

Reelection or term limits?

The short and the long view of economic policy.

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Abstract: An incumbent's drive for reelection can lead to political budget cycles. The distortion cycles cause in economic policy may be offset by the information they indirectly provide about the incumbent's competency. The informative content of cycles depends on the sophistication of voters, i.e. on whether they are rational or near rational.

In a framework of individual candidates, constitutional clauses that prohibit the reelection of the president eliminate political budget cycles. One-term limits that allow non-immediate reelection also shift the focus from short-run cycles to the long-run soundness of economic policies, and have superior welfare properties. Hence, the choice is not reelection or not, but rather immediate or non-immediate reelection.

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“El presidente y vicepresidente duran en sus empleos el término de seis años, y no pueden ser reelegidos sino con intervalo de un período” (1853 Argentine Constitution)

1. Introduction

The U.S. constitution and practically all Latin American constitutions impose term limits on the president. Term limits usually prohibit the reelection of the president, or set two as the maximum number of consecutive terms an incumbent can serve. Historically, term limits arose to avoid the excessive power of the president. The aim of this paper is to analytically explore the implications of term limits for the misuse of that power through political budget cycles.

Lower taxes and higher expenditures before elections characterize political budget cycles, as the result of attempts by the incumbent to boost its popularity and get reelected. Tufte (1978) introduces early evidence on political budget cycles. Alesina and Roubini (1997) present a recent discussion of the evidence, while Stein and Streb (1999) extend the evidence on political budget cycles to the management of exchange rates.

As Rogoff and Sibert (1988) show, political budget cycles need not be based on naïve, backward looking, voters: even with fully rational, forward looking, voters, cycles can arise due to informational asymmetries about the incumbent’s competence to run the government.

I study term limits within the Rogoff (1990) signaling framework. Under asymmetric information, elections impose a tradeoff on citizens. Elections are good in that they allow voters to replace an incompetent incumbent. In exchange, elections can tempt an incompetent incumbent to distort policy choices, to try to look competent and be reelected, giving rise to political budget cycles. I also look at the sensitivity of the results to near rational voters, who are not completely naïve, but aren’t fully rational either: they are not good at interpreting elaborate signals. The informative content of cycles turns out to depend

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on the proportion of near rational voters in the population.

It is quite natural to link term limits to political budget cycles. The reason is simple: if the president cannot run for immediate reelection, it makes no sense to boost its short-run popularity through the manipulation of economic policy. The paper spells out this logic. In this sense, term limits can be seen as a complement to other measures that seek to insulate budget policy from short-run electoral incentives, such as establishing a National Fiscal Council to smooth fiscal policy (Eichengreen, Hausmann, and von Hagen, 1996). Though term limits can eliminate the cycles, it comes at the sacrifice of excluding competent candidates from the electoral competition. This paper analyzes this trade-off.

Section 2 presents the constitutional restriction of term limits from a historical perspective. Section 3 relates term limits to political budget cycles. To formally study the influence of term limits on political budget cycles, Section 4 takes a streamlined version of the Rogoff (1990) model as the starting point, and considers the impact of differential levels of rationality of voters. In Section 5, individuals' competency characteristics have a permanent component, to allow alternative institutional variants of term limits to be compared. Section 6 presents the conclusions and extensions for future work.

2. Term limits in historical perspective

Constitutional democracy limits political decisions taken by popularly elected representatives. Liberal democracy, in particular, sets a balance between the democratic participation of the people and limited government, so even the majority cannot encroach upon certain individual rights protected by the constitution (cf. Nino, 1996). In the U.S., constitutional restrictions are extremely hard to change, but in other countries these restrictions are open to renegotiations between the president and congress.

Term limits are an instance of constitutional restrictions, one of the most controversial constitutional restrictions. In this sense, Petracca (1992) quotes Thomas Mann on term limitation as an "infringement on individual liberties, both the liberties of the voters and office holders".

The historical record clearly shows that term limits reduce the welfare of the incumbent president. For example, in Argentina and Brazil the incumbent presidents were the ones that pushed to eliminate the prohibition of reelection: Menem in the 1994 reform

of the Argentine constitution, Cardoso in the 1997 reform of the Brazilian constitution. That term limits reduce the welfare of voters is not so obvious. In instances such as the 1949 Argentine constitutional reform that allowed Perón's reelection, which was allegedly the result of the spontaneous demand of the people, the president did not want to openly admit he wanted the reform.

Analytically, based on the idea of freedom of choice, setting up such a restriction should at first glance make voters worse off, since the choice set is restricted to fewer alternatives: the mere possibility of reelection does not force voters to actually reelect the incumbent. Under asymmetric information, however, this claim is not valid, as the Sections below show.

Presidential term limits have been a big issue in Latin American politics, more so than in the United States. In the U.S., constitutional limits were only put into place in 1951, after Franklin Roosevelt occupied the presidency for four consecutive terms. Before that, an informal two-term tradition existed. This custom goes back to Washington, who set a precedent of not seeking a second reelection. Behind this two-term tradition in the U.S. was the principle of rotation in office, so the government would not depend too much on a particular person, which could hinder the development of strong political institutions. And non-perpetuity in office was stressed as a characteristic of republican, as opposed to monarchic, governments.²

Term limits in Latin America also arose out of the concern of preventing incumbents from perpetuating themselves in office. More specifically, one-term limits were rooted in the desire to avoid the reappearance of authoritarian governments. For instance, the 1853 Argentine Constitution prohibited the immediate reelection of the president, with the precedent of the Rosas dictatorship in mind. The 1917 Mexican Constitution forbade the reelection of the president, after the experience with the Porfirio Díaz regime. The 1992 Paraguayan Constitution prohibited presidential reelection, after the experience with the Stroessner dictatorship and his periodic victories in mock elections (Serrafero, 1997, chapters 2 and 5).

² Struble (1980) quotes George Mason: "nothing is so essential to the preservation of a republican government as a periodic rotation". Though Mason, Jefferson and Lee failed to impose constitutional restrictions to reelection in the presidency and other offices, the objections to perpetuity in office influenced extraconstitutional practice. The two-term tradition in the presidency was endorsed by resolutions of Congress

In the presidential systems in America, the only country without term limits of some sort is the Dominican Republic, as Table 1 shows.

