

## A Public Choice Approach to Military Coups d'Etat.

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August 1992

*"I must now once again confess that I do not have a general theory of dictatorship or a general theory of how dictators stay in power. I've been concerned about the problem of dictatorship for almost as long as I've been interested in public choice... The reasons that my writings have mainly been concerned with democracies is simply that dictatorship turns out to be a very difficult subject."*

Gordon Tullock, Autocracy, 1987.

### INTRODUCTION

Since the pioneering works of Anthony Downs (1957), James Buchanan and Gordon Tullock (1962), and William Riker (1962) most of the public choice literature have been developed under a democratic framework. These works, which are based upon the assumptions of utility maximization and rationality of the individual voters, present testable theories of political behavior.

Unfortunately, democracy, while highly desirable, does not represent an appropriate description of the political regimes that have ruled most countries in the world during a large part of this century.<sup>2</sup> Zehra Fatma Arat (1984) has built an index of democraticness for selected countries which allows me to clearly illustrate this point.<sup>3</sup> From the Arat sample I have selected the 63 countries which have been included during the whole period and I have classified 17 of them under the label of "first world countries", and the remaining 46 under the label of "others"; from the later I have selected the 19 Latin American countries (see

Appendix, Table 1).

While the average score for the 17 "first world countries" reached 19.40, it dropped for the 19 Latin American countries to 10.19, and to only 8.04 for the 46 "non first world countries" as a whole.<sup>4</sup> From these scores it comes clear that, during this historical period, democracy, rather than be characterized as the rule, has to be considered as an exception!

The first paper in the public choice literature developed under a non-democratic framework was presented by Thomas Ireland in 1967. This work, as well as the Gordon Tullock's (1971) paper, opened a new framework to the study of non-democratic changes of government. Until Ireland's and Tullock's works, the study of revolutions was an exclusive field of political scientists, who focus their interest on the public good aspect of the revolutions.<sup>5</sup> Since the appearance of Ireland's and Tullock's works a group of scholars (Leites and Wolf, 1970; Tullock, 1974; Silver, 1974; Cao Garcia, 1983; Cartwright, Delorme and Wood, 1985; etc.) have challenged this romantic notion of revolution using the assumptions and methodology provided by the economic theory.<sup>6</sup> The by-product designation of this self interest theory is credited to Gordon Tullock (1971), who used the term following Mancur Olson (1965), whose analysis of the motivations of an agent as an active participant in a collective action can be extended to the revolutionary activity.

While most of the public choice literature in non-democratic changes of government center their interest in the so called "mass revolutions" (Ireland, 1967; Leites and Wolf, 1970; Tullock, 1971; Cartwright, Delorme and Wood, 1985; Kuran, 1989; Grossman, 1991; etc.), most of the actual irregular executive transfers are military coups d'etat. For example, mass revolutions like the French Revolution of 1789, the Russian Revolution of February 1917, or

the Iranian Revolution of 1978-1979, are completely unusual events in Latin American countries; instead, military coups d'etat are a well known political tradition.

To the best of my knowledge, only Gordon Tullock (1974), Silver (1974), Cao Garcia (1983), and Mbaku and Paul (1989) analyze coups d'etat. Of these scholars, only Gordon Tullock's illuminating work explicitly studies military coups d'etat by means of a microeconomic analysis of benefits and costs. Tullock differentiates coups d'etat from mass revolutions and analyzes structural factors that affect the participation of the army officers in the coup. But, is point of fact, as Tullock (1987) emphasizes, that much more progress has been done in understanding democracies than dictatorships; this paper is intended to contribute to fill this gap by proposing a simple theory which may help us to better understand military coups d'etat.

I will devote the following section to develop the theory. It will closely follow the Tullock's approach to the subject but it will also take into account the civilian side of the coup; the inclusion of civilian considerations constitute the basic difference between my framework and that of Tullock, and radically departs from the by-product theory of revolutions since it provides public good considerations, instead of private interest rewards, as the engine for the motivations of the civilian actors. These considerations are a side product of the pressure groups approach to the economic policy developed since the seminal work of Arthur Bentley (1908). To take into account the role played by civilian groups will allow me to obtain further insights into the causes of military coups d'etat; insights which are unattainable if we consider solely the military side of the coup.

## THE THEORY

The casual observation of most of the Latin American military coups d'etat<sup>7</sup> shows that this sort of non-democratic change of government is usually not verified without some sort of support by part of the civilian population. In this section I will extend the Tullock framework in order to take into account this fact. I will describe in the first part of the section some stylized facts that, at least in the Latin American case, the military coups d'etat apparently fulfill; in the second part I will propose a theory which provides the motivations for the civilian actors to participate in a coup, and which would satisfy the described stylized facts. Finally, given these considerations, I will introduce a very simple model which takes into account not only the military side of the coup but also the civilian side.

