Give and Take: Voting Rights and Public Policy in Latin America in the 20th Century*

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Abstract

The allocation of voting rights can have a fundamental impact on policy choices. This paper quantifies the impact of political transitions between democracy and autocracy and the impact on gender and literacy restrictions on the right to vote on fiscal and social outcomes in 18 Latin American countries during the 20th century. We estimate a panel model and report the following findings: i) regime type matters for outcomes, with dictatorships taxing more than democracies; ii) womens' suffrage increased enrollment in primary education, but did not affect fiscal outcomes; iii) literacy restrictions reduce the size of government, but does not lead to lower enrollment in primary education.

Key words: Democracy, dictatorship, voting franchise, female suffrage, literacy restrictions.

JEL Codes: D7; H11.

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1 Introduction

Twentieth century Latin America provides an almost perfect laboratory for the study of political regime transitions and reforms. For example, since independence, Peru has changed or modified its constitution 13 times; Chile has modified its constitution 11 times, while Brazil and Colombia have made 8 and 12 changes, respectively. These changes not only reflect changes in the details of the rules governing the allocation of voting rights, but repeated vacillations between democracy and dictatorship. These factors make Latin America an ideal testing ground for a statistical assessment of the impact of voting rights, both when they are granted and when they are taken away, on policy outcomes.

A number of key questions arise in this context which require careful qualitative evaluations. Firstly, many Latin American countries have experienced episodes of democracy followed by dictatorship and a subsequent return to democracy (see Acemoglu and Robinson, 2001 for a theory of political transitions). One example is Argentina. Insofar as democracies and non-democracies impose different constraints on rulers, the two broad regime types should lead to different policy outcomes and we want to investigate this question using data from Latin American countries spanning the 20th century. Secondly, in the late 19th century most countries in Latin America were at least nominally democracies, but with a much more restricted voting franchise than, for example, the USA and Canada (Engerman and Sokoloff, 2001). Across the region this included wealth or income requirements as well as literacy qualifications. While most wealth or income requirements were abolished in the late 19th and early 20th century, literacy requirements remained in place in some countries until the 1980s (Engerman et al., 1998). In countries, such Peru, Bolivia and Ecuador, which have large, pre-dominantly illiterate Native American populations, these restrictions may have served the purpose of keeping these marginal population groups away from political influence. An important question, in this context, is what impact these voting restrictions had on education policy and attainment, but also more broadly how literacy restrictions affected fiscal outcomes. Another voting restriction with potentially significant ramifications was womens' suffrage, not granted well into the 20th century. The first country to grant women the right to vote was Ecuador in 1929

followed by Uruguay and Brazil in 1932. Nearly three decades later Paraguay followed suit in 1961. Restrictions on female participation in the political process in other contexts, e.g., the USA (Lott and Kenny, 1999) and Western Europe (Aidt et al., 2005 and Aidt and Jensen, 2005) have been found to affect fiscal outcomes. This paper examines if similar patterns can be found in Latin America.

We have constructed a (unbalanced) panel data set with information on fiscal outcomes, educational attainment, and political regime type from 18 Latin American countries[1] for the period 1900 to 2000. This allows us to track political institutions over long periods of time and exploit time series variation in transitions in and out of dictatorship, as well as cross sectional variation in restrictions on voting rights. We estimate panel models and report the following findings: i) we find evidence that dictatorships raise more taxes than democracies; ii) women's suffrage had little impact fiscal outcome, but a positive impact on the enrollment in primary education; iii) literacy restrictions decreased total spending and revenue, but, suprisingly did not have a statistically significant impact on enrollment in education; iv) dictatorships have larger armies than democracies. Some of these findings are consistent with economic theory, others are not and warrant more investigation.

The paper is organized as follows. In Section 2, we investigate the differences in terms of fiscal outcomes between autocratic and democratic regimes. In section 3, we investigate the impact of voting restrictions related to gender and literacy on fiscal and social outcomes. In Section 5, we provide some concluding remarks and discuss required and planned extensions to the analysis. All tables and diagrams are in a separate file.

2 Dictatorships versus Democracies

Dictatorship and democracy can be understood as two extremes in a continuum of regime types that combines elements of electoral accountability with elements of autocracy (Con-

[1]The countries are: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, and Panama.

gleton, 2001). Positioning on this spectrum defines the regime type which subsequently maps to policy choices. The majority of Latin American countries have experienced multiple shifts in and out of democracy during the course of the 20th century. Figure 1 illustrates for each of the 18 Latin American countries in our data set the score on the Policy IV index of autocracy/democracy for the period 1900 to 2000. This index is coded from -10 (autocratic) to 10 (democratic).[2] Regime volatility is striking. At one end of the scale, Argentina experienced no less than 8 major regime shifts between 1935 and 1990. At the other end of the scale, Costa Rica endured as the most stable democracy in the region with a score of 10 throughout the entire 20th century. Other countries fall somewhere in between these extremes.

[Figure 1 to appear here]

Given differences in the constraint set facing the political leadership, we expect to see very different policy choices in democracies and autocracies. Voting models in the tradition of Meltzer and Richard (1981) and Boix (2001) suggest that spending on rich-to-poor redistribution is higher in a democracy than in an autocracy because of a more even distribution of voting rights in democratic regimes. Acemoglu and Robinson (2001) in their theory of the why the voting franchise was extended employ a very similar argument. On the other hand, Olson (1993) and others have argued that broad-based taxes (such as the income tax) will be levied at a lower rate in democracies than in autocracies because

[2]This Polity IV index is constructed from two separate indexes of democracy and autocracy, where the democracy index measures general openness of political institutions on a scale from 0 to 10 and the autocracy index measures general closedness political institutions on a scale from -10 to 0. Both indexes are constructed from scores given to six authority characteristics. These are i) regulation of executive recruitment: institutionalized procedures regarding the transfer of executive power; ii) competitiveness of executive recruitment:extent to which executives are chosen through competitive elections; iii) Openness of executive recruitment: Opportunity for non-elites to attain executive office; iv) executive constraints: operational (de facto) independent of chief executive; v) regulation of participation: development of institutional structures for political expression; vi) competitiveness of participation: extent to which non-elites are able to access institutional structures for political expression (Marshall and Jaggers, 2000.). The Polity IV index is simply the difference between the democracy and autocracy index and ranges from -10 (high autocracy) to 10 (high democracy).

