TERM LIMITS: DO THEY REALLY AFFECT FISCAL POLICY CHOICES?

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Abstract

According to reputational models of political economy, a term limit may change the behavior of a chief executive because he does not have to stand for election. We test this hypothesis in a sample of 52 countries over the period 1977-2000, using government spending, social and welfare spending and deficit as policy choice variables using panel data estimation techniques. We are unable to find significant differences in the behavior of term-limited and non term-limited chief executives. This is in contrast with some previous empirical results based on U.S. states and international data.

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1. Introduction

In the last fifteen years a lively debate on term limits both for government and parliament has taken place among economists and, perhaps even more, among political science scholars. The issue was particularly hot in the 90s in the U.S, where the introduction of a term limits constitutional amendment for Congress members was brought to the floor twice but only gained a simple, not the required two-thirds majority. A number of constitutional changes were taking place in Latin America meanwhile, where some countries introduced presidential term limits and other ones (such as Argentina and Brazil) changed their provision for their president's office from one-term to two-term term limits.

Though the advocates and detractors of term limits tend to consider their effects on policy making in general, it is on fiscal policy effects we want here to focus on. In fact, the Political Economy literature has highlighted that it is right in the field of fiscal policy that institutional arrangements usually make a difference. We also focus only on chief executives' term limits.

The empirical literature on the relationship between term limits and fiscal policy is not so extensive, and in almost all cases uses U.S. states data, with possibly only one exception (Johnson and Crain, 2004). Here we conduct an empirical investigation using two recent databases: Drazen (2005) and Beck, Clark, Groff, Keefer and Walsh (2004). Our approach is based on regression analysis, which we enrich with some institutional as well as economic control variables in order to see whether their inclusion modifies the picture in a significant way.

The remainder of the paper is organized as follows: section 2 reviews the theoretical contributions of political scientists and economists on the relationship between term limits and fiscal policy; section 3 surveys recent empirical findings; section 4 briefly presents the data we use; section 4 illustrates the model used to investigate the effect of term limits on government spending and the relative regression results; section 5 investigates the effect of term limits on government deficit. Section 6 concludes.

2. Theoretical literature on term limits: a survey

There is a great variety of opinions about the opportunity of introducing term limits for offices responsible for economic policy, and this is true even if we consider fiscal policy only. In the Political Science literature the major recent contributions highlight the benefits of term limits stemming from their reducing average tenure:

- According to the so-called "logrolling hypothesis" (Reed et al., 1998), by reducing tenure, term limits reduce that special competence members of Parliament acquire with time of making agreements with other members so as to have their spending proposals passed, in exchange for the same (vote trading). Term limits should therefore reduce public spending.
- Some models insist on the notion of elected representatives' shirking (Dick and Lott, 1993). By "shirk" they mean deviating from the median voter's preferences. By reducing tenure, term limits reduce the time incumbents may use to build entry barriers enabling them to shirk without risking no re-election. The effect on fiscal policy is undetermined, as it depends on how the incumbent's preferences differ from those of the median voter. However, it is often implicitly understood that less tenure implies less spending.

However, some have shown that the relationship between term limits and average tenure is not necessarily the one assumed, especially in the case of two-term term limits. Others object that party discipline and the need to build a reputation to aspire to other political positions modify incentives in the same way term limits would, so their introduction would not make a great difference.

Some Political Economy models consider how the absence of the prospect of re-election may induce an incumbent to misrepresent the median voter's preferences. Since the latter is often supposed to be fiscal conservative, this is translated in the proposition that a lame duck is likely to put less effort into keeping public spending or deficit down. Besley and Case (1995) build a model based on incomplete information about the incumbent' type or about the state of the world, in which the re-election mechanism may raise effort. Politicians are characterized by some unobservable types ω_i, with probability π_i associated with each type. Once in power they make an unobservable choice α (the amount of effort) which contributes to the success of policy making. Voters get the probabilistic payoffs *r*. The model is set up in two periods: in the first the incumbent chooses his action, and the outcome *r* is realized. Then voters make a re-election decision. The policy choice of the incumbent changes whether or not a term limit is binding. If there is a term limit the policy maker maximizes his immediate payoffs. If he can stand for re-election there is room for reputation building since he can have utility from two periods, if re-elected. Therefore, if two terms are allowed, incumbents who give higher first-term payoffs to voters are more likely to get re-elected. Those in their last term put less effort and give less payoffs to voters with respect to their first term in office, on average.

In the Political Economy literature the term limit debate sometimes reflects the controversial issue whether elections distort an otherwise optimal incumbent's behavior or they exert a disciplining effect on an otherwise biased conduct. Smart and Sturm (2006) reconcile the two views by considering that politicians may be either opportunistic (bad) or "public-spirited" (good). Their model, based on a signaling game, highlights that the prospect of no re-election in the second term has two effects: one on the last term's policies, in which the incumbent chooses his most preferred ones, and one on the first term's policies. In fact, a term limit *after* the next elections reduces the value of holding office for an incumbent, possibly inducing a truthfulness effect by which the incumbent adopts his preferred policy even in the first term.[1] The effect on voters' welfare in the first term is ambiguous, but the truthfulness effect is associated to a selection effect which is always welfare-improving. In fact, when the truthfulness effect is at work voters' strategy in equilibrium reduces the chances for both types of incumbent to be re-elected, but the reduction is stronger for the bad type. The quality of second term's presidents is therefore, on average, better. The necessary conditions for this to be a equilibrium are a sufficiently low discount rate and a big difference in preferences of good and bad politicians (or in the relative size of their groups). Since there is no selection effect in case of one-term term limits, this institutional arrangement always yields a lower equilibrium payoff to voters.

Notice that Smart and Sturm's opinion about the effect of two-term term limits on first term's policies is in sharp contrast to Besley and Case's view: an incumbent does not care about building a reputation here. The testable predictions are correspondingly different.[2] Alternatively, Smart and Sturm's model may be read as an extension of Besley and Case's clarifying that the assumptions under which term limits are welfare improving are rather narrow.

