Young democracies and government debt: evidence from South America

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Abstract

I test the hypothesis that when democracies are young, or still fragile and unconsolidated, government debt tends to increase, presumably because of increased demand for redistribution, or to buy out the electorate, so that democracy becomes acceptable and "the only game in town". I use a sample of all South American young democracies during the 1970–2007 period and the results, based on dynamic panel time-series analysis, suggest that those young democracies are indeed associated with larger government debt. Furthermore, I test the hypothesis that the outgoing dictatorships of the day bequeathed the young democracies with large government debt. This hypothesis is not confirmed by the analysis. Lastly, there is no evidence that, as those democracies mature over time, government debt tends to decrease. Given how I conduct the exercise, that is, the nature of the sample, the methodology I use and the counterfactuals I run, and also that there are always new episodes of democratisation being experienced by different countries around the world, with some being economically successful and others less so, the results I report are informative of what to expect in terms of government debt during political transitions into democracy when particular institutions are still not in place.

Keywords: Democracy, government debt, South America

Introduction

South America have experienced, mostly in the 1980s, political transitions from dictatorships to democratic presidential regimes, macroeconomic instability (in terms of high inflation and debt), delayed stabilisation processes – in the spirit of Alesina and Drazen (1991) macroeconomic stabilisation took almost a decade to be achieved – and no come back to less democratic regimes (so far the democratisation wave has not receded, as in the more distant past).[1] The region is also known for a certain, relatively above the average, degree of economic inequality.

Against this background, I test the hypothesis that governments in young democracies tend to present higher debt ratios to GDP at the initial stages of their political transitions (Brender and Drazen 2005). This increase in debt might be because the new regimes face

many challenges: crumbling infrastructure which needs to be renovated, low wages of civil servants, or even the need to renew the entire bureaucracy, or high debt accumulated by the last non-democratic regime, debt which would be inherited and ultimately repaid by the young democracies (Persson and Svensson 1989; Alesina and Tabellini 1990).

It can also be that democracy when in its infancy faces ideological opposition and therefore the new regimes try to buy out the electorate by provision of public goods, so that democracy becomes ideologically acceptable and "the only game in town" (Brender and Drazen 2007). Furthermore, it might be that demand (and supply) for government goods, for instance, education and health, increases with democracy, or with development in general, as predicted by Wagner's law (Pickering and Rockey 2011).

In addition, the reason for the increase in government debt might be the relative high economic inequality seen in some countries in the region and the need for redistribution to the median voter (in the spirit of Meltzer and Richard 1981 and also Woo 2003). In this vein some would argue that the first democratic coalitions coming into power in South America would, in the name of redistribution, spend more and increase debt (Pickering and Rockey 2011). All the same, democratic transitions are costly, which would justify enlarged government debt in young democracies.

Moreover, since most of those political transitions were announced in advance,[2] I test the hypothesis that during the last years of those dictatorships the incumbent engaged in activities, such as widespread consumption, which would leave the new democratic regimes with a considerable amount of debt to be repaid in the initial stages of the new regimes. That sort of bequest from the last junta would explain the existence of high debt when democracies are still young (Persson and Svensson 1989; and Alesina and Tabellini 1990).

Furthermore, I test the hypothesis that democracies, even relatively young ones, mature over time, that is, the electorate learn the nuts and bolts of the democratic game and force governments to behave more responsibly, and perhaps efficiently, at least in terms of debt creation (Akhmedov and Zhuravskaya 2004). Alternatively, the reduction in government debt might be because of particular institutional and policy changes taking place in the 1990s and early 2000s such as the adoption of central bank independence and fiscal responsibility laws, which some of those countries adopted at some point in time.[3] One way or another, given enough time, government debt would see a reduction in their overall size as time passes by.

To conduct the empirical exercise I use data from all nine South American countries which redemocratised in the late 1970s (Ecuador), 1980s (Argentina, Bolivia, Brazil, Chile, Peru and Uruguay) and early 1990s (Guyana and Paraguay), and I cover the 1970–2007 period. Given the dimension of the data, the methodology is based on dynamic panel time-series analysis (I use the Fixed Effects estimator in order to account for heterogeneity and statistical endogeneity, Fixed Effects with Instrumental Variables to account for economic endogeneity and the Mean Group to account for heterogeneity bias in dynamic thin panels).

About the results: firstly, my evidence is in line with Brender and Drazen (2005, 2007), and also with Shi and Svensson (2006) – who suggest that in cross-sections of countries fiscal

cycles and manipulation are driven by developing young democracies – that is, government debt in South America increases during the whole democratic period. Although not entirely comparable (given that I account for the whole democratic period), my estimates are also in line with Barberia and Avelino (2011) where they suggest that fiscal deficits increase before elections in Latin America.[4] So far so good, however, interestingly enough, my results contrast with Profeta, Puglisi, and Scabrosetti (2013), who by using panels of developing countries, which includes Latin America, do not find evidence that governments in young democracies spend more, and with Aidt and Eterovic (2011), who suggest that democracy has reduced government expenditure in Latin America during the 1920–2000 period. Secondly, I do not find evidence that the outgoing dictatorships of the day bequeathed high debt to the new democratic coalitions coming into power, evidence which contrasts with the prediction by Persson and Svensson (1989), and Alesina and Tabellini (1990). Thirdly, I find no evidence that those democracies mature over time, or that government debt starts receding as time after democratisation passes by, which contrasts with Akhmedov and Zhuravskaya (2004), who by studying the case of a young democracy, Russia, suggest that with a freer and better media, a less-myopic electorate and better checks and balances governments become less frivolous and volatile in their spending activities.

Some questions arising from the results: in the case of Profeta, Puglisi, and Scabrosetti (2013), does it matter how far back in time the data-set goes? or, in the case of Persson and Svensson (1989), and Alesina and Tabellini (1990), why did the last junta not engage in, for instance, conspicuous consumption right before leaving office? or, was Russia institutionally (and also in terms of overall development at the point of democratisation) different from South America? More on these issues later. To say the least, these differences in results suggest that not all political transitions are the same (the South American experience might be particularly relevant and informative for developing countries presenting similar institutional characteristics), and hence stimulate further research on the subject.