more taxpayers have a say in the decision in democracy than in autocracy. An important consideration that affects fiscal choices in autocracies is the need to make investments in securing and maintaining power. This leads to an increase in spending on defense and policing (Mulligan et al., 2004) relative to a democracy where political pressures are more in the direction of redistributive spending. These partially conflicting effects determine the impact of political regime on fiscal outcomes, but it remains an empirical question as to which effect dominates. Surprisingly, recent work by Mulligan et al. (2004) suggests that autocracies and democracies differ very little with regard to government consumption, education spending, pensions, and nonpension social spending. Instead, the differences seem to arise with respect to policies that affect the degree of competition for public office. Mulligan et al. (2004) report the results of cross section regressions using (average) information for the years 1960-1990 in a sample of more than 100 countries. They use the democracy index constructed by the Polity IV project to measure regime type on a scale from 0 (nondemocratic) to 1 (democratic).[3] There are, however, two main problems with this approach. Firstly, the analysis is based on a cross section of countries and is thus associated with all the problems of cross section regressions. Secondly, the regime type variable is used as a cardinal variable, which it is not.

In this section, we want to revisit this issue using time series data from 18 Latin American countries in a panel analysis. The data set covers the period from 1900 to the present, but is unbalanced (see Table A1 in the Appendix for information about the time period covered for each country). We allow for unobserved fixed effects as well as a for common time trend and fixed time effects (by decade). We estimate the following model:

$$y_{it} = \alpha_i + \eta_t + x_{it}^{pol}\beta + x_{it}^{control}\gamma + \varepsilon_{it} \tag{1}$$

where y_t is the outcome variable; x_{it}^{pol} is a vector of political variables that capture regime type; $x_{it}^{control}$ is a vector of control variables; ε_{it} is the error term; α_i is a country fixed effect; t is a common time trend; and η_t is a fixed time effect. We estimate the model with a

[3]The democracy score constructed by Polity IV measures "general openness of political institutions" on an additive 11-point scale using the six authority characteristics listed in a previous footnote. Mulligan et al. (2004) re-scale the additive democracy index to lay between 0 and 1.

fixed effects estimator allowing for panel-specific standard errors and correlations between panel units, as recommended by Beck and Katz (1995). We have tested the stationarity of the data using the Fisher Test for panel unit roots and can in each case reject the null hypothesis that the series is non-stationary for all panel units. However, since we do not model dynamics explicitly, we are worried about autocorrelation in the residuals and correct for autocorrelation of order one in all regressions.

We are interested in estimating the impact of the regime type on four fiscal outcomes for which we have comparable data for the 18 countries. These are government spending out of GDP, total tax revenues out of GDP, income tax revenue out of GDP, international debt, and public infrastructure proxied by kilometers of roads per square kilometer. Spending and taxation refer to central government only. The control variables are export plus import over GDP (*trade openness*), real GDP per capital (*GDP per capita*), the growth rate of GDP (*growth*), population size in millions (*population*), population under 15 years of age (*population under 15*), population over 60 years of age (*population over 60*), the size of the economically active population, the number of individuals working in manufacturing (*manufacture population*), the rate of inflation (*inflation*), and a set of dummy variables for economic and political crises (*political and economic crisis*). We measure regime type by a dummy variable – *democracy* – constructed from the Policy IV index of autocracy/democracy. We define a political regime with a negative score as autocratic and a regime with a positive score as democratic.

The results for the five fiscal outcomes are reported in Table 1. We find little difference between autocratic and democratic regimes with respect to income taxation, international debt and public infrastructure, but in contrast to Mulligan et al. (2004), we find that democracies raise less total tax revenues than autocracies. This effect is significant at the 1 per cent level and of some economic importance. For example, total tax revenues are about 1 percentage points lower in a democracy. This suggests that the need to finance internal security with taxes in an autocracy dominates the pressures for redistribution in a democracy. We do not have financial data on spending on internal security, but we do have data on the number of soldiers as a percentage of the total population (*defence*) since 1960. In Table 3, we report some regressions with *defence* as the dependent variable and

for comparison reestimate the total spending and revenue regressions for the shorter time period. We see that democracies have smaller armies. This supports the interpretation that the extra tax revenues in dictatorships are spend on internal security.

Given the fact that many of the countries in the sample move in and out of democracy, the distinction between new and established democracies may be of importance. For example, if redistributive preferences have been suppressed during a dictatorship, the transition to a democratic regime may lead to a surge in redistributive spending which eventually levels out once democracy takes root. To capture this temporal issue, we have introduced two dummy variables, as in Rodrik and Wacziarg (2004) using information from Polity IV about regime changes. *New democracy* is coded as 1 in the year and the subsequent five years after a major democratization, unless the process is interrupted by another major regime change, in case of which the variable is 1 until that point in time. *Established democracy* is coded 1 for all years following the initial five years. We notice from Table 1 that the distinction makes a difference for the results related to total spending where it transpires that established democracies have lower total government expenditures in the order of 1.1 percentage points, while the distinction makes little difference for the results related to tax revenues and all the other fiscal outcome variables. From Table 2 we note that the reduction in the size of the army is particular large in established democracies, although new democracies also reduce the size of the army significantly.

[Table 1 to appear here: full sample, but without female and education effects].

[Table 2 to appear here: shorter sample].

3 Gender and Education Restrictions on the Right to Vote

In this section, we ask if the allocation of voting rights within a democracy has an impact on fiscal and social outcomes. We are mainly interested in the impact of gender and literacy restrictions. In Table 3, we report for each country information about when literacy restrictions were abolished and when women gained suffrage rights.

