Legislatures in authoritarian regimes

Author(s): Escribà Folch, Abel
Date 2003
Type Working Paper
Series Estudios = Working papers / Instituto Juan March de Estudios e Investigaciones, Centro de Estudios Avanzados en Ciencias Sociales 2003/196
City: Madrid
Publisher: Centro de Estudios Avanzados en Ciencias Sociales

LEGISLATURES IN AUTHORITARIAN REGIMES

Abel Escribà Folch

Estudio/Working Paper 2003/196
September 2003

Abel Escribà Folch is a PhD candidate at the Center for Advanced Study in the Social Sciences, Juan March Institute, Madrid. This paper forms part of his ongoing doctoral research.

Abstract

This paper explores which are the conditions and the incentives that make some dictators create a parliament. A game theoretical model with incomplete information where dictators are taken as revenue maximizers is developed in order to account for this fact. From the model we extract the two key factors that explain the creation of legislatures: the higher the proportion of mobile capital and the dictator's discount factor, the higher the probabilities of creating a legislature. Also derived from the model two implications are tested and confirmed: dictatorships with a legislature tax at a lower rate, and promote investment.

1. - Introduction[*]

In 1942 the Francoist regime created in Spain the *Cortes Generales* in order to provide with some regularity the ruler's actions. Haile Selassie about 1957 in Ethiopia, Nasser in Egypt, Suharto in 1971 in Indonesia, Trujillo in the Dominican Republic, and many others did the same. The fact seems to be quite normal but we still do not know which are the incentives that make it possible.

Besides, the composition of those legislatures reflects very similar representative patterns concerning the groups or sectors more prominent in them. In Zambia, under Kaunda's presidency, over 40 per cent of successful candidates in the National Assembly were businessmen or small traders or had business interests (Tordoff, 1977). Likewise, 32 percent of the leaders in the Spanish Cortes were listed in the directory of corporation and large business leaders and the great majority had high education levels (Linz, 1979: 105)[1].

Hence, many dictatorships have created or simply permitted Legislatures as a part of their institutional frame. At least two questions arise: Why? What are the expected effects of this?

If we regard dictators as rational actors we should expect that there is some benefit derived from creating such an institution. Therefore, in making these institutions endogenous we must disentangle, first of all, which are the goals that dictators pursue and under what conditions this decision is made. Once it is done, we will be able to predict the effect of such institutions following the assumptions as well as the implications of the general model.

These are the central issues of this paper. In order to figure out which are the mechanisms and incentives for the creation of legislatures I develop a game-theoretical model with incomplete information in which capital owners ignore what type of dictator they will

[*] I am grateful to Adam Przeworski, Jennifer Gandhi, Ignacio Sánchez-Cuenca and José Mª Maravall for their helpful comments. All remaining errors are mine.

[1] The percentage of members of the Spanish authoritarian legislature that had only primary education was below 7% (Linz, 1979: 105).

have to face. In this setting, the equilibria will mostly depend on two key factors, the dictator's discount rate and the proportion of domestic capital that can be moved, hidden or reallocated. Then the probability of creating a legislature in an authoritarian regime will be a function of these two variables.

Once the parliament exists, it will have some effects and consequences given the conditions under which it was created and that are expected to yield some benefit to the ruling elite. These benefits consist of higher tax revenues in the long run thanks to the higher levels of investment and output.

The paper thus proceeds as follows. In section 2 the literature about commitments and rulers' discount rates is discussed and somewhat merged in order to set the basis for section 3 where the model and its implications are presented. Section 4 presents the different sets of variables that will be included in the posterior multivariate models. The empirical tests of the key hypotheses and the extensions of the formal model are reported in section 5 as well as the main findings. Finally, in section 6, those findings are summarized.

2. - Dictators, commitments and property rights

Recent research has shown a clear negative link between macroeconomic and political uncertainty and the levels of private investment across countries. Institutional checks and balances as well as political stability are commonly related to more secure property rights and, consequently, to higher investment rates (Svensson, 1998; Przeworski et al. 2000; Stasavage, 2002). These studies seek to explain the great variability existing in investment rates between countries, basically, democratic ones; however, the variability is even higher in the case of dictatorial regimes: for instance, the standard deviation of the investment share of GDP for democracies is 8.04 and 9.46 for dictatorships.

To develop a full comprehension of these processes in the case of authoritarian regimes the first step is to make institutions endogenous and analyze the incentives that may

lead a given dictator to respect property rights. Concretely, in this paper I will make legislatures in dictatorships endogenous and then test some implications and effects of their creation. To respond to these questions, two main theoretical explanations have been proposed: the commitment option and the rulers' different time horizons.

The concept of commitment applied to the analysis of political processes was firstly developed and stressed by Schelling (1960). Nonetheless, a good and clear definition of this concept is offered by Sánchez-Cuenca: "(…) a commitment is a manipulation of your set of alternatives enabling you to get an outcome that in the absence of the commitment you could not achieve. Here manipulation means strictly two things: either you restrict your set of alternatives or you impose costs on some of these alternatives" (1997:3). For a commitment to be effective it must itself be credible. However the necessary conditions for that commitment to be credible are very difficult to find in authoritarian regimes; as Olson (1991) argues: "If he [the dictator] runs the society, there is no one who can force him to keep his commitments" (1991: 153).

Razo (2002), contrary to Olson, argues that credible commitments in dictatorships to economic actors would require at least these two conditions, third-party enforcement or that the success or support of certain economic group is crucial for the government's stay in power[2]. Nevertheless, the intervention of this second group leads both actors to bargain or simply interact so the basic state that a commitment consists of a unilateral restriction seems to vanish or lose sense since it is the presence of the second actor that pushes the ruler (in this case a dictator) to embrace a given strategy. The same suggestion underlies the arguments by North and Weingast (1989) when explaining the change in fiscal institutions in seventeenth-century England since they support the idea that what made the government honour its agreements "was that the wealth holders gained a say in each of these decisions through their representatives" (1989: 829). Asset holders are a second actor in that context that had to face the fiscal necessities of the Crown; therefore, we have two players and one equilibrium. But, in my opinion, what we are facing in all these cases is not a pure commitment but an equilibrium between two key actors that seek to maximize their expected utility.