Table 1: Presidential term limits in American Constitutions

Country	Year	Terms	Observation
Argentina	1853	1	Non-immediate reelection
	1994	2	Non-immediate reelection
Bolivia	1967	1	Non-immediate reelection
Brazil	1988	1	Non-immediate reelection
	1997	2	
Chile	1980	1	Non-immediate reelection
Costa Rica	1949	1	
Colombia	1991	1	
Dominican Rep.	1966	-	
Ecuador	1979	1	
El Salvador	1983	1	Non-immediate reelection
Guatemala	1985	1	
Honduras	1982	1	
Mexico	1917	1	
Panama	1972	1	Non-immediate reelection
Paraguay	1992	1	
Peru	1979	1	Non-immediate reelection
	1994	2	
United States	1951	2	
Uruguay	1967	1	Non-immediate reelection
Venezuela	1961	1	Non-immediate reelection

Source: Based on Mario D. Serrafiero, 1997, p. 69-70.

Of the historical reasons for term limits, the specific objective of avoiding authoritarian governments through this constitutional clause does not seem to stand up very well to facts. Term limits do not avoid per se authoritarian governments. Fujimori, after the anti-constitutional measures of shutting Congress down and intervening the judicial system, was able to muster popular support for the 1994 reform of the Peruvian constitution, doing away with the one-term limit that barred him from running for reelection (Serrafiero, 1997, chap. 2).³

Presidential term limits, without the checks and balances from the legislative and

(the House of Representatives, in 1875; the Senate, in 1928).

³ Fujimori won popular backing due to his successful stabilization program and to the virtual elimination of the guerrillas. This episode is not exceptional. In relation to authoritarian governments, Jorge Domínguez, in George Lodge and Ezra F. Vogel, eds., *Ideology and national competitiveness. An analysis of nine countries*, Harvard Business School Press, 1987, chapters 9 and 10, concludes from the experience of Mexico and Brazil that people can end up supporting governments that assure a good economic performance, even when they do not originate from democratic elections (quoted from Grondona, 1997).

judicial powers, may be insufficient to avoid an authoritarian government; with these checks and balances in place, many argue they are not necessary.⁴ Though it is true that introducing reelection does not automatically imply an authoritarian regime, as the recent cases of Menem and Cardoso show, this does not mean that some kind of term limits does not substantially curb the power of the president. For example, the issue of lame-duck presidents in the U.S. has to do with this erosion of presidential power in the second and final term.

Additionally, presidential term limits can affect the rotation principle all down the political system, as the reforms in Argentina and Brazil suggest. The reform in Brazil was made possible by negotiations of the president with governors that belonged to opposition parties, trading votes for the reform of the national constitution with votes for the reform of the state constitutions that also enabled governors to run for reelection (Serrafero, 1997, chapter 2). In Argentina, the reform of the national constitution also got tangled up with reforms of the provincial constitutions to allow opposition governors to run for reelection.

The avoidance of authoritarian governments, and the rotation principle to assure republican governments, are important issues that exceed the framework of this paper. Political budget cycles were not one of the explicit concerns in the establishment of term limits. I turn to this now.

3. Political budget cycles and term limits

Since Schumpeter and Downs, politicians are formally characterized as opportunistic individuals who are mainly concerned about winning elections.⁵ This drive to stay in power is apparent in the huge effort several presidents in Latin America have expended reforming the constitutions to allow their reelection.

⁴ The Federalist, 51 stresses internal limits to the concentration of power, in lieu of term limits: the Legislative and Executive powers are directly and independently elected by the people; the Judicial power, while appointive, is assured independence by the guarantee of permanency in office. Nevertheless, if the President packs the court, as Roosevelt tried in the U.S., and Menem achieved in Argentina, the Supreme Court can turn out to not be independent. Others go even further: the Supreme Court is never a completely independent power, being constrained by the preferences of Congress and the president, which can overturn the Court's decisions (cf. Bergara, Richman and Spiller, 1998).

⁵ The characterization focuses on purely egoistic motivations and abstracts from ideological differences that can lead an incumbent to stick to office in order to implement what it senses are the "right" policies. At the same time, it is a restricted version of Machiavelli's characterization of politics as a struggle to achieve power by all possible means.

Political budget cycles are a consequence of opportunistic incumbents that manipulate economic policy in order to increase their chances of reelection. Obviously, not all politicians are equally opportunistic. Tufte (1978) contrasts president Ford, who was not willing to take the short-term view in order to be reelected, with Nixon, who not only was willing to manipulate economic policy, but also resort to other means in his drive to be reelected. Fewer still are willing to go as far (and can get as far) as Fujimori. So, even though what drives politicians is the wish to be reelected, not all incumbents are willing to go to the same extremes to do so.

The trade-off that reelection brings about is formalized in Section 4, taking Rogoff (1990) as the starting point. The evidence on retrospective voting patterns based on past performance is reconciled with a forward-looking vote assuming that differences in performance have to do with transitory differences in the competency of politicians. If voters recognize that there is an amount of public goods that only competent incumbents can provide, budget cycles are, in equilibrium, signals of competency.

Full rationality of voters is a polar case. In the historical evolution of the franchise, an early restriction on voters had to do with literacy requirements, which assumed that not all voters were informed enough to vote. In contrast, modern democracies assume that all adult citizens are informed enough to vote. However, this is not the same as assuming that all citizens are equally informed, or have the same access to the relevant information.

In the specific case of budget issues, I consider what happens when a high proportion of voters is near rational and cannot interpret elaborate signals, but only recognize whether the provision of public goods is above or below average. The cycle can be completely uninformative: when all incumbents pick high expenditure before elections, cycles only distort the optimal allocation of expenditure from public investment towards current public goods.

The effect of one-term limits on cycles is straightforward. They eliminate cycles, because they eliminate the possibility of reelection that drives them. The welfare effect of term limits is ambiguous and depends on the extent of opportunism. If opportunism is very large, cycles are welfare reducing, so one-term limits are welfare improving.

Section 5 extends the framework in Section 4 to the case of incumbents that differ not only in their transitory competency, but also in their permanent competency. This is in

the spirit of Machiavelli's distinction between virtue and fortune. There are some candidates that are always competent, and can have long and successful political careers. But results also depend on luck, i.e. on being the right person, at the right time, in the right place. This depends on what problems happen to arise each term in the presidency.