[Table 3 to appear here: information about when each country introduced womens' suffrage and lifted literacy restrictions]

We observe considerable variation across space and time in the restrictions imposed on voting rights. Virtually all Latin American countries included a literacy requirement for citizenship (which included the right to vote) in their first constitution or soon thereafter. These persisted in some, but not all, countries for long periods of time, with the extreme cases being Brazil, Chile and Peru, where these restrictions played an important role until the 1970s and the 1980s. In a few other countries, e.g., Argentina and Colombia, literacy requirements were never applied systematically at the national level, but were in use in some federal states (Engerman and Sokoloff, 2001).[4] Another commonplace restriction was gender. The female franchise was granted within the time window from 1929 (Ecuador) to 1955 (Honduras, Nicaragua and Peru), and until then, voting rights were restricted to (literate and/or wealthy) males.

We expect these restrictions to have an impact on fiscal choices for a number of reasons. Firstly, men and women face different constraints and opportunities. This is particularly true for married females who have specialized in household production. In case of break down of marriage or widowhood, this group of females may find it difficult to enter or reenter the labor market. Lott and Kenny (1999) argue that such factors would induce female voters to support spending on publicly provided private goods, such as health and education, and on social insurance, as a precautionary measure. If so, the female franchise should be associated with higher spending on these items and with an increase in total spending and more progressive income taxation (Varian, 1980). Secondly, literacy restrictions were used systematically to exclude indigenous populations from voting throughout Latin America, as reading and writing skills were rare among this group. This effectively excluded a large fraction of mainly poor citizens from political influence. We would expect that this reduced the demand for redistributive public spending in general and discouraged

[4]Literacy requirements had by the turn of the 19th century replaced wealth or income requirements as a means to keep Native Americans and other poor people from voting in most countries. For this reason, we do not attempt to identify the impact of the restrictions of outcomes.

elites from investing in public education in particular.

We begin our analysis by looking at the five fiscal outcomes (spending out of GDP, total tax revenues out of GDP, income tax revenue out of GDP, international debt, and roads) and then move on to social outcomes. Here, we are mainly interested in education outcomes.

3.1 Fiscal Outcomes

To investigate if gender and literacy restrictions had any impact on fiscal outcomes, we construct a new set of dummy variables. The dummy variable *womens' suffrage* is coded as 1 in year t in country i if the Polity IV index is positive (the country is democratic at the time) *and* females were allowed to vote. The dummy variable *literacy effect* is coded as 1 in year t in country i if the Polity IV index is positive (the country is democratic at the time) *and* there are no literacy requirements associated with the right to vote and multiply it with the share of the population what is illiterate to capture the size and thus the potential political influence of this group of voters. These variables, therefore, capture the impact of literacy and gender restrictions on fiscal outcomes conditional on the country being a democracy at the time.[5] We estimate a panel model similar to equation (1), except that the vector of political variable includes *democracy, new democracy, established democracy* along with the *literacy effect* and *womens' suffrage*. The results are reported in Table 4.

[Table 4 to appear here: results with literacy effect and women's suffrage].

A number of interesting and somewhat surprising results should be highlighted. Firstly, conditional on being democratic, womens' suffrage does not have a statistically significant impact on any of the fiscal outcome variables, although we might note that the point estimates suggests a negative marginal impact on the size of government. This is sharp contrast to findings by Lott and Kenny (1999) that female suffrage in US states led to a

[5]This formulation assumes that voting rights granted in the past under a spell of democracy do not affect policy outcomes in subsequent dictatorships. This seems reasonable. We have checked if it makes a difference if the two dummy variables were coded 1 after the relevant restriction were lifted irrespective of subsequent regime changes and the results are very similar.

significant increase in total spending and tax revenues, and more in line with the finding from Western Europe that female suffrage had little impact on total spending (Aidt et al. 2005), although it did contribute to the rise of social spending (Lindert, 1994) and increase the share of direct taxes (Aidt and Jensen, 2005). [6] Thirdly, the relaxation of literacy restrictions on the right to vote increases total government spending and revenues. This is as expected given that these restrictions excluded relatively poor voters who, when given the vote, would use their influence to introduce distributive policies, leading to the increase in the size of government.

3.2 Education Outcomes

In this section, we investigate if restrictions on voting rights, as well as the regime type, affect social outcomes. We are particularly interested in outcomes related to education. As noted by, for example, Gilles and Verdier (1993) public education at the same time encourages accumulation of human capital and tends to produce a more even income distribution. The pressures for redistribution in a democracy may therefore materialize as more public spending on education, rather than as transfers and other more direct ways of redistributing income. However, the extent to which this is the case must depend on restrictions on the right to vote. Literacy restrictions may, for example, lead to worse education outcomes for the obvious reason that the restrictions were introduced in the first place to keep illiterate, poor voters, often concentrated among the Native American groups, away from political influence. Gender restrictions may also lead to worse education outcomes because females, as a precautionary measure may have a preference for investments in education.

To investigate these possibilities, we estimate a panel model similar to equation (1) with the same vector of political variable as in the previous section but with the enrollment rate in primary education. The results are reported in Table 5.[7]

[6] It is possible that these differences are due to differences in the modelling of female suffrage. We discuss that further in the conclusion.

[7] It is not possible to obtain data on spending on public education for a sufficiently long time period to allow us to test the impact on spending directly. Enrolment rates and illiteracy rates are, however, likely

[Table 5 to appear here]

The following results are of particular interest. Firstly, enrollment in primary education is significantly higher in (established) democracies than in dictatorships giving some support to the hypothesis that education may serve as one of many tools of redistribution in a democracy. However, the effect of democracy per se disappears when we take gender restrictions into account: womens' suffrage has a significant positive impact on enrollment in education. Secondly, somewhat surprisingly literacy restrictions are not associated with worse educational outcomes. One might imagine that the demand for public education expands and, over time, literacy improves once educational related restrictions are removed, or, alternatively, that the supply of education (supported by the elite) expands once lack of investments no longer serves the purpose of keeping to-be future voters away from the polls. Empirically, however, this does not seem to be the case.

