Reconsidering the Economic Effects of Constitutions*

Matthew Gabel

University of Kentucky

Simon Hix

London School of Economics and Political Science

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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 which assume that the main effect of institutions is to determine how far voters are able to hold politicians and bureaucrats to account. Where institutions, such as PR, limit the direct accountability of policymakers, policymakers are able to spend more money than some optimal level of public spending. However, independent of these effects, voters' preferences over fiscal policy are also a key determinant of what policies governments pursue. What if a majority of voters actually elect a government to raise public spending? This possibility is not considered in the models in *TEEC*.

More specifically, 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. Hence, 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. For example, Huber and Powell (1994), Powell (2000), and Powell and Vanberg (2000) have demonstrated that PR systems are more likely to produce governments that include a party that represents the median legislator. In turn, if the median voter's policy preference changes, we should see a responsive shift in government policy. But the same shift in voter preferences will generally have a more dramatic impact on policy in a majoritarian system. Because there is often no party available to represent the median position, any electoral effect of the change in preferences must be captured by increasing support for a party located in the direction of the change at a more extreme position than the median. 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 system? – depends on the electorate's preferences.

With the aim of adding to the findings in *TEEC*, the rest of this paper is organized as follows. First, we review P&T's theoretical claims and empirical findings, and contrast these with some theoretical arguments and empirical results from political science which suggest that voters' preferences should matter in predictable ways. Second, we explain how the left-right location of the median voter can be calculated using mass survey data for a subset of 45 of the countries studied by P&T. Third, we re-estimate some of the models in *TEEC* 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 reverses. For a significant range of cases in the P&T dataset, a change from PR to majoritarian electoral laws is associated with *increased* 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 behavior 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).

Derived from these ideas, 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-behavior 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 (e.g. Strøm 2000; Huber and Shipan 2002).

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.

Political Science: Interaction Between Voters' Preferences and Institutions

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

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[1] P&T (174) recognize the potential mis-specification problems and report estimates for models that included a control for 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.

outcomes depends on the institutional design of the polity. Put another way, there is an

interaction between institutions and voter preferences which translates into policy outcomes.

Electoral Systems

According to the median-voter theorem, if a majority decision rule is used in a legislature, policy

outcomes should be close to the preference of the median member of the assembly. In

parliamentary systems, for example, proposals by the cabinet have to secure the support of the

median member of the legislature (Huber 1987). Similarly, in presidential systems, initiatives of

the legislature are generally close to the median member of a congress where open amendment

rules apply (cf. Krehbiel 1988; Shugart and Haggard 2001). However, where the median

member of the legislature is located relative to the median voter is determined by the electoral

system.

The so-called 'cube law' of majoritarian elections was first formulated almost a century

ago (Kendall and Stuart 1950; King and Browning 1987; Taagepera and Shugart 1989: 156-172).

This law derives from following equation of the relationship between parties' vote-shares and

seat-shares:

$$V_A / V_B = (S_A / S_B)^P$$

where V_A and V_B are the proportion of votes won by the two largest parties *A* and *B*, and S_A and

S_B are the proportion of seats won by parties *A* and *B*. The value of *P* is determined by the type

of electoral system used. In a 'pure' form of PR, *P* takes the value 1, since the proportion of

seats won by each party is exactly the same as the proportion of votes won by each party. In

contrast, in a 'majoritarian' system, with single-member districts and a plurality allocation rule, P tends to take the value 3 (or of very close to 3) – hence, the 'cubed rule'.

(Insert Figure 1 here)

The implication of this rule, in terms of the likely seat-share a party will receive with a particular vote-share, is illustrated in Figure 1 (Taagepera 1986). Consider what the two curves in Figure 1 imply for a small change in voters' preferences under the two systems. Under PR, such a change would map directly into the make-up of the legislature, and then into the substance of policy outputs. For example, a five percentage change to the left (right) in the location of the median voter would lead to a five percentage change to the left (right) in the location of the median legislator, which would lead to an equivalent increase (decrease) in government expenditure. In a majoritarian system, in contrast, a small change in voters' preferences could *either* have no impact on which party is the majority party in the legislature *or* could have a major effect, by shifting the legislative majority to another party, depending on where along the curve this change occurs. For example, if a party's vote share increases from 45 to 50 percent this is unlikely to change the location of the median member of the legislature, as this party is already likely to have a parliamentary majority. But, if a party's vote share increases from 40 to 45 percent, this could be the difference between being the minority party or the majority party in the legislature. In other words, a small change in the preferences of the electorate in a majoritarian system could either lead to a dramatic shift in policy outputs or no change from the status quo. Either way, the policy outcome is likely to be considerably different from the preferences of the median voter. And, this intuition is confirmed in empirical research, which

demonstrates that the median member of the legislature is closer to the median member of the electorate in PR systems than in majoritarian systems (Powell and Vanberg 2000).

