# 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 account for the heterogeneity in parliamentary systems by investigating whether stable and unstable parliamentary systems behave differently in terms of the policy outcomes they implement. We show that this distinction of constitutional systems generates results that are more robust compared to the previous literature. More precisely, we find that parliamentary and presidential systems do not systematically differ but it depends on the incentives created by the characteristic features of parliamentary constitutions. 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

[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 motion; on the other side, the confidence allows the executive to link the adoption of a bill with the survival of the cabinet itself, that is the confidence vote procedure. For a detailed review of the confidence requirement, see Lijphart (1999). In this article, we mainly refer to the latter case. The key feature of the confidence vote procedure is that it strictly links the fate of a bill to the fate of the ruling coalition. Note that even though the vote of confidence procedure is rarely formally attached to bills in parliamentary democracies, yet simply the mere threat of the confidence procedure may generate the same behavior. As noted by Diermeier and Feddersen (1998b), if a bill proposal is rejected by legislators, the same bill may be automatically reintroduced with a confidence motion attached.

and/or the alignement 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. Indeed, the governments formation and duration are crucial focus of parliamentary systems. As noted by Baron (1998): "this focus reflects the fundamental characteristic of such systems that the government is installed by and continues under the confidence of the parliament". We 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. In this view, stability does not directly follow from preferences alignment between parties but it directly reflects distinguishing institutional characteristics of the parliamentary system. 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. On the other side, unstable parliamentary systems and presidential systems behave alike in terms of the policy they implement. This result is robust to changes in the set of countries included in the dataset and in the definition of stability. We provide a theoretical explanation for these findings which is consistent with previous theoretical literature as for instance Diermeir and Vlaicu (2011) and Cella *et al.* (2014). In particular, stability is linked 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 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 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 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 endoge-

[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.

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: White heterosckedasticity-consistent standard errors in parentheses; *cgexp* is the central government expenditure; *cgrev* is the central governmet revenue; *ssw* is the central government expenditure on social services and welfare. 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.* (2009) do not account for the dependent variable *ssw* due to the lack of data.

$^{*}$ $p < 0.1$, $^{**}$ $p < 0.05$, $^{***}$ $p < 0.01$

nizing 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 draw intuitions from different seminal and recent theoretical works comparing constitutional systems and we elaborate those to provide an interpretation of our results (see Baron, 1998; Diermeier and Vlaicu, 2011; Persson *et al.*, 2000; Cella *et al.*, 2014). The idea is that parliamentary systems behave differently according to the way the confidence requirement is actively used. In turn, it depends on structural country-characteristics, out of which: the expected quality of politicians (i.e. the fact that politicians may be either office or policy oriented), the amount of available information and the alignment of interests between politicians and citizens.[3] In this context the confidence requirement may affect the government duration by manipulating the incentive structure of politicians since a legislative defeat leads to new elections where both the executive and the legislative body may be replaced with positive probability. On the contrary, under presidentialism the government stability does not reflect the quality of politicians given that both the government and the legislature

[3]Citizens may or may not be informed about the quality of the executive proposal. From a game-theory point of view, the voters only receive a signal about the real state of the world and, as a consequence, they evaluate the executive proposal - being it congruent or not with the real state of the world - on the basis of the signal they receive. If legislators believe the signal is bad, then they will care about future reputation to a lesser extent, then easily accepting non-congruent executive proposals. The quality of the signal depends on the country's characteristics. That is to say that the country's characteristics (and in turn the set of countries which are included in the empirical analysis) matter.

have fixed terms.[4]

Therefore, different equilibria may emerge depending on the effective use (or not) of the confidence vote in the parliamentary system. 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. The latter faces an incentives' dilemma. If legislators are policy-oriented, then they will vote according to short-term incentives, then focusing on the quality of the executive proposal. On the other side, they may be attracted by the future rents deriving from being in office, thus focusing on long-term incentives. This is the case of office-oriented legislators. Indeed, the incentive to be in government results from its control of the agenda-setting process, which allows it to propose a redistrion of income and rents (Baron, 1998).

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, thus working as an additional control over the quality of the policies implemented. In this circumstance, the performance of parliamentary systems may be very close

[4]As noted by Diermeir and Vlaicu (2011): "Under presidentialism the policy process is driven by short-term issue-by-issue incentives because there are only short-term consequences of an unsuccessful proposal. In parliamentary systems, on the other hand, the failure of a policy proposal can lead to a change in the composition of the governing coalition. This injects political incentives in the policy process whereby coalition members consider both their short-term policy interests and their long-term political interest".

to the performance of presidential systems.