4 Other Results

The regressions reported above contain a number of control variables which in themselves are interesting determinants of fiscal and educational outcomes. Opennes to trade is, for example, fairly robustly related to the size of government, both in terms of tax revenues and total spending, and to the share of income tax revenues in GDP. This is consistent with the insurance argument advocated by Rodrik (1998). It is also of interest to note that the measure of equality is shows that more equal societies raise a lower fraction of revenues from income taxes and have higher enrollment in primary education.

5 Conclusion

Our analysis is a first attempt to quantify the impact of political reform and allocation of voting rights on fiscal and social outcomes in Latin America, and is preliminary in many regards. We comment on three of these below.

to be highly correlated with public spending on education, although they only react to political reforms with a lag.

- The analysis maintains the assumption that political reforms are exogenous to the process that determines fiscal and social outcomes. Although, we do control for a range of observable determinants of fiscal and social outcomes, this may not be the case. Engerman and Sokoloff (2001) argue, for example, that the observed variation in restrictions on political participation in Latin America can be attributed to differences in initial homogeneity of the population and to initial inequality in the distribution of income and human capital. These factors may well have a direct impact on fiscal and social outcomes and we would have to worry about omitted variable biases. For this reason, we stress that our regressions identify correlation and say nothing about causality. We hope that we can find ways to deal with this problem in future research.

- Another important consideration that needs to be tackled is the fact that the regime transitions are endogenous (see Acemoglu and Robinson, 2001 for a theory of political transitions that demonstrates why). Econometrically, we seek to explore the possibility of using Markov Switching models to estimate jointly the transition probabilities and the regime-dependent link between exogenous structural variables and public policy. We plan to undertake this extension in future work.

- Lott and Kenny (1999) have argued that voting restriction are unlikely to have a direct impact on fiscal and social outcomes: they have an impact only insofar as they affect turnout in elections. We plan to undertake analysis along these lines in future work.

`New references should be added in the list and at the appropriate places in the text.`

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`List of new variables should be added and sources for the new data.`

7 Appendix

List of variables

- Democracy is a dummy variable that takes the value of 0 when the Polity IV index is equal or less than zero and takes a value of 1 when the Polity IV index is positive.
- New democracy is a dummy variable that takes the value of one when the Polity IV index becomes positive and for the subsequent five years unless the Polity IV index becomes negative or zero, in which case the dummy takes the value of 1 until the change of sign.
- Established democracy is a dummy variable that takes the value of one for the subsequent years that Polity IV index remains positive after the first five years of New Democracy. It is clear that the sum of New and Established Democracy is equal to the Democracy dummy.
- Political Crisis is a dummy variable that takes the value of one everytime a major political crisis takes place in the countries in the sample.
- Economic Crisis is a dummy variable that takes the value of one everytime a major political crisis takes place in the countries in the sample. As proxy of economic crisis, we use the dates when a currency change takes place, specifically the dummy is coded 1 two years before a currency change and one year after.
- Womens' suffrage is a dummy variable that takes the value of one after the women were granted the right to vote in societies with democracy (Polity IV positive)

- Literacy effect is a dummy variable that takes the value of one after the literacy restrictions were lifted in societies with democracy (Polity IV positive) and is multiplied by the fraction of illiterate in the population.
- Government Expenditure is the Consolidated Central Government Expenditures divided by the GDP.
- Government Revenue is Central Government Revenue divided by GDP.
- Income Tax is the tax revenue from incomes, profits and capital gains as a percentage of the GDP.
- International Debt is the total external debt as a percentage of the GDP.
- Primary school enrolment is the total number of students in primary education divided by the total population.
- Illiteracy rate is the total number of illiterate adults divided by the total population.
- GDP per capita is the real GDP divided by the total population of the country.
- Inflation is percentage increase in the consumer price index divided by 100.
- Defense
- Income distribution
- Population over 15
- Population over 60
- Economically active population
- Manufacture population
- Trade openness

`New sources needs to be documented.`

Data sources Consolidated central government expenditures, central government revenue, tax revenue from taxation of income, profit and capital gains, total population, real and nominal GDP, primary school enrolment, inflation, and open railway lines are from Mitchell (1993). Illiteracy rate is from the data web side of Department of Latin American studies, Oxford University, UK. The source for the extension of the female franchise and the literacy restrictions are CEPAL (1999), Nohlen (1993), and Engerman and Sokoloff (2001).

Construction of the data set For some control variables, there are gaps in the series. We have dealt with this by linear interpolation. The Polity IV index codes regimes transitions with -88, foreign interruption with -66 and periods of anarchy with -77. To work with time series we follow the suggestions given in the Polity IV user's manual (Marshall and Jaggers, 2000) and treat -66 as "system missing", -77 are converted to a polity score of 0 and cases of transition (-88) are pro-rated across the span of the transition.

