Reconsidering the Economic Effects of Constitutions

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1. Introduction

In *The Economic Effects of Constitutions (TEEC)*, Torsten Persson and Guido Tabellini (P&T) hypothesize that electoral rules explain variations in government expenditure policies (Persson and Tabellini 2003). Specifically, they contend that proportional representation (PR) electoral systems, as opposed to majoritarian systems, promote greater public spending. They present evidence supporting this claim, based on what is clearly the most thorough comparative empirical study of how constitutional designs affect public spending to date. For example, one key finding is that ‘a switch from proportional to majoritarian elections reduces overall government spending by almost 5 percent of GDP’ (*ibid.*, p. 270).

But, in spite of the careful analysis, we are concerned that the key statistical models used in *TEEC* are mis-specified. The models are based on a set of theoretical expectations that assume a constant set of demands for spending from voters. The main effect of institutions is to determine how far voters are able to hold politicians and bureaucrats to account and whether voter demands will generate large spending on public goods or targeted and limited spending on specific constituents. However, a long history of political science research indicates that electorates often differ in their support for public spending, both over time and across countries. TEEC ignores these electoral demands in their analysis (Boix 2006).

By ignoring voters’ preferences, P&T risk two types of model mis-specification. First, there might be a correlation between the type of electoral system or regime and the expenditure preferences of the voters in a system. For example, their dataset may include a coincidence between electorates that support relatively high levels of government spending and PR electoral systems. Rodden (2005), for example, shows that majoritarian electoral systems often include a
conservative bias due to political geography, reflecting the historical power of conservative interests in shaping electoral laws. Thus, electorates with a relatively low demand for public spending may be majoritarian and display relatively low public spending. As a result, preferences should be added as a control variable to isolate the effects of constitutional designs with which P&T are concerned.

Second, research in political science suggests that different constitutional designs translate voters’ preferences into policy outcomes in different ways. In short, we would expect changes in public demands for government spending to lead to more extreme government policies in the desired direction in majoritarian than in PR systems. Huber and Powell (1994) and Powell (2000) show that PR systems generally produce a legislative party at or near the median voter, while majoritarian (and particularly plurality) systems typically generate parties further from the median. Instead, majoritarian systems induce parties to straddle the median voter. Powell and Vanberg (2000) and Powell (2006) demonstrate the failure to converge on an the national median in majoritarian systems is caused by disproportionality resulting form district level competition, where national and district medians may diverge dramatically. In any event, the positioning of parties (and their legislative agendas) means that a comparable change in the median voter’s position in a PR system and majoritarian system should lead to a more pronounced change in the direction of the shift in electoral demand in any policy area, including public spending. This means that differences in voter preferences across countries or over time within a country (for example, for more or less government spending) should be related to a greater change in government policy in a majoritarian system than in a PR system. Furthermore, this means that the answer to the relevant counterfactual question from P&T – what would be the
level of government spending if a PR system changed to majoritarian systems? – depends on the electorate’s preferences.

With the aim of adding to the findings in TEEC, the rest of this paper is organised as follows. First, we review P&T’s theoretical claims and empirical findings, and contrast these with theoretical arguments and empirical results from political science which suggest that voters’ preferences should matter in predictable ways. Second, we describe our measurement strategy for capturing cross-national differences in the spending preferences of the median voter across the countries in studied in TEEC. Specifically, as used in Huber and Powell (1994), Powell and Vanberg (2000), Powell (2000), and Powell (2006), we employ survey evidence of citizens’ left-right self-placement to identify the median voter’s position on this scale. Based on the availability of survey data and our assessment of its validity, our measure applies to 28 of the countries in TEEC. Third, we re-estimate the relevant models in TEEC using exactly their data for this subset of cases, adding our measure of preferences as a control and an interaction term. Our findings support a modified version of the key results in TEEC. Constitutions do affect public spending in the way that P&T find, but this effect is only true for a subset of the cases. As an electorate becomes less supportive of government spending, majoritarian systems have an increasingly large impact on lowering spending relative to PR systems. But as the electorate becomes more supportive of government spending, the relationship weakens and reverses. That is, for a significant range of cases in the P&T dataset with a relatively “left” electorate, a change from PR to majoritarian electoral laws is associated with no increase in government spending.
2. Constitutions, Voters’ Preferences and Public Spending

*Persson and Tabellini: Constitutions and Incentives for Politicians*

Building on their own previous work (Persson and Tabellini 1999, 2000), and work in collaboration with Gérard Roland (Persson, Roland and Tabellini 1997, 2000), the theoretical foundations of P&T’s argument are set out in Chapter 2 of *TEEC* (Persson and Tabellini, 2003: 11-34). P&T are primarily interested in two basic institutional choices in the design of constitutions: (1) whether the electoral system is proportional or majoritarian, and (2) whether the basic form of government is parliamentary or presidential.