As a 'real world' example contrast the shifts in preferences and the corresponding changes in public policy in the 1940s and 1980s 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 won a landslide majority in House of Commons with only 47 percent of the vote, whereas in the 1949 election in Germany the center-right CDU won 31 percent of the vote and formed a coalition government with the centrist FDP and several other smaller centrist parties. With a commanding majority, the Attlee Labour government followed a radical public expenditure program, which included raising taxes and universal publicly-funded healthcare. In contrast, the German CDU-led government pursued a 'social market' program, for example with a universal healthcare system based on public and private insurance. Had Britain had a proportional electoral system, the median member of the House of Commons would have been a Liberal MP rather than a Labour MP, and Attlee would probably have been forced to compromise on these policy commitments.

Then, in the 1980s 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 where considerably to the right of the median voter, won overwhelming parliamentary majorities in the 1979, 1983, 1987 and 1992 elections with little more than 40 percent of the votes in each election. The successive Conservative governments pursued privatization, 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. With PR, the CDU was forced to form a coalition with the FDP, which resulted in a less radical set of reforms than the British governments, despite electoral promises that were similar to the British Conservatives.

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. More specifically, if the median voter in a polity is on the right, a majoritarian system is likely to lead to less public spending than a PR system. This expectation is observationally equivalent to P&T's prediction, but for a different reason.

Nevertheless, if the median voter is on the left, a majoritarian system is likely to lead to *more* public spending than a PR system. Some single party governments in majoritarian systems with a median voter on the left would be off-set to the right of this median, and so produce comparatively centrist policies. But, the alternating government would be even further to the left, and so pursue radical increases in public spending. The result would be higher levels of spending than in a PR system, where the median member of the legislature would constrain any spending ambitions of the more leftist parties. This prediction, of higher spending in some majoritarian systems than PR systems, is in exactly the opposite direction to the main P&T prediction.

Form of Government

In their estimations of the effects of electoral systems, P&T distinguish between presidential and parliamentary systems, creating four types of governments: majoritarian-parliamentary,

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proportional-parliamentary, majoritarian-presidential, and proportional-presidential. Thus, when we test our conjectures regarding the interaction of electoral demand for public spending on public spending we will not only distinguish between majoritarian and proportional systems. For that reason, it is also worth noting that the political science literature has developed theoretical expectations about how presidential and parliamentary systems differ in how they translate voter preferences into policy. That is, we would expect greater policy change in response to voters in parliamentary systems than in presidential systems. First, as discussed, in parliamentary systems, the governing party or parties invariably control a majority in the legislature. As a result, once a policy agenda has been agreed in a single party government or between the coalition partners of a multi-party government, it is likely that these policies will be supported by the legislative majority (esp. Heller 2001; Martin 2003). In presidential systems, in contrast, the party that controls the executive may or may not control a majority in the legislature. Indeed, if a PR system is used for electing the congress (as is the case in most of South America), the party controlling the executive is unlikely to command a majority in the legislature (e.g. Morgenstern and Nacif 2002). If there is 'divided government', where different parties control the president and the congress, or if the party who controls the president does not command a majority in the congress, then the president will be forced to negotiate policy coalitions issue by issue (cf. Mayhew 1991). Either way, the president will be forced to compromise with the pivotal member of the congress, and so will not be free to move status quo policies to her ideal point (Krehbiel 1998). The basic story is then that policy change is easier in parliamentary than in presidential systems, other things being equal (Tsebelis 2002: 67-90).

However, one of the key components of 'other things equal' is the policy preference of the president (or her electorate). For example, we could imagine greater public spending in

country A (a presidential system) than in country B (a parliamentary system) if the electorates of the president and the parliament in country A both wanted more spending than the electorate in country B. Thus, we cannot make clear predictions about the combined institutional effects of electoral laws and presidential systems on government spending without a measure of the preferences for spending by the parliament and the president. We will develop a measure of the electoral demand for spending on policy by the legislature, but we do not have such a separate measure for the president in the presidential systems in our dataset.

