



Young Democracies and Government Size: Evidence from South America

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Abstract

We investigate in this paper the hypothesis that when democracies are young, or still fragile and unconsolidated, the size of government tends to increase, predictably in an attempt of redistribution, or to buy out the electorate, so that democracy becomes acceptable and "the only game in town". For that we use a sample of all nine South American young democracies during the period between 1970 and 2007. The results, based on dynamic panel data analysis, suggest that the young democracies of South America have been indeed associated with bigger governments. Furthermore, we test for the hypothesis that the outgoing dictatorships of the day engaged in activities which would bequest the young democracies with big bills to be repaid at the initial stages of those new democratic regimes. This hypothesis is not confirmed by the analysis conducted here. Finally, there is evidence that, as those democracies mature over the long run, the size of governments tends to decrease, or to return to a sort of long-run steady state. All in all, in times of a new wave of democratisation being experienced by some countries, the evidence presented here is rather informative of what to expect in terms of government size during political transitions.

Keywords: Democracy, government, South America.

JEL Classification: H11, N16, O11, O54.

I. Introduction and Summary

South America, at least in its recent history, has been known for political transitions from dictatorships to more democratic presidential regimes, macroeconomic instability (in terms of high rates of inflation and debt crisis), delayed stabilisation processes in the spirit of Alesina and Drazen (1991) (in some cases macroeconomic stabilisation took roughly nine years to be achieved), and no come back to less democratic regimes (so far the latest democratisation wave has not reversed, as in the past). The region has also been known for a certain, relatively above the average, degree of economic inequality.

Against this background, we test the hypothesis that governments in young democracies tend to generate higher debt, increase their shares to GDP and consume more at the initial stages of these political transitions. This might be because these 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 and consumption incurred by the last non-democratic regime, bills which would be inherited and paid by those young democratic regimes.

In addition, the reason for this increase in government size might be the relative high economic inequality prevalent in some countries in the region and the need for some sort of redistribution (in the spirit of Meltzer and Richard (1991)). In this vein, some would argue that since those outgoing dictatorships presented a right-wing flavour, the first democratic coalitions coming into power would be of a more left-wing nature and would, in the name of redistribution, run higher deficits (Pickering and Rockey (2011))¹.

Alternatively, it can also be that democracy in its infancy faces severe ideological opposition, and therefore these new regimes try to buy out the electorate, for instance via provision of public goods, so that democracy becomes ideologically acceptable and literally "the only game in town" (Brender and Drazen (2007)). This redistribution exercise would also have the effect of increasing government size via higher government debt. All the same, democratic transitions are costly, one way or another, which would justify enlarged governments in young democracies².

Moreover, since those political transitions were announced in advance, we investigate whether during the last years of those dictatorships the incumbent engaged in activities (*e.g.*, higher debt and widespread consumption) which would leave those new democratic regimes with a considerable

amount of debt to be repaid and high consumption to be curtailed in the very initial stages of those new regimes. That would explain the need for high debt, and consequently bigger government size, when democracies are still young (Alesina and Tabellini (1990)).

Furthermore, we check the hypothesis that democracies, even relatively young ones, mature over time, or that the electorate learn the nuts and bolts of the democratic game so that governments start being more responsible, and perhaps efficient, at least in terms of debt generation, share to GDP, consumption and overall size, as time passes by. Alternatively, this reduction in government size might be because of particular institutional changes taking place in the 1990s, such as IMF programmes and the Washington Consensus, which some of those countries adopted at some point in time. In all these cases government size would experience a reduction in components which influence its overall size.

To conduct the analysis we use data from all nine South American countries which re-democratised at some point in the 1970s, 1980s and 1990s, and given data availability, we cover the period between 1970 and 2007. For the empirical analysis we make use of principal component and dynamic panel data analyses. More specifically, we use the Fixed Effects, Fixed Effects with Instrumental Variables and SYSTEM Generalised Method of Moments, estimators which deal with different issues in the data. Therefore, this sample of South American young democracies allows us to test different predictions, and we are able to provide some interesting evidence to specifically understand the recent history of the continent (without incurring in unwarranted generalisations), instead of treating the region either as an outlier to be removed from the sample, or as a dummy variable³.

In terms of results, firstly we find some suggestive evidence that governments indeed increase in size during the whole democratic period. Secondly, we do not find evidence that the outgoing dictatorships of the day engaged in, for instance, some sort of higher debt, higher share to GDP and high consumption indulgences, or activities which would leave the new democratic coalitions coming into power with significant constraints in their initial stages. Thirdly, we are able to provide evidence that those democracies indeed mature over time, or that government size starts coming down as time after democratisation passes by, or alternatively speaking, they do not "stay forever young".

The subject of the determinants of government size has attracted the attention of the profession for some time. For instance, Rogoff and Sibert (1988), and Rogoff (1990) theoretically suggest that

information is asymmetric, at least in the short run, and that governments doing a relatively good job will try to signal to the electorate, via higher spending or lower taxes, their achievements. Following that lead, Gonzalez (2002) studies the case of Mexico, a sort of mature democracy, at least in Latin American terms, and empirically finds out that even under a one-party democracy, which is the Mexican case, the government increases spending during more democratic periods within an already democratic regime. This increase in spending is to avoid opposition within the governing coalition or even to signal to the electorate particular good deeds.

In addition, Woo (2003) formally introduces the role of inequality in the analysis, which some would argue to be an important factor in South America. He makes use of panel data and finds that inequality, and also finance, are related to bigger public deficits (via redistribution and easier access to finance). Furthermore, Akhmedov and Zhuravskaya (2004) investigate the case of a young democracy, Russia, to find out that fiscal cycles (in terms of changes in public spending) diminish with democracy, or as they put it, 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. Extending on the above, Brender and Drazen (2005) suggest that in a large cross-section of countries fiscal cycles and manipulation (in terms of increasing deficits in electoral years) are driven by young democracies, since voters tend to be fiscal conservatives in more mature democracies.

Moreover, Woo (2005 and 2008) extend on his previous analysis to suggest that polarisation within the coalition in power might generate a fight for the common resources pool, which leads to higher deficits and consequently output collapse. In addition, Shi and Svensson (2006) also make use of panel data and they suggest that in election years the deficit increases, particularly in developing countries in which corruption tends to be more prevalent. On similar vein, Brender and Drazen (2007) extend on the idea of young democracies being vulnerable and not entirely supported by the electorate, and indicate that higher spending during the first years of democratisation is a temporary solution to buy out the electorate so that democracy becomes "the only game in town".