Where electoral systems are concerned, in their purest forms, in PR systems voters chose between lists of candidates presented by parties in multi-member districts and seats are allocated in proportion to the share of votes received. In majoritarian systems, in contrast, voters chose between individual politicians in single-member districts and the winning candidate in each district is the one who receives the most votes in a district (cf. Cox, 1997). P&T contend that the design of the electoral system determines whether politicians have an incentive to promote and implement broad or narrow spending programs. First, whereas larger districts encourage parties to seek support from broader sections of the electorate, single-member districts encourage candidates to pursue spending policies geared towards narrow geographic constituencies. Second, PR systems tend to produce coalition governments whereas majoritarian systems tend to produce single-party governments, and because each party in a coalition tends to have different spending priorities, coalition governments will lead to higher levels of public spending than single-party governments (cf. Austen-Smith 2000; Bumba 2003). Third, when politicians are elected on party lists, rather than in single-member districts, they can free-ride on the good
behaviour or name recognition of other politicians on their list, and their position on the list (which is usually determined by party leaders rather than the voters) may be determined by criteria unrelated to the ability of the politician to act in the best interests of the party’s voters. As a result, political rents and corruption are likely to be higher in so-called ‘closed-list’ PR systems than in majoritarian systems (or for that matter ‘open-list’ or single-transferable-vote PR systems).

Derived from these ideas, P&T conclude that ‘larger districts and PR both pull in the direction of broad programs, whereas small districts and plurality pull in the direction of programs narrowly targeted at small constituencies’ (TEEC, p. 21) (cf. Rogowski and Kayser 2002). As a result of these incentives, ‘proportional systems [should be] associated with larger governments’ (ibid., p. 30).

Turning to the form of government, P&T contend, first, that the checks and balances inherent in presidential systems make it more difficult for politicians to abuse their powers under these systems than in parliamentary systems – where politicians can ‘collude with each other at the voters’ expense’ (ibid., p. 23). Second, parties in parliamentary systems are more ‘cohesive’ than in presidential systems because of the vote-of-confidence procedure, which allows governing parties to force their legislative ‘backbenchers’ to support a government position or face the risk of new parliamentary elections (cf. Huber 1996; Diermeier and Feddersen 1998). As a result, a stable majority of legislators in a parliamentary system will tend to pursue the broad expenditure interests of its voters, whereas the lack of such cohesion in presidential systems will enable political minorities to secure targeted benefits (Persson, Roland and Tabellini 2000).
Consequently, P&T expect that ‘presidential regimes should be associated with less rent extraction and lower taxation [and] more targeted programs … Overall, we should find parliamentary regimes to have larger governments than presidential regimes’ (TEEC, p. 25).

A common element to these various theoretical ideas is that the main effect of the institutional design of government is to control the mis-behaviour of politicians, who would like to spend more money than voters would ideally like. Hence, regardless of whether voters actually want higher or lower levels of public spending, the electoral system and the form of government determines how far politicians will extract rents or mismanage affairs above the level of spending chosen by the voters. These ideas are consistent with a body of theoretical and empirical research in political science, which sees the relationship between voters and elected officials as a ‘principal-agent’ relationship, and where the design of government shapes how far the voters (the principals) can hold their agents (the politicians) to account.

Nevertheless, political science research on the design of constitutions and policy outcomes suggests that voter (or party) preferences and institutions interact in determining public policies. We would not, therefore, want to estimate the effects of institutions on policy without accounting for preferences.\(^1\) We now turn to that literature.

\textit{Political Science: Interaction Between Voters’ Preferences and Institutions}

A standard assumption in political science research is that voters have different preferences over economic policy outcomes. In general, voters on the left prefer higher taxes and higher levels of

\(^1\) P&T (174) recognize the potential mis-specification problems and report estimates for models that included a control for one source of demand the GINI coefficient and that interact it with the electoral system. They expect the GINI coefficient to correlate positively with public demand for government spending. The inclusion of this control eliminates any effect of electoral laws on government spending, which they note but do not consider in their conclusions about the constitutional effects on government spending. We do not, however, consider this a test of our hypotheses concerning model mis-specification. As we discuss later in the paper, there are good reasons to question the validity of the GINI coefficient as a proxy for public preferences for government spending.
public spending than voters on the right. The distribution of voters’ preferences along this left-right dimension is generally a normal distribution, with the median varying from slightly to the left to slightly to the right of the center (e.g. Huber and Powell 1994). And, this ‘socio-economic’ meaning of the ubiquitous ‘left-right’ dimension is relatively robust across the advanced industrial democracies (e.g. Kim and Fording 1998; Budge et al. 2001; Gabel and Huber 2000; Huber 1989). There is also evidence that governments composed of parties on the left spend more money than governments composed of parties on the right (Blais et al. 1993; Klingemann et al. 1993; Imbeau et al. 2001).

If one assumes that in democratic systems policy outcomes are generally at, or close to, the preferences of the median voter, then if the median voter is further to the left in country A than in country B, one would expect public spending to be higher in country A than country B, other things being equal. But, how a median voter’s preferences are actually translated into policy outcomes depends on the institutional design of the polity. Constitutional rules governing elections and the allocation of legislative seats affect how parties compete for votes, what positions they take, and thus the choices voters face when selecting policy-makers. This means that policy choices are a function of the interaction between institutions and voter preferences.