[2] The idea of a third-party enforcer can be easily ignored because of its lack of plausibility in this context.

The second theoretical body dealing with the respect of property rights has to do with the time horizons of those who make governmental decisions. As Clague et al. (1996) show, governments with short time horizon will prefer expropriating any asset present in their domestic economies in order to maximize revenue and, hence, their own consumption[3]. These low discount factors come from insecurity about the hold on power and from intense rivalries (Levi, 1988; Clague et al. 1996; Cheibub, 1998). A dictator that perceives that his time will be short will extract rents in order to maximize his income given the political instability existent in the country (Olson, 1993). On the contrary, a future-oriented ruler would benefit from respecting property rights and thus fostering investment and output and, consequently, his long-run tax collections (McGuire and Olson, 1996). Evidently, high discount factors accompany security of rule; however, a recent paper by Overland, Simons and Spagat (2000) model stability as being endogenous to capital stock. Consequently, if the initial level of capital stock existing in the economy is high enough the dictator will not plunder but promote steady growth[4].

Yet, what these studies disregard is that whatever the discount factor, governments' decisions will have also to consider the nature of the economic assets prevailing in a given country. If capital is fully mobile and can be easily reinvested abroad when facing a certain threat of expropriation, then even an autocrat with a short time horizon would prefer to impose a lower tax rate and, consequently, not to expropriate[5].

Both theoretical bodies offer correct intuitions but they can be expanded and somewhat combined. The literature about commitments, in this context, pays no attention to the different incentives and constraints that rulers may have. Those constraints can be imposed by the capital owners if they can credibly threat to move their assets away to avoid the uncertainty that the regime rule involves. In opposition, high sunk-cost immobile sectors,

[3] The empirical tests of the article show a quite strong relationship between property and contract rights (using several indicators of this variable) and the autocrat's time in power.

[4] Conversely, if the initial capital is below a threshold ("bifurcation point") the dictator will shrink.

[5] See Boix (2003) for a very elegant treatment of this variable in the theory of transitions. Boix argues (and empirically tests) how high asset mobility eases democratization processes since capital owners can avoid this way to be taxed when the tax rate is chosen through universal suffrage.

when they are predominant, would tend to create deep temptations to the dictator to obtain high benefits rapidly without incurring high costs[6].

Boix (2003) has been the first in providing evidence about this issue in dictatorial regimes. He shows that the dictatorships with legislatures engage in lower levels of rent appropriation than dictatorships which exhibit concentrated power (so in some way they are more accountable). Besides, he also demonstrates how higher asset specificity is related with higher risk of expropriation. What remains then unexplored is why some dictatorships have created or simply allowed legislatures, losing some of the discretionary power and arbitrariness they possess becoming in some way a little bit more accountable.

One of the most important models of accountability in democratic regimes is the one by Ferejohn (1999). His principal-agent model shows how "(…) principals may have "outside" opportunities to pursue their own well-being that are competitive with their governmental options" (Ferejohn, 1999: 133). This circumstance may induce more-accountable agency because of the wish to attract the support of principals and, consequently, their resources. I will follow a similar argumentation for the case of dictatorships given that dictators' will is to maximize their own consumption as a proportion of the total revenue.

3. - The model

3.1. - Setting of the game

In this section I present a simple game-theoretic model to account for the incentives and conditions that may lead some dictators to create legislatures. In order to expand the literature, I somewhat combine and complete the two theoretical frameworks quoted in the previous section.

[6] See, for example, Monaldi (2001) for a good application to the case of Venezuela and the oil industry.

The model thus consists of an incomplete information game (*signalling game*) with the following sequence: firstly, nature chooses with probability q a dictator with a low discount factor and with probability $(1-q)$ a long-termed one. Secondly, dictators (whatever the type) choose whether to create a parliament -or simply maintain the already existing one- or not. Finally, the capital owners must decide whether to move or not the proportion $(1-\theta)$ of the capital that is mobile, e.g., that can be reinvested abroad, or can be hidden or easily reallocated in the informal sector.

I have assumed a simple dichotomist distinction between two types of dictators: those with long term goals and those highly predisposed to plunder and run. For example, Somoza (Nicaragua), Duvalier (Haiti) and Marcos (Philippines) are commonly regarded as predatory rulers. What I propose is that facing certain conditions, even these autocrats would have incentives to embrace a long term strategy of revenue maximization respecting to some extent property rights.

The basic assumptions of the model are:

a) If the legislature is not created or maintained then short-termed dictator will always expropriate the proportion of capital he can; instead, the long-termed dictator will not expropriate but will tax capital at a higher rate. This permits us to distinguish both types of dictators easily without having to include discount factors[7].
b) Derived from the previous assumption, we can state that $\tau'>\tau$, that is, the tax rate fixed when a legislature is not created is higher than the tax rate fixed when the legislature is created as it would imply that this sector will get some representation share. Therefore, a Legislature is regarded as an effective way to convince regime's subjects that their assets will be to some extent protected from theft by others and from expropriation by the autocrat himself.
c) Both tax rates imply not to expropriate, so τ', $\tau<1$.

[7] The inclusion of the discount factors in the pay-offs of the game did not add any relevant information to the model so I have suppressed them for notational simplicity.

d) Utility functions are lineal with respect to the expected income of the actors, so $U_i = E(y_i)$[8]. On the other hand, I assume a simple production function where capital endowment determines individual income through a production function with constant returns to scale so $y_i = k_i$.

e) As pointed out before, there is proportion θ of the capital stock that is not mobile so it remains subject to taxation or expropriation, while a proportion *(1-θ)* of the total capital is fully mobile although moving it involves some transaction costs (*1-σ*)[9] so this proportion abroad yields then $k(1-\theta)(1-\sigma)$.

Figure 3.1 represents the entire sequence of the game. D1 and D2 represent the short-termed and the long-termed dictators respectively[10]. *C* stands for the capital owners and *m* and *nm* are their two strategies, that is, either moving or not moving the proportion of capital that can be reallocated. The pay-offs of the involved players are reported in table 3.1 following the notation specified above.