Table 1: Results from Prais-Winsten common AR(1) Regressions

	(1) Government expenditure	(2) Government expenditure	(3) Government revenue	(4) Government revenue	(5) Income tax	(6) Income tax	(7) International debt	(8) International debt	(9) Roads	(10) Roads
Democracy	-0.003		-0.009		-0.000		0.012		0.032	
	(0.005)		(0.003)***		(0.002)		(0.018)		(0.022)	
New democracy		0.002		-0.010		-0.002		0.025		0.029
		(0.005)		(0.004)***		(0.002)		(0.020)		(0.024)
Established democracy		-0.011		-0.010		0.002		-0.008		0.043
		(0.006)*		(0.004)**		(0.002)		(0.020)		(0.028)
Trade openness	0.034	0.011	0.103	0.039	0.036	0.036	0.065	0.026	0.028	0.031
	(0.018)*	(0.009)	(0.012)***	(0.007)***	(0.007)***	(0.007)***	(0.065)	(0.024)	(0.073)	(0.074)
GDP per capita	-0.010	-0.011	-0.011	-0.009	0.019	0.020	-0.189	-0.186	0.280	0.321
	(0.024)	(0.024)	(0.016)	(0.016)	(0.012)	(0.012)	(0.098)*	(0.091)**	(0.113)**	(0.112)***
Growth	-0.028	-0.015	0.014	0.027	-0.011	-0.011	-0.046	-0.038	-0.131	-0.176
	(0.023)	(0.024)	(0.018)	(0.018)	(0.012)	(0.012)	(0.071)	(0.080)	(0.112)	(0.108)
Income distribution	-0.070	-0.079	-0.004	-0.011	-0.060	-0.065	0.144	0.102	-0.859	-0.816
	(0.061)	(0.062)	(0.045)	(0.046)	(0.034)*	(0.032)**	(0.346)	(0.302)	(0.598)	(0.601)
Population	0.083	0.090	0.045	0.056	0.034	0.034	0.149	0.166	1.069	1.045
	(0.022)***	(0.023)***	(0.016)***	(0.016)***	(0.015)**	(0.015)**	(0.096)	(0.086)*	(0.109)***	(0.111)***
Population under 15	0.111	0.130	0.120	0.126	0.167	0.174	-0.428	-0.347	1.576	1.498
	(0.134)	(0.134)	(0.134)	(0.130)	(0.050)***	(0.050)***	(0.352)	(0.342)	(1.061)	(1.056)
Population over 60	0.497	0.394	0.860	0.701	-0.273	-0.256	0.773	0.577	-12.033	-12.035
	(0.327)	(0.328)	(0.262)***	(0.251)***	(0.097)***	(0.092)***	(1.640)	(1.421)	(3.465)***	(3.437)***
Economically active population	-0.220	-0.191	-0.022	0.015	-0.030	-0.029	-0.931	-0.732	0.413	0.378
	(0.107)**	(0.107)*	(0.077)	(0.078)	(0.049)	(0.048)	(0.562)*	(0.492)	(0.687)	(0.684)
Manufacture population	0.244	0.240	0.268	0.234	0.036	0.034	0.097	0.082	3.425	3.377
	(0.126)*	(0.126)*	(0.111)**	(0.105)**	(0.031)	(0.030)	(0.485)	(0.402)	(1.072)***	(1.062)***
Inflation	-0.035	-0.037	-0.020	-0.020	-0.009	-0.008	-0.269	-0.271	-0.002	0.001
	(0.031)	(0.031)	(0.013)	(0.013)	(0.004)**	(0.004)**	(0.138)*	(0.135)**	(0.043)	(0.049)
Observations	939	947	919	927	593	594	884	889	883	885
# of countries	18	18	18	18	17	17	18	18	18	18

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%. All regressions presented control for fixed effects and time (by decade) effects.

Table 2: Results from Prais-Winsten common AR(1) Regressions

	(1) Government expenditure	(2) Government expenditure	(3) Government revenue	(4) Government revenue	(5) Defence	(6) Defence	(7) Defence	(8) Defence
Democracy	-0.003		-0.013		-0.438		-0.487	
	(0.006)		(0.004)***		(0.156)***		(0.148)***	
New democracy		0.004		-0.012		-0.400		-0.465
		(0.007)		(0.004)***		(0.172)**		(0.166)***
Established democracy		-0.016		-0.016		-0.728		-0.805
		(0.008)**		(0.006)***		(0.223)***		(0.208)***
Trade openness	-0.003	-0.007	0.106	0.105	0.923	0.850	0.337	0.194
	(0.024)	(0.024)	(0.015)***	(0.015)***	(0.897)	(0.933)	(0.781)	(0.817)
GDP per capita	-0.030	-0.035	-0.041	-0.045	-1.870	-2.210	-1.592	-1.835
	(0.030)	(0.030)	(0.019)**	(0.019)**	(1.270)	(1.361)	(1.086)	(1.148)
Growth	-0.042	-0.016	0.042	0.057	0.884	2.808	1.459	3.284
	(0.037)	(0.039)	(0.026)	(0.026)**	(1.180)	(1.476)*	(1.036)	(1.314)**
Income distribution	-0.216	-0.218	-0.012	-0.012	-9.745	-10.532	-5.703	-6.420
	(0.106)**	(0.107)**	(0.061)	(0.061)	(2.860)***	(2.873)***	(2.750)**	(2.729)**
Population	0.140	0.147	0.067	0.069	2.075	2.386	1.596	1.935
	(0.032)***	(0.032)***	(0.022)***	(0.023)***	(1.787)	(1.818)	(1.455)	(1.430)
Population under 15	0.446	0.431	0.335	0.329	0.450	2.234	2.300	4.653
	(0.274)	(0.276)	(0.181)*	(0.177)*	(11.078)	(11.343)	(9.502)	(9.471)
Population over 60	2.262	2.132	2.102	2.078	37.484	37.007	23.866	22.180
	(0.679)***	(0.685)***	(0.475)***	(0.474)***	(23.474)	(22.834)	(21.709)	(20.561)
Economically active population	-0.272	-0.277	-0.030	-0.032	-4.616	-4.236	-1.030	-0.287
	(0.162)*	(0.163)*	(0.103)	(0.103)	(4.666)	(4.689)	(4.140)	(4.212)
Manufacture population	0.270	0.288	0.406	0.415	-6.188	-5.192	-3.634	-2.891
	(0.163)*	(0.167)*	(0.138)***	(0.140)***	(4.519)	(4.760)	(3.728)	(3.824)
Inflation	-0.038	-0.040	-0.021	-0.021	-0.135	-0.077	0.138	0.215
	(0.032)	(0.031)	(0.013)	(0.013)	(0.844)	(0.889)	(0.747)	(0.799)
war							4.271	4.512
							(0.938)***	(0.982)***
Observations	638	640	628	630	548	550	548	550
# of countries	18	18	18	18	18	18	18	18

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%. All regressions presented control for fixed effects and time (by decade) effects.