The history of many Latin American countries presents a common denominator: the army has played an important role in their political life. This role is evidenced by long periods of military ruling and an amazingly large number of military coups d'etat. Notwithstanding, this role has been frequently overstated by assumptions that military coups d'etat are just a military phenomena. The observation of the Latin American political history does not support this assumption. If, for example, we center our attention in a leading case and analyze the large number of military regimes that characterize Argentina (see Robert Potasch [1981] or Alain Rouquie [1982]), it comes clear that, at least for this country, there was not a military coup d'etat without some sort of support from at least part of the civilian population. Actually, this conclusion can be extended to most of the successful coups in Latin America; and, can even be applied to most of these non-democratic changes of government regardless of the geographic location of the specific country. For example, Rosemary O'Kane (1987) analyzes

the composition of the governments that emerge after military coups d'etat during a period of 30 years (see Appendix, Table 2). Regardless of the geographic location of the countries, as few as 24 % of these administrations were composed exclusively of army officers; this proportion falls to only 17 % if we reduce our sample to Latin American countries. Based on this type of evidence, O'Kane concludes that the strong emphasis on the role of the army in military coups d'etat cannot be empirically supported.<sup>8</sup>

On the contrary, the political history of most of the Latin American countries shows that usually there is negligible civilian resistance against the installation of a military regime. This asymmetry in the behavior of the civilian actors does not necessarily imply agreement with the coup, given that this situation may probably be its effect (for example, any form of civilian resistance is usually very dangerous under a military ruler). But regardless of the exact motivation of this behavior, the absence of civilian resistance is a stylized fact that is illustrated by different indicators of political participation (see Edgardo Zablotsky [1992 (i)]).

Zablotsky [1992 (i)] has selected four coups, in four different countries (Argentina, 1976; Perú, 1968; Uruguay, 1973; and Chile, 1973), and has looked for indicators of political protest (protest demonstrations, political strikes, riots, armed attacks, and political assassinations) in the three years previous to the coup and in the following three years. The pattern of these indicators does not support the hypothesis that civilian groups have challenged the overthrow of democratic regimes, since the number of events did not increase at the time that the coups occurred, nor during the following year; in fact, the number of events follows in many cases a decreasing path. Table 3 (see the Appendix) summarizes the evidence provided by these indicators, by reporting the average number of each type of event

verified in the selected countries.

Given these stylized facts it is necessary to look for a theory which allows to model the civilian side of the coup asymmetrically: by discriminating between the utility maximizing civilian agents which would benefit or be harmed by the change of political regime; providing the former with motivations for supporting the coup, but not bringing the latter incentives to participate in defense of the democratic system. In actuality, this theory should also satisfy two additional stylized facts:

A) Even when we consider the civilian side of the coup, this sort of non-democratic change of government remains essentially a military subject, in which most of the army officers participate but most of the civilian groups remain inactive.<sup>9</sup>

B) A military coup d'etat which overthrows a democratic regime is generally preceded by a period of economic and social chaos, which may characterize a vacuum of power (where a vacuum of power is defined as a situation where the government does not fulfill its obligation to rule).<sup>10</sup>

A public good theory is a natural candidate to play this role, given that in this type of framework the civilian actors will only choose to participate if they can significantly affect the probability of success of the action. Under this class of theory, if the participation of some civilian groups which benefit by the change of political regime affects the probability of installing a military government,<sup>11</sup> while the participation of the civilian groups harmed does not, then the former would participate in support of the coup, while the latter will remain inactive.

We will devote the second part of the section to introduce a public good theory--based

upon the pressure groups approach to the economic policy--which will provide the motivations for the civilians actors who participate in a coup. This theory radically differs from the by-product theory of revolutions on one key element: it provides public good considerations instead of private interest rewards as the engine for the motivation of the participants (see Mbaku and Paul [1989], for an example of the by-product approach).<sup>12</sup>

The pressure groups approach was originally proposed by Arthur Bentley (1908); his seminal work introduced an economic approach to political behavior that focused on political pressure groups instead of voters, politicians and political parties (see Edgardo Zablotsky [1992 (ii)] for an study on the subject).

I will make use of this approach because it is an useful tool to explain redistributive policies under any type of political regime.<sup>13</sup> Under a military government the political activity is ruled out, then, models of political behavior that focused on voters, politicians, and political parties do not provide any help for the understanding of its redistributive policies; by the contrary, models that focused on political pressure groups are not constrained by the type of political regime, they are an useful tool for explaining redistributive policies under any type of regime.