The structure and composition of the pay-offs are quite simple. If the capital owner faces a short-termed dictator and chooses not to move the mobile capital he can get either 0 if the dictator expropriates or the whole capital minus the tax rate $k(1-\tau)$. On the contrary, given a 'D1' dictator the strategy of moving may yield $\theta k(1-\tau)+k(1-\theta)(1-\sigma)$ if 'D1' does not expropriate since the proportion of non mobile capital is taxed at the domestic rate while the mobile part is taxed at a foreign rate; or it may yield $k(1-\theta)(1-\sigma)$, that is, the asset holder only obtains the mobile capital taxed at a foreign rate.

---

[8] In the case of dictators the logic is the same since they derive their "consumption" from the total revenue of the state. This "consumption" is supposed to be a proportion (say λ) of the total revenue so to simplify the game I suppose that in order to maximize his consumption, the dictator's goal will be to maximize revenue.

[9] Although this proportion of the capital stock is fully mobile it will be taxed with another rate in other country. Either it will suffer from some loss of productivity in the informal sector (see Marcouiller and Young, 1995) or while it is simply hidden. This cost is basically trying to capture this fact.

[10] We can imagine them as being differentiated by the discount factor they have. The short-termed autocrat would have a factor below a given threshold, whereas the long-termed would have a factor higher than the threshold: $\delta_2 > \delta^* > \delta_1$.

Figure 3.1.-*Incomplete information game for the creation of Legislatures*

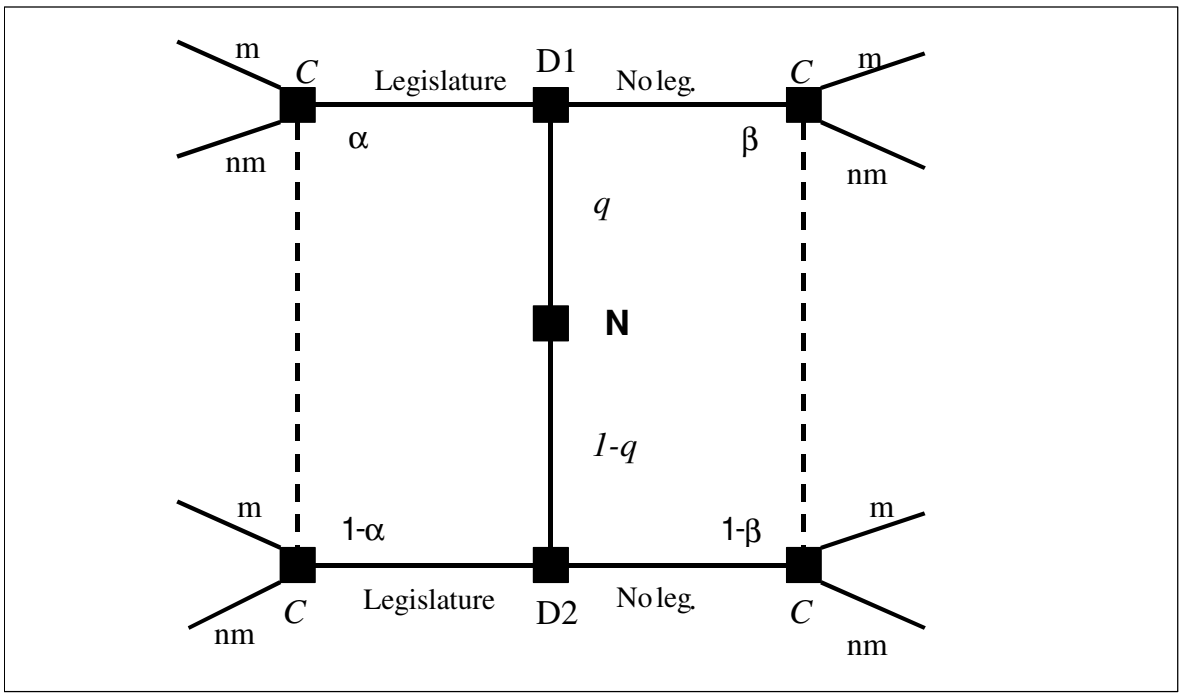

Table 3.1.-*The pay-offs of the game*

		Pay-offs	
Strategy of D1	*Strategy of C*	Dictator	Capital owners
Legislature	moving	$\tau\theta k$	$\theta k(1-\tau)+k(1-\theta)(1-\sigma)$
	not moving	τk	$k(1-\tau)$
No leg.	moving	θk	$k(1-\theta)(1-\sigma)$
	not moving	k	0
Strategy of D2	*Strategy of C*		
Legislature	moving	$\tau\theta k$	$\theta k(1-\tau)+k(1-\theta)(1-\sigma)$
	not moving	τk	$k(1-\tau)$
No leg.	moving	$\tau'\theta k$	$\theta k(1-\tau')+k(1-\theta)(1-\sigma)$
	not moving	$\tau' k$	$k(1-\tau')$

On the other hand, if the dictator has a long-term horizon (D2 in the figure), the difference is that when no legislature is created the whole capital or the non mobile part are taxed at the rate τ', so it is not expropriated.

In contrast, the pay-offs of the dictators are more simple since I have simplified them to be the regime total revenue. Hence, whatever the dictator may do, he will be able to tax or expropriate either the whole capital stock or only the non mobile part[11].

3.2. - Equilibria and hypotheses

The equilibria of the game depend on the values of σ (with respect to τ), θ and q (probability that the dictator is short-termed). There are three pure strategy equilibria from which the main hypotheses of the paper are derived. The rest of the development of the game can be followed in the brief appendix since in this section I will only describe the equilibria and the threshold values of the above mentioned variables that make them possible.

i) Pooling on 'Legislature': both types of dictators decide to create a Legislature, so for the equilibrium to exist *C* must choose 'nm' (not moving) which will happen if and only if $EU_C(nm|Legislature) > EU_C(m|Legislature)$, that is, when

$$k(1-\tau) \rangle\rangle \theta k(1-\tau) + k(1-\theta)(1-\sigma)$$

Which solving by σ *yields* $\sigma > \tau$, i.e., evidently, the mobile capital will not be moved if the foreign cost is higher than the domestic one. This is a necessary but not sufficient condition.