Consequently, we can only test the presidential-versus-parliamentary veto-player argument in a very basic fashion. We would expect a change from a parliamentary to a presidential system to never lead to larger governmental spending (and could lead to less government spending than a presidential system, for a given level of electoral support for public spending (which we do measure). But we cannot test whether the addition of a president to the form of government decreases responsiveness because we do not have a measure of the spending preferences of the President.

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 as the median voter's position moves to the left.

2) As the median voter's position moves to the left, we expect a larger increase in public spending associated with majoritarian electoral systems than with PR electoral systems.

3) As the median voter's position moves to the right, we expect a larger decrease in public

   spending to be associated with majoritarian electoral systems than with PR systems.

4) If presidential systems differ from parliamentary systems, the effect will be to dampen the

   effect of electoral laws. Thus, we would expect the hypothesized relationships in (2) and (3)

   to be stronger in parliamentary systems than in presidential 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. Specifically, the find that

parliamentary-PR systems are associated with greater public spending and that majoritarian-

presidential systems are associated with the lowest level of public spending among the four

possible institutional arrangements.

3. 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 appropriate measures of preferences. We then compare the models with

and without electoral preferences of 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] Consequently, the left-

right position of the governing party or parties would be a good measure of the political demand

for public spending. However, we do not have information on government ideology for a

sufficient number of countries in the P&T dataset to test our hypotheses.[3] We do, however,

have information on voter left-right positions for a much larger set of countries (45) in the P&T

dataset.

The World Values Survey includes the following question:[4]

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[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 preferences of the electorate for spending on the level of public spending.

[3] For example, the Manifestos Research Group has generated left-right scores for parties and governments in 25 countries (Budge et al. 2001).

[4] Information about the World Values Survey data is available on their website: 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?[5] 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.[6] 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. 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.[7] 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 and Powell (1994). As mentioned, 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. The Appendix reports the countries that we include and their median left-right position.

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 (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-

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[5] 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.
[6] 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 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.
[7] This is true if voters' preferences are single peaked.

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 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. Our examination of the correlation between respondents' locations on these two scales identifies nine countries that are problematic: Austria, Brazil, Estonia, India, Philippines, Russia, South Korea, Slovak Republic, and Venezuela. We therefore check whether the results from the full analysis of countries are consistent with this subset of 36 countries.

Second, we are also concerned that democracies that are not part of the advanced industrialized world may not share the left-right dimension common to Western Europe. What is more, these countries also tend to be newer democracies. Thus, we re-estimate our model

excluding non-Western regions: Africa, Latin America, and Asia. Note that we lack degrees of freedom to drop all such countries from the analysis.

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 re-estimate the standard model of constitutional effects on government spending in P&T (Model 3 in Table 6.1) with exactly the same variables but with only the subset of countries for which we have a measure of voter left-right positions. This analysis allows us to demonstrate that the statistical inferences from our subset of countries are essentially the same as those drawn by P&T from their analysis of the full set of countries.

Second, 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 variables of interest: majoritarian-presidential, majoritarian-parliamentary, and proportional-presidential (proportional-majoritarian 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.

Third, we examine the robustness of the results by re-estimating the model with voter preferences after excluding different sets of countries for the reasons discussed in the previous section.

Tables 1 and 2 present the results. The first column of Table 1 reports the results from P&T, model 3 of Table 6.1. Model 1 presents the results of the same model estimation but for the 45 countries for which we have information about voters' left-right positions. These results are largely consistent with the findings of P&T: lower spending is associated with majoritarian electoral systems than with proportional systems and presidential systems spend less than parliamentary systems. However, the t-score on the parameter estimate for majoritarian-parliamentary systems is close to one, indicating we cannot distinguish the effect of majoritarian-parliamentary systems from proportional-parliamentary systems. However, this loss in precision is hardly surprising given that we have reduced the degrees of freedom by over 50 percent from the original sample.[8]

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[8] Note that each model includes a long list of controls, identified in the note for the table. Thus, the original model only has 61 degrees of freedom and model 1 has only 26.

(Insert Table 1 here)

Models 2-5 present the results of the models that include voter preferences. Model 2 includes all of the countries for which we have information about voter preferences. Model 3 excludes nine countries that we suspect do not have a left-right dimension that captures the traditional distinctions involving government involvement in the economy and redistribution. Model 4 and 5, in Table 2, also check for robustness by excluding sets of countries, this time by region. Due to limited degrees of freedom, we cannot exclude all non-advanced industrialized democracies and we cannot exclude the pair of Africa and Latin America.

