	BCIM
DEP. VAR.	SOCPROT	SOCPROT	EDSPEND	EDSPEND
	(1)	(2)	(3)	(4)
PRES	−2.184		−0.512	
	(−1.10)		(−1.16)	
PARL STAB		2.924**		1.049**
		(2.55)		(2.29)
PARL UNSTAB		−0.346		0.270
		(2.16)		(1.71)
Observations	82	82	76	76
Adjusted R^2	0.758	0.761	0.313	0.334

 Notes: SOCPROT [Column (1)-(2)] is the central government social protection expenditure as defined by the IMF/GFS; we report the average from 1990 to 2012. EDSPEND [Column (3)-(4)] is the expenditure on education as percentage of the GDP, as defined by the IMF/GFS; we report the average from 1995 to 2012. PRES is the dummy that identifies presidential systems; PARL STAB is the dummy that identifies stable parliamentary systems according to the index GOV LIFE; PARL UNSTAB is the dummy that identifies unstable parliamentary systems according to the index GOV LIFE. White heteroskedasticity-consistent standard errors in parentheses. Controls include: *age, lyp, prop65, gastil, federal, lpop, prop1564, trade, oecd, africa, asiae, laam, col_uka, col_espa, col_otha.*

 * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

is effectively used are increasingly similar the more unstable they are. As a consequence, as already mentioned in Section 2, we predict: (i) a significant difference between parliamentary systems with an intermediate level of stability and presidential ones, (ii) no difference between unstable parliamentary systems and presidential ones. Moreover, the theoretical prediction on the difference between the most stable parliamentary systems and the presidential ones is ambiguous.

In order to investigate this intuition, we propose an even finer partition of parliamentary systems. We further divide parliamentary countries in three categories: stable, unstable and partially stable countries (*PARL PARSTAB*).[15] We expect partially stable parliamentary systems to be further away from presidential ones than unstable systems. We show that the partially stable parliamentary systems are significantly different both from the presidential and the unstable parliamentary ones which is consistent with our theoretical prediction. As for the fully stable parliamentary systems results are ambiguous, as the performance of countries in this group is not significantly different from any other category.[16] The results are therefore compatible with the theoretical predictions in Cella *et al.* (2014). Hence, we conclude that the selection effect that operates less effectively in parliamentary systems with a low quality legislators may be identified as a possible transmission channel of the difference in performance between the constitutional systems.

5   Conclusion

This paper analyses the effect of constitutional structures on policy outcomes with a specific attention to the role of the confidence vote. In particular, the novelty of the paper rests with the understanding of the link between government stability and economic outcomes, particularly for parliamentary systems. Hence, the empirical analysis we perform introduces finer partitions

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[15]We exploit the same stability index as before - GOV LIFE - but classifying parliamentary systems into the three categories.

[16]We can never reject the null-hypothesis when performing the Wald test.

Table 6: Three categories of parliamentarism

DATASET	PT		Blume *et al.*	
SPECIFICATION	PT	BCIM	PT	BCIM
DEP. VAR.	CGEXP	CGEXP	CGEXP	CGEXP
	(1)	(2)	(3)	(4)
PRES	−5.18***		−3.75	
	(1.93)		(2.42)	
PARL STAB		4.50		3.83
		(3.61)		(3.30)
PARL PARSTAB		5.32**		4.91*
		(2.31)		(2.60)
PARL UNSTAB		1.74		2.67
		(2.72)		(3.01)
Observations	80	80	91	91
Adjusted R^2	0.71	0.71	0.67	0.65

 Notes: CGEXP is the central government expenditure; PRES is the dummy that identifies presidential systems; PARL STAB, PARL PARSTAB, PARL UNSTAB are dummies identifying stable, partially stable and unstable parliamentary systems, respectively. They have been built according to the index GOV LIFE. White heteroskedasticity-consistent standard errors in parentheses. Following PT (2003), all the regressions include the following controls: *age, lyp, trade, prop1564, prop65, gastil, federal, oecd, lpop, africa, asiae, laam, col_uka, col_espa, col_otha.* The *specification* section refers to the difference between the PT explanatory variable *PRES* and our division between stable, partially stable and unstable parliamentary countries.

 * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

of parliamentary countries according to their degree of stability.

We find that stable parliamentary systems behave differently both from presidential and from unstable parliamentary ones with respect to every dependent variables we consider. We argue that this findings may be driven by the observation that those parliamentary countries better at replacing bad executives (i.e. better selection effect) are also the more unstable ones and can achieve outcomes closer to presidential systems.

We contribute to the growing body of literature of empirical constitutional economics by tackling some of the critiques that have been moved to the previous seminal works in particular by offering a method of analysis that generates results that are more robusts and by shedding some light on a possible transmission channel.

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6 Appendix

Table 7: Robustness checks with different stability indexes

SPECIFICATION DEP. VAR.	(1) CGEXP	(2) CGEXP	(3) CGEXP	(4) CGEXP
DATASET		PT		
PARL STAB	6.932***	5.932**	5.816***	5.064**
	(2.92)	(2.62)	(2.78)	(2.33)
PARL UNSTAB	1.383	−1.316	3.560	1.852
	(0.74)	(2.57)	(1.63)	(1.94)
DATASET		Blume *et al.*		
PARL STAB	5.206**	4.510**	4.656*	4.590**
	(2.48)	(2.08)	(1.98)	(2.17)
PARL UNSTAB	1.734	−1.700	2.522	2.827
	(1.87)	(1.81)	(2.07)	(1.50)

Notes: CGEXP is the central government expenditure. Several robustness checks have been performed by changing the construction of the stability indexes that define the explanatory variables PARL STAB and PARL UNSTAB. A detailed explanation of the way in which the stability indexes have been assembled is reported in section 3.1. Columns (1), (2), (3), (4) report the stability indexes GOV LIFE, GOV END, YEAR EXEC, YEAR PARTY, respectively. White heteroskedasticity-consistent standard errors in parentheses. The regressions include the following controls: *age, lyp, trade, prop1564, prop65, gastil, federal, oecd, lpop, africa, asiae, laam, col_uka, col_espa, col_otha.*

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Constitutional impact on the central government expenditure with party's ideological position

DATASET	PT		Blume *et al.*	
SPECIFICATION	PT	BCIM	PT	BCIM
DEP. VAR.	CGEXP	CGEXP	CGEXP	CGEXP
	(1)	(2)	(3)	(4)
PRES	−3.327		−2.641	
	(1.54)		(2.05)	
PARL STAB		5.543**		5.302**
		(2.26)		(2.30)
PARL UNSTAB		−0.0559		1.484
		(2.03)		(1.64)
Right_Left	1.266	0.970	1.968	2.055
	(1.94)	(1.72)	(1.39)	(1.48)
Observations	75	75	85	85
Adjusted R^2	0.671	0.692	0.628	0.645

Notes: CGEXP is the central government expenditure; PRES is the dummy that identifies presidential systems; PARL STAB is the dummy that identifies stable parliamentary systems according to the index GOV LIFE; PARL UNSTAB is the dummy that identifies unstable parliamentary systems according to the index GOV LIFE. White heteroskedasticity-consistent standard errors in parentheses. The regressions include the following standard controls: *age, lyp, trade, prop1564, prop65, gastil, federal, oecd, lpop, africa, asiae, laam, col_uka, col_espa, col_otha*. The addition control Right_Left is included. Right_Left reports the average ideological position of the executive from 1970 to 2012. Values are between 1 - right-oriented executive - to 3 - left-oriented executive. Data are drawn from the DPI-dataset. The *specification* section refers to the difference between the PT explanatory variable *PRES* and our division between stable and unstable parliamentary countries.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 9: Constitutional impact on the general government expenditure and trade openness