Though not often cited with reference to the term limits debate, a number of political economy models based on games of perfect information (e.g., Persson and Svensson, 1989; Tabellini and Alesina, 1990) point to the distortionary effect of elections on incumbents' determination of government debt when they are not sure they will be re-elected (including the case they are sure they will not). Originally conceived as models explaining fluctuations

[1] The discount rate must be sufficiently low for this to be an equilibrium. Notice that in case of no term limits, for the same value of the relevant parameters the perfect equilibrium is a pooling one, implying that elections have a disciplining role on bad incumbents but also a distortionary effect on good ones.

[2] The two models share the same preference for two term limits vis-à-vis one term ones instead.

of government debt around the election dates, these models can be adapted to explain the difference of the debt policy of a non-term limited chief executive and of a lame duck. In the case of a lame duck the distortion goes in the direction of too much public debt issued: debt is in fact a means through which an incumbent extracts next term's fiscal revenues and uses them according to his preferences.

2. Empirical works on term limits

Using data for 48 U.S. states from 1950 to 1986, Besley and Case (1995) estimate the effect of term limits on taxes, expenditures, minimum wage and workers' compensation, controlling for variables such as state income per capita, the proportion of population between the ages of 5 and 17, the proportion of population above age 65, and state population, plus year- and country-dummies. The results show that there is a positive and significant effect of term limits on taxes and expenditure, and a significant negative effect on minimum wages. The effect on workers' compensation is positive but not robust to different specifications of the model. In addition, these effects are mainly driven by incumbent Democrats.

Besley and Case (2003) update their previous results using data from 1950-1997. They find that term-limited governors tend to significantly increase state spending. However, previous results concerning taxes are not replicated: per-capita taxes are insignificantly lower. It appears that the effect of term limits was significantly positive in the first half of the period, then it turned significantly negative (and with much higher dispersion) in the second half of the sample. No reason is given for this striking change. On the one hand, these results suggest that term limits distort policy choices; on the other hand, they do not allow any systematic expectation on the direction of the distortion. Possibly, a problem of omitted variables may be at work in this situation.

Other papers have empirically analyzed the effect of term limits on fiscal variables for the US. Crain and Tollison (1993) find that a governor's term limits have a positive and significant effect on budget deficits and revenues, but not on expenditures in the 1960-1989 period. Crain and Oakley (1995) analyze differences in public capital stocks and flows between states with and without term limits. Using data for the Eighties they find that the stock of state government capital per capita, the change in the stock, and the percentage change in the stock are lower in states without term limits. Recently, List and Sturm (2004) found that governors in the last term of office spend significantly less on environmental protection. They use data covering the 1960-1999 period. However, the term limit effect is softened in states where a large fraction of citizens belong to environmental groups. Also, the term limit effect is smaller if the margin of majority in the gubernatorial race is larger.

Johnson and Crain (2004) extend the empirical analysis of Besley and Case to a panel of 48 democracies over the period 1972-1990. Their results closely resemble those of Besley and Case (1995). A term limitation rule leads to both higher government expenditure and revenue. Furthermore, they look at possible different effects of a one- and two-term limit. It appears that executives subject to the former constraint are even more prone to engage in higher government expenditure and tax revenue. From a theoretical point of view, this may happen because the one-term limited chief executive cannot undertake any reputation building activity, since he can never stand in the following election. This finding is also consistent with the fact that term limits may either increase the volatility of fiscal policy or the overall size of the government, depending on the type of term limit.

3. The data

The central variable of our analysis is *TL*, which is equal to 1 when the current chief executive cannot run in the next elections because of a constitutional provision for the office. Our main source of information for the construction of *TL* is the *MULTPL?* variable in the

Database of Political Institutions (DPI henceforth; Beck, Keefer and Clarke, 2005), a comprehensive source compiled by the World Bank covering the 1975-2003 period. A preliminary inspection of this variable made us realize, however, that there was a mistake in the classification of the 1997 US observation, hence we made a complete check country by country[3] and made corrections. Appendix A goes into detail in the construction of *TL* and shows how it is distributed across countries (Table A) and time (Table B).

Our first institutional control variable is *MAJ*, with value one every time the electoral rule is majoritarian.[4] Our source is Persson and Tabellini (2003).

A less standard institutional control we consider is a proxy for numerical budget rules, named *NUMRULE*, which we constructed ourselves (in Appendix B there is a list of sources of information we used).[5] In the Nineties the number of countries that have adopted this device in order to foster sound fiscal policies has increased considerably. The most famous example is the group of 10 European countries bound to create the EMU, which through the Maastricht Treaty committed to deficit discipline from 1994 onwards. Our *NUMRULE* variable takes value 1 every time a numerical budget rule is adopted. Finally, to check for possible non-linearity in the effects of term limits, we interact TL with a dummy variable for new democracies (NEW). Brender and Drazen (2005) define a country as a new democracy as the first year in which the country receives a positive value in the POLITY scale, following a substantial period of negative values.

Fiscal, economic and demographic control variables are taken from the country panel data by Brender and Drazen (2005), except for the series of government expenditure on social services and welfare (SSW), which we took from Persson and Tabellini (2003). Brender and Drazen define IMF-IFS fiscal data as very noisy, and exclude a number of countries from their analysis because of it. In their data appendix they also go in great detail in describing all the adjustments they made in the series of the countries in their dataset.[6] Their dataset spans from 1960 through 2000 (with very few data for 2001). In the end, our merged database covers 52 countries over the period 1975-2000.

Appendix B gives a list of all institutional variables we use and details on their definitions. Table C reports summary statistics, and Table D means and standard deviations of fiscal variables in the $TL = 1$ and $TL = 0$ sub-samples. A look at the latter shows that the predictions of Besley and Case's model are not so obviously true. Finally, Table E reports the correlations among the variables of this study.

4. Government expenditure and term limits.

Our model specification is:

$$P_{i,t} = \gamma TL_{i,t} + \alpha P_{i,t-1} + \beta Z_{i,t} + \varepsilon_{i,t}, \qquad (1)$$

where P is the some measure of central government expenditure, TL is a dummy variable indicating whether the chief executive can (zero) or cannot stand (one) for re-election, Z is a

[3] Our main reference was Wikipedia, citing CIA Factbook for most countries.