(Insert Table 2 here)

It is difficult to interpret the main effects and the interaction effects in isolation (Braumoeller 2004). But it is clear that the main effects are fairly similar to the results in Model 1. This means that, for nations whose median voter is at or near the average of the median voter left-right positions for the countries in our sample, the results are basically consistent with the findings in P&T. Indeed, for the models (3-5) that eliminate countries that are likely to have suspect left-right dimensions, the main effects strongly support the theoretical expectation of P&T. Furthermore, across all models there is no statistically significant relationship between the left-right position of the median voter and the level of government spending in proportional-parliamentary systems. This is inconsistent with our first hypothesis, although we shall see that left-right positions do have a substantial effect under other institutional arrangements.

However, we cannot assess whether these findings apply independent of voters'

preferences without considering the interaction effects. Hence, Figures 2 and 3 present the

conditional effect of changes in the electoral laws and the form of government on the size of

government spending.[9] That is, for median left-right position, the figures plot the marginal effect

of change from one institutional pairing (such as proportional-parliamentary) to another. The

range of left-right medians is from -1.5 to 2.5, which is almost the full range of values observed

in the dataset (recall that the left-right median scores are centered). The standard deviation of the

centered median left-right position is .77.

(Insert Figure 2 here)

Figure 2 describes the change in spending associated with shift from a proportional-

parliamentary to a majoritarian-parliamentary system. Our expectation is that as the left-right

median moves to the left, majoritarian systems should be associated with greater spending than

proportional systems. This is exactly what we find. For countries with a left-right median

(centered) less than -.5, majoritarian systems are associated with greater spending than

proportional systems and this difference increases as the median moves further left. For

countries with a median left-right position greater than -.5, majoritarian systems are associated

with less public spending than proportional systems and this difference grows as the median

moves to the right. These are substantively and statistically significant effects. Recall that the

standard deviation for the centered left-right score is .77. So, the institutional effects are

statistically significant for a fairly broad range of realized values of left-right locations.

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[9] These figures are based on the results presented in Model 3, which exclude countries where we suspect the left-right dimension does not capture voter concerns over the size of government.

Furthermore, the marginal effects are quite large. The dependent variable is central government spending as a percent of GDP. Thus, a shift from proportional-parliamentary to majoritarian-parliamentary at a -1.0 median left-right location is associated with an increase in government spending as a proportion of GDP of 17.5 percent.

Note that at zero left-right median (centered), a change from proportional to majoritarian is associated with a decrease in spending, as expected by P&T. But that does not mean that a change from a proportional to a majoritarian electoral system is *always* associated with less public spending. Our results indicate that the effect depends crucially on voter preferences. The figure shows that the results reported by P&T reflect the fact that their sample of countries with majoritarian electoral systems consisted, on average, of sufficiently 'right' electorates to result in an average negative effect of a change from proportional to majoritarian electoral laws.

(Insert Figure 3 here)

Figure 3 describes the change in the marginal effect of shift from majoritarian-parliamentary to majoritarian-presidential for different median left-right positions. As we expected, this shift dampens the effects of voter preferences on spending. For electorates on the right, the shift in institutions leads to lower spending and the size of this shift is greater the farther we move to the right. For electorates on the left this institutional change lowers spending and the marginal effect increases in magnitude as we move left. Thus, the addition of the presidential executive branch tempers the effects the electoral preference effects we saw in Figure 1.