Lastly, Alesina, Tabellini and Campante (2008), also using panel data, suggest that fiscal pro-cyclicality (in terms of increasing government spending during booms) in developing countries takes place because the electorate attempts to "starve the Leviathan", or to make sure to extract, during booms, from the government all resources possible, before the coalition in power wastes those resources in more frivolous activities.

In essence, the literature suggests that governments, not only in developing countries as well suggested by Rogoff (1990), tend to increase in size either before elections (for all sorts of signalling reasons), or because, particularly in developing countries with young democracies, the new regime faces a myriad of challenges (inequality, corruption, ideological unacceptance), so the need to buy out the electorate during the initial stages of democracy. Furthermore, the literature suggests that young democracies do not "stay forever young", they mature, and with maturity governments tend to become either more efficient in their spending, or more conservative and responsible in what they spend, or alternatively speaking, particular policies and institutions, like fiscal responsibility laws in conjunction with central bank independence, are introduced and they tend to constrain and discipline the *fiscus*.

All in all, a better understanding of what determines the size of governments is important, firstly because the growth literature suggests that big governments tend to be detrimental to economic activity (Barro (1991)) or because higher government spending tends to reduce life satisfaction (Bjørnskov, Dreher and Fischer (2007)). Secondly, given that we are experiencing not only a renewed wave of populism in some parts of South America (which brings to mind the episodes of populism, enlarged governments and the 'lost decade' of the 1980s), but also a new wave of democratisation (the Arab Spring), the South American past experience is certainly informative to those new regimes in power in the region, or coming into power in other regions of the world of what to expect in terms of causes and consequences of enlarged governments.

Finally, as Hayek (1960) pointed some time ago: "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 the long run maturity might bring other benefits to the continent (*e.g.*, Papaioannou and Siourounis (2008) report positive effects of democracy on growth). The remainder of this paper is as follows: in the next sections we describe the data set, the empirical methodology used, and then we present and discuss, in light of the previous literature, the main results obtained. We then conclude and offer some future research avenues that can be pursued from here.

II. Empirical Analysis

A. A Look at the Data

The data set covers the period between 1970 and 2007, and all nine South American countries which transitioned from political dictatorship to full democracy at some point in the late 1970s (Ecuador), 1980s (Argentina, Bolivia, Brazil, Chile, Peru and Uruguay), and early 1990s (Guyana and Paraguay).

The variables used to measure the size of government are the share of general public debt to GDP (from the Historical Public Debt Database, provided by the IMF and compiled by Abbas, S. Ali; Belhocine, Nazim; ElGanainy, Asmaa and Horton, Mark (2010)), the share of external debt to GDP (from the World Development Indicators provided by the World Bank), which captures public guaranteed and private nonguaranteed debt, the share of government to GDP (from the Penn World Table) and government consumption per capita (from the International Financial Statistics which is also provided by the IMF). It is worth mentioning that we include the share of external debt to GDP because of the importance of the external debt, debt rescheduling and default crisis in Latin America, particularly in the 1980s, which roughly coincide with the beginning of those processes of political transitions⁴.

With that information we can make use of principal component analysis to extract from these standardised data matrices the unobserved common factors of these four, and rather popular in the literature, variables for government size. We therefore end up with different proxies for government size—*GOV1* which incorporates the common factors between public debt and external debt, which is our proxy for debt (*e.g.*, Chihi and Normandin (2012) suggest that both debt variables are highly connected to each other); *GOV2* with the common factors amongst public and external debt, and the share of government to GDP, which is a more general proxy for government size; and *GOV3* with public and external debt, government share to GDP and also government consumption. This principal component analysis contributes to reduce model uncertainty and these proxies bring more explanatory power to the analysis. In these cases, the first principal component—which roughly corresponds to the mean of the series—accounts for 85% (*GOV1*), 57% (*GOV2*) and 43% (*GOV3*) of the variation in these variables respectively. The above is important because in this case we are able to reduce the dimensionality of a set of prospective variables, and we end up with different

proxies that contain most of the information coming from different candidates for government size.

We then construct different sets of dummy variables to account for the role of political regime characteristics on government size. The first one (*DEMOC*) accounts for the whole democratic period (a positive estimate suggests that the size of government increases under more democratic regimes). The second one is for the last four years of dictatorship (*LDICTAT*), in which a negative and significant estimate indicates that the last dictator, or *junta*, did not engage in generating a bigger government (*e.g.*, via higher debt and widespread consumption), which would leave the new democratic regime with significant bills and financial constraints in its initial stages. Lastly, we have a variable which counts the number of years after democratisation (*MDEMOC*). In this case, a negative and significant estimate indicates that the size of government decreases with time, or alternatively that democracy, or the electorate, mature over time, or to put it another way, that governments become more responsible and efficient, or constrained, with a more mature electorate and better checks and balances in place.

The explanatory variables used are relatively standard in the literature and they are as follows: a measure for trade openness relative to GDP (*OPEN*), which is provided by the Penn World Table, and it is expected that more open economies tend to display smaller governments (via higher exports taxes and imports tariffs). Moreover, we use the share of the liquid liabilities to GDP (*M2*), which come from the World Development Indicators and are provided by the World Bank, and in this case we expect that in economies with better developed financial sectors governments can acquire finance more easily and therefore increase in size via higher consumption and debt.

The controls GDP and GDP growth (*GDP* and *GROWTH* respectively), also come from the Penn World Table. In those cases, it is expected that in economies with low GDPs the size of government tends to be rather enlarged (economic backwardness)⁵, and economies growing relatively fast during booms can reduce their share of debt to GDP (which in this case can contribute to smaller government size). The inflation rates (*INFLAT*), with the usual log transformation [$\log(1 + INFLAT/100)$], come from the World Development Indicators. In this case it is expected that higher inflation, via higher nominal interest rates, leads to higher, or even ballooning, debt, or bigger governments in general. Alternatively, high inflation (assuming that indexation is not perfect), can generate lower government revenues, which also leads to higher debt.

In addition, constraints on the executive (*XCONST*) come from the Polity IV data set, the

urbanisation series (*URBAN*) are from the World Development Indicators, and the Gini coefficients for income inequality (*INEQ*) from the UNU-WIDER data base. What is expected from these variables is that more constrained executives tend to be more restrained in what they consume and in how they generate debt, rapid urbanisation in developing countries leads to higher spending in infrastructure, and higher inequality leads to some sort of redistribution (either via higher progressive taxation or provision of particular public goods), which might lead to a bigger government size overall⁶.