[4] We also wanted to use a dummy for presidential vs. parliamentary democracy, but it turned out that the collinearity between this variable and *TL* always made it impossible to obtain GMM estimates.

[5] We decided to consider only numerical rules because to our knowledge there is no worldwide index of both numerical and procedural budget rules tracking countries and their fiscal reforms over time.

[6] Preliminary work on Persson and Tabellini's larger panel, constructed starting from the same source but not so meticulously elaborated, highlighted the problematic presence of many outliers. We found one fiscal outlier, Spain 1999, in Brender and Drazen's dataset, too, so we deleted it from the dataset, since we believed it was probably the result of a typing mistake.

set of economic, demographic and institutional control variables. Finally, ε is the error term, and subscripts *i* and *t* represent countries and time, respectively.

We consider two measures of central government spending: total expenditure (*TEXP*) and expenditure on social services and welfare (*SSW*), both divided by GDP. The former is more standard, data are available for a larger number of years and are said to be more reliable and comparable between countries. On the other hand, some of its components are not dependent on the actual government's policy. The obvious example is government debt service, a considerably important item in many of the countries we consider after the rise of interest rates in the Eighties. *SSW* is a more focused type of measure.

The dependent variable lagged one accounts for the status quo bias when it comes to determine next year's spending.[7] Among demographic and economic control variables we consider:

- *YGAP*, log difference between real GDP and its (country specific) trend value, obtained using the Hodrick-Prescott filter. This variable should capture the change in spending due to the automatic stabilizers along the business cycle and Keynesian fine-tuning;
- proportion of population over age 65 (*POP>65*) because an older population requires higher spending in public provision of healthcare and pensions;
- the log of per-capita GDP (*LGDP*). Wagner's Law argues that government intervention is a normal good, thus its demand increases as long as income increases;
- *TRADE*: openness to foreign trade lagged one year, defined as the sum of import and export over GDP. Increasing the size of the public sector is seen as a form of insurance against external shocks by countries more open to international trade (Rodrik, 1998). However, the sign of this variable is debated: when government spending is associated to higher taxation, this is detrimental to competitiveness (Tanzi, 2004).

We add an extra economic control variable when estimating total government expenditure (*TEXP*): *DEF(-1)*, i.e. deficit lagged one. There are two good reasons to believe this is an important determinant of the variable of interest:

1. *TEXP* includes also interest payments on government debt, and if the deficit was large last year, it is likely this caused an increase in the debt issued;
2. when the size of government debt is already big, a large deficit makes risk premia rise on government debt's markets, which means a higher interest rate on newly issued debt, hence a larger average interest to be paid to investors.

As for institutional control variables, *MAJ* has been selected because this electoral rule is associated with a smaller probability of coalition/minority governments, a feature likely to determine a common pool problem (Weingast et al., 1991, Bawn and Rosenbluth, 2006, Persson et al., 2007). We have also considered *NUMRULE*. Notice this dummy takes value one no matter the fiscal target of the rule. Most numerical rules focus on debt and deficit, being those on expenditure a minority. However, reducing the deficit (debt) often means pressure for a reduction of expenditure, so that our expectation was that this variable did affect, directly or not, government spending.[8]

[7] We have also tried to add lag two, but it always turned out to be insignificant.

[8] As pointed out by many, however, compliance has sometimes been a problem with numerical rules, and they also tend to induce creative accounting. Their effect on fiscal policy's results must be assessed.

Table 1: GMM Arellano Bond (1) estimates with TEXP as dependent variable, 1977-2000.

DEP. VAR. TEXP	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
TEXP(-1)	0.7914***	0.7632***	0.8199***	0.8315***	0.7794***	0.8438***	0.8340***	0.9063***	0.8934***
	(0.0690)	(0.0622)	(0.0687)	(0.0673)	(0.0628)	(0.0734)	(0.0754)	(0.0850)	(0.0815)
DEF(-1)	0.0866	0.0499	0.1560*	0.1743**	0.0753	0.1603*	0.1454*	0.4386***	0.4318***
	(0.0903)	(0.0858)	(0.0838)	(0.0841)	(0.0860)	(0.0861)	(0.0860)	(0.0862)	(0.0851)
YGAP	-0.3032*	-0.3328*	-0.2508**	-0.2448**	-0.3026*	-0.1976	-0.2157	-1.5345*	-1.2868*
	(0.1713))	(0.1807)	(0.1226)	(0.1207)	(0.1764)	(0.1360)	(0.1371)	(0.5587)	(0.5843)
TRADE	-0.0261*	-0.0303**	-0.0292***	-0.0167	-0.0211	-0.0135	-0.0253**	-0.0429***	-0.0413**
	(0.0155)	(0.0130)	(0.0110)	(0.0135)	(0.0133)	(0.0141)	(0.0128)	(0.0165)	(0.0168)
LGDP	0.24240								
	(0.5730)								
POP>65	-0.4173								
	(0.2994)								
TL	1.3195	1.1319			1.1454			-0.4338	-0.1146
	(1.2027)	(1.1600)			(1.1698)			(0.4344)	(0.5475)
TL*NEW								0.9301**	0.3029**
								(0.4560)	(0.1571)
MAJ						-0.5828	-0.6384		
						(0.7049)	(0.7112)		
NUMRULE				-1.6940***	-1.4764**	-1.6990***			-1.3520**
				(0.5908)	(0.6146)	(0.6162)			(0.5643)
Countries	52	52	52	52	52	48	48	52	52
No. of obs.	1024	1024	1083	1083	1024	972	972	949	949
Sargan's test p-value	0.45	0.29	0.33	0.43	0.22	0.45	0.53	0.61	0.58