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.
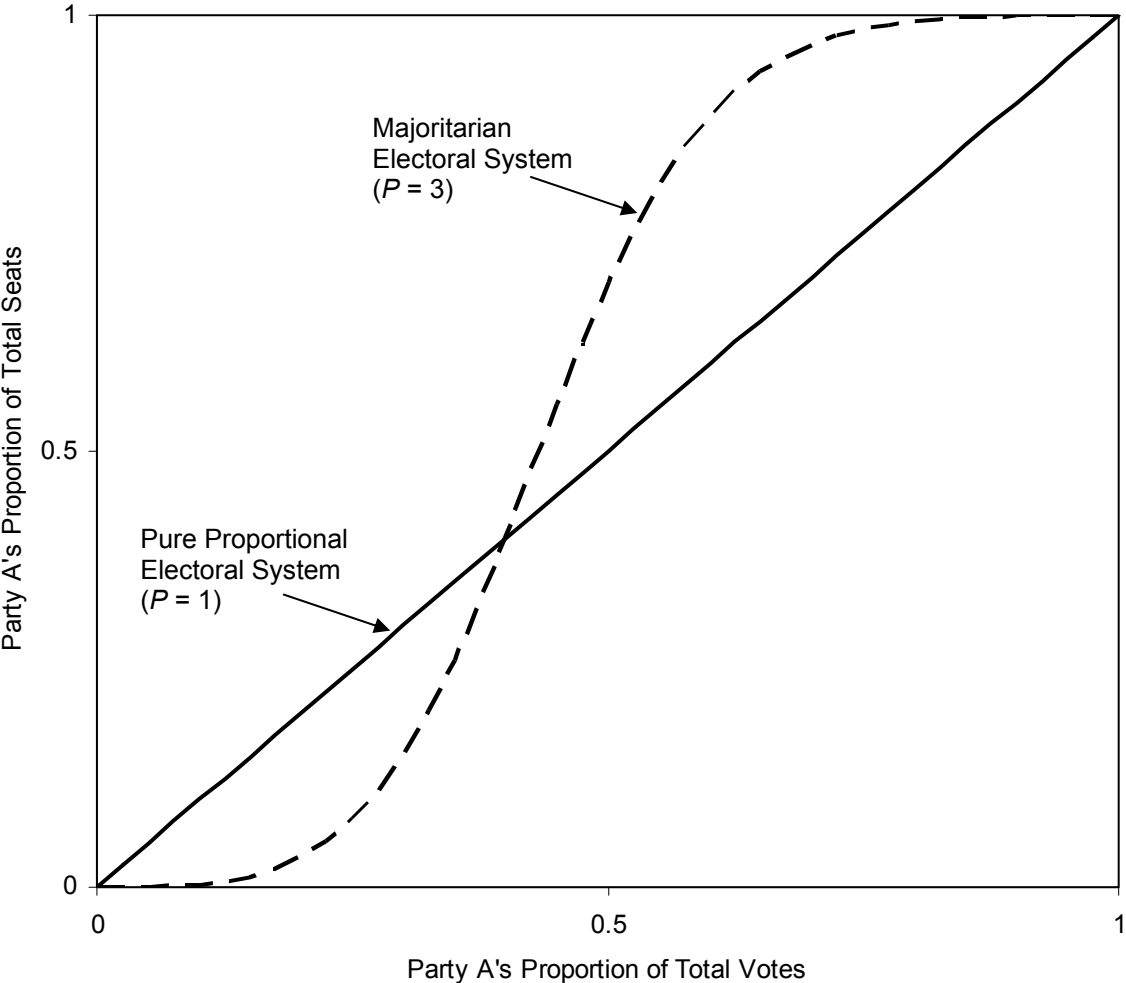
Our results alter some of Persson and Tabellini's headline conclusions. First, once preferences are added and interacted with institutions, majoritarian electoral systems do reduce the level of public spending compared to proportional representation electoral systems, but only when the electorate is 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 a left of center electorate will spend *more* under a majoritarian electoral system than under a proportional representation system. This is consistent with conventional wisdom in political science research. 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 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.

Figure 1. The Majoritarian and Proportional Seat-Vote Functions

Source: Adapted from Taagepera (1986).

Table 1. Constitutional Effects on the Size of Government

	Original	Model 1	Model 2	Model 3
Proportional-Presidential (ProPres)	-7.08	-10.08	-11.68	-30.70
	(2.70)	(3.34)	(4.61)	(7.34)
Majoritarian-Parliamentary (MajParl)	-7.30	-5.35	-5.77	-19.63
	(3.02)	(5.44)	(4.05)	(6.11)
Majoritarian-Presidential (MajPres)	-10.36	-14.14	-16.96	-24.79
	(2.70)	(3.51)	(6.20)	(8.75)
ProPres*L-R median (centered)	-	-	-6.37	-19.78
			(5.62)	(9.54)
MajParl*L-R median (centered)	-	-	-8.44	-37.12
			(5.07)	(8.24)
MajPres*L-R median (centered)	-	-	.82	8.58
			(6.12)	(7.11)
L-R median (centered)	-	-	.77	2.25
			(3.85)	(4.49)
R^2	.63	.82	.85	.92
N	80	45	45	36