To briefly illustrate the behaviour of the variables used to construct the proxies for government size over time, in Figure One we plot the normalised series of government debt to GDP (*GOVDEBT*), external debt to GDP (*EXTDEBT*), government share to GDP (*MGOV*) and government consumption (*GOVCON*) against time. This initial eyeball evidence suggests that these country averages increased considerably during the late 1970s and early 1980s, which roughly coincides with the implementation of more democratic regimes in the region (alternatively, it can also coincide with the end of those political dictatorships). On the other hand, most series present a reasonably consistent reduction in size from the 1990s onwards, which suggest that some time after democratisation the size of those governments decreased (or returned to a sort of long-run steady state).



Figure 1: Government Debt to GDP ($GOVDEBT$), External Debt to GDP ($EXTDEBT$), Government Share to GDP (GOV) and government consumption ($GOVCON$), South America, 1970-2007. Source: IMF, World Bank and Penn World Table.

Moreover, we provide the correlation matrix in Table One, and the statistical correlations amongst our proxies for government size are all positive and statistically significant at the 5% level. These positive correlations are expected, since these variables have, according to the principal component analysis, so much in common.

The correlations amongst the proxies for government size and the dummy for the whole democratic period ($DEMOC$) are mostly positive and statistically significant. The only exception is the correlation between $DEMOC$ and $GOV3$ (the proxy which includes the role of government consumption), which is negative, but not statistically significant. This negative correlation is probably because data on government consumption starts only in 1980 from an already high point, and it displays a negative trend over time (see fourth panel in Figure One above). The correlations amongst the proxies for government and the dummy for the last four years of those dictatorships

(*LDICTAT*) are positive, however much smaller in size and not statistically significant. Lastly, the correlation amongst government size and the variable which counts the number of years after democratisation (*MDEMOC*) are mostly positive and statistically significant at the 5% level. The exception again is the correlation between *MDEMOC* and *GOV3* which is negative and significant. This is probably because *GOV3* includes the role of government consumption, and its high initial data point and its negative trend since 1980 might be distorting these correlations.

Basically, these preliminary correlations (without implying any causation at this stage) suggest that the size of government increases during the democratic period. Moreover, there are no meaningful correlations indicating any predatory behaviour by the last dictator or *junta* towards the new regimes coming into power in terms of bequeathing the new democratic coalitions with high debt, nor any solid indication that democracies mature over time in terms of reducing government size.

Table 1: The Correlation Matrix: South America, 1970-2007.

	GOV1	GOV2	GOV3	DEMOC	LDICTAT	MDEMOC
GOV1	1					
GOV2	0.999*	1				
GOV3	0.963*	0.959*	1			
DEMOC	0.302*	0.308*	-0.011	1		
LDICTAT	0.018	0.014	0.086	-0.417*	1	
MDEMOC	0.181*	0.190*	-0.188*	0.725*	-0.315*	1

Sources: IMF, World Bank, Penn World Table and Polity IV. * represents significance at the 5% level.

In addition, we provide the OLS regression lines amongst government size and all the political regime variables. What can be seen from this visual evidence is that, in the first column, there are mostly positive relationships between government size and young democracies; a rather weak positive relationship between government and the last four years of dictatorship in the second column; and a mostly positive relationship between government and the number of years after democratisation in the third column. All in all, these OLS regression lines are in accordance with the statistical correlations presented above.

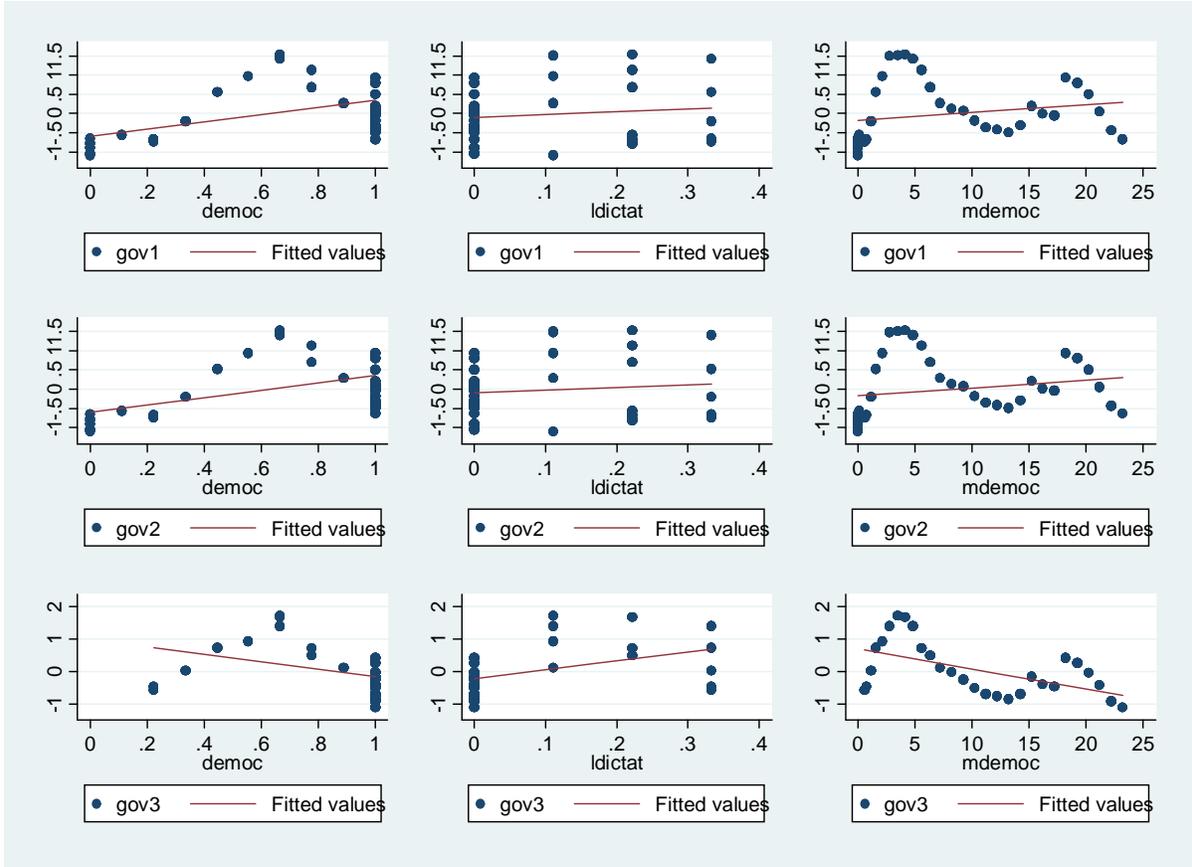


Figure 2: OLS Regression Lines, Government Size and Political Regime Characteristics, South America, 1970-2007. Sources: IMF, World Bank, Penn World Table and Polity IV.