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. However, the predictions 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.[5] 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.[6] It contains a wide set of data ranging from economic to social, cultural and political information.[7]

We then replicate the same exercise as in Blume *et al.* (2009) to verify the robustness of our empirical analysis.[8] We extend the original PT dataset up to 116 countries and we update some of the variables. In detail we update the productivity level (*logyl*) from 1988 in the PT dataset to 2000 and the perception of corruption from the period 1997-1998 to 1996-2004. All those variables are included in the dataset at their average value. Therefore, we include additional variables to perform robustness checks: the social protection as percentage of the GDP (*socprot*) for the period 1995-2012,

[5]The confidence requirement may also operate as an instrument that allows the executive to pass a debated policy proposal. For instance, the last Italian government has passed almost the 80% of the bills proposed though a confidence motion.

[6]Countries are classified as follows: OECD (*oecd*); Central, Latin America and Caribbeans (*laam*); Africa (*africa*); South and Central Asia (*asiae*). There is a prevalence of OECD and LAAM countries that jointly represent the 60% of the sample.

[7]For a detailed list of variables and sources, see PT (2003).

[8]We wish to thank Lorenz Blume and co-authors for their collaboration.

the expenditure on education as percentage of the GDP (*edspend*) for the period 1995-2012, the general government expenditure as percentage of the GDP (*ggexp*) for the period 1990-2014, and the country's openness to trade computed as the sum of imports and exports over the GDP (*open*) for the period 1990-2014.[9] The resulting dataset is reported in the paper as BCIM-dataset.

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.[10]

### 3.1 Explanatory variables

The confidence requirement is rarely the explicit reason for a government collapse (approximately 10% of the elections in the Woldendrop dataset).[11] 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

[9] Sources: IMF/GFS dataset Yearbook.

[10] Seki and Williams (2014).

[11] The variable rft_sw2014 explicitly accounts for the reasons of new elections. In the updated version of the dataset (Seki and Williams, 2014), the value 5 corresponds to the lack of parliamentary support including a successful vote of no confidence or similar parliamentary action.

the presidential system or the parliamentary one. The criterion to allocate countries in such categories is the legal existence of the motion of confidence. This is a restrictive definition of presidential systems, as presidential countries where the government is 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 then 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:

$$GOV\ LIFE = \frac{\sum_i D_i / \sum_i E_i}{X_i}, \tag{1}$$

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.[12] 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 is equal to one for countries with an index value above the median of the stability distribution and zero otherwise, and the dummy *parl unstab* that, on the opposite, takes value one for countries with an index under the median

[12]The index *gov life* is built using the indicator *yrcurnt* from the DPI dataset which is coded zero in the election year, and $X_i - 1$ in the year after the election.

of the stability distribution and zero otherwise.[13]

Therefore, in order to provide robustness checks we have considered three additional stability indexes.[14]

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.[15]

The second index - *year exec* - is the average tenure of the head of the executive weighted by the legal length of any electoral term.[16] 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.[17] 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 expenditure on so-

[13]More precisely, we first drop three countries around the median in order to avoid a random assignment of countries due to measurement errors. The results we present in Section 4 hold even when we make the threshold move along the stability distribution. In detail, results remain significative until stable parliamentary countries are the ones in the 75th percentile of the stability distribution. After that categorization, results are no longer significative. This is congruent with the theoretical intuition of the paper according to which fully stable parliamentary countries should not be significantly different from any other constitutional category.

[14]The robustness checks are reported in Table 6 in the Appendix.

[15]Again, the index is built using the indicator *yrcurnt* from the DPI dataset.

[16]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.

[17]This indes is built using the indicator *prtyin* from the DPI dataset, which collects information about the number of years the chief executive party has been in office.

cial services and welfare (*ssw*).[18] 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 central government expenditure on education as percentage of the GDP (*edspend*), the social protection expenditure (*socprot*), the country openness (*open*), the perception of corruption (*graft*), the productivity level (*logyl*), and the general government expenditure as percentage of the GDP (*ggexp*).[19] 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).