I contribute to the literature in at least a couple of fronts. Firstly, I use a sample of South American young democracies which provides perfect ground for the study of debt dynamics. Let me elaborate: given South America's tendency for political transitions and bursts of macroeconomic instability, my longer sample captures the transitions and allows me to test different hypothesis (and to the best of my knowledge for the first time). For instance, Profeta, Puglisi, and Scabrosetti (2013) do not cover the 1970s and 1980s (hence missing the dynamics of political transitions), and they also use a dummy for Latin America in some of their regressions (which some would argue is not wholly informative). Furthermore, in the spirit of Papaioannou and Siourounis (2008), by using this particular sample I minimise the contamination that usually arises from large cross sections which include countries that, for instance, did not transitioned from dictatorship to democracy during the 1970–2007 period.

Secondly, given that government debt (as well as government spending and size) tends to be a persistent variable, and that Profeta, Puglisi, and Scabrosetti (2013) and Aidt and Eterovic (2011) only estimate static models, dynamic models are perhaps in order. Thus, I use different dynamic panel time-series data estimators which account for all major empirical issues in this sort of data. I also run a number of counterfactual and horse-race exercises (again, to the best of my knowledge for the first time), in order to make as sure as possible that the results are consistent and, above all, informative.

Why is this exercise relevant and the results informative? Given that there are always new episodes of democratisation taking place in different countries, a better understanding of what determines the size of governments in young democracies, in this case in terms of debt, is important for at least a couple of reasons. Firstly, the growth literature suggests that large governments tend to be detrimental to economic activity because governments play no constructive role on private productivity (Barro 1990, 1991). Secondly, public choice theory suggests that higher government spending tends to reduce subjective life satisfaction. This reduction in life satisfaction happens because governments try to maximise their own well being (by favouring particular interest groups), and also because politicians tend to lobby for projects that are not necessarily in line with voters' preferences. All in all, this misallocation of resources tends to be in detriment to general well-being and life satisfaction (Bjørnskov, Dreher, and Fischer 2007). All the same, in an ideal world, young democracies already have in place at the point of redemocratisation a particular institutional framework that constraints and improve the executive and, borrowing from Barro (1990), make sure that governments in young democracies spend productively so that economic growth, prosperity and life satisfaction do not suffer.

Data

The data-set covers the 1970–2007 period and all nine South American countries which transitioned from political dictatorship to full presidential democracy in the late 1970s (Ecuador in 1979), 1980s (Argentina in 1983, Bolivia in 1982, Brazil in 1985, Chile in 1989, Peru in 1980 and Uruguay in 1985), and early 1990s (Guyana and Paraguay in 1992).

The variable for government debt (*govdebt*) is the ratio of general government public debt to GDP from the Historical Public Debt Database (HPDD) provided by the IMF and compiled by Abbas et al. (2010). Given my purposes in this paper, this data-set and its extensive coverage across countries and over time is particularly convenient because it allows me to specifically study the differences, if any, between less democratic regimes (1970s) and democracies (1980s onwards) in terms of government debt dynamics in South America.

For democracy, I start by using information from the Polity IV database of when those countries (permanently) redemocratised, to construct a dummy variable (*freed*) that captures the whole democratic period, a procedure which is in line with Przeworski et al. (2000) and Papaioannou and Siourounis (2008) dichotomous classifications. For instance, although Argentina had episodes of dictatorship, democracy (of sorts) and dictatorship again in the 1970s, it is only in 1983 that the Polity IV's Polity2 variable jumps from −8 (dictatorship) to a respectable 8 (democracy, and it stays there until 2007).[5] So, Argentina gets ones from 1983 onwards with zeros elsewhere. Given that the dummy *freed* accounts for the whole democratic period, a positive *freed* estimate suggests that government debt increases during more democratic regimes.

In addition to *freed*, I use the Polity2 variable itself (polity) from the Polity IV database, which is the difference between the *democ* and *autoc* indicators compiled by Polity IV and these indicators contain information on the competitiveness and openness of executive recruitment, competitiveness of political participation and constraints on the executive. The

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polity variable ranges from −10 to 10. Again, a positive *polity* estimate suggests that democracies are associated with higher government debt.[6]

I then run counterfactual exercises and I start by constructing a dummy variable for the last four years of dictatorship (*ldictat*). For instance, Argentina gets ones from 1979 to 1982 (the last four years of dictatorship before its latest transition to democracy in 1983), with zeros elsewhere. A positive and significant *ldictat* estimate suggests that the last dictator, or junta, generated larger government debt, debt which would be inherited by the new democratic regime.

Furthermore, I use the Polity2 variable, however this time I keep it constant as in the year right before the latest wave of democratisation actually took place in each country (*nodemoc*). To illustrate, according to the Polity2 variable, Brazil becomes a democracy in 1985 when it jumps from −3 in 1984 to 7 in 1985. I keep the −3 of 1984 until 2007, which is the last data point in the data-set. In other words, to run the counterfactual I assume that the latest wave of democratisation in South America never took place (only the variation during the dictatorship is taken into account). For instance, Brazil receives −9 in 1970, −4 in 1974 and −3 in 1982 from Polity2). To further illustrate the variation within the less democratic period, Figure 1 depicts the variation and political instability (where darker blues indicate "more" democracy) and the Argentinean case illustrates the variation well, that is, dictatorship, "democracy" and dictatorship again, all within ten years. In this case, a negative or non-significant *nodemoc* estimate suggests that less democratic regimes are not associated with higher government debt.
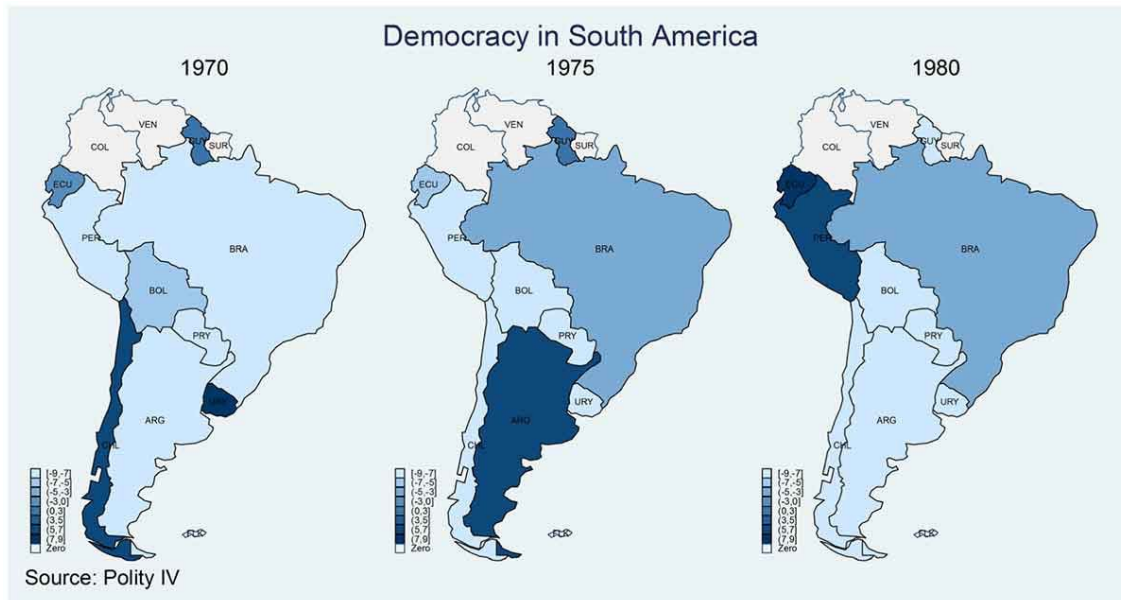

