

The economic analysis of bureaucracy and government growth

Mihai UNGUREANU

National School of Political Studies and Public Administration Studies
mihai.ungureanu@snsa.ro

Diana IANCU

National School of Political Studies and Public Administration Studies
dciancu@snsa.ro

Abstract. *In this paper we analyze the problem of government size and growth and its relation with the size of public bureaucracies. The paper is organized as following: first, we present some factual data which confirm government size and growth for the western democratic world; second, we analyze the theories which identify the causes of this phenomenon. In this line we use Halcombe's (2005) taxonomy and shortly discuss, at first, the rational choice and path dependency theories of government growth. Further, we focus on budget maximization theories. This class of theories explains government growth and size by state's internal factors, bureaucracy (in the case of Niskanen's models) and bureaucracy and politicians (in the case of the Leviathan model). We conclude the paper by presenting the Armev curve and the hypothesis of state's underdevelopment as applied to the problem of the Romanian public administration.*

Keywords: government growth; public choice theory; bureaucracy; budget maximizing; Leviathan.

JEL Codes: F43, H41.

REL Code: 8E.

1. Public choice theory and the government growth and size

In 2008 Tollison wrote that public choice “emerged from the maximizing paradigm of modern microeconomics, and it remains to this day within that approach” (Tollison in Rowley, Schneider, 2008, p. 192). This definition highlights the fact that public choice theory is a branch of modern (neoclassical) economics and that it imported its methodological core from the mother discipline. This means that, in order to have a public choice style theory, one must: adopt the principle of methodological individualism, use the formal rationality assumption of utility maximization and a compatible operationalization (usually instrumental rationality), and employ a deductive style of reasoning and a formal language. The subject matter, political behaviors and institutions, stands on top of these characteristics. Public choice theory is, therefore, “economics approach to political institutions” (Mueller, 2003, p. 501).

1.1. Empirical evidence of government growth in the democratic world

Using this methodological core, a subject which received a great deal of interest from public choice scholars was the government size (the government size compared with that of the non-governmental sector) and growth (the process by which the government seize a continuously growing part of a country resources). The starting point of this field of research is the factual observation that the size and the scope of governmental functions are growing. This trend is depicted in Table 1, below.

Table 1

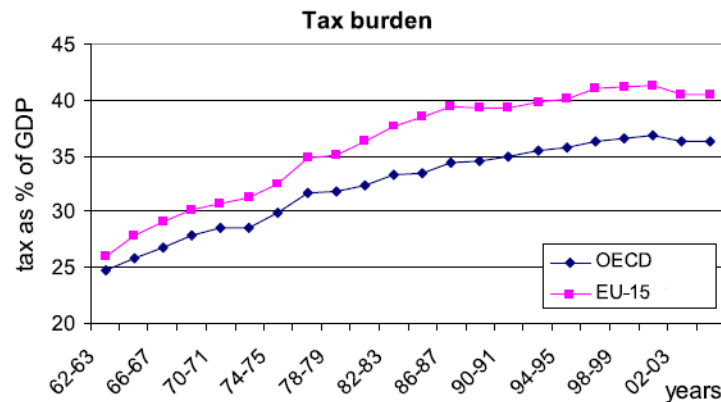
The growth of general government expenditure 1870-1996 (% of GDP)

General government	≈ 1870	Pre-Post World War I			Pre-Post World War II				
		1913	1920	1937	1960	1980	1990	1996	
Australia	18.3	16.5	19.3	14.8	21.2	34.1	34.9	35.9	
Austria	10.5	17.0	14.7	20.6	35.7	48.1	38.6	51.6	
Canada	-	-	16.7	25.0	28.6	38.8	46.0	44.7	
Switzerland	16.5	14.0	17.0	24.1	17.2	32.8	33.5	39.4	
France	12.6	17.0	27.6	29.0	34.6	46.1	49.8	55.0	
Germany	10.0	14.8	25.0	34.1	32.4	47.9	45.1	49.1	
Ireland	-	-	18.8	25.5	28.0	48.9	41.2	42.0	
Italy	13.7	17.1	30.1	31.1	30.1	42.1	53.4	52.7	
Japan	8.8	8.3	14.8	25.4	17.5	32.0	31.3	35.9	
Norway	5.9	9.3	16.0	11.8	29.9	43.8	54.9	49.2	
New Zealand	-	-	24.6	25.3	26.9	38.1	41.3	34.7	
UK	9.4	12.7	26.2	30.0	32.2	43.0	39.9	43.0	
USA	7.3	7.5	12.1	19.7	27.0	31.4	32.8	32.4	
Sweden	5.7	10.4	10.9	16.5	31.0	60.1	59.1	64.2	
Average	10.8	13.1	19.6	23.8	28.0	41.9	43.0	45.0	

Central government for 1870-1937, general government thereafter								
Belgium	-	13.8	22.1	21.8	30.3	57.8	54.3	52.9
Netherlands	9.1	9.0	13.5	19.0	33.7	55.8	54.1	49.3
Spain	-	11.0	8.3	13.2	18.8	32.2	42.0	43.7
Average	9.1	11.3	14.6	18.0	27.6	48.6	50.1	48.6
Total average	10.7	12.7	18.7	22.8	27.9	43.1	44.8	45.6