### 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.[20] Moreover, to explain the variation in constitutional rules, we account for the following variables that enter the regression specifications when indicated: three dummies indicating the origin of the constitution,[21] the age of democracy (*age*), the distance from equator

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

[19] Results are reported in the Appendix, Tables (7)-(10).

[20] The continental localtion variables are reported in Footnote 3. As for the colonial history, a set of variables have been adopted: *col_espa* if a country is a former colony of Spain or Portugal; *col_uka* if a country is a former English colony and *col_otha* if a country is a former colony of a country other than England, Spain and Portugal. All the variables are weighted for the years of independence as follows: $col\_uka = col\_uk * (250 - t\_indep)/250$, where $col\_uk = 1$ is a dummy indicating a former English colony, $t\_indep \in [0, 250]$ are the years of independece and 250 is used as the standard value for all non-colonized countries. The same exercise holds for *col_espa* and *col_otha*.

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

(*lat01*), the percentage of people having either English or other European languages as mother-tongue (*engfrac* and *eurfrac*, respectively). Additional controls always entering the regressions specification are the following: the democracy level (*gastil*), per-capita income (*lyp*), proportion of people between the age 15-64 (*prop1564*) and over 65 (*prop65*), the log of the country population (*lpop*) and a dummy indicating a federalism system (*federal*).

We also consider the executive ideological position (*right_left*) under the assumption that leftist executives should exhibit a larger public expenditure (Becher, 2013), and the district magnitude (*magn*) that can impact on the fiscal policies.[22]

# 4 Results

The empirical specification follows standard literature with minor modifications (PT, 2003; Blume *et al.*, 2009). In detail we 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 equation:

$$Y_i = \alpha + \beta_1 parl\ stab_i + \beta_2 parl\ unstab_i + \gamma W_i + \varepsilon_i, \tag{2}$$

where *pres* is the baseline category that represents the control group in our setting and $W_i$ is a set of observable country-specific characteristics.[23] We are interested in testing whether presidential systems differ from stable parliamentary ones ($\beta_1 \neq 0$), whether presidential systems differ from unstable

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

[23] Given the relative high number of variables entering the regression equation and the relative low number of observations, we always perform the *Variance Inflation Factor* (VIF) to control for problems of multicollinearity. A VIF above 5 may indicate multicollinearity problems. A VIF above 10 indicates severe multicollinearity problems. None of our regressions has an average VIF above 3, and the explanatory variables always show a VIF between 1 and 2. Therefore, we explore the sensitivity of our key estimates by trying different specifications: we start from a very parsimonious specification to then include additional controls. Results are not reported.

ones ($\beta_2 \neq 0$) and whether stable and unstable parliamentary systems differ from each other ($\beta_1 \neq \beta_2$).

First, we replicate the analysis of PT (2003) in order to ensure comparability of results and homogeneity of data collection. Then, we test the PT results using the enlarged BCIM-dataset, thus following the same exercise as in Blume *et al.* (2009). As we already noted in Section 2, the coefficient for the explanatory variable *pres* turns out to be no longer statistically significant [Table 2, columns (1) and (3)]. 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 the central government expenditure 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 (2)]. Moreover, the result is robust to the change in the dataset [Table 2, column (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. 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 2, columns (5)-(8)]. 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 3, columns (1)-(4)]. Theoretically, parliamentary systems stimulate collective action between the executive and the 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

Table 2: Constitutions, Central Government Expenditure and Central Government Revenues. OLS estimations

| Dataset | PT | | BCIM | | PT | | BCIM | |
|---|---|---|---|---|---|---|---|---|
| Specification | PT | BCIM | PT | BCIM | PT | BCIM | PT | BCIM |
| Dep.Var. | *cgexp* | *cgexp* | *cgexp* | *cgexp* | *cgrev* | *cgrev* | *cgrev* | *cgrev* |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| *pres* | $-5.181^{***}$ | | $-3.755$ | | $-5.001^{**}$ | | $-2.701$ | |
| | (1.93) | | (2.42) | | (2.02) | | (1.14) | |
| *parl stab* | | $6.932^{***}$ | | $5.206^{**}$ | | $8.541^{***}$ | | $6.997^{***}$ |
| | | (2.37) | | (2.11) | | (3.20) | | (2.91) |
| *parl unstab* | | 1.383 | | 1.734 | | $-0.104$ | | 0.174 |
| | | (1.87) | | (1.98) | | (1.05) | | (1.09) |
| *F-test* | | $6.97^{**}$ | | $2.55^{*}$ | | $10.82^{***}$ | | $7.17^{***}$ |
| Observations | 80 | 80 | 91 | 91 | 76 | 76 | 87 | 87 |
| Adjusted $R^2$ | 0.631 | 0.643 | 0.592 | 0.599 | 0.586 | 0.640 | 0.576 | 0.625 |