In order to describe the role played by public good considerations on the behavior of the civilian actors I will borrow a formalization of Bentley's work developed by Gary Becker (1983, 1985). In any society there exists virtually an unlimited number of pressure groups which compete for government redistribution; each of these groups exerts any available form of political pressure ( $P_i$ ) in order to maximize the utility of its members. The pressure exerted

by each group is translated into political influence through the so called "influence functions,"

$$I_i(P_1, \dots, P_i, \dots, P_n; X) = n_i R_{i,14} \quad i = 1, \dots, n$$

where  $R_i$  represents the redistributive outcome of each of the  $n_i$  identical members of the  $i^{\text{th}}$  group, and  $X$  represents any other relevant consideration that may affect the outcome of the redistributive game. The interaction between groups is modeled as a Cournot-Nash non-cooperative game in political pressure; so, the equilibrium is determined by the utility maximizing condition for each group with respect to its level of political pressure, taking as given the pressure exerted by any other group.

The level of political pressure chosen by any group depends on variables like the size of the group, its efficiency producing political pressure, the effect of additional pressure on their influence, and the deadweight costs of taxes and subsidies (see Becker [1983]); but it also depends on the rules under which the different pressure groups compete, which I will summarize by the variable  $X$ . These rules are influenced by many factors, i.e., the basic laws of the country (Constitution, Electoral Law, Judicial Traditions, etc.), the level of competitiveness of the political system, the level of civil and political liberties, etc. (see Arat, 1984). The role played by the rules of the redistributive game provides the public good considerations which would motivate the civilians actors to participate in a coup.

A military coup d'etat that overthrows a democratic regime will alter the rules of the redistributive game; the reason for this is that the immediate consequence of the overthrow of a democratic regime will be the establishment of a dictatorship, a situation which will drastically modify the structure of the political organization of society (i.e., the Parliament will



be closed, the political parties forbidden, any Electoral Law ruled out, etc.). The change in the rules of the game embodied in a successful coup will bring up a new political-economic equilibrium, which will have associated changes in the redistributive success of the different groups, providing the public considerations to the civilian actors in order to take part in a coup,

$$I_i(P_{1,c}, \dots, P_{n,c}; X_c) \dots I_i(P_{1,d}, \dots, P_{n,d}; X_d) \quad i = 1, \dots, n$$

where from now on the subscripts c and d refer to a military and a democratic regime, respectively.

The public good characteristic of these considerations would satisfy the described stylized facts, given that the change in the redistributive success of the different groups is exclusively associated with the change in the rules of the game embodied in a successful coup, and not with their level of participation in the action. This implies, assuming a positive cost of participation, that a pressure group will only take part in a coup if he can significantly affect the probability of success of the attempt.

I will devote the rest of the section to present a very simple model which takes into account these considerations. In regard to this goal my first step will be to formalize the problem faced by the military actors; in order to do so I will closely follow Tullock's approach to the subject.

An army officer may support a coup heavily, leading it, or he may want to participate only as a follower in the event that most of his colleagues participate. In the first case his level of support of the coup ( $X_i$ ) will be high, while in the second it will be small but positive. Similarly, he may want to lead the repression, which will imply a large, in absolute value, but

negative ( $X_i$ ), or he may want to participate in the repression as a follower which will imply a smaller, in absolute value, and negative ( $X_i$ ). Obviously, neutrality implies  $X_i = 0$ .

In order to choose his optimal level of participation in support of the coup or of the repression ( $X_i$ ) the army officer will take into account the different payoffs that he expects to receive if the coup succeeds ( $R_i, P_i$ ), or fails ( $D_i$ ), and his own assessment of the probability of success of the action ( $L_i$ ).<sup>15</sup>

The army officer expects to receive a private interest payoff ( $R_i$ ) if the coup succeeds. It will be positive for the army officers who support the coup and negative for the officers who join the repression. An example of this payoff would consist in a higher rank that an officer may obtain if the coup succeeds and he participates in its support; another example may be a penalty, like an early retirement if the coup succeeds and he participates in the repression,<sup>16</sup>

$$R_i = R_i(X_i); \quad R_i(0) = 0; \quad dR_i/dX_i > 0$$

Each army officer also expects to receive a public good payoff ( $P_i$ ) if the coup succeeds. An example of this reward is a higher budget for the army which may even imply higher salaries for the army officers independently of their level of participation in support or opposition to the coup; another example may consists in a change in the ideological orientation of the country.