Electoral Systems

Where the electoral system is concerned, PR systems are more likely than majoritarian systems to produce governments that include a party close to the median voter’s left-right position (Huber and Powell 1994; Powell 2000; Powell and Vanberg 2000; Powell 2006). The basic theoretical idea behind this view is the following. Assume that there is a normal distribution of voter preferences, there are ten parties evenly spaced along the left-right scale, each citizen votes for
the party closest to her ideal policy preference, and there is a single national multi-member district, with some form of PR for allocating seats between the parties in relation to their vote share. The election outcome would be that all ten parties receive seats, and the median party in the legislature would be the party closest to the median voter. Moreover, any ‘connected’ majority coalition government (between parties that are next to each other along the left-right dimension) would have to include the party closest to the median, irrespective of how many votes it received or seats it secured.

Now assume this electorate is divided into multiple single-member districts (SMDs) with different distributions of voters’ preferences. As is typical in SMD systems, this ensures that a party can win a majority of seats with less than a majority of the electorate. Obviously, depending on the distribution of voter preferences across districts, a party can win a much larger share of seats than its share of votes. As P&T point out, at the limit, a party needs 50% of the votes in 50% of the districts, which would mean that a party could win a legislative majority with 25% of the national vote. As a result, parties do not necessarily have an incentive to propose or implement the national median voter’s position in SMD systems. And, the resulting government policy will not reflect the overall national median median.

Given a set of electoral laws and a fairly constant geographic distribution of voters, SMDs can lock-in an ideological bias against the interests of voters that are geographically concentrated and away from the median voter. More specifically, Rodden (2005) shows that the geographic concentration of left voters as well as malapportionment (unequal numbers of voters across electoral districts) in SMD systems created a conservative bias in several advanced industrialized democracies. With changes in the preferences of the electorate (e.g., through generational replacement), the character of this bias can change—as Rodden (2005) shows for
the UK. But the main point here is that SMD rules often induce party strategies that do not generate two-party convergence on the median voter. Powell (2003: 201-229) shows that this is generally true empirically.

Given the different incentives faced by parties in PR and SMD systems, we would expect more dramatic changes in policy in SMD systems than PR systems when faced with the same change in voter preferences. Consider a one percent change in the number of voters supporting greater public spending (distributed evenly across electoral districts), which would constitute a small move in the position of the median voter to the left. In a majoritarian system, this would lead to an increased likelihood that the party on the left of the median would win government office (recall that majoritarian systems tend to have two parties straddling, not centered on, the median). And, since this party is likely to the left of this position, this small change in voter preferences in a majoritarian system may produce a large increase in public spending, beyond the preferences of the new median voter. In a PR system, in contrast, such a small change in voter preferences would increase the votes of the party closest to the new median voter, as such a party is more often available in a PR system than a majoritarian system. And, that party is likely to be part of a coalition government, meaning that government policy should reflect this small change (Powell 2003).

As a ‘real world’ example contrast the major policy shifts in the United Kingdom (with a majoritarian system) and Germany (with a PR system). In the immediate post-war period, when the median voter in both states was to the left (compared to today), in the 1945 election in Britain the Labour Party (with only 47 percent of the vote) won a landslide majority in House of Commons, whereas in the 1949 election in Germany the centre-right CDU (with 31 percent of the vote) formed a coalition government power with the centerist FDP and several other smaller
parties on the centre-right. The Attlee Labour government followed a radical public expenditure programme, which included raising taxes and universal publicly-funded healthcare. In contrast, the German CDU-led government pursued a ‘social market’ programme, for example with a universal healthcare system based on public and private insurance. Had Attlee been forced to govern with the British Liberals, the British government would have pursued more moderate policies.

Contrast this with the situation in the 1980s and early 1990s. This time, the median voter in both states had moved slightly to the right, and the environment was ripe for a reform of the social democrat consensus of the 1960s and 1970s. In Britain, the Conservatives, who were considerably to the right of the median voter, won parliamentary majorities in the 1979, 1983, 1987 and 1992 elections with only 42 percent of the votes in each election. The successive Thatcher governments pursued privatisation, tax cuts and public expenditure cuts, despite a majority of the public repeatedly voting for parties that opposed these policies in each of these elections. In contrast, the CDU won 49, 44, 44 and 42 percent of the votes in the 1983, 1987, 1990 and 1994 elections, respectively. Each time, Helmut Kohl led a coalition government between the CDU and the FDP, and the result was a less radical set of reforms than the Thatcher governments, despite electoral promises to the contrary.

In this interpretation, there is an interaction between preferences, electoral systems and public spending policies. Majoritarian systems are likely to lead to greater policy change than PR systems. But, whether this is a higher or lower level of spending will depend on the preferences of the electorate. As the electorate becomes more conservative fiscally, we would expect greater decreases in spending in SMD than PR systems. This relationship is consistent with P& T. However, as the electorate raises its demand for public spending, we would expect
PR systems to result in lower overall spending than SMD systems. This prediction is in exactly the opposite direction to the main P&T prediction.