Figure 1. Democracy in South America.

Lastly, using information from the Polity IV database again I construct a variable which counts the number of years since democratisation (*nodemoc)*. For instance, Brazil redemocratises in 1985, which is year 1, and then I count all the way to 2007, which is year 23, with zeros elsewhere. In this case, a negative and significant *nodemoc* estimate suggests

that government debt decreases as democracy gets older, or alternatively that democracy, or the electorate, mature over time. Or to put it another way, governments become more responsible and efficient, or constrained, with a more mature electorate and better checks and balances in place.

For the confounders I borrow from the previous literature and they are as follows: income and income growth (*gdp* and *growth*) come from the Penn World Table. According to Wagner's law it is expected that (particularly in developing countries such as Argentina, Brazil, Chile and Uruguay), *gdp* is positively associated with government debt (Pickering and Rockey 2011). Moreover, economies growing relatively fast can reduce their debt ratio (Hall and Sargent, 2011; Easterly 2011; Bittencourt 2015).

The inflation rates (*inflation*) come from the World Development Indicators. In this case it is expected that higher inflation, by higher nominal interest rates, leads to higher debt (Barro 1979). Alternatively, high inflation (assuming that indexation is not perfect), generates lower government revenues, which also leads to higher debt. Furthermore, I use the share of the liquid liabilities to GDP (*m2*), which come from the World Development Indicators, as a proxy for finance. In this case it is expected that in economies with better developed financial sectors governments can acquire finance more easily and might increase debt (Woo 2003).

In addition, I use a measure for trade openness relative to GDP (*open*), which is provided by the Penn World Table. It is expected that government debt increases with trade openness because governments tend to provide social protection against external shocks (Rodrik 1998). Lastly, the Gini coefficients for income inequality (*inequality*) come from the UNU-WIDER database. It is expected that higher inequality leads to some sort of redistribution, by the provision of public goods, which might lead to larger government debt as well (Woo 2003).

To illustrate the behaviour of democracy and government debt over time, Figure 2 depicts democracy (*polity*) and government debt (*govdebt*) in South America. The first two panels show that both democracy and government debt increased sharply in the 1980s (which coincides with the "lost decade"). The third panel depicts the simple OLS regression line between democracy and government debt and the correlation between both variables is positive.
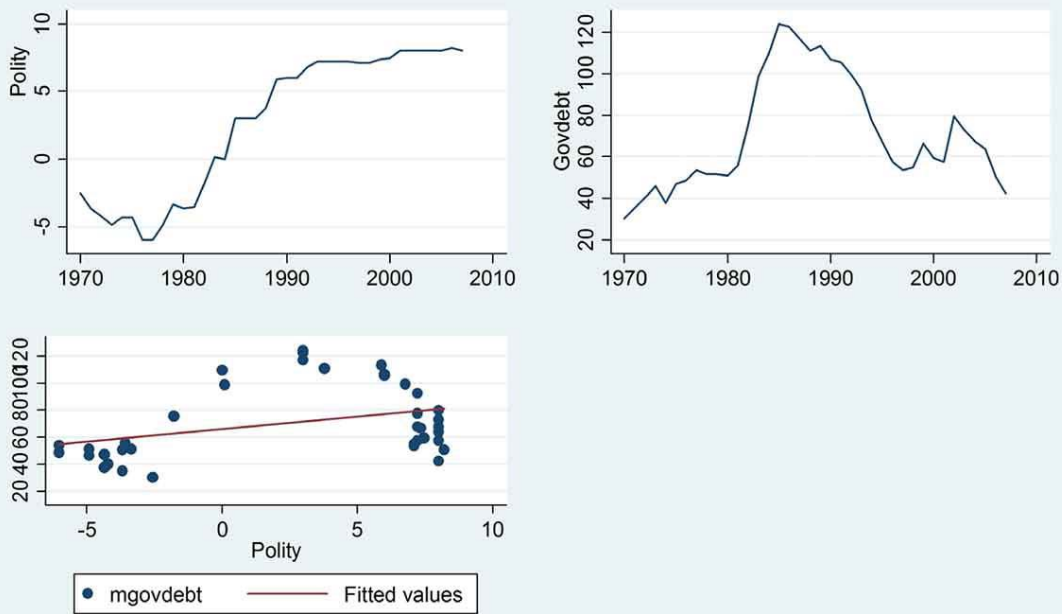
Figure 2. Democracy, government debt and the OLS regression line.

In Table 1 I provide the descriptive statistics in the first panel and in the second panel the correlation matrix of the variables of interest. On one hand, at this stage the statistical correlations between *polity* and *freed* and *govdebt* do not suggest positive correlations between democracy and debt. Moreover, there are no meaningful correlations suggesting any predatory behaviour by the last dictator or junta (*ldictat*) towards the new democratic regimes in terms of bequeathing the new regimes with high debt either. On the other hand, there is some indication coming from the negative correlation between *nodemoc* and *govdebt* that had South America not democratised, government debt would be actually lower.