Notes: White heteroskedasticity-consistent standard errors in parentheses; *cgexp* is the central government expenditure [columns (1)-(4)]; *cgrev* is the central government revenue [columns (5)-(8)]; *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*. 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*. *F-test* [columns (2), (4), (6), (8)] refers to the test of the hypotheses that the coefficients for *parl stab* and *parl unstab* are equal ($\beta_1 = \beta_2$). The *specification* section refers to the difference between the PT explanatory variable *pres* and our division between stable and unstable parliamentary countries.
$^{*}$ $p < 0.1$, $^{**}$ $p < 0.05$, $^{***}$ $p < 0.01$

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 services and welfare expenditure as percentage of the GDP - 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*, *prop*1564 and *trade* [Table 3, column (1)]. We show [Table 3, column (4)] that our results are robust also to the inclusion of such omitted controls. Therefore the results of Table 3 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 3 [columns (5)-(6)], social welfare expenditure is substituted with the social protection expenditure and results confirm previous hypotheses. Moreover, columns (7)-(8) report the result of the impact of the constitutional design over the share of education expenditure as percentage of the GDP.

Then, we adopt an instrumental variable (IV) approach. Indeed, OLS coefficients may be inconsistent due to endogeneity problems that translate to correlation between the regressors and the disturbances. These problems trace back to some specific effects, such as: omitted variables, endogenous sample design and feedback effects. In order to address these issues, rather than using a two-stage process, we simultaneously estimate a system of equations through a maximum likelihood estimator, thus accounting for the information contained in the error term of each equation. This is all done in one stage. The instrumenting equation is a multinomial logit model where the constitutional categories are regressed over a set of excluded instruments

Table 3: Constitutions, Social Welafare Expenditure, Social Protection and Education. OLS Estimations

| Dataset | PT | | | | BCIM | | | |
|---|---|---|---|---|---|---|---|---|
| Specification | PT-modified | BCIM-modified | PT | BCIM | PT | BCIM | PT | BCIM |
| Dep.Var. | *ssw* | *ssw* | *ssw* | *ssw* | *socprot* | *socprot* | *edspend* | *edspend* |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| *pres* | −2.244** | | −2.027 | | −2.184 | | −0.512 | |
| | (2.03) | | (1.59) | | (1.10) | | (1.16) | |
| *parl stab* | | 2.707** | | 3.366** | | 2.924** | | 1.049** |
| | | (2.03) | | (2.25) | | (2.55) | | (2.29) |
| *parl unstab* | | −0.543 | | −0.487 | | −0.346 | | 0.270 |
| | | (1.48) | | (2.46) | | (2.16) | | (1.71) |
| *F-test* | | 5.79** | | 6.83** | | 3.94** | | 1.54* |
| Observations | 69 | 69 | 69 | 69 | 89 | 89 | 86 | 86 |
| Adjusted $R^2$ | 0.759 | 0.775 | 0.753 | 0.783 | 0.758 | 0.761 | 0.514 | 0.529 |

Notes: White heteroskedasticity-consistent standard errors in parentheses; *ssw* [columns (1)-(4)] is the central government expenditure on social services and welfare; *socprot* [columns (5)-(6)] is the central government social protection expenditure as defined by the IMF/GFS, we report the average from 1990 to 2012; *edspend* [columns (7)-(8)] is the central government 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*. 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 the previous table. Columns (7)-(8) also include the variable *eduger* as control that indicates the country's level of education. *F-test* [columns (2), (4), (6), (8)] refers to the test of the hypotheses that the coefficients for *parl stab* and *parl unstab* are equal ($\beta_1 = \beta_2$).