By the same token, every officer expects to receive a private interest payoff ( $D_i$ ) if the coup fails. It will be positive for the army officers who join the repression and negative for the officers who support the coup,

$$D_i = D(X_i); \quad D_i(0) = 0; \quad dD_i/dX_i < 0$$

Then, in order to choose his optimal level of participation in support of the coup or of the repression each army officer will face the following maximization problem,

$$\text{Max}_{\{X_i\}} E(U_i) = L_i \int_0^{T_i} U_i(R_{it} + P_{it}) e^{-\delta t} dt + (1-L_i) \int_0^{T_i} U_i(D_{it}) e^{-\delta t} dt$$

In order to maintain my framework as simple as possible I will assume:

1)  $R_{it} = R_i$ ,  $P_{it} = P_i$ , and  $D_{it} = D_i$ . This assumption is also employed by Mirani (1984), and Usher and Engineer (1987), in frameworks where an agent face the possibility to participate in the production of violent political pressure (i.e., riots, rebellions, etc.). While this assumption implicitly precludes the possibility that the agent takes into consideration the likelihood that the revolution's success will create an unstable political situation and that other revolutions may occur as a result,<sup>17</sup> it is completely innocuous to my present goal: obtain a better understanding of military coups, not the much more complicated issue of cycles of military and civilian regimes.

2)  $L_i = L_i(L)$  and  $dL_i/dL > 0$ , where  $(L)$  represents the probability of success of the coup; a similar assumption is implicitly employed by Silver (1974)<sup>18</sup> and O'Kane (1981),<sup>19</sup>

$$L = L(X_1, \dots, X_n; V); \quad ML/MX_i > 0; \quad ML/MV > 0$$

where  $(V)$  summarizes the exogenous factors that affect the probability of success of a military coup d'etat for given levels of participation of the army officers. An example of this variable may be the participation of a foreign country in support of the coup ( $V > 0$ ), or of the repression ( $V < 0$ ); another one, the participation of civilian groups in support of

the coup.

Under these assumptions the maximization problem faced by each army officer becomes,

$$\text{Max } E(U_i) = B \{L_i(X_1, \dots, X_n; V) U_i(R_i + P_i) + [1 - L_i(X_1, \dots, X_n; V)] U_i(D_i)\} \quad \{X_i\}$$

$$\text{where, } B = \int_0^{T_i} e^{-\delta t} dt$$

My next step will consist to formalize the problem faced by the civilian actors. The exact specification of this problem has no relevance as far as it contemplates the existence of a positive marginal cost of participation;<sup>20</sup> this cost will rule out the participation of any pressure group who does not affect the probability of success of the coup to a perceptible degree.

Consider, for example, that each pressure group faces the following maximization problem,<sup>21</sup>

$$\text{Max } E(U_j) = \int_0^{T_j} L_j * U_j(W_{jt} + M_{jt} - C_{jt}) e^{-\delta t} dt + \\ + (1-L_j) * \int_0^{T_j} U_j(W_{jt} + D_{jt} - F_{jt}) e^{-\delta t} dt$$

which under similar assumptions to the ones imposed to the military building block,

$$1) \quad W_{jt} = W_j, \quad M_{jt} = M_j, \quad D_{jt} = D_j, \quad C_{jt} = C_j, \quad \text{and} \quad F_{jt} = F_j$$

$$2) \quad L_j = L_j(L) \quad \text{and} \quad dL_j/dL > 0$$

becomes,

$$\text{Max}_{\{Y_j\}} E(U_j) = \int_0^{T_j} \{L_j(L) U_j(W_j + M_j - C_j) + [1 - L_j(L)] U_j(W_j + D_j - F_j)\} e^{-\delta t} dt$$

$$\text{where, } \int_0^{T_j} e^{-\delta t} dt$$

and,

$Y_j$  = Level of participation of each of the identical members of the group  $j$  in support of the coup ( $Y_j > 0$ ), or of the repression ( $Y_j < 0$ ).

$W_j$  = Income of the agent independent of government redistribution.

$M_j$  = Government redistribution to each member of the group  $j$  under the rules of the redistributive game embodied in a military regime.

$C_j$  = Cost of participation in support of the coup.

$$C_j = C(Y_j) \quad \text{and} \quad dC_j/dY_j > 0 \quad \text{if} \quad Y_j > 0$$

$$C(Y_j) = 0 \quad \text{if} \quad Y_j \neq 0$$

$D_j$  = Government redistribution to each member of the group  $j$  under the rules of the redistributive game embodied in a democratic regime.

$F_j$  = Cost of participation in defense of the democratic regime.

$$F_j = F(Y_j) \quad \text{and} \quad dF_j/dY_j < 0 \quad \text{if} \quad Y_j < 0$$

$$F(Y_j) = 0 \quad \text{if} \quad Y_j \leq 0$$

The interaction between the actors is modeled as a Cournot-Nash non-cooperative game in their level of participation; then, the equilibrium is determined by the utility maximizing condition for each actor (military or civilian) with respect to his level of participation in support of the coup or of the repression, taking as given the level of participation of any other actor,

$$dE(U)/dX = ML/MX [U(R+P)-U(D)] + L U'(R+P) R' + (1-L) U'(D) D' = 0$$

$$i = 1, \dots, n$$

$$dE(U)/dY = ML/MY [U(W+M-C)-U(W+D-F)] - L U'(W+M-C) C' - (1-L) U'(W+D-F) F' = 0$$

$$j = 1, \dots, m$$

where I am omitting from now on the subscripts  $i$  and  $j$ , and I am assuming  $B = \dots = 1$ .