DATASET	PT			
SPECIFICATION	PT	BCIM	PT	BCIM
DEP. VAR.	GGEXP	GGEXP	OPEN	OPEN
	(1)	(2)	(3)	(4)
PRES	−5.226***		−49.55**	
	(3.45)		(2.62)	
PARL STAB		6.457***		39.60**
		(3.22)		(2.23)
PARL UNSTAB		1.331		34.03
		(1.82)		(1.66)
Observations	60	60	66	66
Adjusted R^2	0.593	0.664	0.429	0.397

 Notes: GGEXP is the total government expenditure; OPEN is the country openness (imports plus exports over the GDP); PRES is the dummy that identifies presidential systems; PARL STAB is the dummy that identifies stable parliamentary systems according to the index GOV LIFE; PARL UNSTAB is the dummy that identifies unstable parliamentary systems according to the index GOV LIFE. White heteroskedasticity-consistent standard errors in parentheses. The regressions include the following controls: *age, lyp, trade, prop1564, prop65, gastil, federal, oecd, lpop, africa, asiae, laam, col_uka, col_espa, col_otha*. The *specification* section refers to the difference between the PT explanatory variable *PRES* and our division between stable and unstable parliamentary countries.

 * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 10: Constitutional impact on the perception of corruption

DATASET	PT		Blume *et al.*	
SPECIFICATION	PT	OUR	PT	OUR
DEP. VAR.	GRAFT	GRAFT	GRAFT	GRAFT
	(1)	(2)	(3)	(4)
PRES	−0.620*		−0.326	
	(1.76)		(−1.05)	
PARL STAB		0.627*		0.559*
		(1.80)		(1.72)
PARL UNSTAB		0.491		0.362
		(1.40)		(1.19)
AVELF	1.274**	1.567**	0.987*	1.432**
	(2.09)	(2.42)	(1.83)	(2.49)
Observations	78	78	88	88
Adjusted R^2	0.829	0.833	0.806	0.820

Notes: GRAFT is the corruption level as in PT (2003) [column (1) and (2)], and as in Blume *et al.* (2009) [column (3) and (4)]; PRES is the dummy that identifies presidential systems; PARL STAB is the dummy that identifies stable parliamentary systems according to the index GOV LIFE; PARL UNSTAB is the dummy that identifies unstable parliamentary systems according to the index GOV LIFE. White heteroskedasticity-consistent standard errors in parentheses. The regressions include the following controls: *age, lyp, trade, gastil, federal, oecd, lpop, africa, asiae, laam, col_uka, col_espa, col_otha, avelf, prot80, catho80, confu*. The addtional control AVELF is included and reported in the table. AVELF is the index of ethnolinguistic fractionalization, as in La Porta *et al.* (1998). The *specification* section refers to the difference between the PT explanatory variable *PRES* and our division between stable and unstable parliamentary countries.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 11: Constitutional impact on the total factor productivity

DATASET	PT		Blume *et al.*	
SPECIFICATION	PT	OUR	PT	OUR
DEP. VAR.	LOGYL	LOGYL	LOGYL	LOGYL
	(1)	(2)	(3)	(4)
PRES	−0.294*		−0.157	
	(1.84)		(1.01)	
PARL STAB		0.325*		0.392**
		(1.78)		(2.04)
PARL UNSTAB		0.115		−0.0364
		(1.55)		(2.20)
Observations	74	73	84	83
Adjusted R^2	0.731	0.695	0.753	0.721

 Notes: LOGYL is the productivity level as in PT (2003) [column (1) and (2)], and as in Blume *et al.* (2009) [column (3) and (4)]; PRES is the dummy that identifies presidential systems; PARL STAB is the dummy that identifies stable parliamentary systems according to the index GOV LIFE; PARL UNSTAB is the dummy that identifies unstable parliamentary systems according to the index GOV LIFE. White heteroskedasticity-consistent standard errors in parentheses. Following PT (2003), all the regressions include the following controls: *age, lyp, trade, gastil, federal, oecd, lpop, africa, asiae, laam, col_uka, col_espa, col_otha, avelf, prot80, catho80, confu.* The *specification* section refers to the difference between the PT explanatory variable *PRES* and our division between stable and unstable parliamentary countries.

 * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$