Due to space and data constraints, our theoretical focus has addressed only electoral rules, not the form of government (presidential vs. parliamentary). Certainly, one could develop a variety of testable hypotheses regarding presidential systems that involve the responsiveness of presidents to voter preferences in making fiscal policy. But we lack a measure of presidential preferences over fiscal policy that is distinct from our measure for the legislature. Moreover, we consider the electoral law finding in TEEC as the central institutional claim.

An Alternative Set of Hypotheses

In sum, recent research in political science would suggest the following set of hypotheses about how preferences and institutions interact to shape public spending:

1) The level of public spending should increase (decrease) as the median voter’s position moves to the left (right).

2) This relationship in (1) should be of greater magnitude in majoritarian parliamentary systems than in PR parliamentary systems.

These hypotheses are quite different to the key contention in TEEC: that parliamentary or PR systems always lead to higher levels of public spending. Indeed, they contend their results support the following counterfactual: “a switch from proportional to majoritarian elections reduces overall government spending by almost 5 per cent of GDP.” (TEEC: 270)
Data and Measurement

The purpose of the statistical analysis is to test our alternative hypotheses with the same or as close to the same data as those employed by P&T. Ideally, we would find reliable measures of public spending preferences for all 80 countries in the P&T analysis of public spending (p. 159, Table 6.1). Since this was not possible, we re-estimate their original models on the subset of the data for which we have plausible measures of voter preferences. We then compare the models with and without voters’ preferences for spending.

Measuring Electoral Preferences for Public Spending

We use the median left-right position of the electorate in the 1990s to capture the electorate’s preference for public spending. The left-right dimension of political competition represents distinct policy choices across a broad range of issues. But the traditional distinction between left and right involves the size of government and its relationship to the economy. The left represents greater welfare spending and a larger role for government in regulating the economy and right represents lower welfare spending and smaller government. Consequently, a long tradition in the study of public spending (and welfare spending, more generally) has identified the left-right position of the governing party as a strong determinant of the level of government spending (e.g., Alan and Scruggs 2004; Huber and Stephens 2001).\(^2\) We have information on voter left-right positions for a much larger set of countries (47) in the P&T dataset.

\(^2\) Franzese (2002) finds that government partisanship has only a mild effect on the level of government tax and transfer payments, which differs from findings of many previous studies. It is important to note that he controls for several factors – such as the age distribution of the population and the level of income inequality – that both affect public preferences over spending and which party wins election. We are only interested in the effect of the
The World Values Survey includes the following question:\footnote{Information about the World Values Survey data is available on their website: \url{http://www.worldvaluessurvey.org}. There have been three ‘waves’ of the World Values Survey: 1981-82, 1990-1991 and 1995-97. An integrated datafile with the results of all three waves is available from the ICPSR data archive.}

In political matters, people talk of ‘the left’ and ‘the right’. How would you place your views on this scale, generally speaking?\footnote{The respondent can also choose 'don’t know'. For purposes of this analysis, we deleted these respondents. In future analyses we will re-compute the left-right median after imputing the left-right positions of these respondents.} 1(left) 2 3 4 5 6 7 8 9 10 (right).

For each national electorate, we estimate the median voter’s position using the method in Powell (2000), which also used the World Values Survey.\footnote{The method assumes a continuous scale underlies the 1-10 point l-r survey scale. Thus, a response of ‘5’ could mean any position between 4.5 and 5.5. To calculate the median voter’s left-right location, Powell (2000) identifies the median respondent’s response category (e.g., 5) and then estimates her position in the on point interval centered on this category. This is done by dividing the percent of respondents in that category needed to reach a majority of respondents and dividing this number by the total percent in that category. The resulting fraction is then added to the low value in the range (e.g., 4.5) to render the median voter’s location on the continuous 1-10 scale. Unlike Powell (2000) we further adjust the number of respondents in each category using the survey weight variable, to capture more accurately the distribution of preferences in the population. Many countries in the WVS include dramatic over- or undersamples of certain groups, so weighting in proportion to population figures is crucial.} For each country we use the wave of the World Values Survey that is closest to the time period used for the public spending in P&T Practically, this means we have preferred wave 2 (1990–93) when available for any country, but included wave 3 (1995–97) for a few countries not available in wave 2. The mean of the national medians is 5.46 with a standard deviation of .62.

We use the median voter’s left-right position as indicative of the public preference for public spending because it is majority preferred to all others locations on the left-right dimension.\footnote{This is true if voters’ preferences are single peaked.} We would expect differences in the median’s position over time or across countries to represent differences in electoral preferences for public spending. This treatment is similar to the use of the median voter’s position in Powell (2000), Powell and Vanberg (2000), and Huber preferences of the electorate for spending on the level of public spending. Thus, we do not use measures of left-right positions of governing parties as a proxy for public demand for government spending.
and Powell (1994). As mentioned earlier, we do not have left-right survey data for all 80 countries in the P&T dataset used to analyze the level of public spending. Table 1 lists the set of countries from P & T for which we have WVS a left-right measure. The table also reports the institutional features, as coded by P & T, and several correlations used to assess the validity of left-right as measure of demand for public spending.