Moving to the right hand side of the game, it is obvious that if *C* would choose 'nm' given 'No legislature', the equilibrium would not be possible. Therefore, we must find the value of β that satisfies $EU_C(m|No\ Legislature) > EU_C(nm|No\ Legislature)$, so

[11] Obviously, as it was specified before: $k > \tau' k > \tau k$.

$$\beta\left[k(1-\theta)(1-\sigma)\right]+(1-\beta)\left[\theta k(1-\tau')+k(1-\theta)(1-\sigma)\right]>(1-\beta)k(1-\tau')$$

Solving by β we get the second necessary condition $\beta\rangle\frac{\sigma-\tau'}{1-\tau'}$, i.e., the threat of being ruled by a 'D1' Type dictator must be sufficiently high.

Finally, we have to specify the values of θ (proportion of non mobile capital) that make both types of dictator not have incentives to change their strategy and move to 'No legislature'[12]. These are $\theta<\tau$ (for D1) and $\theta\langle\frac{\tau}{\tau'}$ (for D2).

Hypothesis 1. Dictators of both types will create Legislatures when the proportion of non mobile capital is small since when the capital is highly specific it can be easily expropriated without the need of providing any incentives for it to stay (a lower tax rate).

ii) Pooling on 'No Legislature': inverting the condition specified above, that is, if $\beta\langle\frac{\sigma-\tau'}{1-\tau'}$ then, given 'No Legislature', *C* chooses not to move the mobile capital and the equilibrium holds.

On the other hand, if *C* chooses 'm', the equilibrium depends on the response of *C* to 'Legislature'. If the response is 'm' ($\sigma<\tau$) the equilibrium still holds, but if the response is 'nm', the equilibrium only exists if $\theta>\tau$ (D1) and $\theta\rangle\frac{\tau}{\tau'}$ (the opposite to footnote 11).

Hypothesis 2. The higher the non-mobile proportion of capital is, the lower the probabilities that a Legislature will be created or maintained by a dictatorship whatever its type.

[12] Those values make both dictators prefer creating a Legislature given that *C* does not move the capital rather than not creating it when *C* decides to move. Formally, $\tau k>\theta k$ and $\tau k>\tau'\theta k$. Including the discount factors does not add any essential information.

iii) Separating, with D1 playing 'No Legislature': the response of *C* to D1 is 'm', whereas the response to D2 can be 'm', if $\sigma<\tau$, or 'nm', if $\sigma>\tau$.

D1 does not change its strategy if the response of *C* to 'Legislature' (D2 strategy) is 'm', or even if that response is 'nm' but $\theta > \tau$. Regarding D2, it does not have any incentive to shift from 'Legislature' to 'No legislature' when C plays 'nm' in response to 'Legislature' and $\theta \langle \frac{\tau}{\tau'}$.

Hypothesis 3. Dictators with a long term horizon (e.g., with a discount factor higher than the threshold of indifference) are more likely to create Legislatures given their lack of expropriatory temptations.

3.3. -Implications of the model: taxes and investment

In order to fully test the model and thus check its robustness it is necessary to further extend its empirical consequences. If the different components and intuitions of the model are correct, there are at least two main implications that need also to be tested in order to confirm the validity of the theoretical framework. These implications refer to the tax rate and the investment rate.

There have been a lot of theoretical discussions regarding the relation between political regimes (democracy vs. dictatorship) and economic growth[13]. However, as I emphasized before, there also exists a great variability among authoritarian regimes that remains unexplained.

Regarding tax rates and, consequently, the size of the public sector, the recent literature about democratic regimes has developed models that state that more political

[13] See Przeworski and Limongi (1993) for an excellent survey.

accountability should lead to larger governments since the attractiveness of public goods provision improve (Ferejohn, 1999; see Lassen (2001) for an empirical analysis).

Nevertheless, I somehow propose the opposite relation for the case of dictatorial regimes. Remember that one of the main assumptions of the model was that $\tau'>\tau$, so the expected tax rate when a Legislature exists will be lower than the tax rate fixed when it does not[14]. The underlying intuition is that that capitalist sector will get some representative share and then will be able to press –given their bargaining power based on the mobility of its capital- for lower taxes (and, consequently a smaller public sector). In conclusion, we can derive the following hypothesis (4): the existence of a Legislature in a dictatorial regime will entail a lower tax rate and, therefore, a smaller size of the public sector.

Regarding investment the argument and the hypothesis seems evident given the existing evidence in the literature which asserts that where property rights are protected, there are higher rates of investment and growth (see, for example, Leblang, 1996; Svensson, 1998, and Stasavage, 2002). Leblang (1996) even argues that the only effect that the nature of a political regime has on growth is indirectly through its commitment to property rights. On the other hand, Przeworski et al. (2000) show that political instability affects economic performance only under dictatorships. Anyway, what seems to be clear is that is necessary to account for the reasons that make investment rates differ so markedly across countries and within political regimes. With respect to the model presented here, I expect this general argument to hold through the presence of legislatures in dictatorships. If my argument is correct we should expect property rights to be better protected when a legislature exists and, consequently, higher incentives for capital owners to invest (as well as the state)[15]. To sum up, we can conclude (hypothesis 5) that under dictatorships with legislatures the levels of investment (as a percentage of the GDP) will be higher.

[14] And, obviously, this tax rate is smaller than one, which represents total expropriation.

[15] Remember that one of the main assumptions of the model was that $\tau'>\tau$ and, hence, $\tau<\tau'<1$.

4. - Data and methods

4.1. –The dependent variables

Testing the different hypotheses derived from the model (and its implications) implies the use of three dependent variables: the existence of legislatures in dictatorial regimes (dummy variable), the central government total tax revenue (at factor cost) as a percentage of the GDP and the real gross domestic investment (private and public) as a percentage of the GDP.

4.2. –The independent variables[16]

The independent variables can be divided into three different sets corresponding to the three different models that will be estimated later on.

In the (probit) models used to account for the causes of legislature creation in authoritarian regimes the following variables will be included:

- In order to gauge whether capital is mobile or can be reallocated or not the variables used are: Exports of metals and minerals (% of the total exports of goods and NF services); agriculture (value added as a percentage of the GDP); gross domestic savings (% of GDP)[17]; a dummy for oil producing countries[18]; the average years of schooling (see Barro and Lee, 1993), and trade openness (share of exports and imports in GDP in 1985 international dollars).

[16] I wish to thank José Antonio Cheibub and Carles Boix for sharing some of their data with me.