Our specification includes (at least) one lagged variable, and therefore only a dynamic panel estimation technique is sure to obtain consistent estimates. A natural candidate is GMM in its Arellano Bond one step version (Arellano and Bond, 1991). The features of our sample lead us to believe this is the right choice to make. In fact, Judson and Owen (1999) find that for unbalanced panels with a large N and a T smaller or equal to 20 Arellano Bond one step is the consistent estimator with the smallest distortion.[9] Our choice of instruments is the following: all lags of the dependent variable starting from -2, one lag of TL and all control variables except deficit, for which we take lag 2. The Sargan's tests all lead to the conclusion one should accept the null hypothesis of uncorrelation of the instruments with the errors.[10]

Let us come to the regression results. Table 1 to 3 show some results of the application of the general to specific approach when *TEXP* is the dependent variable. Table 1 considers the whole panel,[11] which is then split into two sub-periods: 1977-1987 and 1988-2000.[12] By considering the Eighties and the Nineties separately we wanted to test the existence of different determinants of government size in the two decades. In every table equation (1) shows the regression results we started from, we then eliminated non significant variables progressively and tried with the inclusion of *NUMRULE* and *MAJ*.

The two clear conclusions one can draw from Table 1 is that the driving force in the determination of government spending is its previous year's value, while term limits have no effect at all. When all insignificant regressors, including *TL*, are eliminated from the model (equation (3)), last year's deficit, output gap and trade play a role, too. Notice the signs and relative magnitude of last year's deficit and of the output gap make sense, while *TRADE* has a negative estimated coefficient, which contradicts the insurance view. If we then introduce *NUMRULE*, however, it turns out that this is significant and has a strong effect, while *TRADE* is no longer significant. Adding *MAJ* turns out to be a bad idea, as it is always insignificant and affects the output gap's significance. To consider possible differences between more and less established democracies, we use an interaction term between *TL* and the dummy variable *NEW* for new democracies, as defined by Brender and Drazen (2005). Results in columns (8) and (9) show that this variable is significantly positive, whereas *TL* remains insignificant.

The consideration of the whole panel hides a deep difference in the determinants of government size in the two decades, as the comparison between Table 2 and Table 3 makes clear. There is however one constant feature: *TL* has highly insignificant estimated coefficients.

Up until 1988 trade is never significant, while deficit and output gap have highly significant coefficients and their absolute values are bigger than those shown in Table 1.[13] This makes sense in economic terms, because many countries were engaged in expansionary fiscal policies after the second oil shock and later, after the interest rate rise of the early

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[9] Judson and Owen also find that AB one step works better than AB two steps. Eviews' manual states that there is evidence in the literature that the standard errors for the two step estimator may not be reliable.

[10] We have calculated the Sargan's test using the J-statistics and instrument rank of the Arellano Bond step 2 regression, which almost always resulted, as far as the values of the estimated coefficients are concerned, very similar to the AB step one result. In fact, the Sargan's test is said to over-reject the null if constructed starting from AB1.

[11] The starting date is 1977 because 1975 is the first year of the *TL* series, Arellano Bond method implies a transformation in differences to do away with country effects and we take instruments in differences for all variables.

[12] The choice of 1988 as the breaking point was made for comparability reasons with the regression results with *SSW* as dependent variable. In fact, we have data on *SSW* only up until 1998. In order for the sub-samples to have both a sufficiently high T, we split the panel in two.

[13] When deficit and *TL* are in the same regression, the AB step 2 estimate covering the 1977-1987 sub-period is never performed by Eviews (possibly a collinearity problem). So we started from two distinct specifications: one with *TL* and one with *DEF(-1)*, ending up with two different models: (3) and (4). Sometimes also *POP>65*, when both *DEF(-1)* and *LGDP* are absent, is significant at 10%.

Eighties, interest payments became an important item in countries characterized by high levels of government debt. A majoritarian electoral rule seems to have played an important role in mitigating the effects of these phenomena on government spending,[14] while *NUMRULE* is never significant.[15]

Table 2: GMM Arellano Bond (1) estimates with TEXP as dependent variable, 1977-1987.

DEP. VAR. TEXP	(1)	(2)	(3)	(4)	(5)	(6)	(7)
TEXP(-1)	0.4310*** (0.0759)	0.4491*** (0.0606)	0.4403*** (0.0621)	0.7665*** (0.0880)	0.7652*** (0.1002)	0.4571*** (0.0691)	0.4543*** (0.0600)
DEF(-1)				0.4394*** (0.1161)	0.4074*** (0.1089)		
YGAP	-1.3981*** (0.3296)	-1.3411*** (0.3009)	-0.8079*** (0.1869)	-0.8661*** (0.1879)	-0.9163*** (0.1857)	-0.8612*** (0.2289)	-1.2805*** (0.3171)
TRADE	0.0206 (0.0383)						
LGDP	-0.0310 (1.1667)	0.8409 (0.7615)	1.3908** (0.6392)			1.3497* (0.8031)	1.0224 (0.8053)
POP>65	0.6952 (0.8612)						
TL	1.0735 (4.7291)	1.1661 (4.9047)					-0.5093 (7.3072)
MAJ					-3.8514** (1.7703)	-3.2883* (1.7297)	-1.8366** (0.8516)
Countries	48	48	49	47	43	45	44
No. of obs.	441	441	501	480	436	457	397
Sargan's test p-value	0.38	0.46	0.50	0.43	0.56	0.43	0.36

In Table 3 previous year's deficit and output gap are never significant, while openness is, though at 10%, when *TL* and other insignificant variables are eliminated. The estimated coefficients for *TEXP* are higher than those in Table 2. *MAJ* is never significant, while *NUMRULE* confirms its strong impact, but only in regressions in which *POP>65* is included.[16] This result seems to confirm the view (Hallemberg and von Hagen, 1997) by which once budgetary rules are enforced, the type of electoral system no longer plays a role in fiscal policy determination.

Let us now consider the regressions having *SSW* as dependent variable. Two features are similar to the above estimates: the dependent variable lagged once is always significant and large, while *TL* is never significant.