We recognize that the left-right may not have exactly the same policy-content in every country. Some previous studies indicate that, at least for the advanced industrialized democracies, we find a surprising consistency in the character of the left-right dimension (Huber 1989; Laver and Hunt 1992; Huber and Inglehart 1995; Gabel and Huber 2000). But we are also aware that new democracies may be particularly problematic because they may not have a well-defined left-right dimension to political competition. Indeed, as some scholars have noted, countries such a Russia appear to have a left-right dimension with exactly the opposite relationship to government spending as what is found in advanced industrialized democracies (Powell and Vanberg 2000). For this reason, we want to be careful to check the robustness of our analyses to omission of countries where the left-right dimension is suspect. We do this in two ways.

First, we looked at the correlation between left-right positions and attitudes toward income inequality, as expressed in the same World Values Surveys. The World Values Survey asks citizens about their attitudes on a wide variety of socio-economic issues. However, these questions generally ask voters to react to a current policy status quo, such as whether ‘the government should take more responsibility to ensure that everyone is provided for’, rather than

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7 Huber (1989) explicitly looks at mass opinions and examines whether policy positions or partisanship drives left-right self-placement. He finds the policy-positions generally matter in similar ways across countries. The main exception is that policy positions play only a weak role in defining the left-right positions of supporters of extreme parties.
to express a general preference about the desired level of government spending. The closest question for our purpose, asks respondents to locate themselves on a ten-point income-inequality scale, where 1 represents ‘incomes should be made more equal’ and 10 represents ‘we need larger income differences as incentives for individual effort’. If the location of voters on the left-right dimension is a good proxy for their preferences for government spending, then voters’ left-right positions should correlate highly with their positions on this income inequality scale. Another question that may correlate with a preference for government spending, but does refer to the status quo, asks respondents again to choose a position between 1 representing 'government ownership of business should be increased' and 10 representing 'private ownership of business should be increased'.

To be included as having a reliable Left-Right measure, the correlation with both items had to be positive in both waves and statistically significant for both cross-validation items in at least one wave of the WVS surveys. Countries are dropped from the analysis if their correlation on either item is negative, below .10, or is not statistically significant. The following countries remain and comprise our subset of interest: Australia, Austria, Belgium, Bulgaria, Canada, Czech Republic, Denmark, Finland, France, Germany, Iceland, Italy, Japan, Latvia, Netherlands, New Zealand, Norway, Portugal, Romania, Slovakia, South Africa, Spain, Sweden, United Kingdom. Table 1 presents the correlation coefficients.
Table 1: Countries analyzed in TEEC and for which we have World Values Survey (WVS) data.
This table presents correlations between the L–R self-placement item (by country, unweighted) from the WVS with two other survey questions with 10-point response scales: (ineq) “Incomes should be made more equal vs We need larger income differences as incentives”; and (st.own) “Private ownership of business should be increased vs Government ownership of business should be increased” (st.own) (coding reversed so positive correlation implies “right” position). The table also reports the institutional features of each country. “maj” is coded 1 for majoritarian systems, 0 otherwise. “pres” is coded 1 for presidential systems, 0 otherwise.

<table>
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<th>Wave 2 Survey</th>
<th>Wave 3 Survey</th>
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24 Parliamentary Countries Analyzed:

Excluded countries:

Argentina 5.15 0.11 ** 0.12 ** 5.27 0.17 *** 0.12 *** 0 1
Bangladesh 3.71 0.067 ** -0.047 5.5 0.043 -0.068 * 0 1
Belarus 3.71 0.13 *** 0.076 *** 5.2 0.10 *** 0.12 *** 1 1
Brazil 5.11 0.067 ** -0.047 5.5 0.043 -0.068 * 0 1
Chile 5.03 0.13 *** 0.076 *** 5.2 0.10 *** 0.12 *** 1 1
Colombia 5.15 0.12 ** 0.09 * 5.02 -0.021 0.036 0 0
Domin. Republic 5.82 0.12 *** 0.051 5.17 0.09 ** -0.037 0 1
El Salvador 5.36 0.29 *** 0.021 5.5 0.11 *** -0.017 0 1
Estonia 5.36 0.15 *** 0.099 *** 5.5 0.11 *** -0.017 0 1
Hungary 5.26 0.526 -0.014 0.21 *** 0 0
Ireland 5.82 0.12 *** 0.051 5.17 0.09 ** -0.037 0 1
South Korea 6.53 0.12 *** -0.0057 5.17 0.09 ** -0.037 0 1
Malta 6.22 0.29 *** 0.021 5.5 0.11 *** -0.017 0 1
Mexico 5.36 0.15 *** 0.099 *** 5.5 0.11 *** -0.017 0 1
Peru 5.45 0.13 *** 0.025 5.0 0 0
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<th>Government Spending</th>
<th>Correlation Coefficient</th>
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<td>5.12</td>
<td>0.18 ***</td>
<td>0.08 *</td>
<td>0.14 ***</td>
<td>-0.042 .</td>
</tr>
<tr>
<td>Uruguay</td>
<td>NA</td>
<td>NA</td>
<td>5.28</td>
<td>0.13 ***</td>
<td>0.16 ***</td>
</tr>
<tr>
<td>Venezuela</td>
<td>NA</td>
<td>NA</td>
<td>6.83</td>
<td>-0.11 ***</td>
<td>0.051</td>
</tr>
<tr>
<td>India</td>
<td>5.13</td>
<td>0.12 ***</td>
<td>0.051 *</td>
<td>0.11 ***</td>
<td>0.1 ***</td>
</tr>
<tr>
<td>United States</td>
<td>5.4</td>
<td>0.11 ***</td>
<td>0.049 .</td>
<td>0.2 ***</td>
<td>0.14 ***</td>
</tr>
<tr>
<td>Philippines</td>
<td>NA</td>
<td>NA</td>
<td>5.59</td>
<td>0.055 .</td>
<td>-0.096 **</td>
</tr>
</tbody>
</table>