[17] Gross domestic savings are calculated as the difference between GDP and total consumption and serve as an excellent proxy to measure the investment capability of a given economy.

[18] Coded 1 if the average ratio of fuel exports to total exports exceeded 50%.

- The discount rate of the dictator is captured by this set of variables: The accumulated number of changes in the chief executive in a given spell (more changes reduce the discount factor); the accumulated number of coups d'etat during the current regime (it would follow the same logic as the previous variable); age in years of the current regime (the more the years, the higher the discount factor will become)[19] and, finally, the capital stock[20].
- Ex-British colony dummy: variable coded 1 for every year in countries that had been a British colony any time after 1919, 0 otherwise. This variable is included to control for inherited institutional designs.

The model of the determinants of taxation will follow the common specification of the baseline models (for instance, Cheibub, 1998; Boix, 2001 and Adserà and Boix, 2002):

- Economic and demographic variables: Urban population as a percentage of total population; agriculture (value added, as a percentage of the GDP); population (log of the total population); surface (sq km); age dependency ratio; real GDP per capita (log); trade openness (log of share of exports and imports in GDP in 1985 international dollars); the ratio of service on the outstanding public foreign debt to exports; GDP share of grants to the central government.
- The main independent is, of course, the presence of legislatures in dictatorships (coded 1 if a legislature exists that year). I have also added a dummy variable for war (coded 1 when there is war of any type in the country's territory).

Regarding the investment models the key independent variables are basically the following:

[19] Clague et al. (1996) use the same variable as a proxy for the ruler's time horizon.

[20] Following the arguments by Overland, Simons and Spagat (2000) which relate the political stability of a regime to the level of capital existing in the economy; thus, the more the capital stock, the higher the expected stability and, hence, the higher the discount rate of the autocrat.

- Economic variables: agriculture (value added, share of the GDP); trade openness (log); lagged economic growth (annual rate of growth of the GDP per capita); real GDP per capita; price level of investment; the capital stock and the US interest rate.
- And again, as an institutional variable I have added the dummy variable for the existence of legislatures in dictatorships. The variable for the existence of any war in the territory has been also included.

5. - Empirical analysis: causes and effects of legislatures

5.1. – The creation of legislatures in dictatorships

Since the dependent variable is a dummy, coded 1 when there is a legislature in that authoritarian regime, and given the time-series cross-section structure of the data, the model of the determinants of legislature creation in dictatorships has been estimated using random-effects probit for panel data. The objective is to test hypotheses 1, 2 and 3 derived directly from the model which stated the following function:

$$Prob(Legislature|Dictatorship)=F(Discount\ factor,\ asset\ specificity)$$

Table 5.1 reports the results of the estimations. Model 1 includes all the key variables that try to capture the main elements of the formal model, capital mobility and the autocrat's discount factor. All the variables are statistically significant and have the expected sign.

The level of human capital notably increases the probabilities of creating a legislature; on the contrary being a mineral or oil producer or having a huge agricultural sector diminishes those probabilities. Besides, I have included a dummy for the presence of a military regime since this kind of dictatorship is supposed to have short term goals basically consisting of maximizing the military budget. Therefore, hypotheses 1 and 2 of the theoretical model are broadly confirmed.

Table 5.1. - *Determinants of legislatures in dictatorships: probit estimation*

	Legislatures in Dictatorships		
Independent variables	*(1)*	*(2)*	*(3)*
Constant	2.371***	0.015	0.707
	(0.407)	(0.527)	(0.464)
Capital stock	5.57e-09***	1.38e-08***	1.30e-08***
	(1.63e-09)	(2.66e-09)	(2.66e-09)
Acc. Coups	-0.112***	-0.220***	-0.252***
	(0.032)	(0.036)	(0.037)
Acc. Chief changes	-0.204***	-0.185***	-0.157***
	(0.028)	(0.028)	(0.027)
Oil producer	-0.910***	-0.981***	-0.758***
	(0.236)	(0.283)	(0.268)
Mineral producer	-0.027***	-0.044***	-0.019***
	(0.005)	(0.005)	(0.004)
Age of the regime	0.001	0.006***	0.008***
	(0.001)	(0.001)	(0.001)
Agriculture (% GDP)	-0.014**	-0.005	-0.007
	(0.006)	(0.008)	(0.006)
Human capital	0.309***	0.270***	0.188***
	(0.062)	(0.068)	(0.056)
Military regime	-0.500***		
	(0.165)		
Trade openness		0.018***	0.012***
		(0.003)	(0.003)
Gross saving (% GDP)		0.020***	
		(0.007)	
British colony			1.168***
			(0.225)
Wald Chi-2	141.39***	139.42***	116.42***
Observations	1049	970	1044

Standard errors in parentheses.

***$p<.01$ **$p<.05$ *$p<.10$

With regard to the discount factor, the signs confirm again the hypotheses. The more the autocrat's perceived instability, the less the probabilities of creating a parliament. The accumulated coups and changes of chief executives have a strong negative effect; while the age of the current regime (in years) has a positive one as was expected following Clague et al. (1996) who also used this variable as a proxy for the ruler's discount factor. This confirms hypothesis 3 that predicted that long-termed dictators were more likely to create legislatures. Trade openness has a positive and significant effect as well.

In column 2 a more general model is presented. I have also included the level of saving (as percentage of the GDP)[21] and trade openness because both variables proxy to what extent an economy is monetized. Besides, gross real savings captures the level of potential investment present in a given country so its sign is expected to be positive as it actually is (and highly significant)[22].

Finally, in the model of column 3 the dummy for ex-British colony has been included to control for inherited institutional designs (Westminster in this case). The dummy is highly significant and positive showing that even not fulfilling the above mentioned conditions there may be some authoritarian regimes with legislatures coming from an imposed institutional setting. These new regimes, although democratic in their design, mostly degenerated into one-party dictatorships through what Brooker (2000) calls *electoral misappropriation of power*: "[f]or the party's vote-winning capacity enables it to peacefully accomplish, through success in democratic elections, the first step on the way to misappropriation of power – acquiring a hold on the public offices and powers that it will misappropriate" (2000: 88). The next step is the removal of political competitors either by using repressive means or by co-optation. Brooker (2000) stresses that in Africa (where most of those cases took place) that process was carried out by absorbing other parties as well as co-opting individual opponents such as trade union leaders.