"Strict" and "flexible" term limits that appear in several constitutions can be compared in this framework. Strict term limits force the incumbent out of office forever once the maximum number of terms is reached, for instance the one-term limit in the Mexican constitution, or the two-term limit in the U.S. constitution. Flexible term limits bar the incumbent from running immediately for office. For instance, the 1853 Argentine constitution did not allow the reelection of the president until a six-year term had elapsed, but there was no limit on the total number of non-consecutive reelections.

One term limits shift the focus from short-run cycles to the long-run soundness of economic policy. Unlike strict one-term limits, flexible one-term limits that allow non-immediate reelection have the important advantage that competent incumbents can return to office in the future.

4. Transitory competency differences

This Section considers how term limits affect political budget cycles, in a one-dimensional signaling version of Rogoff (1990). The incumbents' competency is not contemporaneously observable by voters. The signal of competency is the level of current expenditure. It would be equivalent to pick current taxes: the crucial point is the distortion between more and less visible budget items.

I first reproduce the results in Rogoff (1990), with incomplete information about competency and rational forward looking voters. Opportunism can lead to a political budget cycle: incumbents have an incentive to increase the provision of visible public goods before elections, at the expense of less visible budget items. The cycle can be interpreted as a signal in a separating equilibrium that leads voters to tell competent and incompetent incumbents apart. I then analyze the sensitivity of his results to the presence of near rational voters that do not interpret elaborate signals.

One and two-term limits, the predominant constitutional restrictions in Table 1, can be compared in this framework.

4.1. The players

Elections depend on how voters perceive the incumbent's competency and personal appeal. Competency c_t can be interpreted as the administrations' IQ to provide public services. Competency follows an MA(1) process, $c_t = c + e_{t-1} + e_t$. The e_t shocks are independent over time, and take either a high or low value, $e_t = \pm e$. The source of asymmetric information is that e_t is only observable with a one period lag. Voter's priors are that both e and $-e$ shocks have probability $\frac{1}{2}$. The administrations' personal appeal or charm η_t stands for other dimensions in which candidates differ, and is observable in the current period. Personal appeal also follows an MA(1) process, $h_t = q_{t-1} + q_t$. The q_t shocks have a uniform distribution over the interval $[-q, q]$.

Total expenditure depends on the incumbents' competency. The government has a choice between current and capital expenditure, g_t and k_{t+1} . Only g_t constitutes visible expenditure in period t . Voters observe k_{t+1} the following period.⁶

$$(1) \quad g_t + k_{t+1} = c_t$$

Voters have separable, strictly concave utility functions in public expenditure, $u(g_t) + v(k_{t+1})$, where $u' > 0$, $v' > 0$, and $v'(0) < \infty$ (to assure an interior solution). By budget restriction (1) and the MA(1) process that governs competency c_t , utility of public expenditure is a function of visible expenditure, $U(g_t) = u(g_t) + v(c + e_{t-1} + e_t - g_t)$. Utility of voters is linear in the personal appeal of incumbent h_t . Lifetime utility Y is the discounted sum of total per period utility.

$$(2) \quad Y = \sum_{t=0}^T \frac{h_t + U(g_t)}{(1 + d)^t}$$

Politicians have the same preferences as voters, but for the fact that they attach value $K > 0$ to being in office, the satisfaction or "ego-rent" for being the leader. Let $z_t = 1$ when candidate is incumbent, and 0 when not. Z gives the politician's lifetime utility,

$$(3) \quad Z = Y + \sum_{t=0}^T \frac{z_t K}{(1 + d)^t}$$

⁶ Note that the assumption that voters observe k_{t+1} with a one period lag does not suffice for voters to infer e_t ex-post. Inference depends on the sequence of shocks. If $e_{t-1} + e_t = -2e$ or $2e$, e_t can be inferred from total expenditure; if $e_{t-1} + e_t = 0$, then e_t can be low or high with equal probability (unless, of course, e_{t-1} is known, i.e., competency shocks are observable ex-post).

Voters must compare the incumbent with the opposition candidate. Denote the perceived probability that the incumbent has a positive competency shock, $\mathbf{e}_t^1 = \mathbf{e}$, by \mathbf{q}_t^1 . Perceptions will depend on what the signaling game indirectly reveals about competency. In the case of the opposition candidate, \mathbf{e}_t^0 cannot be revealed in any way, so the expected value of $\mathbf{q}_t^0 = 1/2$. As to the personal appeal of candidates, both q_t^1 and q_t^0 are observed before elections. To simplify the notation, the super-indices for incumbent are dropped: $\mathbf{e}_t^1 \circ \mathbf{e}_t$, $\mathbf{q}_t^1 \circ \mathbf{q}_t$, $q_t^1 \circ q_t$.

Incumbents last two periods, and there are elections at the end of every even period, $t=2,4,\dots$. Even and odd periods can be analyzed separately. Let $t+1$ be an odd, off election, period. The incumbent's actions in $t+1$ are only affected by the trade-off between current and capital expenditure, since no signaling is at stake: before elections in $t+2$, voters observe $g_{t+1} + k_{t+2} = c + \mathbf{e}_t + \mathbf{e}_{t+1}$. The incumbent's intertemporal optimization problem (3) at $t+1$ reduces to maximizing $U(g_{t+1})$, given competency c_{t+1} : for a given \mathbf{e}_t , $g_{t+1}^* = g^*(\mathbf{e}_{t+1})$, which can take values $g^*(-\mathbf{e})$ or $g^*(\mathbf{e})$.

In an even period t , the timing is that voters make up their minds after observing the government's spending decision. Voter's decision affects expected utility after elections. Decisions are conditional on the incumbent's perceived shock \mathbf{e}_t , \mathbf{e} (competent) or $-\mathbf{e}$ (incompetent). If \mathbf{e}_t were known, $E[U(g_{t+1}^*)|\mathbf{e}_t] = 1/2 U(g^*(\mathbf{e})|\mathbf{e}_t) + 1/2 U(g^*(-\mathbf{e})|\mathbf{e}_t)$. However, voters' only available information is probability \mathbf{q}_t , for incumbent, and priors $\mathbf{q}_t^0 = 1/2$, for opposition candidate. Hence, $E[U(g_{t+1}^*)|\mathbf{q}_t] = \mathbf{q}_t E[U(g_{t+1}^*)|\mathbf{e}_t = \mathbf{e}] + (1 - \mathbf{q}_t) E[U(g_{t+1}^*)|\mathbf{e}_t = -\mathbf{e}]$ with incumbent and $E[U(g_{t+1}^*)|\mathbf{q}_t^0 = 1/2] = 1/2 E[U(g_{t+1}^*)|\mathbf{e}_t = \mathbf{e}] + 1/2 E[U(g_{t+1}^*)|\mathbf{e}_t = -\mathbf{e}]$ with opponent. The decision of optimizing voters in period t will be to reelect incumbent if expected utility is greater than with alternative candidate:⁷

$$(4) E[U(g_{t+1}^*)|\mathbf{q}_t] + q_t > E[U(g_{t+1}^*)|\mathbf{q}_t^0 = 1/2] + q_t^0$$