$^{*}$ $p < 0.1$, $^{**}$ $p < 0.05$, $^{***}$ $p < 0.01$

and additional controls. The headline equation follows the same structure of equation (2). This method allows us to control for spurious correlation between dependent and independent variables and to ensure consistent parameter estimates. In detail, the equation (3a) estimates the country-specific predicted probabilities to belong to a particular constitutional category while the equation (3b) investigates the effect of the constitutional design over a set of policy outcomes, as we did before. We adopt a multiple equation system in order to simultaneously control for correlation between error terms (Roodman, 2011):

$$IV \begin{cases} Pr(J_i = j \mid Z_i) = \exp(Z_i\beta_{j|b}) / \sum_{j=1}^{J} \exp(Z_i\beta_{j|b}); & \text{(3a)} \\ Y_i = \alpha + \beta_1 parl\ stab_i + \beta_2 parl\ unstab_i + \gamma W_i + \varepsilon_i. & \text{(3b)} \end{cases}$$

The left-hand side of equation (3a) indicates the probability of adopting a particular constitutional design, $J_i$ is a random variable that indicates the choice made, $j$ represents the number of constitutional catergories, $Z_i$ is a set of country-specific observable characteristics and $b$ is the baseline category, which is the presidential system in our setting. The error term is assumed to be independent and identically distributed with extreme value distribution. We use instrumental variables as in the previous literature to ensure that some of the variables entering the equation (3a) have not direct effects on the policy outcome, except through the effect they have on the constitutional choice (i.e. the *exclusion restriction*). As noted by PT (2003), the exclusion restriction is guaranteed for the three variables dating the origin of the constitution, i.e. *con2150, con5180 con81*, given that they impact on the constitutional design in use without affecting fiscal policies (remind that fiscal policies are computed over the period 1990-1998). We also include in (3a) a variable that accounts for the average degree of conflict in each country $i$ during the period 1800-1900.[24] Indeed, we sustain that the past degree of conflict may impact on the way in which a country is

[24]The variable is computed as the average number of years a country has been involved in some conflict during the period 1800-1900. Source: PolityIV Dataset.

more or less inclined to accept an unstable political environment. Then, additional regressors are included in (3a) to increase its explanatory power - *engfrac, eurfrac, lat01* and *age* - under the assumption that *engfrac, eurfrac, lat01* are uncorrelated with the uneobserved determinants of the dependent variables of the equation (3b). The last three instruments may proxy the European cultural influence in the constitutional choice of non-European countries (Acemoglu *et al.*, 2001).

Table 4 reports the IV results. We first adopt the same PT specification of the model using both the PT and BCIM dataset and we find that PT specificationis not robust to the change in the dataset [columns (1)-(2)]. When we turn to our model specification, previous OLS estimations are validated, with the subgroup of stable parliamentary countries that is significantly different both from presidential countries and unstable parliamentary countries. On the other side, we cannot reject the null-hypothesis for unstable parliamentary countries. Results are robust to the change in the dataset and dependent variable [Table 4, columns (3)-(7)]. The similarity between OLS and IV estimations ensures the validity of our approach. 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 parliamentary systems where the confidence vote is never used are similar to presidential ones, while parliamentary systems where the confidence vote 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 first

Table 4: Constitutions, Central Government Expenditure, Central Government Revenues, Social Welafare Expenditure. IV Estimations

| Dataset | PT | BCIM | PT | BCIM | PT | BCIM | PT |
|---|---|---|---|---|---|---|---|
| Specification | PT | | BCIM | | BCIM | | BCIM |
| Dep.Var. | *cgexp* (1) | *cgexp* (2) | *cgexp* (3) | *cgexp* (4) | *cgrev* (5) | *cgrev* (6) | *ssw* (7) |
| *pres* | $-6.51^{***}$ (3.71) | $-5.32$ (3.64) | | | | | |
| *parl stab* | | | $6.70^{***}$ (2.15) | $6.41^{**}$ (2.78) | $8.71^{***}$ (2.29) | $6.43^{**}$ (2.55) | $3.11^{***}$ (1.62) |
| *parl unstab* | | | 2.75 (2.12) | 2.05 (2.52) | $3.14^{*}$ (1.97) | 2.20 (2.03) | 0.67 1.18) |
| Conts&Cols | *col_uka* | *col_uka* | √ | √ | √ | √ | √ |
| Observations | 75 | 82 | 80 | 89 | 79 | 93 | 90 |
| Adjusted $R^2$ | 0.69 | 0.58 | 0.69 | 0.61 | 0.67 | 0.62 | 0.78 |