Table 1. Descriptive statistics and the correlation matrix.

	Obs	Mean	Min	Max	Source	
govdebt	331	71.55	4.1	470.61	IMF	
polity	342	2.59	−9	10	Polity IV	
freed	342	0.61	0	1	Polity IV	
ldictat	342	0.10	0	1	Polity IV	
nodemoc	342	−4.55	−9	8	Polity IV	
mdemoc	342	7.69	0	30	Polity IV	
	govdebt	polity	freed	ldictat	nodemoc	mdemoc
govdebt	1					
polity	−0.07	1				
freed	−0.05	0.89*	1			
ldictat	0.09	−0.32*	−0.41*	1		
nodemoc	−0.20*	0.32*	0.15*	−0.11*	1	
mdemoc	−0.13*	0.66*	0.72*	−0.31*	0.09	1

* $p < 0.05$.

Empirical strategy

The estimated dynamic Mean Group equations are as follows,

$$\text{Govdebt}_{it} = \alpha_i + \beta_i \, \text{freed}_{it-1} + \gamma x_{it} + \delta \, \text{govdebt}_{it-1} + \upsilon_{it}$$

$$\text{Govdebt}_{it} = \alpha_i + \beta_i \, \text{polity}_{it-1} + \gamma x_{it} + \delta \, \text{govdebt}_{it-1} + \upsilon_{it}$$

where *govdebt* is the government debt ratio to GDP, *freed* is the first set of dummies which, in this case, accounts for the whole democratic period, *polity* is the Polity2 variable accounting for democracy and *x* is a vector of confounders: *gdp* is real income, *growth* are the GDP growth rates, *inflation* are the inflation rates, *m2* are the liquid liabilities, *open* is trade openness, *inequality* are the Gini coefficients for income inequality and *govdebt $_{it-1}$* is the lagged dependent variable accounting for dynamics.

The empirical strategy, given the dimension of the data – nine South American countries ($N = 9$) covering the 1970–2007 period ($T = 38$) – is based on dynamic panel time-series analysis. It is worth mentioning that given that most variables are either ratios or dummies (government debt, political regime characteristics, finance and openness), or bounded within closed intervals (political regime characteristics and inequality), the issues of nonstationarity and cointegration in panels are not pursued. In addition, Phillips and Moon (1999) suggest that, because of the averaging taking place within panel estimators, spurious regressions are less of a problem in panels. Furthermore, Bohn (1998) suggests that debt to GDP ratios tend to be mean-reverting because of the positive relationship between primary surpluses and debt, which tends to satisfy the government intertemporal budget constraint. All the same, spurious regressions are less of a concern here.

Bearing the above in mind, I use the Fixed Effects (FE) estimator – with clustered robust standard errors for the correlation of residuals over time – which assumes heterogeneity of intercepts, a reasonable assumption in such a diverse panel of countries, and which by the demeaning purges the correlation between the unobserved heterogeneity and the regressors. The FE estimator under long T makes the Nickell bias present in short T dynamic panels less of a problem (Judson and Owen 1999 suggest that when $T = 30$ the size of the bias approaches zero), it reduces statistical endogeneity by the demeaning and it gives consistent estimates of the expected values, Smith and Fuertes (2016).

About economic endogeneity: when I actually test for exogeneity using the Hausman test, all the *p*-values suggest that I cannot reject the null hypothesis of exogeneity, which suggests that endogeneity is less of an issue. In addition, I use a sample of South American countries which transitioned from dictatorship to democracy, the first lag of the political regime characteristics variables on the right side, the confounders suggested by the literature and also fixed effects, all in order to reduce such endogeneity concerns. Well, one can still argue that there are omitted variables or measurement error present, so I account for economic endogeneity here as well.

Given that Bond (2002) argues that GMM-type estimators are not an alternative under $T > N$ because of overfitting, I therefore use, yet again, the Fixed Effects, but now augmented with

Instrumental Variables (FE-IV), two-stage Least Squares estimator. The FE-IV is asymptotically consistent and efficient when *T* is long and it retains the time series consistency even if the instrument set is only predetermined (Arellano 2003). As the literature itself testifies, external instrumental variables are hard to find, but assuming that deeper lags of political regime characteristics are uncorrelated with the error term, but correlated with contemporaneous political regime in mind, I use the second lag of the respective political regime variable as an internal instrument for itself. And in this case all systems are just-identified. It is expected that political regimes are persistent over time (Barro 1999), so positive estimates are expected in the first-stage regressions.

Furthermore, the issue of heterogeneity bias in dynamic thin panels – caused for under wrongly assumed homogeneity of slopes, the residual is serially correlated and the explanatory variables are not independent of the lagged-dependent variable – is dealt with by the Mean group (MG) estimator, Pesaran and Smith (1995). The MG allows for different intercepts and slopes, and it estimates different OLS regressions for each country which are then averaged up. And it also provides consistent estimates when *T* is long, Smith and Fuertes (2016).

The FEs and MG estimators take into account that the countries in the sample share particular characteristics (all of them went through political transitions) but also that such a panel is, no doubt, heterogenous (some of the countries in the sample are more developed than others, more or less unequal than others, or have been under democratic regimes for longer than others). Moreover, these estimators take into account the possibility of omitted variables and measurement error biases, or statistical and economic endogeneity issues. All in all, I attempt to cover all major econometric issues in thin panels in order to make sure that the estimates are consistent and informative.

Results

In Tables 2 and 3 I report baseline estimates using the *freed* dummy (which accounts for the whole democratic period) and then the *polity* variable for democracy. *Freed* presents positive and mostly statistically significant estimates (the only exception being the MG estimate in column 4) and the *polity* estimates are all positive and significant against government debt. All the same, both variables suggest a positive effect of democracy on government debt in the region.

In Table 4 I conduct a simple counterfactual exercise to test the hypothesis that perhaps the outgoing dictatorships left the young democracies of South America with high debt. The dummy *ldictat* (which accounts for the last four years of dictatorship) presents either non-significant estimates or negative and significant ones. To say the least, there is no evidence suggesting that the outgoing *juntas* bequeathed the new democratic regimes with large debt which would mature in the initial stages of democratisation.