For the incumbent, the results of elections are uncertain because the appeals shocks q_t and q_t^0 are only revealed after expenditure decisions. To maximize (3), subject to voting behavior (4), incumbents have an incentive to create the perception they are competent: a higher \mathbf{q}_t increases the probability of reelection $\mathbf{p}(\mathbf{q}_t)$. To fix ideas, note that (4) implies that

⁷ If the term limit is binding and the incumbent cannot run for reelection, voters only dispose of information

when the incumbent is perceived to be competent with probability $q_t=1/2$, the probability of reelection is $p(q_t=1/2)=1/2$ (i.e., there is no incumbency bias).

4.2. Rational voters

As Rogoff (1990) shows, only the separating equilibrium survives the Cho-Kreps equilibrium dominance refinement of perfect Bayesian equilibrium. Hence, the analysis can be restricted to this case.

Rational voters form their perception of q_t on the basis of visible expenditure, so the probability of reelection, $p(q(g_t))$, depends on g_t . In a separating equilibrium, picking (at least) the separating signal $g_t=g_t^s$ gains the incumbent a reputation of competence, $p(q(g_t^s))=p(1)>1/2$. Not signaling leads to lose any such reputation, $p(0)<1/2$.

$$(5) \begin{aligned} g_t &\geq g_t^s \rightarrow q = 1 \\ g_t &< g_t^s \rightarrow q = 0 \end{aligned}$$

In the separating equilibrium, for a given e_{t-1} , the optimal decision for an incumbent that does not signal is to pick $g_t^* = g^*(e_t)$, since it does not distort the optimal intertemporal allocation of public expenditure. To verify that the separating equilibrium is indeed $\{g_t = g^*(-e) \text{ for } e_t = -e, g_t = g_t^s \text{ for } e_t = e\}$, it must be true that neither type of incumbent wants to deviate unilaterally, taking into account voter's expectations in (5).

The no deviation condition can be expressed through the temptation to signal $T(g_t^s / e_t)$: the difference between expected utility at g_t^s , $E[Z(g_t^s) / e_t]$, and at g_t^* , $E[Z(g_t^*) / e_t]$. The temptation to signal can be rearranged into the gains minus the costs of signaling.

$$(6) T(g_t^s / e_t) = Gain(g_t^s) - Cost(g_t^s / e_t)$$

The gain from signaling is the increased probability of being in office the next two periods, and does not depend on competency.

$$(7) Gain(g_t^s) = (p(1) - p(0)) \sum_{j=1}^2 \frac{K}{(1+d)^j}$$

The cost of signaling has both a variable and a fixed component, $Cost(g_t^s / e_t) = CV(g_t^s / e_t) + CF(g_t^s / e_t)$. The variable component CV is due to cycle, that distorts

about the expected personal appeal of the alternative candidates: $E[\eta_{t+1} | I_t] = q_t$.

visible expenditure in relation to optimal level $g^*(\mathbf{e}_t)$, and is zero when $g_t^s = g_t^*$. The fixed part CF is due to the reduction in the chances an above-average c_t candidate is in office next period.

$$CV(g_t^s / \mathbf{e}_t) = U(g_t^* / \mathbf{e}_t) - U(g_t^s / \mathbf{e}_t)$$

$$(8) \quad CF(g_t^s / \mathbf{e}_t) = (\mathbf{p}(1) - \mathbf{p}(0)) \frac{E[U(g_{t+1}^*) / \mathbf{q}_t^0 = 1/2] - E[U(g_{t+1}^*) / \mathbf{e}_t]}{(1 + d)}$$

By concavity, variable costs are increasing for $g_t^s > g^*(\mathbf{e}_t)$. For $g_t^s > g^*(\mathbf{e})$, marginal costs are larger for an incompetent incumbent.

$$(9) \quad \frac{\partial CV}{\partial g_t^s} = - \frac{\partial U(g_t^s / \mathbf{e}_t)}{\partial g_t^s} = \frac{\partial v(c + \mathbf{e}_{t-1} + \mathbf{e}_t - g_t^s)}{\partial g_t^s} - \frac{\partial u(g_t^s)}{\partial g_t^s} \geq 0 \quad \text{for } g_t^s \geq g^*(\mathbf{e}_t)$$

Figure 1 depicts the separating equilibrium. The minimum signaling costs for the incompetent are at a lower g_t , since $g^*(-\mathbf{e}) < g^*(\mathbf{e})$. The fixed cost is negative for a competent candidate, so there is a “fixed benefit” to voters, $BF(g_t^s / \mathbf{e}_t = \mathbf{e})^o - CF(g_t^s / \mathbf{e}_t = \mathbf{e}) > 0$.

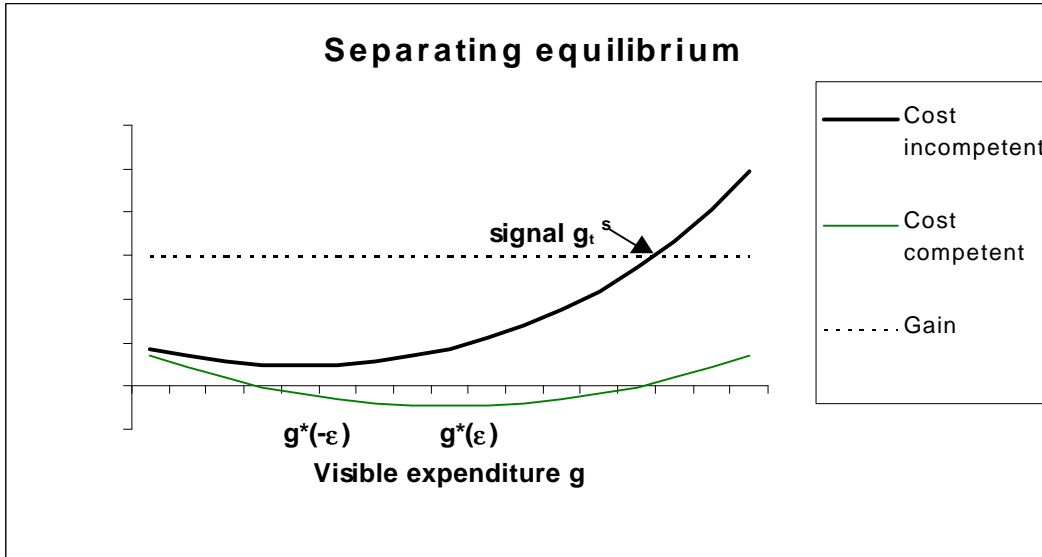


Figure 1

In political budget cycles, competent incumbents pick excessive current expenditure and suboptimal investment.