Table 3: Years when gender and literacy restrictions were abolished

Country	Female Franchise	Literacy Restriction
Argentina	1947	1912
Bolivia	1952	1952
Brazil	1932	1985
Chile	1949	1970
Colombia	1954	1936
Ecuador	1929	1978
Paraguay	1961	1870
Peru	1955	1979
Uruguay	1932	1918
Venezuela	1946	1947
Costa Rica	1949	1949
Dominican Republic	1942	1865
El Salvador	1950	1883
Guatemala	1946	1946
Honduras	1955	1894
Mexico	1953	1857
Nicaragua	1955	1893
Panama	1945	1904

Sources: For Female Franchise:Economic Commission for Latino America and the Caribbean, UN: Participation and Leadership in Latin America and the Caribbean: Gender Indicators, December, 1999. For Literacy Franchise: Nohlen Dieter, Enciclopedia Electoral Latino Americana y del Caribe, 1993.

Table 4: Results from Prais-Winsten common AR(1) Regressions

	(1) Government expenditure	(2) Government expenditure	(3) Government revenue	(4) Government revenue	(5) Income tax	(6) Income tax	(7) International debt	(8) International debt	(9) Roads	(10) Roads
Democracy	-0.015		-0.014		0.004		0.033		0.111	
	(0.011)		(0.008)*		(0.004)		(0.039)		(0.055)**	
New democracy		-0.005		-0.015		0.001		0.060		0.106
		(0.012)		(0.008)*		(0.005)		(0.041)		(0.058)*
Established democracy		-0.017		-0.014		0.005		0.025		0.116
		(0.012)		(0.008)*		(0.004)		(0.039)		(0.056)**
Female effect	-0.002	-0.009	-0.004	-0.003	-0.007	-0.004	-0.054	-0.082	-0.133	-0.130
	(0.021)	(0.022)	(0.014)	(0.015)	(0.007)	(0.007)	(0.071)	(0.071)	(0.091)	(0.093)
Literacy effect	0.056	0.050	0.034	0.035	-0.008	-0.005	0.015	0.008	-0.083	-0.079
	(0.020)***	(0.019)***	(0.015)**	(0.015)**	(0.016)	(0.016)	(0.057)	(0.056)	(0.119)	(0.120)
Trade openness	0.038	0.036	0.104	0.104	0.035	0.035	0.063	0.065	0.022	0.024
	(0.018)**	(0.018)*	(0.012)***	(0.012)***	(0.007)***	(0.007)***	(0.064)	(0.064)	(0.073)	(0.073)
GDP per capita	-0.008	-0.009	-0.009	-0.009	0.019	0.020	-0.187	-0.193	0.286	0.291
	(0.024)	(0.024)	(0.016)	(0.016)	(0.012)	(0.012)	(0.098)*	(0.096)**	(0.112)**	(0.111)***
Growth	-0.030	-0.030	0.013	0.013	-0.012	-0.012	-0.049	-0.050	-0.140	-0.142
	(0.023)	(0.023)	(0.018)	(0.018)	(0.012)	(0.013)	(0.072)	(0.072)	(0.112)	(0.113)
Income distribution	-0.070	-0.074	-0.004	-0.004	-0.065	-0.066	0.135	0.107	-0.876	-0.880
	(0.060)	(0.062)	(0.046)	(0.045)	(0.035)*	(0.034)*	(0.353)	(0.341)	(0.592)	(0.589)
Population	0.083	0.086	0.045	0.045	0.036	0.035	0.154	0.168	1.079	1.076
	(0.022)***	(0.022)***	(0.016)***	(0.016)***	(0.015)**	(0.015)**	(0.097)	(0.094)*	(0.107)***	(0.107)***
Population under 15	0.113	0.117	0.106	0.110	0.173	0.171	-0.453	-0.416	1.569	1.558
	(0.134)	(0.134)	(0.136)	(0.135)	(0.051)***	(0.051)***	(0.353)	(0.349)	(1.050)	(1.044)
Population over 60	0.581	0.552	0.913	0.921	-0.264	-0.250	0.934	0.905	-12.078	-12.076
	(0.330)*	(0.335)*	(0.270)***	(0.266)***	(0.099)***	(0.097)**	(1.655)	(1.567)	(3.391)***	(3.349)***
Economically active population	-0.235	-0.227	-0.035	-0.036	-0.027	-0.029	-0.975	-0.904	0.380	0.369
	(0.106)**	(0.107)**	(0.079)	(0.078)	(0.050)	(0.049)	(0.565)*	(0.540)*	(0.689)	(0.686)
Manufacture population	0.225	0.227	0.249	0.250	0.035	0.034	0.068	0.092	3.416	3.402
	(0.123)*	(0.125)*	(0.113)**	(0.111)**	(0.032)	(0.032)	(0.501)	(0.469)	(1.044)***	(1.030)***
Inflation	-0.034	-0.037	-0.021	-0.020	-0.009	-0.008	-0.269	-0.274	-0.001	0.001
	(0.031)	(0.031)	(0.013)	(0.013)	(0.003)**	(0.004)**	(0.138)*	(0.136)**	(0.044)	(0.045)
Observations	939	939	919	919	593	593	884	884	883	883
# of countries	18	18	18	18	17	17	18	18	18	18

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%. All regressions presented control for fixed effects and time (by decade) effects.