By comparing both sets of first order conditions it becomes clear why the proposed theory would satisfy the stylized fact that most army officers take part in a coup while most civilian actors defer from doing so. My framework provides army officers with not only public good considerations but also private interest rewards; then, while the total payoff expected by the army officers is not independent of their level of participation, the total payoff expected by the civilian actors is only based in a public good consideration: the change in the outcome of the redistributive game embodied in the overthrowing of the democratic regime. Therefore, while most army officers will choose to take part, most pressure groups will choose to remain inactive, unless they can affect the probability of instauration of the military regime to a perceptible degree,

$$ML/MY = 0 \quad Y \quad Y^* = 0$$

By means of a similar argumentation it is easy to show that the model would also satisfy the stylized fact that in most of the Latin American military coups d'etat it is usually verified some sort of support by part of the civilian population but not any form of civilian resistance. In order to contemplate this empirical asymmetry I have proposed a public good theory, given that in this framework the civilian actors will only choose to participate if they can significantly affect the probability of success of the coup. Under this scenario if the participation of some of the pressure groups benefitted by the change of political regime affects the probability of success of the coup, but the participation of any of the groups harmed does not; the former groups would support the coup, because  $ML/MY > 0$ ; but the latter will remain inactive, given that  $ML/MY = 0 \quad Y \quad Y^* = 0$ .

The maximization problem faced by the actors allow them to choose their optimal level of participation in the contingent stage of a military coup d'etat, but it does not explain how the coup has begun. I will assume, as it is also implicitly done by Gordon Tullock (1974)<sup>22</sup> and Rosemary O'Kane 1981)<sup>23</sup>, that an increase in the probability of success will increase the likelihood that a subgroup of the army officers would decide to begin the action,

$$C = C(L) \quad \text{and} \quad dC/dL > 0$$

where, (C) represents the probability of a coup. Under this assumption, it is possible to show that the model would also satisfy the remaining stylized fact: a military coup d'etat which overthrows a democratic regime is generally preceded by a vacuum of power, which usually

implies an economic and social chaos. Given this chaos it is expected that the income independent of government redistribution may come back to its "normal" level under the new government.<sup>24</sup> In terms of the model I will differentiate the income independent of government redistribution if the coup succeed ( $W_c$ ) from the income if there is not a successful coup ( $W_d$ ); such that,  $(W_c) > (W_d)$ . Under this specification the impact effect of a successful coup on the participation of the civilian agents will be positive if, for example,  $U'' < 0$ ,

$$\text{Sign } MY/MW_c = \text{Sign } \{ML/MY [U'(W_c+M-C)] - L U''(W_c+M-C) C'\}$$

I do not wish to close this paper without highlighting the significance of the central factor, suggested by my theory, that may influence the likelihood of a military coup d'etat: the expected change in the rules of the redistributive game. A military coup d'etat that overthrows a democratic regime will alter these rules since the immediate consequence of the overthrowing of a democratic regime will be the establishment of a dictatorship, which will drastically modify the structure of the political organization of society. This change will bring up a new political-economic equilibrium, which will have related changes in the redistributive success of the different groups; the larger these changes are the higher the civilian support to the coup would be,<sup>25</sup>

$$\text{Sign } MY/MD \text{ (Impact effect)} = \text{Sign } \{-ML/MY U'(W+D) D'\} < 0.$$

In fact, any change in the outcome of the redistributive game is associated with changes of economic policies (see Edgardo Zablotsky [1992 (ii)]); in these terms it is



possible to think in these policies as economic predictors of the coup,<sup>27</sup> but it is important to point out that, under the theory proposed in this paper, these policies are nothing more than proxies of the real causes of the coup: the basic laws of the country which highly determine these policies through their effect over the rules of the redistributive game; in synthesis,

*A military coup d'etat is better interpreted as the final outcome of a given set of basic laws rather than as the end result of erroneous economic policies, given that these policies are the end product of a redistributive game and the rules of this game are highly influenced by the basic laws of the country.*

I will devote the following section to summarize the main highlights of the proposed theory.

### SUMMARY AND CONCLUSIONS

This paper was devoted to the study of military coups d'etat, one of the most prevalent

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<sup>27</sup>The civilians harmed by the change in the rules of the redistributive game may try to prevent the coup by exerting a lower level of political pressure in democracy, reducing in this way the benefits provided by the change of political regime to the pressure groups benefitted by the rules of the game embodied in a military regime; I will assume that the civilians harmed by the coup act as if they do not take into account this possibility; an appealing justification for this assumption is present in a country where the level of uncertainty about the future is so high (most of the Latin American countries may fairly be classified under this category) that an optimal behavior for the actors would consist to maximize their redistribute success today regardless of any future effect of this behavior.

types of non democratic change of government, but one which has not received a proportional degree of attention under the framework of the public choice literature.