In essence, the above preliminary evidence, with all its caveats, suggests that in one way or another the size of those governments increased during the democratic period. Moreover, the descriptive evidence weakly suggests that the last dictator did not engage in big government activities which would bequest the new democratic regimes with big bills to be repaid early in the transitional period. Furthermore, the initial evidence does not indicate that the size of those governments have been decreasing over time, or that those governments are returning to a long-run steady state in terms of size.

Finally, one would argue that the negative and significant statistical correlation, and the downward-sloping OLS regression line between *MDEMOC* and *GOV3* is an indication of a process of maturing taking place in the region. However, this initial look at the data also highlights the fact that, because of the initial data point (1980) of government consumption, and its negative trend

over time (which does not take into consideration its increase in the 1970s), and which is part of the proxy *GOV3*, we have to be careful when interpreting the findings when the latter variable is used in the analysis.

B. Empirical Strategy

In terms of empirical strategy, since we have a panel of nine South American countries ($N = 9$) covering the period between 1970 and 2007 ($T = 38$), we follow the previous literature and make use of dynamic panel data analysis. It is worth mentioning that given that most variables are either dummies, or ratios (*e.g.*, the debt, openness and finance variables), or bounded within closed intervals (*e.g.*, constraints on the executive and inequality), the issue of cointegration in panels is not pursued here⁷.

Firstly, we use the Fixed Effects (FE) estimator (with 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 it makes use only of the within ($\bar{y}_i - \bar{y}$) variation in the data, which purges the correlation between the unobserved heterogeneity and the regressors. Essentially, the FE estimator under $T \rightarrow \infty$, not only minimises the Nickell bias present in short T dynamic panels and reduces statistical endogeneity, but also gives consistent estimates of the expected values (Smith and Fuertes (2008)).

Secondly, although we attempt to use—given data availability—the most common explanatory variables in the literature, one would argue that omitted variables, measurement error, and even some sort of economic endogeneity might be present. Therefore, we make use of instrumental variables estimation, in this case the Fixed Effects with Instrumental Variables (FE-IV) estimator, with robust standard errors—and with the assumption $E(x_{it-1}vit) = 0$ in mind—we use the first lags of *INFLAT* and *GROWTH* as the identifying instruments for contemporaneous inflation and growth (some would argue that higher debt and government consumption are behind higher inflation (Fischer (2005)), and the growth literature suggests that big governments are detrimental to GDP growth). The estimates provided by the FE-IV estimator are asymptotically consistent and efficient as $T \rightarrow \infty$ as long as there is no correlation between the instrument set and the residual, and it retains the time series consistency even if the instrument set is only predetermined (Arellano (2003)).

In addition, controlling for the number of instruments—and for what we instrument—to avoid overfitting (Judson and Owen (1999), Bond (2002) and Roodman (2009)), we carefully make use of the "restricted" Generalised Method of Moments (GMM) that also takes into account the fact that persistent series might lead to weak instruments (and to a non-negligible small sample bias). Basically, we instrument for the lagged dependent variable with levels dated $t - 2$ and earlier, a standard assumption, and again for *INFLAT* and *GROWTH*. We therefore, collapsing the lag range, make use of the GMM estimator, with robust standard errors and the small-sample correction provided by Windmeijer (2005) to avoid "too good to be true" standard errors, that combines the usual moment conditions for the first-difference GMM model (y_{it-2}, \dots, y_{i1}), with those extra conditions for the model in levels (Δy_{it-1}), SYSTEM (SYS), or the SYS-GMM estimator proposed by Arellano and Bover (1995), and Blundell and Bond (1998).

All in all, the above-mentioned dynamic panel estimators take into account not only the fact that those countries in the sample share particular characteristics (all of them went through political transitions), but also the fact 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 rule for longer than others). Moreover, some of these estimators take into consideration the possibility of omitted variables and measurement error biases, and endogeneity issues, which, given the nature of our sample, is always an advantage for our purposes here. The estimated differenced SYS-GMM dynamic equation is as follows,

$$\begin{aligned} \Delta GOV3_{it} = & \alpha \Delta DEMOC_{it} + \beta \Delta OPEN_{it} + \gamma \Delta M2_{it} + \delta \Delta GDP_{it} \\ & + \epsilon \Delta GROWTH_{it} + \varepsilon \Delta INFLAT_{it} + \zeta \Delta XCONST_{it} \\ & + \eta \Delta URBAN_{it} + \theta \Delta INEQ_{it} + \vartheta \Delta GOV3_{it-1} + \Delta v_{it}, \end{aligned}$$

where *GOV3* is the proxy for government size which comprises the unobserved common factors amongst government debt to GDP, external debt to GDP, government share to GDP and government consumption, *DEMOC* is the first set of dummies which accounts for the whole democratic period, *OPEN* is a measure for trade openness, *M2* are the liquid liabilities over GDP, *GDP* is the real GDP and *GROWTH* are the GDP growth rates, *INFLAT* are the inflation rates, *XCONST* accounts for constraints on the executive, *URBAN* is the share of urban population, and *INEQ*

are the Gini coefficients for income inequality.

C. Results and Discussion

In Table Two we report the dynamic estimates of the dummy covering the whole democratic period, *DEMOC*, against all three proxies for government size using the FE, FE-IV and SYS-GMM estimators. Firstly, *DEMOC* is positive and statistically significant against all proxies for government size. Essentially, these estimates indicate that the democratic period has been marked by larger public and external debt, and larger government shares to GDP. Also interesting to mention at this stage, the proxy *GOV3*, which incorporates the role of (an ever decreasing) government consumption per capita over time, is affected positively by *DEMOC* too. These estimates reinforce the results in the sense that the negative trend in government consumption over time was not enough to offset the increase in government debt and share to GDP, particularly in the 1980s⁸.

The variables *OPEN* and *M2* present mostly the expected signs (negative and positive respectively), however the estimates are not always statistically significant. More importantly, the *GROWTH* estimates significantly suggest that fast growing economies have the ability to, among other things, reduce their public and external debt ratios (Barro (1979)); and inflation is not displaying the predicted effect of increasing government size via higher nominal interest rates which tend to increase public debt. About the other variables, *XCONST* presents, most of the time, the expected negative sign, however the estimates are far from being significant, and the *URBAN* estimates are not clear-cut. Inequality presents mostly the expected positive estimates, however they are not wholly statistically significant.