Table 5: Results from Prais-Winsten common AR(1) Regressions

	(1) Primary school enrolment	(2) Primary school enrolment	(3) Primary school enrolment	(4) Primary school enrolment
Democracy	0.004 (0.002)**		0.000 (0.003)	
New democracy		0.003 (0.002)**		-0.001 (0.003)
Established democracy		0.005 (0.002)**		0.001 (0.003)
Female effect			0.011 (0.005)**	0.013 (0.005)***
Literacy effect			-0.005 (0.007)	-0.005 (0.006)
Trade openness	-0.010 (0.004)**	-0.004 (0.002)*	-0.010 (0.004)**	-0.010 (0.004)**
GDP per capita	0.022 (0.006)***	0.021 (0.006)***	0.022 (0.006)***	0.022 (0.006)***
Growth	-0.005 (0.007)	-0.005 (0.006)	-0.004 (0.007)	-0.004 (0.007)
Income distribution	0.033 (0.020)*	0.035 (0.020)*	0.037 (0.020)*	0.037 (0.020)*
Population	0.060 (0.006)***	0.059 (0.006)***	0.058 (0.006)***	0.058 (0.007)***
Population under 15	0.301 (0.109)***	0.303 (0.107)***	0.302 (0.110)***	0.303 (0.108)***
Population over 60	-0.678 (0.170)***	-0.645 (0.166)***	-0.719 (0.171)***	-0.712 (0.169)***
Economically active population	-0.047 (0.037)	-0.054 (0.037)	-0.040 (0.037)	-0.041 (0.037)
Manufacture population	0.216 (0.113)*	0.223 (0.110)**	0.222 (0.114)*	0.222 (0.112)**
Inflation	-0.001 (0.004)	-0.001 (0.004)	-0.001 (0.004)	-0.001 (0.004)
Observations	925	933	925	925
# of countries	18	18	18	18

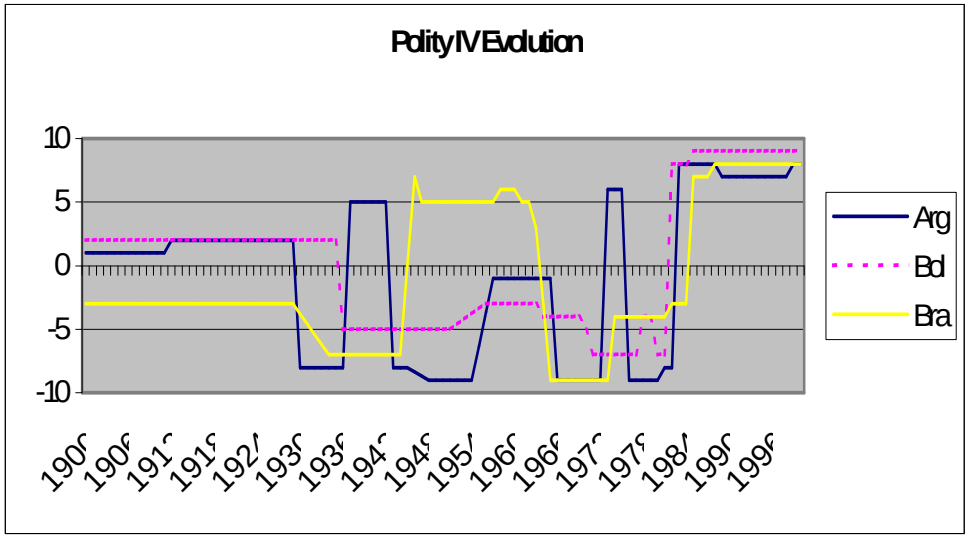
Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%. All regressions presented control for fixed effects and time (by decade) effects.

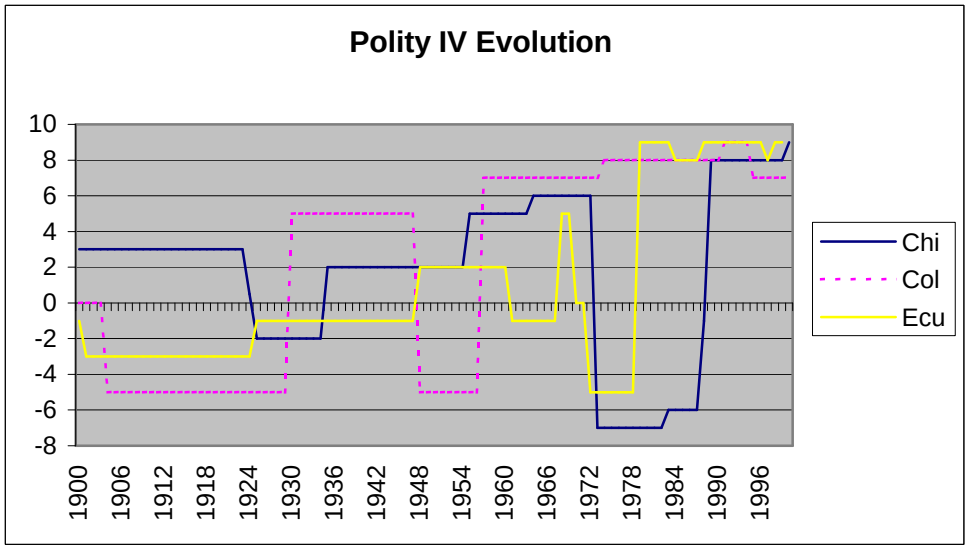
Table A1: Time periods for variables used in the regression analysis