Table 4 shows estimates on the whole sample, which now stops at 1998. When all insignificant regressors are eliminated from (1), *SSW* seems to depend on its lagged value, output gap, degree of openness (again with a negative sign) and the relative size of the elderly group (equation (3)), which is the first new feature with respect to Table (1). Actually, a second model also emerges, in which everything is about the same except for the fact that the output gap is not significant and *POP>65* is substituted for by *LGDP*, which has a positive

[14] The significance of *POP>65* is less clear-cut. It appears only when *MAJ* is included, it is always at 10% and it partially affects the significance of *MAJ* itself.

[15] *NUMRULE* takes value 1 for a very limited number of observations in this subsample.

[16] AB step 2 estimates give a coefficient with opposite sign for *NUMRULE*, which is not significant, while the rest of the estimated coefficients are quite similar to the AB step 1 estimates.

sign.[17] The second new element with respect to Table 1 is the different significance of the alternative institutional control variables: *NUMRULE* does not seem to play a big role, while *MAJ* does. This may have to do with the fact that the panel stops here at an earlier date,[18] so that the relative weight of the first part of the sample is greater. New democracies do not tend to behave differently from older ones, since TL*NEW is significant only once, at the lowest level.

Table 3: GMM Arellano Bond (1) estimates with TEXP as dependent variable, 1988-2000.

DEP. VAR. TEXP	(1)	(2)	(3)	(4)	(5)	(6)	(7)
TEXP(-1)	0.7224***	0.7283***	0.6827***	0.7232***	0.7653***	0.7407***	0.8085***
	(0.1045)	(0.0829)	(0.0870)	(0.0799)	(0.1117)	(0.1058)	(0.1318)
DEF(-1)	-0.0039				0.1022	0.0049	0.1355
	(0.0617)				(0.0992)	(0.0739)	(0.1008)
YGAP	0.1040					0.1797	0.1704
	(0.1985)					(0.2024)	(0.2173)
TRADE	-0.0501	-0.0338	-0.0386*	-0.0330	-0.0353	-0.0477*	-0.0468*
	(0.0331)	(0.0232)	(0.0201)	(0.0262)	(0.0265)	(0.0268)	(0.0257)
LGDP	-0.4864						
	(1.4536)						
POP>65	0.6280			0.8669**	0.8398**	0.9151*	
	(0.6049)			(0.3783)	(0.3989)	(0.5155)	
TL	0.5130	0.1993		0.0309		0.6051	
	(0.6564)	(0.6509)		(0.6575)		(0.7205)	
NUMRULE				-1.5536**	-1.7653**	-1.6992**	
				(0.6575)	(0.6884)	(0.7058)	
MAJ						0.1682	-0.4063
						(1.0025)	(0.9929)
Countries	52	52	52	52	52	48	48
No. of obs.	594	605	613	605	601	528	534
Sargan's test p-value	0.48	0.41	0.44	0.37	0.54	0.54	0.37

[17] Results are available upon request. When *POP>65* and *LGDP* are both in the same regression, they are never significant.

[18] In order to see how the different size of the panel affects the comparison between the results in Table 1 and Table 4 (as well as those in Table 3 and 6) we have re-run all the regressions in Table 1 (and 3) stopping at 1998. The results are available upon request.

Table 4: GMM Arellano Bond (1) estimates with SSW as dependent variable, 1977-1998.

DEP. VAR. SSW	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
SSW(-1)	0.7640***	0.7790***	0.7752***	0.7867***	0.7796***	0.7108***	0.7230***	0.7876***	0.7856***
	(0.0333)	(0.0321)	(0.0343)	(0.0356)	(0.0375)	(0.0458)	(0.0337)	(0.0450)	(0.0458)
YGAP	-0.0898	-0.0898	-0.1360**	-0.0702	-0.1267**	0.2758***	0.2472***	-0.4945*	-0.3597
	(0.0820)	(0.0803)	(0.0626)	(0.0822)	(0.0606)	(0.0836)	(0.0948)	(0.2714)	(0.2490)
TRADE	-0.0325***	-0.0328***	-0.0330***	-0.0285***	-0.0276***	-0.0255***	-0.0255***	-0.0204***	-0.0162**
	(0.0092)	(0.0093)	(0.0092)	(0.0084)	(0.0079)	(0.0077)	(0.0080)	(0.0064)	(0.0065)
LGDP	0.4106*								
	(0.2429)								
POP>65	0.0157	0.2216*	0.3337***	0.2586**	0.3690***	0.2919***	0.1831*	-0.0449	
	(0.1357)	(0.1240)	(0.1181)	(0.1293)	(0.1152)	(0.1068)	(0.1028)	(0.1481)	
TL	0.0531	0.1167		0.1304			0.3341	0.3695	0.5744
	(0.2723	(0.2920)		(0.2952)			(0.4880)	(0.4390)	(0.4294)
MAJ						-0.9575***	-0.9568***	-0.1901	
						(0.3089)	(0.2718)	(0.1798)	
TL*NEW								-0.5066	-0.8626*
								(0.5284)	(0.5143)
NUMRULE				-0.5203	-0.5248				-0.9650**
				(0.5060)	(0.4710)				(0.3949)
Countries	49	49	51	49	51	47	45	47	49
No. of obs.	774	774	835	774	835	741	682	665	748
Sargan's test p-value	0.66	0.66	0.45	0.31	0.48	0.50	0.41	0.45	0.48

Let us now turn to Table 5. The output gap is always significant, but here also *TRADE* is, with its usual negative sign. Again, there is evidence that a majoritarian electoral rule may have played an important role in the Eighties in keeping government spending down, but unlike in Table 2 *LGDP* and *POP>65* are not significant whenever included in the specification. The significance of either *LGDP* or *POP>65* considering the whole sample is therefore totally due to the spending decisions of the Nineties.

Just like Table 3 was different from Table 2, Table 6 is different from Table 5. The most notable difference is again the significance of the output gap. The difference in the values for the coefficients of the lagged dependent variable is not so evident here, implying that government spending stickiness owes a lot to interests paid on government debt and capital expenditure. Just like in Table 4, two alternative models emerge from the general to specific process: one in which *POP>65* emerges as a determinant of government spending and an alternative one in which *LGDP* plays a role.[19] Unlike in Table 4, but similarly to what we have seen in Table 3, numerical budget rules have a strong impact, while a majoritarian electoral rule was no longer relevant in the Nineties.