Lemma 1 (Rogoff): Political budget cycles lead to a separating equilibrium.

Proof. In equilibrium, g_t^s is solution of $T(g_t^s / \mathbf{e}) = 0$, given the convention that the incompetent picks g_t^* when indifferent between g_t^s and $g_t^* = g^*(-\mathbf{e})$. The competent faces the same gain, and a lower cost, at g_t^s .

Signal g_t^s is relevant for $g_t^s > g^*(\mathbf{e})$, since otherwise the competent can pick $g^*(\mathbf{e})$ and, by (5), signal at the

same time its type. Hence, the separating equilibrium is $\max\{g_t^s, g^*(\mathbf{e})\}$.

Political budget cycles depend on parameter K . Let K_{\min} be ego-rent where $g_t^s = g^*(\mathbf{e})$. When $K < K_{\min}$, $g^*(\mathbf{e}) > g_t^s$ and the competent can signal its type without distorting current expenditure. Cycles arise when $K > K_{\min}$, since $g_t^s > g^*(\mathbf{e})$.

Lemma 2 (Rogoff): Political budget cycles are welfare improving iff signaling costs are negative.

Proof. This is a restatement of Rogoff (1990). A competent signals as long as the gains exceed the costs. The gains do not represent, however, a welfare gain to the population. Only signaling costs affect the welfare of voters. The welfare effect of signaling is the future gain due to the increased probability that a competent is in office after elections, $BF(g_t^s, \mathbf{e})$, minus the current loss due to the distortion in the optimal time profile of public expenditure, $CV(g_t^s, \mathbf{e})$.

Let $K_{\max} > K_{\min}$ be ego-rent where $CV(g_t^s, \mathbf{e}) = BF(g_t^s, \mathbf{e})$ for competent incumbent, so its signaling costs are zero. For $K < K_{\max}$, $CV(g_t^s, \mathbf{e}) - BF(g_t^s, \mathbf{e}) < 0$, so there is welfare gain to voters. For $K > K_{\max}$, $CV(g_t^s, \mathbf{e}) - BF(g_t^s, \mathbf{e}) > 0$, so there is welfare reduction.

The indeterminacy of the welfare effects of political budget cycles is due to our a priori ignorance on whether or not the actual ego-rent $K > K_{\max}$. Rogoff (1990) remarks that imposing restrictions on policy makers, such as a balanced budget, can lead to distortions in other directions. One term limits do not suffer from this setback: they eliminate all signaling, since the incumbent must leave office at the end of its term (as Rogoff himself observes, in an end period there is no incentive to manipulate economic policy).

Since the welfare effects of political budget cycles are not clear a priori, neither are the welfare effects of one-term limits versus two-term limits.

Proposition 1 (rational voters): Term limits are welfare improving iff political budget cycles are welfare reducing.

Proof. Denote voter's expected utility under a one-term limit "A", and under a two-term limit, when an incumbent is up for reelection, "B". Under A, the next incumbent is competent with probability $p_a = 1/2$. Under B, the next incumbent is competent with probability $p_b = 1/2 + [p(1) - p(0)]/4$, $3/4 > p_b > 1/2$.

$$\begin{aligned}
 A &= \frac{[U(g_t^*)/-\mathbf{e}] + [U(g_t^*)/\mathbf{e}]}{2} + \frac{E[U(g_t^*)/\mathbf{q}_t = 1/2]}{1+d} \\
 (10) \quad B &= \frac{[U(g_t^*)/-\mathbf{e}] + [U(g_t^s)/\mathbf{e}]}{2} + \frac{\mathbf{p}(1)E[U(g_t^*)/\mathbf{q}_t = 1] + (1-\mathbf{p}(1))E[U(g_t^*)/\mathbf{q}_t = 1/2]}{2(1+d)} \\
 &\quad + \frac{\mathbf{p}(0)E[U(g_t^*)/\mathbf{q}_t = 0] + (1-\mathbf{p}(0))E[U(g_t^*)/\mathbf{q}_t = 1/2]}{2(1+d)}
 \end{aligned}$$

The difference in expected utility under both institutional schemes, $B-A$, can be simplified by fact that

$E[U(g_t^s | \mathbf{q}_t=1)] - E[U(g_t^s | \mathbf{q}_t=1/2)] = E[U(g_t^s | \mathbf{q}_t=1/2)] - E[U(g_t^s | \mathbf{q}_t=0)]$. Rearranging, and applying the definitions of signaling costs in (8),

$$(11) B - A = \frac{BF(g_t^s / \mathbf{e}) - CV(g_t^s / \mathbf{e})}{2}$$

When the right-hand side is negative, cycles are welfare reducing (Lemma 2), so one-term limits are welfare superior to two-term limits that allow reelection.

Note that cycles would be larger with no term limits at all, since the gains at stake would include not only the current reelection, but also the option value of future reelections. This relates to Madison's view that large political stakes are potentially harmful to democracy.

4.3. Near rational voters

The Rogoff analysis assumes all voters interpret the separating signal. I now analyze the sensitivity of his result to this assumption. Voters may be differentially informed. Formally, not all voters may be fully rational. Rather, there may exist near rational voters that find it too costly to solve the model and figure out the exact signaling equilibrium, somewhat as in Akerlof and Yellen (1985).

Let near rational voters adopt a coarse distinction, recognizing whether visible expenditure is above or below level $g^*(\mathbf{e})$, associating higher expenditure to higher competency. This classification of information in two sets defines a specific model of near rationality, and inference rule (5) must be replaced (otherwise, voters would be naïve, not near rational).