In Table 5 I use the variable *nodemoc* which keeps democracy, or lack of it, as in the year right before that the wave of democratisation actually took place in each country. For instance, *nodemoc* in Argentina stays as in 1982, −8 instead of the actual 8/7 that it gets from 1983 onwards in the Polity2 variable. The *nodemoc* estimates are positive, but never

Table 2. Baseline regressions with democracy dummy (freed).

Variables	(1)	(2)	(3)	(4)
	FE	FE	FE-IV	MG
L.freed	25.82***	7.866***	8.439*	36.49
	(7.045)	(1.817)	(4.547)	(31.00)
gdp	−0.0140***	−0.00455***	−0.00456***	−0.0352
	(0.00214)	(0.000641)	(0.00138)	(0.0224)
Growth	0.281	−1.260***	−1.290***	1.092
	(0.451)	(0.266)	(0.285)	(1.209)
Inflation	0.00147	−0.00444**	−0.00452	1.272
	(0.00531)	(0.00137)	(0.00435)	(1.197)
m2	0.507	0.512***	0.515***	−0.807
	(0.682)	(0.109)	(0.155)	(1.979)
Open	−0.138	−0.173**	−0.173	−0.688
	(0.241)	(0.0665)	(0.135)	(0.598)
Inequality	1.069	0.230	0.234	−0.315
	(1.175)	(0.430)	(0.353)	(0.806)
L.govdebt		0.796***	0.799***	−0.109
		(0.0339)	(0.0402)	(0.570)
Observations	148	145	143	138
R^2	0.276	0.823		
Number of i	9	9	9	7
Country FE	YES	YES	YES	YES
Rob SE	YES	YES	YES	NA
IV			L.FREED	

Note: Robust standard errors in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table 3. Baseline regressions with polity.

Variables	(1)	(2)	(3)	(4)
	FE	FE	FE-IV	MG
L.polity	1.744***	0.641***	0.684**	3.134**
	(0.334)	(0.0849)	(0.317)	(1.562)
gdp	−0.0147***	−0.00502***	−0.00509***	−0.0313
	(0.00205)	(0.000413)	(0.00145)	(0.0225)
Growth	0.352	−1.242***	−1.255***	1.990
	(0.417)	(0.264)	(0.282)	(2.154)
Inflation	0.00183	−0.00472***	−0.00482	0.901
	(0.00511)	(0.00129)	(0.00433)	(0.843)
m2	0.558	0.525***	0.528***	1.234**
	(0.691)	(0.101)	(0.153)	(0.531)
Open	−0.118	−0.181**	−0.183	−0.866
	(0.291)	(0.0593)	(0.133)	(0.584)
Inequality	1.473	0.359	0.360	−0.572
	(1.223)	(0.451)	(0.345)	(0.937)
L.govdebt		0.792***	0.793***	0.0506
		(0.0323)	(0.0403)	(0.402)
Observations	148	145	143	138
R^2	0.282	0.827		
Number of i	9	9	9	7
Country FE	YES	YES	YES	YES
Rob SE	YES	YES	YES	NA
IV			L.POLITY	

Note: Robust standard errors in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table 4. Counterfactual regressions with last dictatorship dummy.

Variables	(1)	(2)	(3)	(4)
	FE	FE	FE-IV	MG
L.ldictat	3.255	−7.047**	−6.800	5.172
	(12.55)	(2.749)	(6.062)	(14.86)
gdp	−0.0119***	−0.00399***	−0.00391***	−0.0233*
	(0.00244)	(0.000526)	(0.00132)	(0.0128)
growth	0.600	−1.268***	−1.295***	1.121
	(0.417)	(0.267)	(0.289)	(1.305)
inflation	0.00839	−0.00415**	−0.00409	0.145*
	(0.00521)	(0.00131)	(0.00440)	(0.0813)
m2	0.589	0.570***	0.569***	2.282*
	(0.731)	(0.129)	(0.157)	(1.262)
open	0.146	−0.114*	−0.112	−0.530
	(0.415)	(0.0611)	(0.129)	(0.545)
inequality	1.472	0.251	0.279	−0.265
	(1.392)	(0.512)	(0.355)	(0.803)
L.govdebt		0.822***	0.825***	0.461***
		(0.0309)	(0.0397)	(0.176)
Observations	148	145	143	138
R^2	0.214	0.822		
Number of i	9	9	9	7
Country FE	YES	YES	YES	YES
Rob SE	YES	YES	YES	NA
IV			L. LDICTAT	

Note: Robust standard errors in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table 5. Counterfactual regressions with Polity2 kept constant.

Variables	(1)	(2)	(3)	(4)
	FE	FE	FE-IV	MG
L.politycf	0.00502	0.436	0.776	1.438
	(0.568)	(0.399)	(0.755)	(3.215)
gdp	−0.0121***	−0.00389***	−0.00398***	−0.0328
	(0.00265)	(0.000586)	(0.00135)	(0.0254)
Growth	0.580	−1.224***	−1.251***	2.367
	(0.413)	(0.269)	(0.289)	(2.625)
Inflation	0.00800	−0.00338**	−0.00362	0.767
	(0.00468)	(0.00103)	(0.00439)	(0.671)
m2	0.602	0.527***	0.517***	1.794**
	(0.728)	(0.0991)	(0.159)	(0.865)
open	0.139	−0.111	−0.120	−0.695
	(0.414)	(0.0788)	(0.132)	(0.626)
Inequality	1.447	0.437	0.534	−0.635
	(1.434)	(0.505)	(0.397)	(1.067)
L.govdebt		0.816***	0.819***	0.161
		(0.0250)	(0.0396)	(0.348)
Observations	148	145	143	138
R^2	0.213	0.819		
Number of i	9	9	9	7
Country FE	YES	YES	YES	YES
Rob SE	YES	YES	YES	NA
IV			L.nodemoc	

* $p<0.1$; ** $p<0.05$; *** $p<0.01$. Robust standard errors in parentheses.