Table 5: GMM Arellano Bond (1) estimates with SSW as dependent variable, 1977-1987.

DEP. VAR. SSW	(1)	(2)	(3)	(4)	(5)	(6)	(7)
SSW(-1)	0.5717***	0.6289***	0.7561***	0.7280***	0.6283***	0.7000***	0.7100***
	(0.0641)	(0.0519)	(0.0798)	(0.0691)	(0.0551)	(0.0904)	(0.0770)
YGAP	-04127***	-0.411***	-0.242**	-0.340***	-0.486***	-0.334***	-0.3167**
	(0.1285)	(0.1353)	(0.0967)	(0.1182)	(0.1437)	(0.0130)	(0.1226)
TRADE	-0.0332**	-0.0338**	-0.0360**	-0.0227*	-0.0240	-0.0241*	-0.0248*
	(0.0175)	(0.0156)	(0.0154)	(0.0132)	(0.0150)	(0.0130)	(0.0128)
LGDP	0.1555						0.1792
	(0.5195)						(0.3400)
POP>65	0.1240					0.1679	
	(0.2705)					(0.2418)	
TL	-0.6613	-0.3962			-0.5238		
	(1.4839)	(1.2959)			(1.6158)		
MAJ				-1.3843*	-1.0842	-1.4157*	-1.4303**
				(0.7162)	(0.7257)	(0.7558)	(0.7268)
Countries	45	45	49	44	40	44	44
No. of obs.	386	386	441	389	336	389	389
Sargan's test p-value	0.47	0.46	0.44	0.46	0.67	0.43	0.42

What do we learn about term limits from this regression analysis? As far as government spending is concerned, they are irrelevant no matter the choice of the dependent variable and the time span considered. In fact, in none of the regressions we ran there was any sign of its significance. Our conclusion is that the size of government has nothing to do with term limits. The striking contrast with Johnson and Crain's (2004) findings are not so much the consequence of the fact that they use a different sample of countries and do not consider

[19] Equations (2) to (7) with a switch between *POP>65* and *LGDP* are available upon request. Notice that unlike in Table 4, where including *MAJ* would not make either variable insignificant (see equations (6) and (7)), here *LGDP* stays significant, though no longer at the same level, while *POP>65* does not.

the Nineties (even our first subsample excludes them). In our opinion, it is more related to the omission of the very significant lagged expenditure variable, their use of OLS FE and the fact that, quite strangely, their *TL* variable is not so similar to ours.

Table 6: GMM Arellano Bond (1) estimates with SSW as dependent variable, 1988-1998.

DEP. VAR. SSW	(1)	(2)	(3)	(4)	(5)	(6)	(7)
SSW(-1)	0.7476*** (0.0748)	0.7497*** (0.0568)	0.7907*** (0.05720)	0.7595*** (0.0568)	0.8007*** (0.0589)	0.7524*** (0.0708)	0.7558*** (0.0699)
YGAP	-0.1807 (0.1515)						
TRADE	-0.084*** (0.0227)	-0.041*** (0.0135)	-0.038*** (0.0132)	-0.023** (0.0094)	-0.021*** (0.0080)	-0.036*** (0.0132)	-0.035*** (0.0129)
LGDP	0.0622 (1.2867)	1.2257*** (0.4107)		1.7153*** (0.4101)		0.8056* (0.4408)	0.7707* (0.4270)
POP>65	0.8061** (0.3972)		0.3249** (0.1593)		0.4667*** (0.1439)		
TL	-2.6782 (1.8614)	-0.2433 (0.1751)		-0.2528 (0.1922)		-0.0990 (0.1849)	
MAJ						-0.4278 (0.3971)	-0.4220 (0.3925)
NUMRULE				-1.2081*** (0.4602)	-1.0855** (0.5007)		
Countries	47	47	47	47	47	44	44
No. of obs.	379	379	385	379	385	338	344
Sargan's test p-value	0.50	0.39	0.52	0.47	0.44	0.44	0.53

5. Government deficit and term limits

Moving to the relationship between term limits ad budget deficit, the results are close to the previous ones: *TL* is always not significantly different from zero, in the overall sample and in both sub-samples.

In Table 7 we report the results for the whole period. In column (1) all variables are significant at the highest level (*LGDP* only at the 10% level), with the exception of TL. In particular, anti-cyclical fiscal policy, inertia in deficit and the share of the elderly are the most important correlates with deficit. In column (2), including *MAJ* (which is insignificant) reduces the significance of *TRADE*, and makes *LGDP* non significantly different from zero. Adding *NUMRULE* in column (3), basically does not change the results. Finally, removing *MAJ* and *LGDP* makes *NUMRULE* significant at the 5% level, reducing the significance of *YGAP*. *TRADE* is significantly positive, causing an increase in deficit, whereas *TRADE* had a negative effect. We claim that reduction of taxes and government spending to attract capital inflows is not balanced, therefore increasing the budget deficit. The variable *TL*NEW* is significantly negative. The Sargan test does not enable us to reject the null of the validity of the instruments used.

Table 7: GMM Arellano Bond (1) estimates with DEF as dependent variable, 1977-2000.