The type of equilibrium depends on the amount of ego-rents. In a semi-separating equilibrium, an incompetent picks $g^*(\mathbf{e})$ with probability $1 > I > 0$.⁸ The true probability that high expenditure signals competency is $\mathbf{q} = I / (I + 1)$. To distinguish from signal g_t^s in a separating equilibrium, denote the cutoff level that separates high and low expenditure $g_t^{ss} = g^*(\mathbf{e})$.

$$(12) \begin{aligned} g_t &\geq g_t^{ss} \rightarrow \mathbf{q} = 1 / (1 + I) \\ g_t &< g_t^{ss} \rightarrow \mathbf{q} = 0 \end{aligned}$$

Lemma 3 (near rational voters) Political budget cycles lead to a semi-separating or

⁸ Note that in the semi-separating equilibrium, the incompetent is indifferent between $g^*(-\mathbf{e})$ and $g^*(\mathbf{e})$, so it can pick either one.

pooling equilibrium.

Proof. With low opportunism, $K < K_{min}$, there is no cycle. A separating equilibrium still holds, since $I=0$ and inference rule (5) is not biased.

With high opportunism, $K > K_{min}$, incompetent incumbents either mix between $g^*(-e)$ and $g^*(e)$ with weights I and $I-I$, so equilibrium is semi-separating, or, for K high enough, $I=I$, so equilibrium is pooling. Incumbents must satisfy the following condition in pooling equilibrium:

$$(13) \sum_{j=1}^2 \frac{K}{(1+d)^j} \geq \frac{U(g_t^* / e_t) - U(g_t^p / e_t)}{p(1/2) - p(0)} + \frac{E[U(g_{t+1}^*) / q_t^0 = 1/2] - E[U(g_{t+1}^*) / e_t]}{(1+d)}$$

For incompetent, this means $Gain(g_t^p) \geq CV(g_t^p / \frac{1}{2}e) + CF(g_t^p / \frac{1}{2}e)$. Given inference rule (12) of voters, competent incumbents will also pick $g_t^p = g^*(e)$.

Note that under near rational voters, incompetent incumbents cause the cycle by distorting current expenditure upwards, whereas under fully rational voters competent incumbents did.

Lemma 4 (near rational voters): Political budget cycles are welfare reducing.

Proof. By Lemma 3, incompetent incumbents pick excessive current expenditure in a cycle, and reduce the informative content of $g^*(e)$. The costs they incur imply a welfare effect of $-Cost(g_t^p / \frac{1}{2}e) < 0$.

By Lemma 4, cycles as such are pure waste, while by Lemma 3 they lead to a pooling or semi-separating equilibrium. These results under near rational voters have some of the flavor of Lohman (1996), where political budget cycles are entirely wasteful since there is a pooling equilibrium which conveys no information. However, the reason is different. In Lohman, voters are fully rational, but incumbents select policy before they observe their own competency.⁹

Whether no reelection is welfare superior to reelection will depend on the size of ego-rents.

Proposition 2 (near rational voters): Term limits are welfare improving if equilibrium is pooling, or semi-separating with I sufficiently close to I .

Proof. Compare voter's expected utility under a one-term limit, A , and under a two-term limit, B (when incumbent is up for reelection). The difference in expected utility is, after some manipulation,

⁹ Persson and Tabellini (1997) characterize Lohman (1996) as a moral hazard problem, in contrast to the adverse selection problem in Rogoff and Sibert (1988), Rogoff (1990), and Persson and Tabellini (1990) - and in this paper -.

$$B - A = (1 - I) \frac{BF(g_t^p / \mathbf{e})}{2} - I \frac{CV(g_t^p / -\mathbf{e})}{2}, \quad \text{where}$$

$$(14) CV(g_t^p / -\mathbf{e}) = U[g^*(\mathbf{e}) / -\mathbf{e}] - U[g^*(-\mathbf{e}) / -\mathbf{e}] \quad \text{and}$$

$$BF(g_t^p / \mathbf{e}) = \left[p \left(\frac{1}{1+I} \right) - p(0) \right] \frac{E[Ug_{t+1}^* / \mathbf{q}_t = 1] - E[Ug_{t+1}^* / \mathbf{q}_t = 1/2]}{1+d} = CF(g_t^p / -\mathbf{e})$$

In pooling equilibrium, $I=1$ and $\theta=1/2$. No information is revealed, and incompetent incumbents merely distort current expenditure upwards: $B-A = -CV(g_t^p / \mathbf{e})/2 < 0$. A one-term limit is of course welfare enhancing.

In a semi-separating equilibrium, $1 > I > 0$ and $I > q = I/(1+I) > 1/2$. The information can offset the distortion in current expenditure. $B-A$ is positive for $I=0$, and monotonically decreasing in I , becoming zero for some I intermediate between zero and one.

4.4. Sensitivity of results

The Rogoff results in Lemmas 1 and 2, that cycles are signaling devices of competent incumbents which can be welfare improving, are completely reversed once voters are near-rational (Lemmas 3 and 4). However, to upset the Rogoff result, the deviation has to be significant. Let there be a combination of fully rational and near rational voters, as in Akerlof and Yellen's mix of intelligent and slightly dumb price setters. Because of the majority rule in elections, the majority type decides elections, so more than 50% of the electorate has to be near rational. Only when a minority of voters are well informed will near-rational voters swing the elections.¹⁰

The results on the welfare effects of one-term limits in relation to immediate reelection, Propositions 1 and 2, depend on how far politicians are willing to go to get reelected. If ego-rents are above a certain point, strict one-term limits are welfare improving with both types of voters.

5. Permanent competency differences

Successful political careers tend to last long. Historical cases such as presidents Roca and Perón in Argentina, and Sanguinetti in Uruguay, who went back to power after being out of office for many years. A simple way to model this is as the consequence of permanent competency characteristics of individual candidates. Though personal appeal

¹⁰ If people vote when the expected difference in welfare is above a certain threshold, well-informed voters will be more motivated to vote: they perceive welfare under alternative candidates more clearly. With endogenous voter turnout, rational voters are likely to represent a larger share than their proportion in overall population. This might also affect the equilibrium: when majority voter type is uncertain, both competent and incompetent incumbents might be tempted to produce cycles.

can also have a permanent component, it is ignored here.