In order to contribute to fill this gap, I have proposed a simple theory which may help us to better understand the subject. This theory was composed of two building blocks: the military side of the coup, which closely followed the framework developed by Gordon Tullock, and the civilian side.

The inclusion of this second building block constitutes the basic difference between my framework and the Tullock's one, and radically departs from the by-product theory of revolutions because it proposes public good considerations--instead of private interest rewards--as the engine for the motivations of the civilian actors.

The theory was based upon the pressure groups approach to the economic policy, developed since the seminal work of Arthur Bentley (1908). Under this framework a military coup d'etat which overthrows a democratic regime would provide public good considerations which serve to motivate the civilians actors to participate, because it will alter the rules of the redistributive game. The change in the rules of the game embodied in a successful coup will bring about a new political-economic equilibrium, which will have associated changes in the redistributive success of the different groups, providing in this way the public considerations for civilian actors to take part in a coup.

The public good characteristic of the proposed theory would allow my framework to satisfy the following stylized facts:

A) In most of the Latin American military coups d'etat it is usually verified some sort of

support of part of the civilian population but not any form of civilian resistance.

B) Most army officers take part in a coup but most civilian actors do not.

C) A military coup d'etat is generally preceded by a period of economic and social chaos which may characterize a vacuum of power.

In summary, the proposed theory highlights the significance of a non-military factor that may influence the likelihood of a military coup d'etat: the expected change in the rules of the redistributive game. Under these terms, a military coup d'etat is better interpreted as the final outcome of a given set of basic laws rather than as the end result of erroneous economic policies, given that these policies are the end product of a redistributive game and the rules of this game are highly influenced by the basic laws of the country.

It seems fair to conclude that the consideration of the role played by civilian actors in military coups d'etat will help us to gain further insights into their causes; insights which are unattainable if we only consider the military side of the coup.

## APPENDIX

TABLE 1: SCORES OF DEMOCRATICNESS FOR 63 SELECTED COUNTRIES

Year	Average (63)	First World (17)	Others (46)	Latin America (19)
1950	11.32	19.39	8.34	11.10
1955	10.94	19.43	7.80	10.21
1960	11.42	19.35	8.49	11.70
1965	11.25	19.42	8.23	10.64
1970	10.94	19.36	7.83	9.96
1975	10.75	19.42	7.56	7.51
Average	11.10	19.40	8.04	10.19

Source: Compiled from Zehra Fatma Arat, "The Viability of Political Democracy in Developing Countries. Ph.D. dissertation, The Graduate School of the State University of New York at Binghamton, 1984.

TABLE 2: THE ARMED FORCES AND CIVILIAN MIX OF COUP GOVERNMENTS

Period	Civilian and Military Mix	Military	Latin American	
			Civilian and Military Mix	Military
1950-1959	14	1	6	0
1960-1969	36	13	10	4
1970-1979	24	9	9	1
Total	74	23	25	5
Percent	76	24	83	17

Source: Compiled from O' Kane, Rosemary. The Likelihood Coups, Averbury, 1987.



Chicago and Fundación Antorchas. The usual disclaimer applies.

2."The dominant form of government in the world today is dictatorship. Further throughout history, dictatorship has been the commonest form of government in the world" (Tullock [1987], p. 4).

3.The measure of democraticness is based upon principles which lead to higher levels of popular control. This control is perceived to have three components: political participation (which measures the extent that popular will is reflected at decision-making institutions), competitiveness (which measures the competitiveness of the political system), and civil and political liberties (which measures the coerciveness of the government). The estimated scores, which are ranked in the (0-20) interval, fluctuate between 0.55 and 18.91; the higher the rank, the higher the degree of democraticness.

4.I have classified under the label of "first world" the Western European countries in addition to the USA, Canada, Australia and New Zealand. I have classified under the label of "others" the remaining forty six countries: Afghanistan, Albania, Bulgaria, China, Czechoslovakia, Ethiopia, Greece, Hungary, Iran, Iraq, Jordan, Lebanon, Liberia, Mongolia, Nepal, Philippines, Poland, Portugal, Romania, South Africa, Saudi Arabia, Spain, Thailand, Turkey, USSR, Yemen, A.R., Yugoslavia plus the following nineteen Latin American countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela.

5.The public good approach can be summarized by portraying the object of the revolution as the improvement of the welfare of society; Goldstone, 1980, presents a good review of this approach.