Note: Robust standard errors in parentheses. All regressions include the controls used in the analysis reported by Persson and Tabellini (2003: 159):

lyp (national log. of real GDP per capita in constant dollars)

gastil (average of indexes for civil liberties and political rights)

age (age of democracy)

trade (sum of exports and imports of goods and services as a share of GDP)

prop65 (percentage of population over the age of 65 in the total population)

prop1564 (percentage of population between 15 and 64 in the total population)

federal (dummy variable, equal to 1 if a country has a federal structure, 0 otherwise)

oecd (dummy variable, equal to 1 if a country was a member of the OECD before 1993, 0 otherwise)

col_uka (interaction of 'age' and 'col_uk' - a dummy variable, equal to 1 if the country is a former colony of the UK, 0 otherwise)

col_espa (interaction of 'age' and 'col_esp' - a dummy variable, equal to 1 if the country is a former colony of Spain or Portugal, 0 otherwise)

col_otha (interaction of 'age' and 'col_oth', which is a dummy, equal to 1 if the country is a former colony of a country other than the UK, Spain or Portugal, 0 otherwise)

africa (dummy variable, equal to 1 if a country is in Africa, 0 otherwise)

asiae (dummy variable, equal to 1 if a country is in East Asia, 0 otherwise)

laam (dummy variable, equal to 1 if a country is in Latin America, Central America or the Caribbean, 0 otherwise)

Table 2. Constitutional Effects on the Size of Government (continued)

	Model 4	Model 5
Proportional-Presidential (ProPres)	-14.04	-19.42
	(7.36)	(5.58)
Majoritarian-Parliamentary (MajParl)	-15.21	-17.28
	(4.98)	(5.31)
Majoritarian-Presidential (MajPres)	-17.03	-16.08
	(10.41)	(6.72)
ProPres*L-R median (centered)	-7.04	-32.28
	(6.53)	(10.69)
MajParl*L-R median (centered)	-32.41	-34.68
	(6.56)	(7.40)
MajPres*L-R median (centered)	13.00	4.89
	(22.56)	(4.91)
L-R median (centered)	2.76	3.42
	(2.94)	(3.05)
Excluded Regions	*Africa & Asia*	*Asia & Laam*
R^2	.87	.87
N	39	34