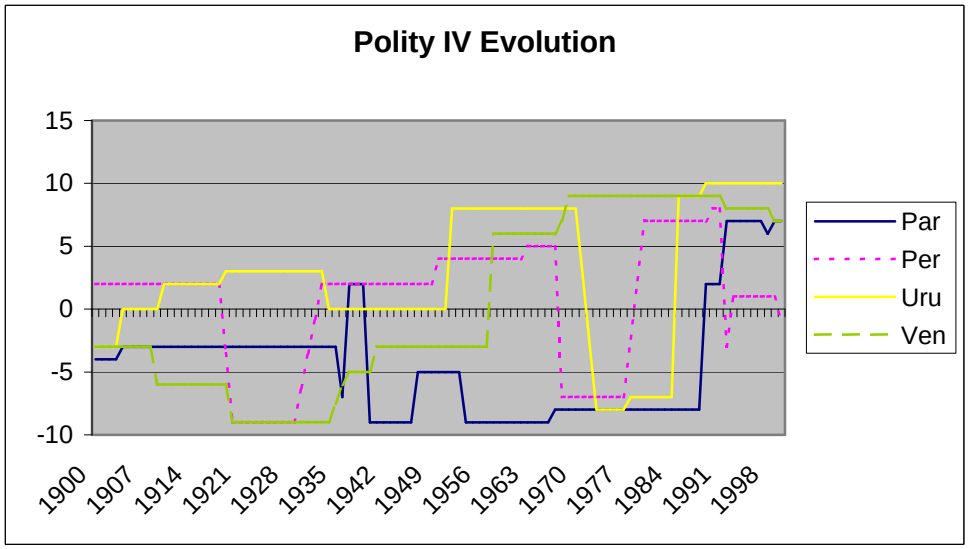
Regressions Periods

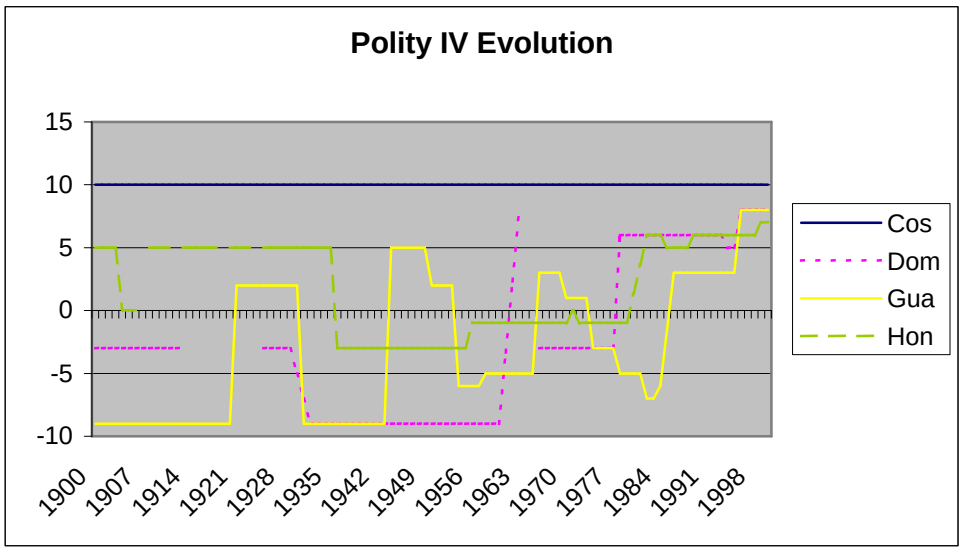
	Government Expenditure	Government Revenue	Income Tax From	External Debt From	Primary School Enrolment	Illiteracy rate
Argentina	1900-2000	1900-2000	1900	1929	1900-1998	1900-2000
Bolivia	1960-2000	1960-2000	1985	1960	1960-1990	1960-2000
Brazil	1900-2000	1900-2000	1923	1914	1900-1997	1900-2000
Chile	1940-2000	1940-2000	1940	1940	1940-1996	1940-2000
Colombia	1936-2000	1936-2000	1936	1936	1936-1996	1936-2000
Ecuador	1939-2000	1939-2000	1981	1939	1939-1996	1939-2000
Paraguay	1946-2000	1946-2000	1981	1946	1946-1997	1946-2000
Peru	1942-2000	1942-2000	1942	1942	1942-1997	1942-2000
Uruguay	1955-2000	1955-2000	1955	1955	1955-1996	1955-2000
Venezuela	1920-2000	1920-2000	1938	1920	1926-1996	1920-2000
Costa Rica	1950-2000	1950-2000	1982	1950	1950-1997	1950-2000
Dominican	1947-2000	1947-2000	1981	1947	1947-1997	1947-2000
Guatemala	1923-2000	1923-2000	1981	1923	1923-1997	1923-2000
Honduras	1925-2000	1925-2000	--	1925	1925-1994	1925-2000
Mexico	1900-2000	1900-2000	1925	1914	1907-1996	1900-2000
Nicaragua	1958-2000	1958-2000	1980	1958	1958-1997	1958-2000
Panama	1946-2000	1946-2000	1982	1946	1947-1996	1947-2000
Salvador	1939-2000	1939-2000	1983	1939	1939-1997	1939-2000

Graph 1: Polity IV








Polity IV Evolution
15
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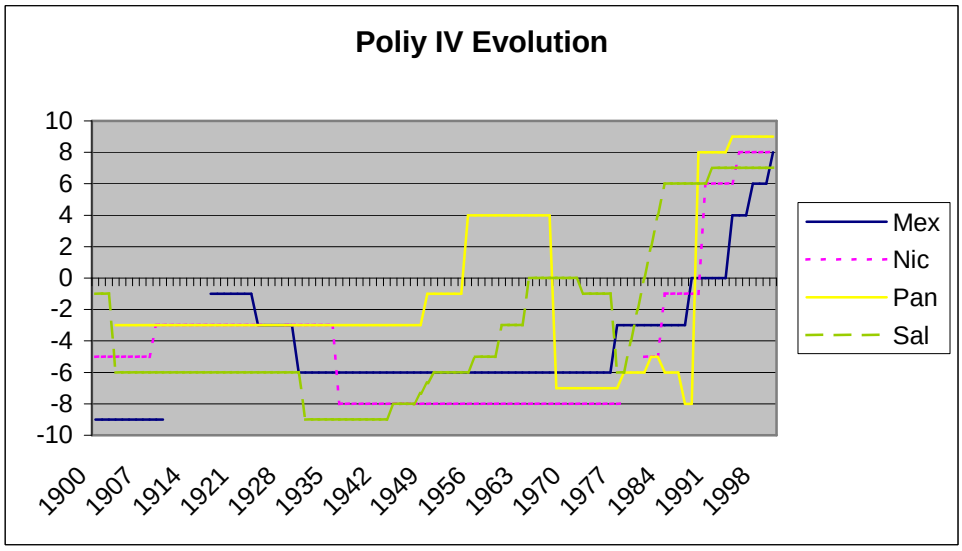
Poliy IV Evolution
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