In addition, the *t* and *F* tests in the first-stage regressions suggest that the identifying instruments are different from zero, which minimises the possibility of weak instruments in the FE-IV analysis (available on request), and the Arellano and Bond *m2* test for second-order serial correlation, and the Sargan test for overidentification do not suggest that the SYS-GMM instrument set is in anyway invalid.

Table Two: Dynamic FE, FE-IV and SYS-GMM Estimates

DEP VAR	Dynamic Models								
	FE	FE-IV	SYS-GMM	FE	FE-IV	SYS-GMM	FE	FE-IV	SYS-GMM
	GOV1	GOV1	GOV1	GOV2	GOV2	GOV2	GOV3	GOV3	GOV3
DEMOC	.505 (3.17)	.770 (2.16)	.523 (2.01)	.506 (3.20)	.771 (2.16)	.526 (2.02)	.642 (3.18)	1.18 (1.91)	.753 (2.10)
OPEN	-.395 (-1.76)	-.647 (-1.33)	.092 (2.11)	-.397 (-1.75)	-.645 (-1.32)	.094 (2.15)	-.613 (-1.19)	-1.41 (-1.58)	.103 (0.68)
M2	.277 (1.82)	.093 (0.38)	.057 (0.53)	.278 (1.78)	.094 (0.38)	.058 (0.52)	.186 (1.12)	-.186 (-0.41)	-.158 (-0.72)
GDP	-1.20 (-4.77)	-1.70 (-2.23)	.004 (0.02)	-1.19 (-4.67)	-1.69 (-2.22)	.004 (0.02)	-1.41 (-3.74)	-2.10 (-1.71)	-.097 (-0.44)
GROWTH	-.068 (-6.34)	-.154 (-2.85)	-.067 (-5.99)	-.067 (-6.27)	-.154 (-2.84)	-.066 (-5.91)	-.075 (-3.59)	-.226 (-2.35)	-.078 (-3.79)
INFLAT	-.169 (-4.99)	-.523 (-1.90)	-.080 (-1.10)	-.169 (-4.91)	-.521 (-1.88)	-.081 (-1.12)	-.061 (-0.82)	-.860 (-1.60)	-.069 (-0.76)
XCONST	-.109 (-1.15)	.006 (0.04)	-.150 (-1.57)	-.109 (-1.14)	.007 (0.04)	-.151 (-1.56)	-.169 (-0.92)	.454 (0.91)	-.163 (-0.78)
URBAN	-.253 (-0.29)	-.792 (-0.38)	.674 (1.07)	-.261 (-0.30)	-.803 (-0.38)	.669 (1.06)	1.56 (1.10)	1.59 (0.43)	1.27 (1.71)
INEQ	.372 (0.40)	.436 (0.49)	.121 (0.34)	.398 (0.42)	.455 (0.51)	.118 (0.33)	-.341 (-0.36)	-.478 (-0.31)	.272 (0.41)
GOV _{t-1}	.853 (29.11)	.916 (13.05)	.922 (17.58)	.854 (28.86)	.918 (13.03)	.922 (17.81)	.846 (41.90)	1.05 (6.50)	.946 (12.62)
F test	13.78			13.70			31.63		
m2 (p)							0.21		
Sargan (p)	1.00			1.00			1.00		

Figure 3: T-ratios in parentheses. Number of observations: $NT = 342$. *GOV* are the proxies for government size, *DEMOC* is the dummy for the whole democratic period, *OPEN* is a measure for trade openness, *M2* are the liquid liabilities over GDP, *GDP* is the real GDP and *GROWTH* are the GDP growth rates, *INFLAT* are the inflation rates, *XCONST* the constraints on the executive, *URBAN* is the share of urban population, and *INEQ* are the Gini coefficients for income inequality. FE is the Fixed Effects, FE-IV is the Fixed Effects with Instrumental Variables and SYS-GMM is the System Generalised Method of Moments estimators.

In Table Three we conduct a simple exercise to account for the fact that perhaps the outgoing dictatorships engaged in activities that would leave the young democracies of South America with significant debt, and consequently high bills to be repaid and consumption to be curtailed. Therefore the need for higher debt administration in the initial stages of democracy. In fact, the estimates of *LDICTAT* (which accounts for the last four years of dictatorship) against the different proxies for government size present negative signs, and the FE-IV and SYS-GMM estimates are, in fact, statistically significant. These negative estimates suggest, one way or another, that the outgoing dictatorships did not indulge themselves in excessive spending or consumption before relinquishing power, or to put it mildly, that the last *junta* did not bequest the new democratic regimes with large bills to be repaid in the initial stages of democratisation.

The variables *OPEN* and *M2* present the expected negative and positive signs respectively, however the estimates are not entirely significant. In addition, fast growing economies are able

to significantly reduce their shares of public and external debt to GDP, and government size in general; and inflation presents negative estimates with some of them being statistically significant. All in all, yet again, we are unable to provide evidence that inflation displays the expected effect of increasing government size. The controls *URBAN* and *INEQ* present the expected positive signs, however the estimates are not significant.

Moreover, the t and F tests in the first-stage regressions suggest that the identifying instruments are different from zero in the FE-IV analysis, and the specification tests do not detect any sign of second-order serial correlation or overidentification in the SYS-GMM estimator.