This setup allows to consider as variants to two-term limits not only strict one term limits, but also flexible one term limits with non-immediate reelection. Provisions of this sort appear in several constitutions, as listed in Table 1. In the basic Rogoff setup, both institutional variants are identical.¹¹

5.1. Permanent and transitory differences

Formally, competency can be expressed as the sum of permanent and transitory components, $c_t = c + e^p + e^{np}$. In Machiavelli's words, we can think of e^p as virtue (competent or incompetent) and e^{np} as fortune (good or bad luck).

To track as closely as possible the previous model, I assume that the timing is as follows. The incumbent receives the transitory shock e^{np} in the odd, off-election, period $t-1$, and the permanent shock e^p in the even, election, period t . The inference problem voters face is similar to Section 4.

$$(15) \text{ For } t-1 \text{ odd, } c_{t-1} = c + e_{t-1}^{np} + e_{t-2}^p \quad \text{and} \quad c_t = c + e_t^p + e_{t-1}^{np}$$

This formulation supposes that, in the first half of the term in office, overall competency is affected by the permanent competency of the predecessor. This is in accord with the behavior of U.S. voters. Voters do not take into account the president's full four year term to evaluate his performance, only the last two years, acknowledging that the first two years are affected by the policies of the previous president.¹²

Voters' rule (4) must be amended to take into account that permanent competency differences affect two future periods, $t+2$ and $t+3$, not only one.

$$(16) \sum_{j=2}^3 E[U(g_{t+j}^*)/q_t] + q_t > \sum_{j=2}^3 E[U(g_{t+j}^*)/q_t^0 = 1/2] + q_t^0$$

5.2. Rational voters

The signaling game resembles Section 4.2, so the following comments are brief.

In a regime with immediate reelection, the temptation to signal $T(g_t^s \setminus e_t^p) = \text{Gain}(g_t^s) - \text{Cost}(g_t^s \setminus e_t^p)$ depends on permanent competency. $CV(g_t^s \setminus e_t^p)$ does not change, while in

¹¹ If competency advantages are only transitory, flexible and rigid term limits impose identical restrictions on candidates: non-immediate reelection deprives the incumbent of any reputation, since all effects last at most one more period, while the next possible incumbency is within three periods.

¹² I owe this observation to Jeffrey Frieden.

$CF(g_t^s | \mathbf{e}_t^p)$ what is at stake is effect of \mathbf{e}_t^p on outcomes in $t+2$ and $t+3$, since effects on $t+1$ are, by (15), already pre-determined.

A separating equilibrium always exists. The separating signal is determined at g_t^s where $Gain(g_t^s) = Cost(g_t^s | \mathbf{e})$ for an incompetent. A competent incumbent has lower costs, so it will prefer $\max\{g_t^s, g^*(\mathbf{e})\}$. As in Lemma 1, political budget cycles arise when separating signal $g_t^s > g^*(\mathbf{e})$. As in Lemma 2, cycles are welfare enhancing as long as variable costs do not exceed fixed benefits, $Cost(g_t^s | \mathbf{e}) = CV(g_t^s | \mathbf{e}) - BF(g_t^s | \mathbf{e}) < 0$. As in Proposition 1, eliminating reelection improves welfare when political budget cycles reduce welfare.

In a regime with non-immediate reelection, the incumbent must let a full presidential term elapse before running for reelection. Current expenditure can no longer be used to signal future competency, since besides observing investment in $t+1$, voters observe permanent competency \mathbf{e}_t^p , and can use that information in election at $t+2$. Hence, there is no cycle.

Proposition 3 (rational voters): One-term limits with non-immediate reelection are welfare superior to one-term limits without reelection.

Proof. Both types of term limits eliminate political budget cycles, and hence variable costs $CV(g_t^s | \mathbf{e})$. Strict one-term limits also eliminate fixed benefits. With non-immediate reelection, voters get the option of reelecting a competent incumbent after a waiting period. Thus, fixed benefits are not reduced to zero, but to $BF(g_t^s | \mathbf{e}) / (1+d)^2$ instead.

Corollary 3: Political budget cycles that are welfare enhancing may be Pareto inferior to one term limits with non-immediate reelection.

Proof. Political budget cycles are welfare enhancing when $BF(g_t^s | \mathbf{e}) > CV(g_t^s | \mathbf{e})$, so by Proposition 1 one-term limits are worse. However, if at the same time $BF(g_t^s | \mathbf{e}) [1 - 1/(1+d)^2] < CV(g_t^s | \mathbf{e})$, non-immediate reelection is welfare improving in relation to immediate reelection.

The corollary implies that even if cycles are good in the Rogoff sense, i.e. their informative content is larger than the short-run losses caused by the cycle, there may be a superior alternative. In this case where competency has a permanent component, the information can be revealed without distorting short-run policy, at the cost of imposing a waiting period.

5.3. Near rational voters

As in Section 4.3, voters' inference rule is based on whether current expenditure is

above or below $g^*(\mathbf{e})$.

In a regime with immediate reelection, the results remain qualitatively the same: political budget cycles lead to semi-separating or pooling equilibrium (as in Lemma 3) and cycles are welfare reducing (as in Lemma 4). Whether one-term limits are Pareto superior to two-term limits depends on how large ego-rents are (as in Proposition 2).

In a regime with non-consecutive reelection, current expenditure can no longer be used to signal future competency, because voters observe permanent competency ex-post. Hence, all incumbents pick their optimal level of current expenditure g_t^* and the equilibrium is separating.

Proposition 4 (near rational voters): One-term limits with non-immediate reelection are welfare superior to one-term limits with no reelection.

Proof. Under non-immediate reelection, voters can reelect competent incumbent in period $t+2$. Because of stationarity (and because future transitory shocks equal zero in expected value), $g_{t+j}^* = g^*(\mathbf{e}_{t+j,1}^p)$ for $j=1,2,\dots$. Welfare increases by the amount $\mathbf{p}(1)/2[1/(1+\mathbf{d})^4 + 1/(1+\mathbf{d})^5]\{E[U(g_{t+1}^*|\mathbf{q}_t=1)] - E[U(g_{t+1}^*|\mathbf{q}_t=1/2)]\}$ due to the discounted difference in expected utility under non-immediate reelection, $1/2\{\mathbf{p}(1)E[U(g_{t+1}^*|\mathbf{q}_t=1)] + [1-\mathbf{p}(1)]E[U(g_{t+1}^*|\mathbf{q}_t=1/2)]\} + 1/2E[U(g_{t+1}^*|\mathbf{q}_t=1/2)]$, and under no reelection, $E[U(g_{t+1}^*|\mathbf{q}_t=1/2)]$, during periods $t+4$ and $t+5$.