We consider the left-right median positions for the remaining 28 countries as a plausible measure of variation in demand for public spending. Figure 1 presents four plots these left-right median positions against the measure of public spending (government spending as % of GDP) used by P&T. We will focus on the 24 countries with parliamentary systems, as those are the only ones relevant to our hypotheses about majoritarian vs. PR parliamentary systems. As is apparent from the plot, majoritarian systems are associated with lower levels of public spending than PR systems. And, spending generally decreases the median voter moves to the right. The correlation between left-right median and government spending in the plot for the 24 countries in figure 1 is -.15.
Figure 1. Left-Right Median Voter Positions and Government Spending for the subset of P &T countries that (a) are parliamentary systems and (b) have reliable measures of Left-Right positions in the World Values Survey.

Of course, this indicator of demand for government spending may suffer from measurement error. Both the survey instrument itself and any cross-national variation in the meaning of left-right or its correspondence with demand for public spending could be the source of such error. It is important to note that measurement error has predictable consequences for statistical analysis. First, if the measurement error is random, it will reduce the precision of our estimates (inflate the standard errors). This, combined with our already small sample size,
means that we are unlikely to estimate parameters that are statistically significant. Second, if measurement error is correlated with any of our explanatory variables, then it can cause bias in our estimates. However, we are unaware of any theoretical or empirical reason why our left-right median measure would be systematically over or under-estimating the true public demand for spending and that this systematic error would be correlated with the electoral laws in this set of countries. That is, we would need a story about how the nature of left-right competition or its relationship to public demand for government spending would systematically differ (e.g., leading to a consistent over-estimate of demand for government spending) in PR from SMD countries. Absent such a story, we assume that measurement issues related to this indicator are random in nature.

Finally, it is worth noting why we do not use a measure of income inequality, such as the GINI coefficient, to measure electoral demand for public spending. Other studies, including P&T, have done exactly that (e.g., Boix 2001; Franzese 2002). Moene and Wallerstein (2001) argue, however, that greater income inequality does not necessarily translate into greater electoral support for government spending. In addition, public spending involves more than income redistribution to address income inequality. Certainly support for redistribution is a prominent component of the left-right dimension, and we would expect our measure of electoral preferences to capture that. But, public spending also includes government involvement in the economy and in the provision of education, health care, pensions and other social programs. Support for these programs may not be derivative of the level of income inequality. Hence, we expect the left-right dimension to capture variation in voters’ preferences over these aspects of public spending as well as over redistribution, with support for public spending increasing as we move to the left on the dimension.
Analysis

The analysis proceeds in three steps. First, we reprise P&T, using exactly their data from TEEC for parliamentary systems and all control variables used in their analysis (Table 2, column “P&T”). Consistent with their conclusions in TEEC, majoritarian electoral institutions are associated with lower government spending than PR electoral systems. Next, we re-estimate the same model with exactly the same variables but with only the subset of 24 parliamentary systems for which we have a reliable measure of voter left-right positions (Table 2, Model 1). Note that we include all the controls used in P&T that are applicable to this sample.8