Table Three: Dynamic FE, FE-IV and SYS-GMM Estimates

DEP VAR	Dynamic Models								
	FE	FE-IV	SYS-GMM	FE	FE-IV	SYS-GMM	FE	FE-IV	SYS-GMM
	GOV1	GOV1	GOV1	GOV2	GOV2	GOV2	GOV3	GOV3	GOV3
LDICTAT	-.258 (-1.57)	-.479 (-1.93)	-.427 (-2.03)	-.257 (-1.56)	-.471 (-1.91)	-.429 (-2.03)	-.427 (-2.10)	-.556 (-1.63)	-.494 (-2.24)
OPEN	-.253 (-1.08)	-.440 (-0.94)	.065 (1.20)	-.254 (-1.08)	-.431 (-0.92)	.066 (1.25)	-.555 (-1.17)	-1.21 (-1.46)	.037 (0.18)
M2	.233 (1.51)	.035 (0.14)	.041 (0.39)	.233 (1.48)	.034 (0.14)	.041 (0.39)	.181 (1.08)	-.234 (-0.50)	-.144 (-0.58)
GDP	-1.04 (-2.56)	-1.53 (-2.01)	.001 (0.01)	-1.03 (-2.53)	-1.46 (-1.93)	.001 (0.01)	-1.32 (-2.57)	-1.95 (-1.63)	-.125 (-0.47)
GROWTH	-.070 (-6.67)	-.163 (-2.82)	-.066 (-5.85)	-.069 (-6.58)	-.161 (-2.80)	-.066 (-5.78)	-.073 (-3.74)	-.220 (-2.35)	-.077 (-3.85)
INFLAT	-.140 (-4.69)	-.476 (-1.73)	-.046 (-0.68)	-.140 (-4.59)	-.478 (-1.74)	-.047 (-0.68)	-.051 (-0.80)	-.846 (-1.61)	-.050 (-0.64)
XCONST	.038 (0.55)	.228 (1.32)	-.060 (-0.53)	.038 (0.54)	.231 (1.35)	-.061 (-0.54)	.041 (0.21)	.860 (1.56)	.081 (0.48)
URBAN	.516 (0.56)	.348 (0.17)	.676 (1.01)	.512 (0.54)	.312 (0.15)	.670 (1.01)	1.81 (1.43)	2.31 (0.64)	1.31 (1.44)
INEQ	.429 (0.43)	.424 (0.47)	-.063 (-0.03)	.453 (0.45)	.514 (0.57)	-.016 (-0.04)	-.344 (-0.38)	-.449 (-0.30)	.160 (0.21)
GOV _{<i>t</i>-1}	.878 (17.77)	.962 (11.91)	.928 (20.28)	.879 (17.70)	.963 (11.98)	.929 (20.72)	.860 (24.27)	1.07 (6.61)	.948 (11.96)
F test	11.41			11.37			85.34		
m2 (p)							0.61		
Sargan (p)	1.00						1.00		

Figure 4: T-ratios in parentheses. Number of observations: $NT = 342$. *GOV* are the proxies for government size, *LDICTAT* is the dummy for the four last years of dictatorship, *OPEN* is a measure for trade openness, *M2* are the liquid liabilities over GDP, *GDP* is the real GDP and *GROWTH* are the GDP growth rates, *INFLAT* are the inflation rates, *XCONST* the constraints on the executive, *URBAN* is the share of urban population, and *INEQ* are the Gini coefficients for income inequality. FE is the Fixed Effects, FE-IV is the Fixed Effects with Instrumental Variables and SYS-GMM is the System Generalised Method of Moments estimators.

In Table Four we report the estimates of our variable that counts the number of years after democratisation (*MDEMOC*) against all proxies for government size. Basically, the *MDEMOC* estimates are all positive, although not entirely statistically significant. These estimates, with the usual caveats, indicate that as those young democracies evolve over time, their public and external

debt bills, and share to GDP are not really becoming any smaller. Also worth mentioning is that we are not able to report any evidence of maturing even with the proxy *GOV3* that takes into account the role of government consumption per capita (a variable that has been displaying a negative trend since its initial data point in 1980). In essence, these estimates are not telling us that a process of maturing, in the sense of displaying smaller governments, is taking place in those young South American democracies.

In addition, *GROWTH* is the variable which displays the predicted negative effect on government size with significant estimates. These estimates suggest that higher growth reduces the size of government, presumably via reduced government and external debt to GDP ratios. *INFLAT* presents negative estimates, however those estimates are not always significant. Most of the other variables present the expected signs, however those estimates are not entirely significant, therefore it is difficult to draw solid conclusions about their roles on government size.

About the validity of the instrument set, the t and F tests in the first-stage regressions suggest that the identifying instruments are different from zero in the FE-IV analysis, and the Arellano and Bond, and Sargan tests again do not detect any evidence of invalidity or proliferation of instruments within the SYS-GMM framework.

Table Four: Dynamic FE, FE-IV and SYS-GMM Estimates

DEP VAR	Dynamic Models								
	FE	FE-IV	SYS-GMM	FE	FE-IV	SYS-GMM	FE	FE-IV	SYS-GMM
	GOV1	GOV1	GOV1	GOV2	GOV2	GOV2	GOV3	GOV3	GOV3
MDEMOC	.018 (1.41)	.005 (0.24)	.042 (1.50)	.019 (1.40)	.005 (0.24)	.042 (1.50)	.051 (1.40)	.036 (0.88)	.050 (1.33)
OPEN	-.288 (-1.35)	-.355 (-0.80)	.261 (2.47)	-.290 (-1.34)	-.352 (-0.79)	.264 (2.50)	-.489 (-0.95)	-.997 (-1.32)	.205 (1.05)
M2	.221 (1.49)	-.014 (-0.06)	.079 (0.66)	.221 (1.46)	-.014 (-0.05)	.079 (0.64)	.092 (0.59)	-.294 (-0.67)	-.080 (-0.38)
GDP	-1.24 (-2.37)	-1.52 (-2.06)	.196 (0.77)	-1.23 (-2.33)	-1.51 (-2.05)	.196 (0.78)	-2.58 (-2.12)	-2.79 (-1.92)	.138 (0.40)
GROWTH	-.064 (-6.00)	-.148 (-2.58)	-.066 (-6.07)	-.064 (-5.91)	-.148 (-2.57)	-.065 (-5.96)	-.060 (-3.87)	-.194 (-2.12)	-.076 (-3.98)
INFLAT	-.105 (-2.93)	-.432 (-1.54)	-.003 (-0.06)	-.105 (-2.91)	-.430 (-1.52)	-.004 (-0.08)	.006 (0.08)	-.714 (-1.42)	-.011 (-0.17)
XCONST	.067 (0.95)	.258 (1.47)	-.040 (-0.39)	.068 (0.94)	.259 (1.47)	-.041 (-0.40)	.161 (0.68)	.878 (1.68)	.089 (0.68)
URBAN	-.893 (-0.53)	.176 (0.07)	.518 (0.82)	-.904 (-0.52)	.171 (0.06)	.513 (0.81)	-1.43 (-0.53)	.254 (0.06)	.962 (1.21)
INEQ	.558 (0.57)	.642 (0.74)	.536 (1.47)	.584 (0.59)	.662 (0.76)	.537 (1.48)	-.724 (-0.68)	-.697 (-0.48)	.631 (0.87)
GOV _{t-1}	.847 (17.91)	.918 (12.04)	.872 (16.81)	.847 (17.75)	.919 (12.00)	.872 (16.66)	.773 (12.15)	.978 (5.80)	.905 (13.43)
F test	13.78			12.56			3940.05		
m2 (p)									
Sargan (p)	0.75			0.73			0.58		
	1.00			1.00			1.00		

Figure 5: T-ratios in parentheses. Number of observations: $NT = 342$. *GOV* are the proxies for government size, *MDEMOC* is the dummy which counts the number of years after democratisation, *OPEN* is a measure for trade openness, *M2* are the liquid liabilities over GDP, *GDP* is the real GDP and *GROWTH* are the GDP growth rates, *INFLAT* are the inflation rates, *XCONST* the constraints on the executive, *URBAN* is the share of urban population, and *INEQ* are the Gini coefficients for income inequality. FE is the Fixed Effects, FE-IV is the Fixed Effects with Instrumental Variables and SYS-GMM is the System Generalised Method of Moments estimators.