Notes: White heteroskedasticity-consistent standard errors in parentheses; *cgexp* is the central government expenditure as percentage of the GDP; *cgrev* is the central government revenue as percentage of the GDP; *ssw* is the central government expenditure on 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*. Conts&Cols refer to indicator variables for continental location and colonial history. Columns (1)-(2) replicate the IV-specification as in PT (2004). First-stage probit includes: *con2150*, *con5180*, *con81*, *engfrac*, *eurfrac*, *lat01*, *age*. Second-stage OLS includes standard controls except that only *col_uka* is included among continental location and colonial history variables. Columns (3)-(7) report BCIM-specification results. Multinomial logit model [equation (3a)] includes: *con2150*, *con5180*, *con81*, *engfrac*, *eurfrac*, *lat01*, *age*. Always included in the multiple regression equation (3b): *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 5: Categories of parliamentarism. OLS Estimations

| Dataset | PT | BCIM | PT | BCIM |
|---|---|---|---|---|
| Specification | BCIM | | | |
| Dep.Var. | *cgexp* | *cgexp* | *cgexp* | *cgexp* |
| | (1) | (2) | (3) | (4) |
| *parl stab_1* | 1.74 | 2.67 | 2.28 | 1.96 |
| | (2.72) | (3.01) | (2.37) | (2.93) |
| *parl stab_2* | 5.32** | 4.91* | 4.04* | 2.24 |
| | (2.31) | (2.60) | (2.24) | (2.83) |
| *parl stab_3* | 4.50 | 3.83 | 7.88*** | 5.31** |
| | (2.72) | (3.01) | (2.38) | (2.99) |
| *parl stab_4* | | | 6.35* | 4.26 |
| | | | (2.54) | (3.33) |
| Observations | 80 | 91 | 91 | 87 |
| Adjusted $R^2$ | 0.71 | 0.67 | 0.77 | 0.71 |

Notes: White heteroskedasticity-consistent standard errors in parentheses; *cgexp* is the central government expenditure; *pres* is the dummy that identifies presidential systems; parliamentary countries are split into categories [three categories in columns (1)-(4); four categories in columns (5)-(6)] according to the index *govlife*. 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 of parliamentary countries according to the stability index.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

in three [*parl stab*(1)-(3)] and then in four [*parl stab*(1)-(4)] categories.[25] The subgroups of parliamentary countries are increasing in the stability distribution. We expect parliamentary systems with intermediate degree of stability to be further away from presidential ones than unstable systems.

We indeed 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. Results are robust to change in the dataset [Table 5, columns (1)-(2)]. When we split countries in four categories [Table 5, columns (3)-(4)] we better observe that the difference between parliamentary systems and presidential systems is increasing in the stability of the former group, that is when legislators are not effective in replacing a bad executive. 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.[26] This is because we are not able to distinguish between countries that are fully stable because the executive has been disciplined by the threat of a no-confidence vote (no difference between constitutional systems) and countries where legislators are particularly office-oriented (large difference between constitutional systems).

The results are therefore compatible with the theoretical predictions. 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

[25] We exploit the same stability index as before - *gov life* - but classifying parliamentary systems in three/four categories. Note that in this specification *parl stab*(0)=*pres*, that is the baseline category.

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

government stability and economic outcomes, particularly for parliamentary systems. Hence, the empirical analysis we perform introduces finer partitions 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.

## References


[1] Acemoglu D. (2005), "Constitutions, Politics, and Economics: A Review Essay on Persson and Tabellini's the Economic Effects of Constitutions", *Journal of Economic Literature*, Vol.43, 4(12/2005), 1025-1048.

[2] Acemoglu D., S. Johnson and J. Robinson (2001), "The Colonial Origins of Comparative Development: An Empirical Investigation", *American Economic Review*, 91, 1369-1401.

[3] Baron P.D. (1998), "Comparative Dynamics of Parliamentary Governments", *American Political Science Review*, 92(3): 593-609.

[4] Becher M. (2013), "Presidentialism, Parliamentarism, and Public Spending", *Princeton University Press, forthcoming.*

[5] Blume L., J. Műeller, S. Voigt and C. Wolf (2009), "The economic effects of constitutions: replicating – and extending – Persson and Tabellini", *Public Choice*, 139, 197 - 225.

[6] Brennan G. and H. Kliemt (1994), "Finite lives and social institutions", Kyklos, 47, 551-571.