statistically significant. Essentially, there is no evidence that, had South America remained a less-democratic region, government debt would be any higher. To illustrate, Figure 3 depicts the variation in *nodemoc* (which is basically the variation in Polity2 as if the wave of democratisation had never taken place) and the OLS regression line between *nodemoc* and government debt in South America. The OLS regression line does not suggest any positive relationship between lack of democracy and higher debt.
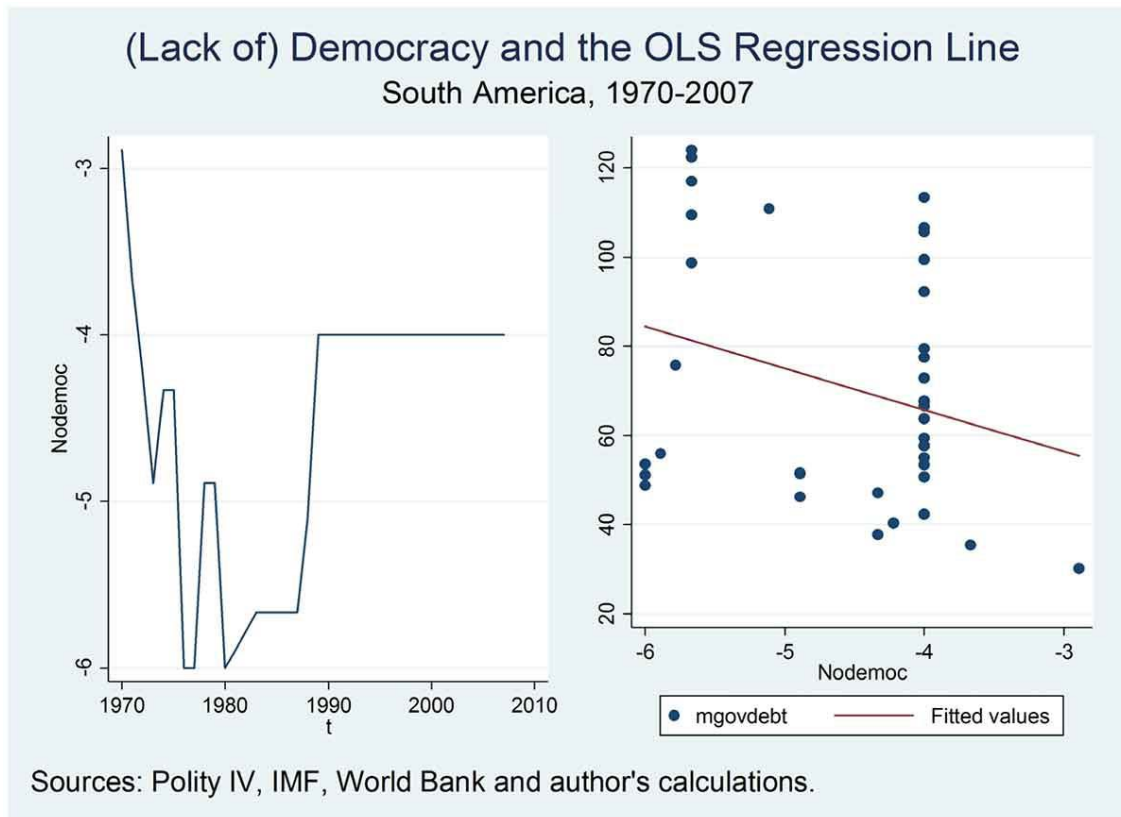

Figure 3. Lack of democracy and the OLS regression line.

In Table 6 I run horse-race regressions with *polity* and *nodemoc* together on the right side. The *polity* estimates are all positive and significant on government debt. The *nodemoc* estimates, however, are not clear-cut, sometimes they are negative, sometimes they are positive, and mostly not significant. If anything, the redemocratisation process taking place in South America in the 1980s is associated with higher government debt and, as it is, there is no evidence that had South America remained a less democratic region debt would be any higher. In other words, *polity* wins the horse-race against *nodemoc* in terms of debt creation in South America.

Lastly, in Table 7 I report the estimates of the variable that counts the number of years since democratisation (*mdemoc*). The *mdemoc* estimates are all positive and mostly statistically significant. In essence, the estimates do not suggest that as those young democracies grow older over time, government debt is becoming any smaller, or that governments become more responsible and efficient in terms of debt creation as time passes by. In addition, in the Online Supplementary material, Table A2, I report regressions with *mdemoc* and its

Table 6. Horse-race regressions between polity and Nodemoc.

Variables	(1)	(2)	(3)	(4)
	FE	FE	FE-IV	MG
L.polity	2.285***	0.705***	0.647*	2.506*
	(0.360)	(0.103)	(0.330)	(1.397)
L.nodemoc	−2.081**	−0.224	0.218	2.969
	(0.667)	(0.358)	(0.770)	(5.072)
gdp	−0.0148***	−0.00507***	−0.00510***	−0.00968**
	(0.00189)	(0.000452)	(0.00146)	(0.00440)
Growth	0.338	−1.237***	−1.257***	−0.134
	(0.422)	(0.263)	(0.284)	(0.376)
Inflation	0.00101	−0.00472***	−0.00488	−0.00232
	(0.00511)	(0.00132)	(0.00436)	(0.0963)
m2	0.620	0.531***	0.522***	0.840
	(0.687)	(0.0960)	(0.156)	(0.586)
Open	−0.133	−0.182**	−0.185	−1.026
	(0.219)	(0.0625)	(0.134)	(0.813)
Inequality	0.911	0.303	0.411	−0.122
	(1.171)	(0.427)	(0.392)	(0.992)
L.govdebt		0.789***	0.795***	0.483**
		(0.0356)	(0.0409)	(0.222)
Observations	148	145	143	128
R^2	0.303	0.827		
Number of i	9	9	9	6
Country FE	YES	YES	YES	YES
Rob SE	YES	YES	YES	NA
IV			L.pol and L.nodemoc	

Note: Robust standard errors in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table 7. Number of years since democratisation.