In Table Five we account for nonlinearities by using the variable *MDEMOC* and *MDEMOC2*, which is the quadratic term of *MDEMOC*. Essentially, this time we are able to report positive and statistically significant estimates for *MDEMOC* and, more importantly, negative and significant estimates for *MDEMOC2*. These estimates suggest that there is an inverted-U shape relationship between years after democratisation and government size, or that those democratic regimes will, in fact, mature in the long-run.

Moreover, *GROWTH* keeps its significant role in reducing government size, and inflation, although not always significant, keeps its negative estimates. The other explanatory variables are less clear-cut. Last, but not the least, the t and F tests in the first-stage regressions suggest that the identifying instruments are different from zero in the FE-IV analysis, and the Arellano and Bond, and Sargan tests do not show evidence of proliferation of instruments within the SYS-GMM framework.

Table Five: Dynamic FE, FE-IV and SYS-GMM Estimates

DEP VAR	Dynamic Models								
	FE	FE-IV	SYS-GMM	FE	FE-IV	SYS-GMM	FE	FE-IV	SYS-GMM
	GOV1	GOV1	GOV1	GOV2	GOV2	GOV2	GOV3	GOV3	GOV3
MDEMOC	.069 (3.00)	.078 (1.69)	.129 (4.91)	.070 (3.02)	.079 (1.69)	.130 (5.01)	.123 (2.19)	.164 (2.21)	.171 (3.07)
MDEMOC2	-.002 (-1.87)	-.002 (-1.63)	-.003 (-5.18)	-.002 (-1.90)	-.003 (-1.64)	-.003 (-5.36)	-.002 (-1.91)	-.004 (-1.86)	-.004 (-3.49)
OPEN	-.436 (-1.76)	-.586 (-1.29)	.285 (4.53)	-.438 (-1.74)	-.585 (-1.28)	.288 (4.63)	-.593 (-0.90)	-1.11 (-1.59)	.300 (1.75)
M2	.298 (1.67)	.108 (0.43)	.143 (1.62)	.300 (1.65)	.109 (0.43)	.145 (1.62)	.245 (1.18)	.036 (0.10)	-.063 (-0.36)
GDP	-1.30 (-2.91)	-1.56 (-2.17)	.276 (1.27)	-1.29 (-2.87)	-1.56 (-2.17)	.275 (1.27)	-2.84 (-2.88)	-3.20 (-2.38)	.307 (1.08)
GROWTH	-.065 (-5.89)	-.141 (-2.61)	-.062 (-5.66)	-.064 (-5.81)	-.141 (-2.60)	-.061 (-5.57)	-.060 (-3.74)	-.171 (-2.25)	-.071 (-3.66)
INFLAT	-.113 (-3.31)	-.438 (-1.60)	-.020 (-0.58)	-.114 (-3.34)	-.436 (-1.59)	-.020 (-0.59)	-.005 (-0.06)	-.637 (-1.46)	-.079 (-0.92)
XCONST	.016 (0.22)	.171 (1.05)	-.084 (-0.95)	.016 (0.22)	.171 (1.05)	-.086 (-0.97)	.117 (0.57)	.681 (1.61)	.059 (0.54)
URBAN	-1.55 (-1.31)	-.793 (-0.31)	.439 (0.90)	-1.56 (-1.29)	-.805 (-0.31)	.437 (0.89)	-3.24 (-1.48)	-3.23 (-0.75)	.840 (1.44)
INEQ	.512 (0.56)	.579 (0.69)	.673 (2.16)	.538 (0.58)	.598 (0.71)	.674 (2.18)	-.704 (-0.72)	-.624 (-0.48)	1.04 (1.80)
GOV _{t-1}	.858 (21.76)	.929 (12.27)	.879 (26.47)	.858 (21.58)	.930 (12.24)	.878 (26.33)	.789 (15.66)	.971 (6.45)	.923 (11.05)
F test	19.37			16.11			14.83		
m2 (p)	0.69			0.68			0.48		
Sargan (p)	1.00			1.00			1.00		

Figure 6: T-ratios in parentheses. Number of observations: $NT = 342$. *GOV* are the proxies for government size, *MDEMOC* is the variable which counts the number of years after democratisation and *MDEMOC2* is the quadratic term of *MDEMOC*, *OPEN* is a measure for trade openness, *M2* are the liquid liabilities over GDP, *GDP* is the real GDP and *GROWTH* are the GDP growth rates, *INFLAT* are the inflation rates, *XCONST* the constraints on the executive, *URBAN* is the share of urban population, and *INEQ* are the Gini coefficients for income inequality. FE is the Fixed Effects, FE-IV is the Fixed Effects with Instrumental Variables and SYS-GMM is the System Generalised Method of Moments estimators.

All in all, we present evidence which suggests that the young democracies of South America do indeed run higher public and external debt, and present an enlarged share to GDP. This might be, as well put by Brender and Drazen (2007), because of the many challenges that some young democracies face from the outset (crumbling infrastructure, high inequality and demand for redistribution, fierce 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"). All the above reinforce the point that transitions are costly, one way or another.

On the other hand, we are not able to present evidence in favour of the Alesina and Tabellini (1990) prediction that those young democracies (of South America) would inherit from the outgoing dictator, or *junta* of the day, high levels of public and external debt, or big bills which would have to be repaid by those new democratic coalitions coming into power.

Furthermore, there is evidence indicating that democracy in South America, or governments and the electorate, will mature over time (because of better media, better dissemination and acquisition of information, or more experience in dealing with the democratic process), so that those governments engage less in big government activities. In this respect, these estimates for South America are in line with what has happened in Russia since democratisation (Akhmedov and Zhuravskaya (2004))⁹.

In terms of the other explanatory variables used, it is worth mentioning the significant role of economic growth in reducing government size, which is very suggestive, particularly in times of the debt crisis being experienced in the so-called Giips countries (some of them young democracies themselves), of the importance of economic activity. It is also worth mentioning that these results with regards to growth and government size, and their countercyclical relationship, are in contrast to what Alesina, Tabellini and Campante (2008) suggest in their paper¹⁰.