DEP. VAR. DEF	(1)	(2)	(3)	(4)	(6)	(7)
DEF(-1)	0.4437***	0.5472***	0.4037***	0.444***	0.2527***	0.2377***
	(0.0709)	(0.0969)	(0.0687)	(0.0661)	(0.0879)	(0.0879)
YGAP	1.2282***	1.7751**	1.1558***	1.1201**	1.67945*	2.6323***
	(0.4160)	(0.5983)	(0.4318)	(0.4381)	(0.8786)	(1.004)
TRADE	0.0745***	0.0439*	0.0586***	0.0702***	0.0897***	0.0451*
	(0.0229)	(0.0261)	(0.0239)	(0.0232)	(0.0214)	(0.0267)
LGDP	0.48984*	0.1100	0.5195		0.6697**	0.6996***
	(0.2675)	(0.8324)	(0.6610)		(0.3143)	(0.2157)
POP>65	0.5798***	0.3788**	0.5477**	0.6023**	0.7218**	0.8215
	(0.2050)	(0.1566)	(0.2085)	(0.2053)	(0.3353)	(0.5336)
TL	-1.150	0.0905	-1.6119	-1.0104	-0.0712	-0.0317
	(0.7261)	(0.2501)	(1.0123)	(0.7155)	(0.8917)	(0.4511)
TL*NEW					-1.1132*	-1.0696**
					(0.574)	(0.4287)
MAJ		-0.2781	0.2857			0.2579**
		(0.5389)	(0.4757)			(0.1054)
NUMRULE			-0.5386	-0.8914**	0.9675	0.68442
			(0.3866)	(0.3921)	(0.6762)	(0.7337)
Countries	52	52	52	52	52	52
No. of obs.	986	986	884	986	948	856
Sargan's test p-value	0.73	0.56	0.64	0.51	0.45	0.57

Table 8: GMM Arellano Bond (1) estimates with DEF as dependent variable, 1977-1987.

DEP. VAR. DEF	(1)	(2)	(3)	(4)	(5)
DEF(-1)	0.3993***	0.4469***	0.4459***	0.3995***	0.4320***
	(0.1104)	(0.1185)	(0.1183)	(0.1070)	(0.0747)
YGAP	-0.3857	-0.4492	-0.4524	-0.3583	
	(0.2874)	(0.3381)	(0.3379)	(0.3098)	
TRADE	0.0602	0.0444	0.0449	0.0611*	0.0692*
	(0.0358)	(0.0375)	(0.0376)	(0.0342)	(0.0375)
LGDP	1.3319	1.4043	1.1640		
	(2.0703)	(3.3202)	(3.3272)		
POP>65	0.4515*	0.3861*	0.3878**	0.5318**	0.5793***
	(0.2027)	0.1953	(0.1956)	(0.1930)	(0.2079)
TL	-0.8465	-1.6584	-1.6802	-0.7133	-0.1536
	(0.5239)	(1.6953)	(1.6972)	(0.6882)	(0.4289)
MAJ		0.0373	0.0501		
		(0.8803)	(0.8797)		
NUMRULE			-0.8443**	-0.2758	-0.5377
			(0.4048)	(0.5695)	(0.3791)
Countries	52	52	52	52	52
No. of obs.	363	329	329	363	363
Sargan's test p-value	0.82	0.96	0.98	0.89	0.76

Table 8 considers the sub-period 1977-1988. The result concerning *TL* is confirmed, but in general, we observe fewer variables being significant. In particular, only the lagged value of the deficit and *PROP>65* are always significant. Finally, Table 9 confirms, for the sub-period 1989-2000, the results of Table 7 in terms of poor significance of the estimates, showing only *DEF(-1)* and *YGAP* as consistently significant variables. For both sub-periods the Sargan test is within the acceptance area.

Table 9: GMM Arellano Bond (1) estimates with DEF as dependent variable, 1988-2000.

DEP. VAR. DEF	(1)	(2)	(3)	(4)	(5)
DEF(-1)	0.7355***	0.6919***	0.6778***	0.7279***	0.7057***
	(0.0848)	(0.0934)	(0.0943)	(0.0893)	(0.0811)
YGAP	0.5516**	0.5849***	0.6591**	0.4239**	0.5127**
	(0.2328)	(0.2385)	(0.2909)	(0.2015)	(0.2324)
TRADE	0.0387	0.0429*	0.0436*	0.0438	0.0439
	(0.0302)	(0.0259)	(0.0255)	(0.0289)	(0.0284)
LGDP	-1.1944	-2.0705	-2.2957		
	(4.8051)	(5.3910)	(5.5012)		
POP>65	-0.4746	-0.2249	-0.2273	-0.6221	
	(1.7251)	(1.7830)	(1.8561)	(1.8414)	
TL	0.6989	0.7635	0.8181	0.6539	0.6454
	(0.5300)	(0.6852)	(0.6727)	(0.5010)	(0.4930)
MAJ		-0.8248	-0.7723		
		(0.5729)	(0.5891)		
NUMRULE			0.3413	0.5708	0.5667
			(0.5845)	(0.6040)	(0.5668)
Countries	52	52	52	52	52
No. of obs.	439	391	391	439	439
Sargan's test p-value	0.82	0.94	0.97	0.88	0.91

6. Conclusions

In this paper we analyze the effects of term limits on some fiscal variables in a panel of 52 countries. Essentially, regression analysis shows that term limits have insignificant effects on both fiscal variables: government spending and deficit. Only in new democracies chief executives tend to behave with a systematic difference when they are term limited.

This is in contrast with previous results obtained using U.S. states and international data. The U.S. states results are presumably largely driven by the peculiar features of their political system. In the U.S. elections are more centered on candidates' personalities than their party affiliation, and party discipline is not as strong as in other countries, where a chief executive whose days are numbered may be more interested in securing election for the candidate of his own party. This makes a difference because it changes an incumbent's incentives in his last mandate, and may be the reason why lame ducks are found to behave differently here and there.

As for earlier results on international panels, the contrast is probably explained by the fact that we used a wider dataset, also including the 90s, and considered some institutional control variables. Our results stress the relevance of numerical budget rules on fiscal policy. Numerical budget rules have become common among both industrialized and developing countries since the Nineties. Since this was also a decade in which many countries adopted term limits, any future empirical work on any of these two institutional aspects using international data should, in our opinion, consider the other as an important control variable.

Data appendix A: TL and countries in the sample

In the DPI Database the MULTPL? variable is thus coded:

- .. stands for missing;
- NA means the chief executive does not have to stand for elections (dictatorships)
- MULTPL?=0 means term limited chief executives are in their last term
- MULTPL?=1 means term limited chief executives are not in their last term (also all prime ministers in parliamentarian systems get 1).

The recoding we use is the following: NA is made equivalent to .. and MULTPL? = 0 (1) becomes TL = 1 (0) so that TL = 1 means presence of a lame duck.