6.This challenge can be summarized by the following statement which concludes Tullock's (1971) paper,

"In sum, the theoretical arguments for the view that revolutions are carried out by people who hope for private gain and produce such public goods as they do produce as a by-product seems to me very strong. As for now, no formal empirical test has been made of it, but a preliminary view of the empirical evidence would seem to support the by-product theory. This, of course, is a paradox. Revolution is the subject of an elaborate and voluminous literature and, if I am right, all of this literature is wrong."

7.From now on, unless I explicitly indicate the contrary, I am referring to military coups d'etat that overthrow democratic regimes.

8.Rosemary O'Kane [1987], pp. 9-11, states,

"The value of the supreme consideration given to the military in coups d'etat, however, is

clearly belied by the evidence that approximately only one in six of the governments set up after coups d'etat are composed exclusively of military personnel; the vast majority of post coup governments include a mixture of military and civilian personnel. These mixes can range from the extremes of only one civilian, as in Burma 1962 to only one military officer as in Ecuador, 1961.... Strong emphasis on the role of the military in coups d'etat cannot then be justified by their normally bringing military governments to power, they are just likely to install military civilian mix governments, often install largely civilian governments and sometimes entirely civilian ones."

9. For example, Gordon Tullock (1974), p. 60, states,

"For most citizens of the state, remaining neutral is the optimal course of action.... In general, remaining neutral is not the profit maximizing course of action for the average army officer."

10. This stylized fact was suggested by Robert Fogel.

11. I define that a coup has been successful if a military government has been installed; then, a coup that has substituted a democratic regime for only some weeks will not be considered successful. Under this definition, a civilian group may increase the probability of success of a coup by taking part in the new government in positions where the army officers have not comparative advantages (i.e., economics, foreign relations, education, etc.), or by providing the necessary political support for the military government to be recognized, or even to receive financial support, from foreign countries, etc.

12. John Mbaku and Chris Paul (1989) present a model which provides private interest rewards as the motivation for the civilian actors in order to take part in a coup,

"The present model differs from previous constructs of the economic or by-product theory of revolutions in its structuring of an engine for the self interest motivation of participants. The previous construct of the theory suggest that there exist a negative relationship between the probability of political instability and the state of the economy.... While concurring with this conclusion the present model treats the economy's health as a product of rent seeking behavior on the part of government officials. In effect, the governmental apparatus is employed to create and extract rents. This behavior has two important implications. First, blocking competition in both the political and economic markets excludes non-members from sharing the rents and profits generated. Second, the creation and extraction of rents slows or reverses economic growth; further reducing the well being of excluded individuals.... Blocked from competing for gains in government controlled markets and from competing for rents by exclusion from institutionalized political process, members of excluded groups attempt to capture control of the government by extra constitutional or violent political means. That is, members of excluded groups seek to displace the in-power-group. Their object is, however, not to create free markets and/or public goods, but rather to capture the rent creating government control of markets for the purpose of creating and extracting rents. This goal is achieved by excluding non-member groups which results in

continued political instability" (Mbaku & Paul [1989], p. 64).

13. For example, Bentley [1908], p. 305, states,

"Suppose now we take a general formation of interest groups, such as we know in our existing European and American countries... ..It is evident that within this range of nations the tripartite division into monarchies, aristocracies, and democracies has absolutely nothing whatever to bring to us in the way of making our material better capable of analysis and study. We must examine these governments with reference to the ways the interests work through the government, with reference the techniques they follow, and to the special kinds of groups, or organs, which exist to reflect them and harmonize them."

14. Subject to the government budget constraint  $\sum_i p_i R_i = 0$ . In order to simplify the exposition we are not taking into account the deadweight losses from taxes and subsidies (see Becker [1983], pp. 389-390, for a more complete exposition).

15. I will assume that the army officers will not take into account some of the factors proposed by Tullock, like their estimation of the likelihood of injury through the participation in support or against the coup, the cost associated to that injury, or the entertainment value of participation. This assumption is done for simplicity, given that the inclusion of anyone of these factors will have no relevancy for this research.

16. Gordon Tullock (1974), p. 64, proposes the alternative hypothesis that the army officer will face a punishment if he remains neutral,

"For the neutral, the slogan "He who is not with me is against me" may lead to positive punishment. More commonly, however, the injuries inflicted upon a neutral come from the need for the winning side to distribute rewards to their supporters. He is deprived of his position not because he is disliked, but because the position is needed for other purposes."

I have assumed that there is no punishment if the officer remains neutral once again for simplicity; this assumption is completely innocuous, since from my model I can reproduce anyone of the Tullock's results.