Corollary 4: A semi-separating equilibrium with immediate reelection that is welfare enhancing may be Pareto inferior to non-immediate reelection.

Proof. Similar to Corollary 3.

5.4. Sensitivity of results

In this framework of permanent competency differences, the new feature is that two term limits can be compared both to strict one-term limits and to flexible one-term limits with non-immediate reelection.

One term limits change the focus of economic policy from short-run visible expenditure to the long-run implications, represented in the model by investment k_{t+1} . This result is not affected by the existence of near rational voters.

Allowing non-immediate reelection has the advantage of allowing competent incumbents to compete for office again in the future. Consequently, one term limits with non-immediate reelection are Pareto superior to strict one term limits under both rational and near rational voters (Propositions 3 and 4). The result is independent of the composition of the electorate. So the institutional choice is not between reelection or not,

but rather between immediate or non-immediate reelection.

Note that in this framework it does not make any sense to limit the number of non-consecutive reelections. This is an additional advantage of flexible one-term limits in relation to strict two-term limits. The stress on the long-run soundness of economic policy, as opposed to short-run policy cycles, remains.

6. Conclusions

Term limits are a constitutional restriction present in almost all the presidential systems in America. The paper focused on the effect of term limits on political budget cycles.

Political budget cycles are a consequence of the attempts of the incumbent to be reelected. Rogoff (1990) demonstrated that cycles could be interpreted as a separating signal sent by a competent incumbent. Hence, cycles could have a positive welfare effect.

The paper looked at the sensitivity of the results on cycles to the presence of near rational voters that do not interpret complicated signals, but rather distinguish between “high” and “low” levels of expenditure using a rule of thumb. As it turns out, the results are sensitive to how sophisticated voters are. If voters are near rational, cycles lead to a semi-separating or pooling equilibrium in which incompetent incumbents distort current expenditure upward to improve their reputation. Consequently, cycles reduce welfare (Lohman, 1996, has a similar result, for a different reason: incumbents pick policy before they know their type). However, small deviations from full rationality do not suffice. More than 50% of the voters have to be near rational.

In this framework, it is trivial to show that one-term limits eliminate cycles. The reason is simple: they eliminate the possibility of reelection that drives incumbents to produce cycles. The effects of term limits on budget cycles are not sensitive to the mix of rational and near rational voters.

As to whether term limits are welfare improving, the answer is related to the degree of opportunistic behavior of incumbents. If opportunism is low, one-term limits are Pareto inferior to two term limits that allow immediate reelection, both under rational and near rational voters. If incumbents are willing to go to extremes to be reelected, one-term limits are superior from a welfare point of view.

Based on the fact that political reputations can be long lasting, the model incorporates not only transitory but also permanent competency differences. Other constitutional variants of term limits can be analyzed in this framework, in particular flexible one-term limits with non-immediate reelection.

Both strict and flexible one-term limits change the focus of economic policy from short-run visible expenditure to long-run investment, a shift from the short to the long view. Since flexible one-term limits allow competent incumbents to return in the future, they are Pareto superior. This result holds under both rational and near rational voters, pointing in the direction of non-immediate reelection, instead of no reelection at all.

In relation to two-term limits, the welfare effects of immediate versus non-immediate reelection are ambiguous: if incumbents are not too opportunistic, immediate reelection is better; if opportunism is very extreme, non-immediate reelection is better.

However, in this extended framework there is an important difference with the original Rogoff results, where political budget cycles that were welfare enhancing could not be improved upon. Even if the informative content of political budget cycles is larger than the short-run distortions they cause, a one-term limit with non-immediate reelection may be Pareto superior. The cost imposed by the waiting period must be smaller than the distortion in expenditure due to the cycle.

There are at least two extensions to explore. First, the present framework treated elections as an adverse selection problem. However, it ignored a moral hazard dimension. Competency is not purely a characteristic of the individual. Ferejohn (1986) treats the performance of politicians as a response to the incentives they face. Reelection can lead the incumbent to put in more effort to stay in office. Term limits eliminate the reward for doing a good job, as Hamilton pointed out in The Federalist, 72 (he pointed out as well the other downside, that term limits may exclude a competent candidate from political competition).¹³ However, flexible term limits do not rule out the possibility of rewarding a good incumbent, since they only rule out immediate reelection. And if there is no limit on the total number of terms, there is no end-period problem, unlike strict term limits. A good

¹³ How term limits affect the effort a politician puts into the job is complicated by procrastination, in the sense of Akerlof (1991). Term limits are a deadline; a politician with a deadline cannot kid itself about the time it has to carry out its agenda. Tufte (1978) notes that U.S. presidents sometimes postpone policy actions during their first term. The examples are not only economic: Kennedy decided to postpone putting a stop to the

reputation is still important, so accountability is not lost.¹⁴

Self-interest is clearly the driving force in political careers. In that vein, this paper considered the impact of term limits on individual candidates. This left political parties out of the picture, something that would bring in a host of other issues. So a second extension is to see what happens if the president is interested in the election of the party candidate, and political reputations are transferable (i.e., the competency of party candidate is identified by voters with the competency of the current administration). Political budget cycles may arise even if the president does not run for reelection. Anyhow, the analysis in the present paper may still remain valid under certain circumstances. In particular, when the president cannot influence the nomination of the new party candidate, the president would not have a great stake in the victory of the party candidate.¹⁵

Vietnam War until after reelection, to avoid short-run controversy and criticism (p. 56).

¹⁴ Incumbency advantage was not considered. If that were an issue, one-term limits with non-immediate reelection would level the playing ground for all the possible candidates.

¹⁵ Tufte (1978), p. 24, observes the ambivalence of out-going U.S. presidents toward their party's nomination of a successor, determined through primaries: Truman-Stevenson in 1952, Eisenhower-Nixon in 1960, and Johnston-Humphrey in 1968. Duhalde, who blocked Menem's attempt to reform the Constitution to allow his third consecutive term in office, does not count with Menem's blessing to run as presidential candidate of the Peronist party.

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