[7] Cella M., G. Iannantuoni and E. Manzoni (2014), "Constitutional Rules and Efficient Policies", working paper n. 270, DEMS, University of Milano-Bicocca.

[8] Diermeier D. and T. J. Feddersen (1998a), "Comparing constitutions: Cohesion and distribution in legislatures", *European Economic Review*, 42, 665 - 672.

[9] Diermeier D. and T. J. Feddersen (1998b), "Cohesion in legislatures and the Vote of Confidence Procedure", *American Political Science Review*, 92(3), 92(3), 611-621.

[10] Diermeier, D. and R. Vlaicu (2011), "Executive Control and legislative Success", *Review of Economic Studies* 78:846-871.

[11] Hayo B. and S. Voigt (2013), "Endogenous Constitutions: Politics and Politicians Matter, Economic Outcomes Don't", *Journal of Economic Behavior and Organization*, 88, 47-61.

[12] Lijphart A. (1999) "Patterns of Democracy. Government Forms and Performance in Thirty-Six Countries", *New Haven, CT: Yale University Press.*

[13] Persson T. and G. Tabellini (2003), "The Economic Effects of Constitutions", *Cambridge: The MIT Press.*

[14] Persson T., G. Tabellini and G. Roland (1997) "Separation of Power and Political Accountability", *Quarterly Journal of Economics*, 112(4), 1163-1202.

[15] Persson T., G. Tabellini and G. Roland (2000) "Comparative Politics and Public Finance", *Journal of Political Economy*, 108 (6), 1121-1161.

[16] Robinson J. A. and R. Torvik (2008), "Endogenous Presidentialism", *NBER Working Papers*, 14603.

[17] Roodman D. (2011) "Fitting fully observed recursive mixed-process models with cmp", *The Stata Journal*, 11, N.2, 159-206.

[18] Seki K. and L. K. Williams (2014), "Updating the Party Government Data Set", *Electoral Studies*.

[19] Voigt S. (2011a), "Positive Constitutional Economics II - a survey of recent developments", *Public Choice*, 146, 205-256.

[20] Voigt S. (2011b), "Empirical Constitutional Economics: Onward and upward?", *Journal of Economic Behavior and Organization*, 80, 319-330.

[21] Voigt S. (2012), "Design of Constitutions", *Economic approach to law series*, edited by Stefan Voigt.

[22] Woldendorp J., H. Keman and I. Budge (2000), "Party government in 48 democracies. Composition-Duration-Personnel", *Kluwer Academic Publishers*.

# 6 Appendix

Table 6: Robustness checks with different stability indexes

| Specification | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Dep.Var.. | *cgexp* | *cgexp* | *cgexp* | *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 | | BCIM | | |
| *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: White heteroskedasticity-consistent standard errors in parentheses. *cgexp* is the central government expenditure as percentage of the GDP. 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. 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 7: Constitutional impact on the central government expenditure with party's ideological position

| Dataset | PT | | BCIM | |
|---|---|---|---|---|
| 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** | | 4.502** |
| | | (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) |
| *magn* | −0.228 | −0.271 | −0.333 | −0.354 |
| | (0.24) | (0.24) | (0.27) | (0.27) |
| Observations | 75 | 75 | 85 | 85 |
| Adjusted $R^2$ | 0.671 | 0.692 | 0.628 | 0.645 |

Notes: White heteroskedasticity-consistent standard errors in parentheses. *cgexp* is the central government expenditure; *pres* is the dummy that identifies presidential systems; *parl stab* and *parl unstab* are dummies that identify stable and unstable parliamentary systems according to the index *gov life*. 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 controls *right_left* and *magn* are 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. *magn* represents the district magnitude weighted by the country's population. 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 8: 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: White heteroskedasticity-consistent standard errors in parentheses. *ggexp* is the general government expenditure as percentage of the GDP; *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*. 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 *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 perception of corruption

| Dataset | PT | | BCIM | |
|---|---|---|---|---|
| Specification | PT | BCIM | PT | BCIM |
| 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: White heteroskedasticity-consistent standard errors in parentheses. *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*. 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 10: Constitutional impact on the total factor productivity

| Dataset | PT | | BCIM | |
|---|---|---|---|---|
| Specification | PT | BCIM | PT | BCIM |
| 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: White heteroskedasticity-consistent standard errors in parentheses. *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*. 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.

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