Even when an inherited institution, legislatures have played diverse roles and have had different levels of effectiveness depending on the underlying conditions existing in the different dictatorships as posed in the theoretical framework. Kenya and Tanzania are examples that may help us to illustrate this point given the similarities in their institutional origins[23]. However, Tanzania had in those years an economy highly dependent on the

[21] This variable may have the problem of being endogenous. I have included it, keeping in mind the risk of it, just to check the general argument. Its inclusion, anyway, does not alter considerably the coefficients of the other variables.

[22] The model has also been tested including another proxy for the level of monetization of the economy which is'm3', e.g., liquid liabilities also known as broad money which, as expected, has a positive and significant effect. The results are not reported.

[23] Both countries were former British colonies, had a Westminster institutional design and became one-party presidential states within a short time.

agricultural sector and less open to trade but with a percentage of minerals and metals exports above 50% of total exports. There, in 1967 the major economic enterprises and land were nationalized. Conversely, in Kenya no businesses were nationalized and promises about tax and other incentives (for instance, the creation of a stock market for investors) were made to new investors (Hopkins, 1979). These patterns fit quite well with our model assumptions and derivations, but if both countries had legislatures we don't know where the differences are. Nevertheless, Hopkins states that "[i]n general, Kenya's legislature has more autonomy of action in its role as a collective body than does Tanzania's" and a more influential role in the determination of development strategies (1979: 156).

5.2. – Legislatures, the tax rate and revenue composition

Following the arguments and assumptions detailed in the model the main implication derived was that the tax rate in dictatorships with legislature is expected to be lower than the rate in dictatorships without legislature. For that reason, the dummy variable "legislatures in dictatorships" will be now added in the econometric model as an independent variable.

There already exist some important studies about the determinants of the size of the public sector and taxation that take into account the effect of political regimes. The most important examples are the articles by Cheibub (1998), Boix (2001) and Adserà and Boix (2002). For this reason I will follow somewhat their model specification adding the key variable specified above. The results are reported in table 5.2.

The estimation of the first two models has been done using panel corrected standard errors with country-specific fixed-effects including one lag of the dependent variable to correct for autocorrelation.

The results confirm the predicted patterns depicted in the theory implications, although the actual effect is small. The presence of legislatures in dictatorial regimes reduces the tax rate and, hence, tax revenue in the short term since the autocrat ruler expects to

maximize it in the long term. Therefore, we can confirm one of the main assumptions of the model which was that $\tau<\tau'<1$.

The other variables perform in the expected way: as the amount of debt to be financed by the government increases, the tax revenue also increases since the fiscal situation worsens (Cheibub, 1998). Trade openness also increases revenue as both the export dependence as well as the reduction of transaction costs makes collection easier. Otherwise, as it should be supposed, distributive pressures do not make the public sector grow under authoritarian regimes.

If all these arguments and the empirical evidence are valid we would also have to expect some effect of this institutional design on the fiscal system of those dictatorships in comparison to those without that political frame. Concerning the composition of current revenues, we should anticipate public finances to be mostly composed of taxes on income, profits and capital gains. The existence of a legislature in authoritarian regimes provides a more predictable political and economic environment which make capital owners not to move, if possible, their non-specific assets and invest in the domestic economy. Thus the most monetized assets (gains, profits and income) remain in the country and can be re-invested and taxed although by a lower rate as we have shown in the multivariate analysis. Table 5.3 reports some descriptive statistics about the current revenue composition. The data reported are means (the period covered is more or less 1970-1990) for the two types of regimes considered.

Table 5.2. – *Tax revenue and legislatures in dictatorships*

	Tax revenue (% of GDP)	
Independent variables	*(1)*	*(2)*
Lagged tax revenue	0.639***	0.651***
	(0.075)	(0.068)
Debt	0.041***	0.040***
	(0.015)	(0.014)
Grants	-0.012	-0.024
	(0.070)	(0.054)
Population (log)	0.130	-0.040
	(1.552)	(1.466)
Surface	4.61e-07	2.34e-07
	(8.45e-07)	(4.68e-07)
Urban population	-0.046	-0.038
	(0.048)	(0.050)
Age dependency ratio		-7.505***
		(2.706)
Population over 65 (%)	1.387***	
	(0.543)	
Agriculture (% GDP)	-0.081**	-0.081***
	(0.032)	(0.024)
Trade openness (log)	1.980***	1.851***
	(0.541)	(0.512)
GDP per capita	-0.267	-0.0004
	(1.174)	(0.0002)
Oil producer	4.280	2.060
	(6.022)	(3.616)
War	-0.122	-0.015
	(0.423)	(0.406)
Legislature	-0.920**	-0.707**
	(0.430)	(0.358)
R^2	91.59	91.68
Wald Chi-2	99.06***	222.94***
Observations	681	773

Standard errors in parentheses.

***$p<.01$ **$p<.05$ *$p<.10$

It could be argued that the tax base for both types of regimes would differ markedly. Revenues in dictatorships without legislature are principally composed of taxes on goods and services and international trade. Given the large proportion of non-mobile assets, such as oil, minerals or primary commodities that this regime is supposed to have, taxing the production, extraction, sale, transfer, leasing, or delivery of goods enables it to minimize the transaction costs of these resource collecting activities.

Table 5.3. – *Tax revenue composition (% of the current revenue) and legislatures in dictatorships: mean comparison*

	No Legislature	*Legislature*
Taxes on goods and services	24.37	23.72
Taxes on income, profits and capital gains	18.57	24.66
Taxes on international trade	30.54	23.35
Non tax revenue	15.63	19.58

Data source: World Development Indicators (2000).

In contrast, dictatorships with legislatures are more able to tax profits and gains because they are not moved abroad, hidden or reallocated (in the informal sector, for instance). On the other hand, and given that these regimes tax less, they need to compensate, and in order to cover their fiscal requirements the share of non tax revenues is higher[24].

5.3. – The effects on the investment rate

From the model and from the hypotheses tested in the previous section we derived the hypothesis for the model of investment. As the literature briefly reviewed in section 2 asserts, more secure property rights foster investment and, consequently, growth. As Pindyck argues,

[24] I have run some t-tests to check whether those differences between means are statistically significant and they effectively are excepting that of taxes on goods and services.

investment expenditures are largely irreversible and can be delayed so "it makes investment especially sensitive to various forms of risk, such as uncertainty (…)" (Pyndick, 1991: 1110). Therefore, as proposed in section 3.3, we expect the levels of investment to be higher when a legislature exists since it is supposed to better protect or, at least, respect property rights (see Boix, 2003).