Note: Robust standard errors in parentheses. All regressions include the controls used in the analysis reported by Persson and Tabellini (2003: 159):
lyp (national log. of real GDP per capita in constant dollars)
gastil (average of indexes for civil liberties and political rights)
age (age of democracy)
trade (sum of exports and imports of goods and services as a share of GDP)
prop65 (percentage of population over the age of 65 in the total population)
prop1564 (percentage of population between 15 and 64 in the total population)
federal (dummy variable, equal to 1 if a country has a federal structure, 0 otherwise)
oecd (dummy variable, equal to 1 if a country was a member of the OECD before 1993, 0 otherwise)
col_uka (interaction of 'age' and 'col_uk' - a dummy variable, equal to 1 if the country is a former colony of the UK, 0 otherwise)
col_espa (interaction of 'age' and 'col_esp' - a dummy variable, equal to 1 if the country is a former colony of Spain or Portugal, 0 otherwise)
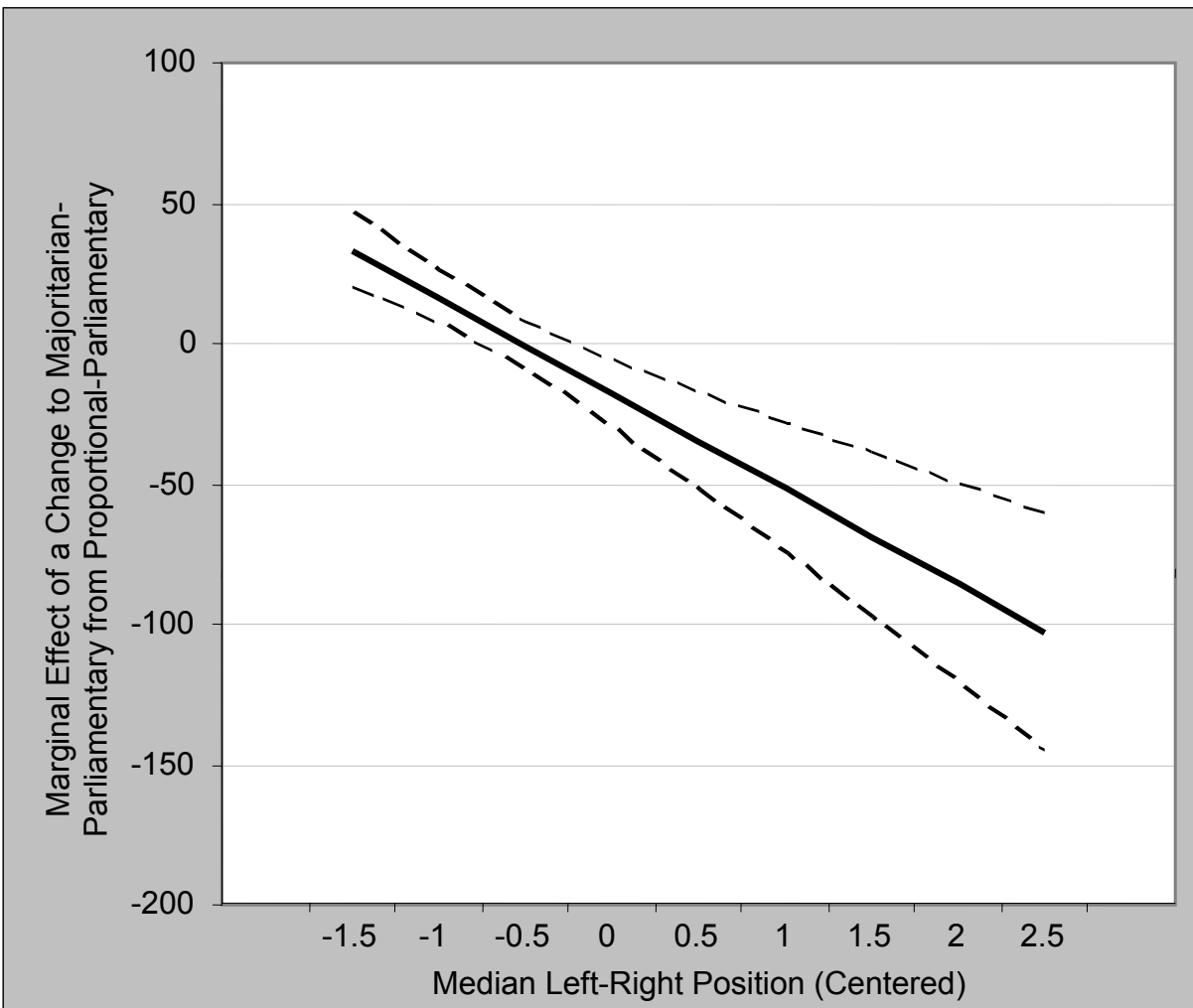col_otha (interaction of 'age' and 'col_oth', which is a dummy, equal to 1 if the country is a former colony of a country other than the UK, Spain or Portugal, 0 otherwise)
africa (dummy variable, equal to 1 if a country is in Africa, 0 otherwise)
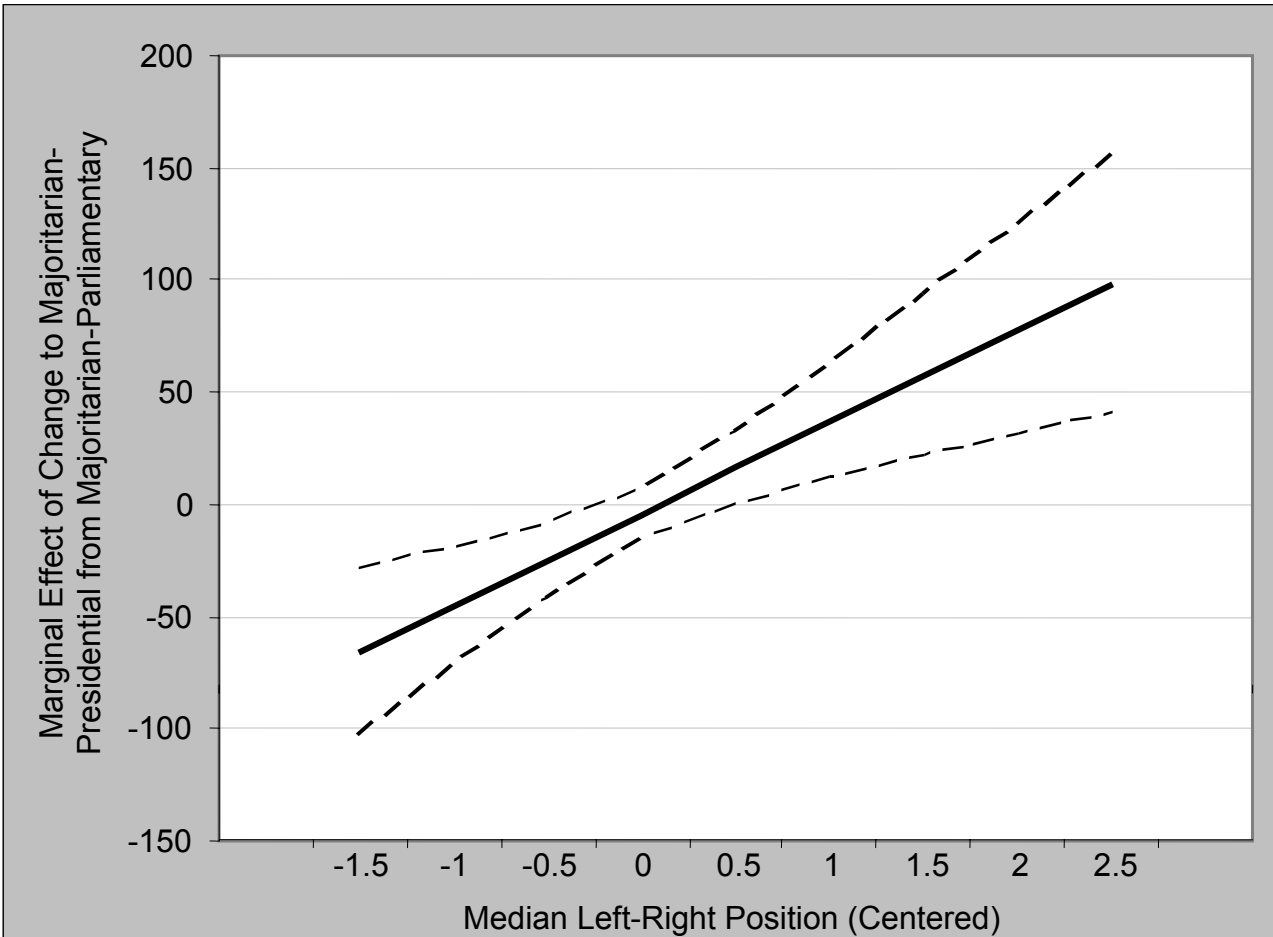asiae (dummy variable, equal to 1 if a country is in East Asia, 0 otherwise)
laam (dummy variable, equal to 1 if a country is in Latin America, Central America or the Caribbean, 0 otherwise)