In addition, one important cyclical variable that presents the ‘wrong’ sign in the analysis is inflation. These counterintuitive results are probably because some of those countries engaged in interest rate controls (financial repression), which would artificially reduce the impact of higher nominal interest rates on debt, while others had completely indexed economies during their episodes of hyperinflation. It is plausible that overall both effects are cancelling each other out. Alternatively it can be argued that perhaps interest ceilings and inflation were used on purpose by those governments in an attempt to liquidate their own debt (Reinhart and Sbrancia (2011)). This is an interesting issue which deserves attention¹¹.

Moreover, the variable *XCONST*, accounting for checks and balances on the executive, is not playing a definitive role in reducing government size in the region, as one would expect (Streb, J. M., Lema, D. and Torrens, G. (2009)). This is perhaps because, for instance, fiscal responsibility laws and central bank independence were only implemented in some countries towards the end of the 1990s, and it is plausible to assume that because of this the data are still not picking those institutional changes up, which are believed to restrain the way governments behave.

An old determinant of redistribution, or bigger governments, inequality, does not play, as suggested by Woo (2003), its expected role in the region (it must be said though that inequality data are fragmented, with some countries, *e.g.*, Guyana, not presenting very consistent series). This result with regards to inequality is perhaps because, although South America is known for

being relatively unequal, in fact 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 recently¹²).

Alternatively, some would argue that new democratic coalitions coming into power, even when from the left, will try to disguise themselves and avoid engaging in leftist redistribution (Acemoglu, Egorov and Sonin (2011)), which might be a mitigating factor of the effect of inequality on government size. Or perhaps, the democracy dummy itself is a proxy for less unequal societies (Boix and Stokes (2003)), although this is not a view shared by the likes of Hayek (1960) or Przeworski (2007), who suggest that democracy can well be "blind" to inequality. All the same, this issue is not entirely clear and therefore deserves more attention.

In essence, we find that those young democracies of South America are indeed associated with bigger governments, which is, according to the growth literature, a worrying sign. However, the finding that in the long run they will mature is encouraging. Above all, like any other political and economic regime, democracy needs time to adapt and evolve over time, and the results indicating that governments tend to decrease in size with time is suggestive of a process of overall maturing taking place in the continent, which is a healthy development after years of instability.

III. Final Observations

In this paper we have investigated the hypotheses that governments tend to increase in size during periods of re-democratisation, and also that democracies, governments and the electorate, mature over time. The evidence, based on a sample of South American countries that have recently re-democratised in the last thirty years or so, and on dynamic panel data analysis, is suggestive of the fact that those young democracies indeed have run larger public and external debt, and increased their shares to GDP, or increased the sizes of their governments.

Furthermore, the evidence, up to this point in time, indicates that those young democracies will become more responsible, and perhaps more conservative, in terms of public and external debt, and share to GDP, or overall government size as time passes by, or that there is a learning process within democracies and a return to a sort of long-run steady state. All in all, we are able to report an inverted-U shape relationship between years after re-democratisation and government size. To

put it another way, Hayek's claim that democracy benefits come in the long run is probably correct (at least in terms of reduced government debt and all that it implies for government efficiency and service provision, economic activity and life satisfaction).

Moreover, we are not able to provide any solid evidence that the last dictator or *junta* in power did bequest the new democratic regimes with, for instance, high public and external debt to be repaid in the initial stages of democratisation. Needless to say that this is not an apology to those unelected regimes, but simply the conclusion coming from the analysis conducted here and a reality check on those young South American democracies which displayed bloated and inefficient governments after democratisation.

The importance of this study is not only because the literature suggests that enlarged governments usually are detrimental to fast economic activity and life satisfaction, but also because we have been able to specifically study the South American case, with all its idiosyncrasies, without having to incur in generalisations which are not always warranted (in particular about inflation and inequality), nor to treat the region either as a dummy or as an outlier to be removed from the sample. With that we have furthered our understanding of the recent history of the region in terms of its dynamics during political transitions, which certainly is of use to understand the new wave of democratisation affecting the world as we speak.

Future research can be extended to further disaggregations and comparisons. For instance, on one hand the Brazilian case is of interest and quite illustrative in the sense that it has re-democratised in the 1980s and then suffered severe bursts of macroeconomic instability for ten years or so (the so-called 'lost decade') which tend to lead to higher debt. On the other hand, South Africa which is a young democracy being governed by a very broad political coalition has so far not displayed any sign of ballooning debt nor macroeconomic instability. Perhaps an interesting research avenue would be to conduct a more systematic comparison between different institutional set ups and policies in place in different countries at the point of democratisation, and their effect on particular outcomes.

Perhaps the lessons from above are that each democratisation wave has its own characteristics, but 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 the executive and which were

absent in Brazil in 1985, but already present in South Africa in 1995, so that 'lost decades' can be minimised. In conclusion, it seems that democratisation processes themselves not only learn, but also mature with time.

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Notes

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¹However, this is not necessarily a warranted generalisation, *e.g.*, Alfonsín and Sarney (the first Argentinean and Brazilian civilian Presidents) were not representatives of any left-wing coalition (Alfonsín's coalition was not related to the Peronist party, and Sarney's coalition excluded the main Brazilian leftist parties). Nevertheless, both coalitions engaged in rather redistributive policies in the 1980s.

²In addition, it might be that demand for government services (*e.g.*, education and health) increases with democracy, or with development in general, as predicted by Wagner's law.

³For instance, Woo (2003) uses in some of his regressions dummies for Latin America and Africa.

⁴See, for instance, Sachs (1985).

⁵Alternatively, in developing countries like Argentina, Brazil and Chile, Wagner's law predicts that *GDP* might present a positive association with government size.

⁶Some would also argue that, since governments do not enjoy technological progress, its costs tend to increase which might lead to higher debt ratios and consequently enlarged governments (Baumol (1967)).

⁷In addition, Phillips and Moon (1999) suggest that, because of the averaging taking place, spurious regressions are less of a problem in panels.

⁸We also used different sets of dummies for the first four and eight years of democracy, and the estimates, although not entirely significant, do not indicate that government size was any smaller during the initial stages of re-democratisation. Available on request.

⁹We have also used a dummy for IMF standby arrangements (Dreher (2006)), however the estimates were not significant. Available on request.

¹⁰In addition, our *GDP* estimates are mostly negative and significant (Woo (2003)), which is not entirely in accordance with Wagner's law. These estimates are perhaps illustrating that most South American countries only started building up their welfare systems towards the end of the

1990s and it is plausible that with more data the Wagner's law might get some support.

¹¹In addition, an interesting avenue to be explored is the role of different exchange rate regimes on government size (Reinhart and Rogoff (2004)).

¹²See Bittencourt (2011) for a recent analysis of the Brazilian case.