The results of the model are reported in table 5.4. The estimation has been done using panel corrected standard errors with country-specific fixed-effects and correcting for autocorrelation (Prais-Winsten transformation).

Table 5.4. *–Investment rates and legislatures in dictatorships*

	Gross domestic Investment (private and public) as a % of the GDP	
Independent variables	Coefficients	Std. Errors
Agriculture (% of GDP)	-0.046*	0.027
Trade openness (log)	1.502***	0.343
Lagged economic growth	0.035***	0.009
Price level of investment	-0.009***	0.002
US interest rate	0.071	0.050
GDP per capita	0.001***	0.0003
Capital stock	-1.95e-09*	1.06e-09
Legislature	0.522**	0.263
War	-0.571*	0.340
R^2	0.6476	
Wald Chi-2	13987.77***	
Observations	1640	

Standard errors in parentheses.

***$p<.01$ **$p<.05$ *$p<.10$

The variables included in the model do not yield very striking results. The coefficient of 'Legislatures' is positive and significant, which confirms that these dictatorships succeeded in creating a more stable and certain economic environment that promotes higher rates of investment even controlling for a broad set of socio-economic variables. This in the log-term is expected to increase total output and, hence, tax revenues.

The level of existing capital stock has a slight, although significant, negative effect which shows that investment is less necessary and yields decreasing returns when the level of capital stock is already high. Evidently, the effect of the price level of investment is negative and significant, as well, as the effect of 'war' which is the most unstable environment that a country might suffer. Also negative is the effect of agriculture, a sector that creates few incentives to invest.

On the contrary, the lagged economic growth has a strong positive effect on investment rate because of two simple mechanisms. First, investors' predictions take into account many factors, and one of them is past economic performance from which their posterior beliefs are basically formed (updated). And second, income growth in the past year implies more income today, so more to save (and consume) and, as a result, more to invest.

6. – Conclusions

This paper has explored a widely known fact: that many dictatorships create or maintain legislatures. Therefore, if we depart from considering dictators as rational actors we then must investigate what incentives they have and what the expected utility of that institution is when we are making it endogenous.

In doing so, this paper has developed a simple game-theoretical model. There is incomplete information in the game, where the capital owners do not know which type of dictator they are playing with. One of them has a high discount factor so he has a long term perspective, contrarily; the other autocrat is a predatory one who wishes to maximize his own consumption in the short run. There is a proportion of capital not mobile and another that can be hidden or easily reallocated.

The creation of a legislature thereby makes it possible to control to some extent a ruler's actions and decisions by ensuring some representative rate to the capitalist sector.

Hence, the existence of this institution may help the dictator to convince the asset holders that their assets will be respected and protected.

There are three equilibria in the game: pooling in 'Legislature', separating with the expropriatory autocrat playing 'No legislature', and pooling in 'No legislature'. The conditions for the first equilibrium to take place are that once the legislature is created the capital owners decide not to move the mobile part and this part must be sufficiently high to avoid expropriatory temptations. The separating equilibrium holds thanks mainly to the higher discount factor of the long-termed dictator who never expropriates totally. Finally, the pooling where no dictator creates a legislature holds if the capital is not moved or, if it is moved, the proportion reallocated is sufficiently small.

From the model two main implications have been derived. If the assumptions are correct, we should expect dictatorships with legislature to tax at a lower rate but also find higher investment rates.

The implications have been extended to the composition of the current revenue as well. Since they tax at lower rates, current revenues in dictatorships with legislatures can consist of a higher percentage of revenues coming from taxes to income, gain and profits given that they will not be hidden or reallocated abroad (or in the informal sector).

The time-series cross-section analyses of a broad sample of dictatorships (and the years for which data are available) confirm both the hypotheses as well as the implications derived. The probit models in section 5.1 have shown that when assets are more specific, i.e., difficult to be reallocated, the probability of creating a legislature declines. Regarding dictators' discount factor, the proxy variables used to capture it demonstrate that high discount factors are related to greater probabilities of creating a legislature. Besides, a control for the inheritance of institutions has been included adding a dummy variable for former British colonies which is positive and highly significant.

In sections 5.2 and 5.3 the implications have been tested. The regression models, after controlling for a wide range of socio-economic variables, enable us to confirm that when a

legislature exists tax revenues are lower and the investment rate is higher since the coefficient of the dummy variable (coded 1 if there is a legislature) has the predicted signs and is significant in both models. Besides, some simple descriptive statistics have shown how dictatorships with parliaments have a greater percentage of current revenue coming from taxes on income, gains and profits.

APPENDIX 1:

Let me explain very briefly in this appendix the remainder potential equilibrium not detailed in section 3 and the conditions that make it not to be an equilibrium.

Separating with D1 playing "Legislature":

The first thing to establish is what the response of *C* will be and their conditions.

C will respond "nm" to D1 if $\sigma>\tau$, while if $\sigma<\tau$ the best strategy is 'm'. For the case of D2 the options are the same but with respect to τ'. If $\sigma>\tau'$, then *C* prefers 'nm', while if $\sigma<\tau'$ *C* plays 'm'.

So the possible combinations are the following (and we have to see whether D1 or D2 have any incentive to move from the equilibrium):

i) $\sigma>\tau$ and $\sigma>\tau'$, so *C* always chooses 'nm', therefore, D1 has incentives to shift from 'Legislature' to 'No Legislature'. No equilibrium.

ii) $\sigma>\tau$ and $\sigma<\tau'$, D1 does not have any incentive to change if $\theta < \tau$, whereas D2 does not change its choice if $\theta \rangle \frac{\tau}{\tau'}$, consequently, $\tau \rangle \frac{\tau}{\tau'}$ that is, $\tau'>1$ which is impossible. No equilibrium.

iii) $\sigma<\tau$ and $\sigma>\tau'$. This is not possible because it would imply $\tau>\tau'$ which is unattainable by assumption. No equilibrium.

iv) $\sigma<\tau$ and $\sigma<\tau'$. In this case D1 shifts to 'No legislature'.