17. As Ireland (1967), p. 51, states,

"Something should be said about the nature of an individual's expected utility from a revolutionary outcome. His expected utility must be seen as discounted utility for an indefinite period of time into the future following the success of the revolution. It involves the individual's expectations about what laws will be put into effect and how the balance of political power in the society will shift as a result of the introduction of the revolutionary institutions. The individual will also take into consideration the possibility that the revolution's success will create an unstable political situation and that other revolutions may occur as a result. If this is so, the individual will make guesses about the changes these potential revolutions might



bring. All of these factors and others will be weighed and balanced into the individual's expected utility."

18."Students of revolution have long been aware that revolutions frequently occur after conditions have markedly improved or while in process of improvement.... Reforms often increase the political capabilities of the revolutionaries (i.e., by giving them seats in Parliament, coverage in the mass media, and access to financial contributions) which raises their  $L_v$  (likelihood of success of the revolution, [mine]).... Perhaps most important in a world of imperfect knowledge, many persons will quite rationally interpret the reforms as a sign of weakness or submission. In this event their subjective estimate of the  $L_v$  will rise" (Silver [1974], pp. 65-66).

19.The decision of a group of conspirators to intervene, however, is based upon calculation of the chances of success.... Following Luttwak's method, three obstacles to coups may be suggested. When they exist,...., they will reduce the likelihood of success of the coup. Being part of the calculations of the conspirators, they will also reduce the probability of such an attempt" (O'Kane [1981], p. 294).

20.For example, Ireland (1967), p. 51, states (for the case of a mass revolution),

"The individual.... has direct costs attached to his participation in the revolution. These involve the opportunity costs for man hours spent in carrying out the revolution and, more importantly, the possibility that the participant might be injured or killed while fighting for the success of the revolution."

21.Another possible specification of this maximization problem consists to assume that all the costs of participation are bear at the time of the coup; such that,

$$\begin{aligned} \text{Max}_{T_c} E(U_j) &= L_j \int_0^{T_j} U_j(W_{jt} + M_{jt}) e^{-\delta t} dt + (1-L_j) \int_0^{T_j} U_j(W_{jt} + D_{jt}) e^{-\delta t} dt + \{Y_j\} T_c \\ &+ U_j(W_{j0} + D_{j0} - C_{j0}) \end{aligned}$$

where,

$C_j$  = Cost of participation faced by each member of the group  $j$ .

$$C_j = C(\delta Y_j^*), \quad C(0) = 0 \quad \text{and} \quad dC_j/d\delta Y_j^* > 0$$

it is possible to show that under both specifications I can derive the same result.

22."So far we have discussed why individuals would join a coup, not the decision process which might lead people to entrepreneur one. In essence, what happens is that a number of

high officials--or in some cases low officials who happen to have access to exceptional opportunities--.... quickly take action which is intended to set off the kind of cascade effect we have described. However, the group that issues the pronunciamento or the small unit which simply grabs, can hardly make the type of calculation described above. What they do, of course, is observe a situation in which they believe that a sudden move will set off a cascade toward themselves. Since the profits of pulling off such a coup are very great (albeit the dangers of failure are also great), profit-seeking individuals might be expected to look for such opportunities" (Tullock [1974], p. 81).

23."That coups are just a particular strategy for overthrowing governments is generally agreed in the literature.... Given the importance of planning and timing, mistakes will be made. Sometimes coups may be attempted and fail due to tactical errors. At other times coups which would have been successful may not be attempted because the conspirators are unready or have simply miscalculated their potential for success. The crucial question to be answered, therefore, should not be why coups occur, in the sense of for what reason conspirators stage them--fools may stage failed coups at any time--but under what conditions, if attempted they would like to succeed. Such conditions would, in principle, be capable of explaining both successful and genuine but unsuccessful coups" (O'Kane [1981], p. 288).

24.For example, Mancur Olson (1991), pp. 3-4, states,

"What incentives explain the emergence of government?.... Since governments are the main custodians of the power to employ violence in modern societies, we have to go back to the even more elemental question of why violence plays such a depressingly large role in human affairs.... It is mainly because of the incentive individuals sometimes have to commit violence that anarchy is so terrible. Since life in an anarchy is appallingly inefficient, there are gains from making and carrying out an agreement to maintain peace and order."

A similar argument is provided by Martin Paldam (1987), pp. 165-166,

"Most people dislike military regimes and they are acceptable only when the real politicians have created chaos in the economy, and then only as long as people have this chaos clearly in mind."

25.For example, the Electoral Law may determine if the political decisions are dependent or independent; where a dependent political decision is one that it is taken after political negotiations (i.e., a Congressman would vote in favor of a project presented by a colleague if this colleague votes in favor of a project proposed by the first Congressman). The low cross hauling of taxes and subsidies embodied in a political regime where the decisions are independent implies that the change in the rules of the game embodied in the overthrowing of the democratic regime will have a stronger influence over the outcome of the redistributive game, increasing the benefits provided by a successful coup to the pressure groups benefitted by the change of political regime, which would increase their support to the coup.