Variables	(1)	(2)	(3)	(4)
	FE	FE	FE-IV	MG
L.mdemoc	1.490*	0.364	0.333	3.903*
	(0.754)	(0.294)	(0.279)	(2.264)
gdp	−0.0132***	−0.00422***	−0.00413***	−0.0184
	(0.00228)	(0.000821)	(0.00136)	(0.0172)
Growth	0.536	−1.191***	−1.217***	0.361
	(0.449)	(0.252)	(0.287)	(0.716)
Inflation	0.00967	−0.00198	−0.00204	1.313
	(0.00566)	(0.00110)	(0.00440)	(1.196)
m2	0.274	0.458**	0.468***	−0.123
	(0.770)	(0.156)	(0.168)	(0.866)
Open	−0.0309	−0.130*	−0.124	−1.982*
	(0.237)	(0.0585)	(0.131)	(1.112)
Inequality	1.085	0.250	0.270	0.0258
	(1.149)	(0.454)	(0.357)	(0.979)
L.govdebt		0.802***	0.807***	−0.306
		(0.0326)	(0.0404)	(0.605)
Observations	148	145	143	138
R^2	0.260	0.820		
Number of i	9	9	9	7
Country FE	YES	YES	YES	YES
Rob SE	YES	YES	YES	NA
IV			L. mdemoc	

Note: Robust standard errors in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

squared term *mdemoc2* on the right side. The estimates, once again, do not suggest any process of democratic maturing taking place in South America in terms of lower debt.[7]

Discussion and extensions

In a nutshell, on one hand I present evidence suggesting that the young democracies of South America present higher government debt (Brender and Drazen 2005) which is, according to the growth and public choice literatures, a worrying sign in itself. The higher government debt might be, as well put by Brender and Drazen (2007), because of the many challenges that young democracies face from the outset (crumbling, or non-existent, infrastructure, high inequality and demand for redistribution, and ideological opposition to democracy by particular groups in its early stages) and consequently the need to buy out the electorate so that democracy becomes "the only game in town".

On the other hand, as interesting as it is, I am not able to present evidence in favour of the Persson and Svensson (1989), and Alesina and Tabellini (1990) prediction that those young democracies would inherit from the outgoing dictator, or junta of the day, high levels of government debt which would have to be repaid by the new democratic coalitions coming into power. A possible explanation for this no effect is that the outgoing *juntas* understood the nature of repeated political games and decided not to bequeath high debt to a new coalition that they would have to be part of, or to serve, in the very near future. In short, by bequeathing debt those *juntas* would be shooting their own feet. Needless to say that this is not an apology to those unelected regimes, but simply the results coming from the analysis conducted here and a reality check on those young South American democracies which displayed high debt, and negative economic growth rates, after redemocratisation in the 1980s.

Furthermore, there is no evidence at this stage suggesting that democracy in South America, or governments and the electorate, mature over time. All the same, perhaps those democracies, which are already in their thirties, are still young at heart. And as a simple counterfactual, Figure 4 depicts *polity*, *govdebt* and the OLS regression line between both variables in Colombia and Venezuela. Why Colombia and Venezuela? Because both countries have been stable democracies since 1957 and 1958 respectively. Interestingly enough, the OLS regression line does not suggest any positive correlation between *polity* and *govdebt* in those more mature democracies.
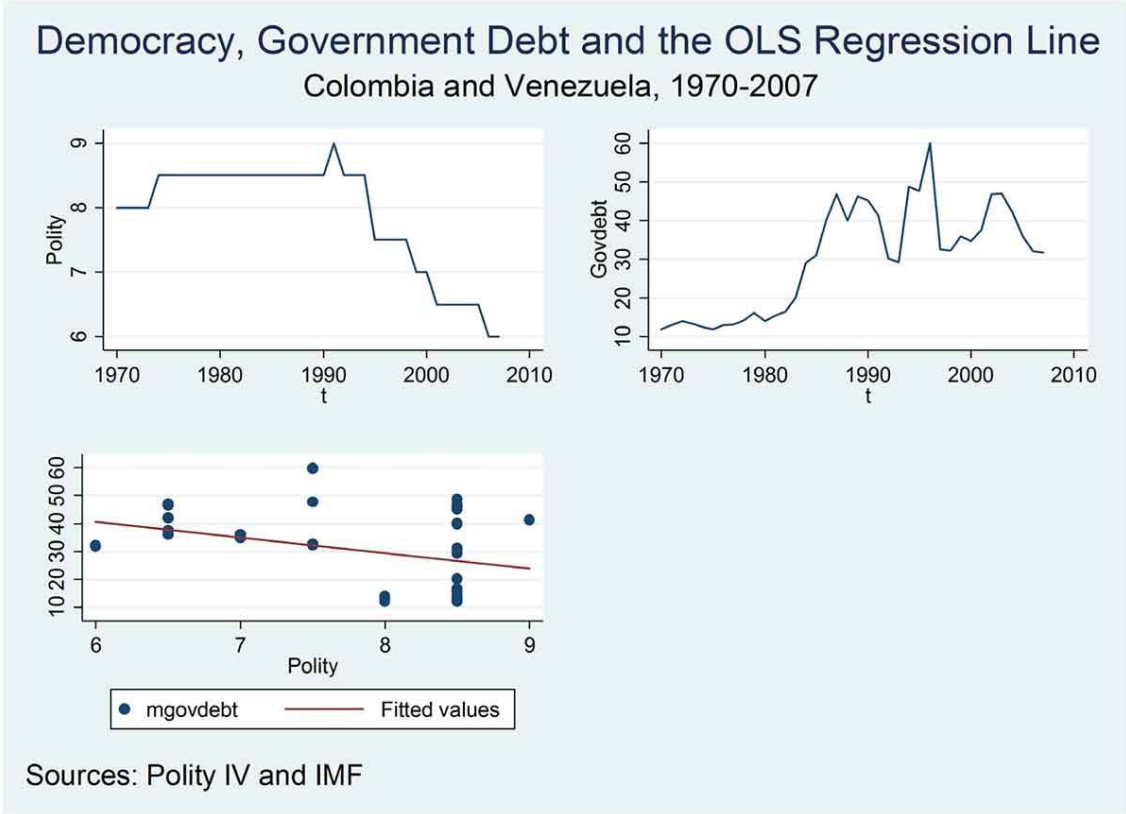
Figure 4. Democracy. Government debt and the OLS regression line.

Moreover, the estimates for South America contrast with what has happened in Russia since democratisation (Akhmedov and Zhuravskaya 2004). Some thoughts about these differences: South American countries, at the point of redemocratisation, were probably less developed and with less public infrastructure than Russia and therefore had to spend more on all sorts of long-run projects; South American countries (with the exception of Chile) did not have independent central banks, but perhaps Russia already had such institutional framework in place[8] ; another possibility is the role of inequality in South America (although I do not find any evidence for the role of inequality on debt) and in more equalitarian Russia on government debt. All in all, those developmental and institutional differences might be playing a role on the results.