Table 2. The Effect of Electoral Laws on the Size of Public Spending (% of GDP)9

<table>
<thead>
<tr>
<th></th>
<th>P&amp;T</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>64.79</td>
<td>27.74</td>
<td>-38.64</td>
</tr>
<tr>
<td></td>
<td>(24.71)</td>
<td>(75.45)</td>
<td>(91.79)</td>
</tr>
<tr>
<td>Majoritarian-Parliamentary</td>
<td>-7.95</td>
<td>-4.27</td>
<td>-9.23</td>
</tr>
<tr>
<td></td>
<td>(3.25)</td>
<td>(3.76)</td>
<td>(4.02)</td>
</tr>
<tr>
<td>Left-Right Median (Centered)</td>
<td>-</td>
<td>-</td>
<td>4.04</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(4.65)</td>
</tr>
<tr>
<td>Majoritarian*L-R Median (Centered)</td>
<td>-</td>
<td>-</td>
<td>-18.73</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(5.97)</td>
</tr>
<tr>
<td>N</td>
<td>48</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>R^2</td>
<td>0.68</td>
<td>0.76</td>
<td>0.86</td>
</tr>
<tr>
<td>adjusted R^2</td>
<td>0.56</td>
<td>0.54</td>
<td>0.68</td>
</tr>
</tbody>
</table>

8 We drop controls from the analysis as their observations are dropped -- that is, when presidential countries are removed, a control for Latin America is obviated; when South Africa is the sole African country, the "Africa" dummy is dropped.

9 Note: Robust standard errors in parentheses. All regressions include the controls used in the analysis reported by Persson and Tabellini (2003: 159): national log. of real GDP per capita in constant dollars; average of indexes for civil liberties and political rights; age of democracy; sum of exports and imports of goods and services as a share of GDP; percentage of population over the age of 65 in the total population; percentage of population between 15 and 64 in the total population; a dummy variable for countries with a federal structure; a dummy variable for members of the OECD before 1993; interaction of ‘age’ and whether a country was a British colony.
This analysis shows that majoritarian systems, on average, spend less than PR systems, but that this difference is not statistically significant. This is not completely surprising, given the small sample size. However, the fact that the coefficient remains negative is reassuring that our sample is not dramatically different from the original set of 48 countries.

In Model 2 of Table 2, we add voter preferences to the model. We include the median voter’s left-right position as a control variable and we interact the left-right position with the constitutional variable of interest: majoritarian-parliamentary (proportional-parliamentary systems are the baseline category). Note that we center the median voter’s left-right position so that a zero value corresponds to a country with the mean of all median voters’ positions across the countries in the sample. Higher values on the centered variable indicate a move to the right of the mean on the left-right dimension and lower values indicate a move to the left of the mean. This eases interpretation but has no impact on the statistical inferences.

The main effect for majoritarian variable indicates that these systems, with an electorate at the average left-right median score, spend less than PR systems with the same electorate. This remains a statistically significant effect, in spite of the dramatic reduction in the degrees of freedom due the sample size. However, this institutional effect varies with the ideology of the electorate. To see this, we plot the marginal effect of a shift from PR to majoritarian electoral institutions across the range of left-right median positions observed in our sample. Figure 2 presents this plot of marginal effects, surrounded by a 95% confidence interval. As the figure shows, majoritarian systems spend less than PR systems for electorates that are relatively conservative (to the right). But as the median voter moves to a more moderate position, this difference decreases to zero.
Figure 2. Conditional Effect of Electoral Laws on Government Spending. The figure plots the marginal effect of change from PR to majoritarian electoral rules for varying L-R median positions (the x-axis) based on the results in Model 2, Table 2. The shaded area indicates the 95% confidence interval.
The substantive effect of the institutional change varies dramatically across the range of median positions. The average decrease in spending associated with a shift to majoritarian institutions is 9.2% of GDP at the average median left-right position (5.46). The same institutional change is associated with a decrease in spending of about 20% of GDP for an electorate with a median 0.6 (one standard deviation) to the right of the average median position. Thus, the effect of majoritarian institutions on the right side of the ideological dimension varies a great deal.

Furthermore, as the median moves to the left side of the x-axis, the average effect of the institutional change becomes positive, which is consistent with our theoretical story and contradicts directly the hypothesis and findings of P&T. However, we cannot reject the null hypothesis that the change from PR to majoritarian is associated with no decrease in spending. The null hypothesis, of course, is also contradictory to the conclusion of P&T.

In sum, the institutional claim by P&T—that majoritarian parliamentary systems spend less than PR parliamentary systems—appears to apply for relatively conservative electorates. It just so happens that the average electorate in their dataset (at the least in the sample for which we can measure the left-right median position) is sufficiently conservative to result in greater spending by majoritarian systems. Thus, the average effect estimated in TEEC is consistent with P&T’s expectations but hides systematic variation in the institutional effect due to voter demands for public spending.

Finally, our results indicate that changes in the median left-right position are unrelated to government spending in PR systems. The standard error on the coefficient for the left-right median is greater than the coefficient, indicating that there is no relationship.

In the appendix, we present a variety of supplemental analyses. We show the results for the full sample of parliamentary systems, including those we rejected out of concern with the
validity of their survey measure of left-right median. The results are largely consistent with the results described above. We also present the results of a Bayesian linear model designed to test these same hypotheses, because in interpreting figures like Figure 2, we often find ourselves giving a Bayesian probability interpretation to the parameters’ shaded confidence bounds (e.g., saying that we’re relatively certain the parameter lives in the region). Of course, a 95% confidence interval emphatically does not mean that the parameter takes values in the shaded region with probability .95, but rather that we 95% of the time in repeated sampling we would not expect the parameter estimate to be outside the bounds. Double-sided confidence bounds, of interaction effects no less, require still more difficult mental contortions, but the solution is quite plain: estimate the same linear model in a Bayesian framework, where intervals are simply quantiles of the posterior density, rather than guesses about what wouldn’t occur under some or another “null hypothesis” that could never be accepted. The results, presented in Figure 4, are consistent with the interpretation presented above.