Before using MULTTPL? we corrected it for some mistakes it contained. In particular, we corrected the 1997-2000 US, the 1996-1999 Argentina and the 1999-2001 Brazil values.

Table A summarizes the countries we consider and TL values:

Table A.

COUNTRY	No. of obs. with TL=1	Number of obs.	COUNTRY	No. of obs. with TL=1	Number of obs.
ARGENTINA	14	17	JAPAN	0	24
AUSTRALIA	0	24	LUXEMBOURG	0	24
AUSTRIA	0	24	MALAYSIA	0	24
BELGIUM	0	24	MAURITIUS	0	24
BOLIVIA	19	19	MEXICO	24	24
BRAZIL	19	24	NEPAL	0	20
CANADA	0	24	NETHERLANDS	0	24
CHILE	10	20	NICARAGUA	0	19
COLOMBIA	24	24	NORWAY	0	24
COSTARICA	24	24	NZ	0	24
CYPRUS	0	23	PAPUA	0	24
DENMARK	0	24	PARAGUAY	0	24
DOMINICAN	7	11	PERU	12	20
ECUADOR	21	21	PHILIPINES	14	19
EL SALVADOR	21	21	PORTUGAL	0	24
FIJI	0	24	SPAIN	0	23
FINLAND	0	24	SRI LANKA	0	24
FRANCE	0	24	SWEDEN	0	24
GERMANY	0	24	SWITZERLAND	0	24
GREECE	0	24	TRINIDAD	0	24
GUATEMALA	21	21	TURKEY	0	22
HONDURAS	19	19	UK	0	24
ICELAND	0	24	URUGUAY	24	24
INDIA	0	24	US	8	24
IRELAND	0	24	VENEZUELA	24	24
ISRAEL	0	24	All	305	1183
ITALY	0	24			

When a country has the same number in both columns (ex. Mexico), it has a one-term limit. When the number is the first column is positive but smaller than the one in the second column, it may either mean this is a country with a two-term term limit or a country in which there has been a switch from no term limit to either form of term limit (or vice versa).

The first kind of switch seems to have been more common, as Table B reveals:

Table B.

YEAR	No. of obs. with TL=1	Number of obs.
1977	7	41
1978	7	43
1979	7	43
1980	9	44
1981	9	45
1982	10	47
1983	11	49
1984	12	50
1985	13	50
1986	14	50
1987	15	51
1988	15	51
1989	14	51
1990	14	51
1991	15	51
1992	15	51
1993	14	51
1994	14	52
1995	14	52
1996	15	52
1997	15	52
1998	15	52
1999	16	52
2000	15	52
All	305	1183

Appendix B: economic and demographic control variables

Central government spending as a percentage of GDP (*TEXP*), log difference between real GDP and its trend (*YGAP*), natural logarithm of per-capita GDP (*LYP*), *TRADE* - defined as the sum of import and export over GDP, percentage of the population aged 65 and more (*PROP>65*) and *DEF*, the difference between total expenditure and grants and total expenditure divided by GDP, are taken from Brender and Drazen (2005). Central government expenditure consolidated in social services and welfare spending as a percentage of GDP (*SSW*), and the dummy variable for majoritarian voting rule (*MAJ*), are taken from Persson and Tabellini (2003). We constructed *NUMRULE*, the dummy taking value 1 if a numerical budget rule is adopted, using information in Filc and Scartascini (2006) and Balassone and Franco (2001).

Table C – Summary statistics –whole sample

	Variables used in regression analysis	Mean	S.D.	Min	Max
TEXP	Central government expenditure (% of GDP)	27.3757	11.2023	8.5801	68.5800
SSW	Social and welfare expenditure (% of GDP)	8.3739	6.5546	0.0190	24.5316
YGAP	GDP gap	3.1232	1.7586	-2.3335	12.3305
LGDP	Log of per-capita GDP	8.8116	0.9326	5.9135	10.8210
TRADE	Openness (% of GDP)	65.0910	36.9951	8.8710	229.800
PROP>65	Proportion of population aged above 65	8.6404	4.8493	2.1090	18.0710
DEF	Central government deficit	-2.6819	4.0044	-28.571	15.0077
TL	Term limits	0.2259	0.4182	0.0000	1.0000
TL*NEW	Term limits*new democracies	0.1815	0.3854	0.0000	1.0000
MAJ	Majoritarian system	0.2577	0.4374	0.0000	1.0000
NUMRULE	Numerical budget rules	0.1048	0.30638	0.0000	1.0000

Table D – Summary statistics – subsamples TL = 0 and TL = 1.

	TL = 0		TL = 1	
	Mean	S.D.	Mean	S.D.
TEXP	31.2058	10.6313	18.4317	5.7262
SSW	9.9840	6.5102	4.4735	4.4750
DEF	-3.1454	3.9765	-1.3192	3.5366

Table E – Correlation matrix

	TEXP	SSW	YGAP	LGDP	TRADE	PROP>65	DEF	TL	TL*NEW	MAJ	NUMRULE
TEXP	1.0000	0.6531	-0.0280	0.3503	0.4159	0.5048	-0.3238	-0.5359	-0.4262	-0.0945	0.0522
SSW		1.0000	0.0598	0.6914	0.2567	0.8549	-0.0711	-0.4348	-0.3634	-0.0330	0.3070
YGAP			1.0000	0.0498	0.0633	-0.0417	0.0971	0.0459	0.0852	0.0705	0.1172
LGDP				1.0000	0.0741	0.8237	0.1135	-0.3046	-0.2885	-0.0322	0.2662
TRADE					1.0000	0.0839	0.0854	-0.3155	-0.3041	0.0535	0.0257
PROP>65						1.0000	-0.0077	-0.5040	-0.4112	-0.0614	0.2889
DEF							1.0000	0.1729	0.0673	0.0971	-0.0132
TL								1.0000	0.8372	-0.0367	-0.0922
TL*NEW									1.0000	-0.0485	-0.0598
MAJ										1.0000	-0.1249
NUMRULE											1.0000

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