Some words about the confounders: on one hand there is some evidence suggesting that economic growth reduces government debt, which is suggestive, particularly in times of the debt crisis being experienced by some European countries (some of them young democracies themselves), of the importance of economic activity in at least keeping government debt under control (Hall and Sargent 2011; Easterly 2011; Bittencourt 2015). On the other hand, the *gdp* estimates are mostly negative and significant, which is not in accordance to Wagner's law. These negative income estimates are perhaps suggesting that most South American countries only started building up their welfare systems and providing Wagnerian public goods (such as health and education) towards the end of the 1990s and the data are still not picking that up.

About inflation: perhaps because some of those countries engaged in interest rate controls, which would artificially reduce the effect of higher nominal interest rates on debt, while others had completely indexed economies during their episodes of hyperinflation, inflation's expected positive effects on debt (Barro 1979) are not clear cut. About the role of finance on government debt: there is some evidence that easier access to finance, the liquid liabilities in this case, can facilitate accumulation of government debt in the region, evidence which is in line with Woo (2003). Needless to say that finance from private banks (and all strings that come attached to such finance) is better than simply issuing government bonds or printing money.

Trade openness does not present clear-cut results either. Although the process of trade opening in the region has been (slowly) taking place since the 1990s, it is plausible that the data are still not picking this structural change up. Moreover, as mentioned before, the welfare system in the region is fairly new which might be the reason for not finding evidence for the Rodrik (1998) hypothesis of increased social protection against external risk when economies open up. Lastly, an old determinant of redistribution, or larger government debt, inequality, does not play, as suggested by Woo (2003), its expected role in the region (it must be said though that inequality data are scant, with some countries, Guyana, not presenting consistent series). More concretely, the non-result of inequality is perhaps because, although South America is known for being relatively unequal, not all those countries are actually that unequal (Argentina, Chile and Uruguay, to mention a few, do not present high Gini coefficients of their own, and Brazil has presented decreasing inequality recently, Bittencourt 2011). Alternatively, some would argue that new democratic coalitions coming into power, even when from the left, try to disguise themselves and avoid engaging in leftist redistribution (Acemoglu, Egorov, and Sonin 2013) which might be another mitigating factor of the effect of inequality on government debt.

Given the nature of most of my main results, future research can be extended to further disaggregations and comparisons. For instance, on one hand the Brazilian case is quite illustrative because it has redemocratised in the 1980s and then suffered bursts of macroeconomic instability for ten years or so. On the other hand, South Africa which is a young democracy being governed by a broad political coalition has so far not displayed any sign of ballooning debt nor macroeconomic instability (Schaechter, Kinda, Budina, and Weber, 2012). An interesting research avenue would be to conduct a more systematic comparison between different institutional set ups in place in different developing countries at the point of democratisation and their effect on particular outcomes. Still along those lines: what were the developmental and institutional differences between South America and Russia after democratisation that contributed to the maturing process happening in Russia, but not in South America? All the same, these sorts of comparisons can only enrich the literature with different hypothesis being tested (depending on developmental and institutional differences). Another interesting avenue would be a disaggregation of the data, or what are those young democracies actually spending on (something à la Barro's 1990 productive and non-productive government spending), however I suspect that the data series are not going to be as consistent as the ones provided by the IMF's HPDD.

Perhaps the lessons from above are that each democratisation wave (or episode) has its own characteristics and also that ideally young democracies inherit, or implement right

away, an institutional framework which includes particular economic institutions such as central bank independence and fiscal responsibility laws, institutions and policies that help to constraint and improve the executive, and which were absent in Brazil in 1985 but already present in South Africa in 1995 (and in Russia too in the 1990s), so that "lost decades" can be minimised.

Lastly, as Hayek (1960) pointed out: "As is true for liberty, the benefits of democracy will show themselves only in the long run, while its more immediate achievements may well be inferior to those of other forms of government", meaning that democratic maturity might bring other benefits to the region. For instance, Papaioannou and Siourounis (2008) and Acemoglu et al. (forthcoming) report positive effects of democracy on long-run growth. And although I am not able to provide evidence of a process of maturing (in terms of lower debt ratios) taking place, perhaps the recent macroeconomic performance of South America, with positive growth rates since the 1990s, is encouraging news for the long-run "benefits" of democracy.

Disclosure statement

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Notes

[1]. Although, according to Polity IV, Peru experienced a drop in the Polity2 variable between 1993 and 1999 (the Fujimori period), that is, from 7 to 1, the drop was never as deep as the −7 that Peru had between 1968 and 1977.

[2]. For instance, in Argentina, after the defeat in the Falklands war in 1982, President Bignone announced that general elections would take place in 1983; in Brazil, President Figueiredo announced at the beginning of his term a return to democracy and in Chile the return to democracy was also decided in advance, in a plebiscite.

[3]. For instance, the Cukierman index for central bank independence in my sample saw an increase from 0.35 in the 1980–1989 period to 0.73 in 2003 (Crowe and Meade 2007). In addition, by 2006 most countries in the sample had adopted fiscal rules (Schaechter, Kinda, Budina, and Weber 2012).

[4]. Accounting for the whole democratic period or just for the years before elections should not be wholly different because elections happen almost every year in South America (either mayoral or gubernatorial or presidential).

[5]. For the sake of clarity, Argentina had a mild drop from 8 to 7 in the Polity2 variable between 1989 and 1998 (the Menén period).

6. An alternative to the Polity IV is the Freedom House database. However, according to the Freedom House, for instance, Brazil between 1972 and 1985, is classified as "partly free", which some will argue is debatable (Treisman 2011).

7. Moreover, I report all the first-stage regressions in the Online Supplementary material, Table A1. All instruments have the expected positive signs and are statistically significant. Lastly, in Table A3 I report FE regressions with an IMF dummy on the right side. The positive effect of democracy on government debt is robust.

8. When comparing the Russian central bank with the South American ones, in 1998 the Russian central bank was already more (economically) transparent than the South American ones, Crowe and Meade (2007).

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