Figure 2. Conditional Effect of a Change in Electoral Laws on the Size of the Government

Note: This figure plots the magnitude of the effect of a change from a proportional-parliamentary system to a majoritarian-parliamentary system on central government spending as a share of GDP at different left-right positions of the median voter based on the OLS estimates reported in Model 3 of Table 1. The solid line presents the estimated conditional effect and the dashed lines indicate the 95 percent confidence interval for each estimate.

Figure 3. Conditional Effect of a Change in Regime Type on the Size of the Government

Note: This figure plots the magnitude of the effect of a change from a majoritarian-parliamentary system to a majoritarian-presidential system on central government spending as a share of GDP at different left-right positions of the median voter based on the OLS estimates reported in Model 3 of Table 1. The solid line presents the estimated conditional effect and the dashed lines indicate the 95 percent confidence interval for each estimate.

Appendix

Country	WVS Wave	Left-Right Median
Argentina	1990	5.15
Australia	1995-97	5.13
Austria*	1990	6.27
Bangladesh	1995-97	7.66
Belgium	1990	5.50
Brazil*	1990	5.10
Bulgaria	1990	5.24
Canada	1990	5.41
Chile	1990	5.03
Colombia	1995-97	6.22
Czech Republic	1990	5.39
Denmark	1990	5.42
Estonia*	1995-97	5.26
Finland	1990	6.00
France	1990	4.79
Germany	1990	5.14
Ghana	1995-97	8.55
Hungary	1990	5.15
Iceland	1990	5.26
India*	1990	5.13
Ireland	1990	5.82
Italy	1990	4.86
Japan	1990	5.90
Latvia	1995-97	5.20
Mexico	1990	5.36
Netherlands	1990	5.50
Nigeria	1990	5.28
Norway	1990	5.44
Peru	1995-97	5.44
Philippines*	1995-97	5.59
Poland	1990	5.37
Portugal	1990	5.53
Romania	1990	5.43
Russia*	1990	4.87
South Africa	1990	5.27
South Korea*	1990	6.52
Slovak Republic*	1990	5.20
Spain	1990	4.61
Sweden	1990	5.44
Switzerland	1990	5.38
Turkey	1990	5.12
United Kingdom	1990	5.18
Uruguay	1995-97	5.20
United States	1990	5.40
Venezuela*	1995-97	6.82

*excluded from analysis in Model 3.

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