5. Conclusion

Most political scientists assume that policy outcomes are the product of an interaction between institutions and actors’ preferences. For example, the level of government spending depends on the design of a constitution as well as the preferences of voters and parties. The groundbreaking work of Persson and Tabellini focuses on one side of this relationship: how constitutions shape policy outcomes. What we do is add preferences to their statistical models.

Our results alter some of Persson and Tabellini’s headline conclusions. First, once preferences are added and interacted with institutions, majoritarian electoral systems do reduce
the level of public spending compared to proportional representation electoral systems, but only when the electorate is sufficiently far to the right. Whereas P&T estimate that a move from a proportional electoral system to a majoritarian electoral system would reduce government spending by 5 percent, we find that this type of effect is isolated in those countries with an electorate relatively to the right in our sample. And, for this part of the sample, the institutional change can be associated with a much greater change, particularly for those countries furthest to the right.

Second, and in stark contrast to one of the main findings in *The Economic Effect of Constitutions*, we find that majoritarian electoral system than under a proportional representation systems do not spend less than PR systems. The parameter estimate for this range of electorate ideology indicates that majoritarian systems actually spend more than PR systems, but the standard error on this estimate is too large to reject the null hypothesis of no institutional difference in spending. In other words, Persson and Tabellini’s results and conclusion may be due to the fact that the majoritarian democracies they studied were, on average, in polities that were relative ‘right’ in terms of preferences.

While we feel these results are interesting and suggestive with regards to how constitutional arrangements relate to government spending, we are all too aware of the limitations of our own analysis. First, we obviously would like to expand our analysis to the full set of countries for which P&T have collected data. Second, we recognize that our measure of voter preferences over government spending is an imperfect proxy for voters’ preferences over public spending. Hence, our analysis would be improved if better estimates of voters’ preferences over government spending were available and if these estimates could be collected for a wider set of countries. Finally, our results are surprising in light of other studies of political
ideology and government spending. Tavits (2004), for example, found that the level of government spending was higher in PR systems with a large number of ministers from left parties than in majoritarian systems with a high number of left ministers. If we assume that the number of left party ministers increases as the median voter moves to the left, this result is counter to our findings. Thus, we are interested in exploring theoretical and empirical explanations for this apparent conflict in findings.
Appendix

The appendix reports supplemental analyses. Table 3 reports the results of a re-estimation of Model 2 in Table 2 with the full set of countries for which we have WVS data. Recall that these additional eight countries were eliminated from analysis due to concerns about the validity of the left-right median measure as an indicator of demand for public spending. That is, we suspect these cases suffer from substantial measurement error. Not surprisingly, the addition of these countries results in larger standard errors, although the direction of the relationship is as predicted. Figure 3 shows the conditional effect is in the expected direction but that for a large range of l-r medians the effect is not statistically significant.

Table 3. Constitutional Effects on the Size of Government (continued)¹⁰

<table>
<thead>
<tr>
<th></th>
<th>All Parliamentary Systems in P&amp; T and in World Values Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>36.91</td>
</tr>
<tr>
<td></td>
<td>(98.65)</td>
</tr>
<tr>
<td>Majoritarian parliamentary</td>
<td>-3.72</td>
</tr>
<tr>
<td></td>
<td>(3.60)</td>
</tr>
<tr>
<td>Left-Right Median (centered)</td>
<td>0.66</td>
</tr>
<tr>
<td></td>
<td>(5.36)</td>
</tr>
<tr>
<td>Majoritarian*L-R Median (centered)</td>
<td>-7.41</td>
</tr>
<tr>
<td></td>
<td>(5.85)</td>
</tr>
<tr>
<td>N</td>
<td>32</td>
</tr>
<tr>
<td>R²</td>
<td>0.80</td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.60</td>
</tr>
</tbody>
</table>

¹⁰Note: Robust standard errors in parentheses. All regressions include the controls used in the analysis reported by Persson and Tabellini (2003: 159): national log. of real GDP per capita in constant dollars; average of indexes for civil liberties and political rights; age of democracy; sum of exports and imports of goods and services as a share of GDP; percentage of population over the age of 65 in the total population; percentage of population between 15 and 64 in the total population; a dummy variable for countries with a federal structure; a dummy variable for members of the OECD before 1993; interaction of ‘age’ and whether a country was a British colony.
Figure 4. Marginal Effect of Change from PR to Majoritarian System. The blue shaded regions are 80 and 95% credible intervals (quantiles of the posterior distribution); the green shaded region is the 95% classical confidence interval.
References