APPENDIX 2:

Sample

The sample of dictatorships (it varies depending on the dependent variable and the years we take) included in the empirical tests is: Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Djibouti, Egypt, Ethiopia, Gabon ,Gambia, Ghana, Guinea, Guinea-Bissau, Cote d'Ivoire, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Morocco, Mozambique, Niger, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zaire, Zambia, Zimbabwe, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela, Bangladesh, Indonesia, China, Iran, Iraq, Jordan, South Korea, Laos, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Syria, Thailand, Yemen, Romania, Spain, Turkey, Fiji, Western Samoa, Bulgaria, Czechoslovakia, Greece, Poland, Portugal, Hungary.

Data sources

Barro and Lee dataset (1993) shared by Boix.
ACLP database.
World Development Indicators (2000).
Some variables shared by Cheibub used in his article (see references).

REFERENCES

Adserà, Alícia and Carles Boix. 2002. "Trade, Democracy, and the Size of the Public Sector: The Political Underpinnings of Openness". *International Organization* 56 (2): 229-62.

Barro, Robert J. and Jong-Wha Lee. *International Comparisons of Educational Attainment.* NBER Working Paper, nº4349.

Besley, Timothy. 1995. "Property Rights and Investment Incentives: Theory and Evidence from Ghana". *Journal of Political Economy* 103 (5): 903-37.

Boix, Carles. 2001. "Democracy, Development, and the Public Sector". *American Journal of Political Science* 45 (1): 1-17.

_____. 2003. *Democracy and Redistribution*. 2003. New York: Cambridge University Press. Forthcoming.

Brooker, Paul. 1995. *Twentieth-Century Dictatorships: the Ideological One-Party States.* Basingstoke: Macmillan.

_____. 2000. *Non-Democratic Regimes: Theory, Government, and Politics.* New York: St. Martin's Press.

Cheibub, José Antonio. 1998. "Political Regimes and the Extractive Capacity of Governments: Taxation in Democracies and Dictatorships". *World Politics* 50 (3): 349-76.

Clague, Christopher, Philip Keefer, Stephen Knack, and Mancur Olson. 1996. "Property and Contract Rights in Autocracies and Democracies". *Journal of Economic Growth* 1: 243-76.

Ferejohn, John. 1999. "Accountability and Authority: Towards a Theory of Political Accountability". In *Democracy, Accountability, and Representation*, ed. Przeworski, Adam, Susan Stokes and Bernard Manin. New York: Cambridge University Press.

Hopkins, Raymond F. 1979. "The Influence of the Legislature on Development Strategy: the Case of Kenya and Tanzania". In *Legislatures in Development: Dynamics of Change in New and Old States*, ed. Smith, Joel and Lloyd D. Musolf. North Carolina: Duke University Press.

Lassen, David Dreyer. 2000. *Political Accountability and the Size of Government: Theory and Cross-Country Evidence*. EPRU Working Paper 00-20, November 2000. Revised version (November 2001).

Leblang, David A. 1996. "Property Rights, Democracy and Economic Growth". *Political Research Quarterly* 49 (1): 5-26.

Levi, Margaret. 1988. *Of Rule and Revenue.* Berkeley: University of California Press.

Linz, Juan J. 1979. "Legislatures in Organic Statist-Authoritarian Regimes-The Case of Spain". In *Legislatures in Development: Dynamics of Change in New and Old States*, ed. Smith, Joel and Lloyd D. Musolf. North Carolina: Duke University Press.

Marcouiller, Douglas and Leslie Young. 1995. "The Black Hole of Graft: The Predatory State and the Informal Economy". *The American Economic Review* 85 (3): 630-46.

McGuire, Martin C. and Mancur Olson. 1996. "The Economics of Autocracy and Majority Rule: The Invisible Hand and the Use of Force". *Journal of Economic Literature* 34: 72-96.

Monaldi, Francisco. 2001. *The Political Economy of Expropriation in High Sunk-Cost Industries: The case of the Oil Industry in Venezuela.* Paper prepared for delivery at the 2001 Annual Meeting of the APSA in San Francisco.

North, Douglass C., and Barry Weingast. 1989. "The Evolution of Institutions Governing Public Choice in 17th Century England". *Journal of Economic History* 49:803-32.

Olson, Mancur. 1991. "Autocracy, Democracy, and Prosperity". In *Strategy and Choice*, edited by R.J. Zeckhauser, pp. 131-57. Cambridge, MA: MIT Press.

_____. 1993. "Dictatorship, Democracy, and Development". *American Political Science Review* 87, 3: 567-76.

Overland, Jody, Kenneth L. Simons, and Michael Spagat. 2000. *Political Instability and Growth in Dictatorships*. Working Paper Series 354. Michigan: William Davidson Institute at the University of Michigan Business School.

Przeworski, Adam and Fernando Limongi. 1993. "Political Regimes and Economic Growth". *Journal of Economic Perspectives* 7 (3): 51-70.

Przeworski, Adam, Michael Álvarez, José A. Cheibub and Fernando Limongi. 2000. *Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990.* New York: Cambridge University Press.

Pindyck, Robert S. 1991. "Irreversibility, Uncertainty, and Investment". *Journal of Economic Literature* 29 (3): 1110-48.

Razo, Armando. 2002. *Political Control, Regulation, and Commitments in Dictatorships.* Prepared for delivery at the 2002 Annual Meeting of the APSA.

Sánchez-Cuenca, Ignacio. 1997. *Institutional Commitments and Democracy.* Estudio/Working Paper 1997/94. Madrid: Juan March Institute.

Schelling, Thomas C. 1960. *The Strategy of Conflict*. Cambridge, Massachusetts: Harvard University Press.

Stasavage, David. 2002. "Private Investment and Political Institutions". *Economics and Politics* 14 (1): 41-63.

Svensson, Jakob. 1998. "Investment, Property Rights and Political Instability: Theory and Evidence". *European Economic Review* 42: 1317-41.

Tordoff, William. 1977. "Residual Legislatures: The Cases of Tanzania and Zambia". *Journal of Commonwealth and Comparative Politics* 15: 234-49.

World Bank. 2000. *World Development Indicators.* Washington D.C: The World Bank.