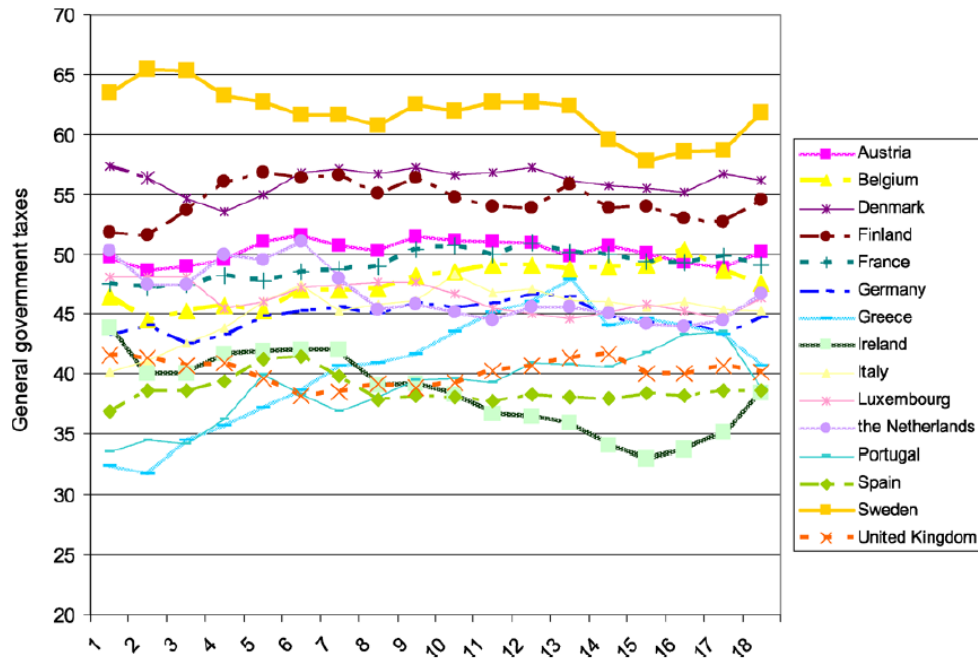
Source: Tanzi and Schuknecht (2000, p. 7).

As Mueller (2003, p. 503) noted, the accelerated government growth could be observed (in the case of the selected states - from Table 1) especially beginning with 1960. The trend is clear: in 1937 the average growth was 22.8%; in 1960 it was 27.9% and in 1980 it was almost twice than in 1937. Of interest are also the values for some states. For example Sweden's government size was 64.2% in 1996 and France's was 55.0% in the same year. Moreover, it is also interesting that after the great leap between 1960 and 1980, the growth is slower but it doesn't stop. (total average of 43.1% in 1980 and total average 44.8% in 1990). In 2010 Witte and Moesen support these conclusions for the period between 1962-2000 with data covered by Figure 1 and Figure 2.



Source: Witte, Moesen, 2010, p. 40.

Figure 1. Taxes burden for the time interval 1962-2003



Source: Witte, Moesen, 2010, p. 40.

Figure 2. Tax burden for some OECD countries

The two above figures confirm government size and growth using, this time, the amount of taxes as percent of GDP and a slightly different sample of countries. So, these are the facts: in the case of democratic western world, the government grew and it has now a considerable size. This undisputed fact was explained in various ways and we review some of these in the following section.

1.2. Theories of government size and growth

In 2003 Mueller argued that there are two classes of theories of government growth. In the first class the source of the government growth and size are the citizens (bottom-up pressure). In this class could be included the theories about: government as a provider of public goods and eliminator of externalities; government as a redistributor of income and wealth; and about pressure groups as inducers of government growth. In the second class the source of government growth is identified inside states' own political and

administrative organizations (the pressure is top-down). Theories about politicians and bureaucrats seen as having some degree of discretionary power to impose their interests against citizens' interests are included in this second class (Mueller, 2003, p. 530). In 2005 Halcombe formulated a different taxonomy of theories about government growth and size. First, public choice explanations differ on two dimensions: one of them is focused on government growth while the other deals with government size.

Second, there are at least three classes of explanations of government growth and size: rational choice models, path dependency models and budget maximization models (Halcombe, 2005, p. 96). For the goals of this paper Halcombe's taxonomy is more suitable. Therefore, in the following section we shortly discuss the first two classes of theories and in a separate section we analyze the third one, which is of our main interest here.

Rational choice and path dependency models

Rational choice models starts with the citizens as the source of government growth. In Halcombe's words, "many public choice explanations of government growth rest on a model that depicts the size of government as a collective choice of its citizens" (Halcombe, 2005, p. 96). The result which is the foundation for this class of theories is the median voter theorem, formulated by Duncan Black in 1958. The theorem says that: "If an alternative x_{med} is a median position for the society, then the number of votes for x_{med} is greater than or equal to the number of votes for any other alternative, z " (Hinich, Munger, 1997, p. 35). In other words, a median position cannot lose a majority rule election. Using this result, Peltzman (1980) wrote that „the leveling of income differences across a large part of the population – the growth of the “middle class” – has in fact been a major source of the growth of government [...] This leveling process [...] created [...] a broadening of the political base that stood to gain from redistribution generally and thus provided a fertile source of political support for expansion of specific programs" (Peltzman, 1980, p. 285). A similar explanation (this time explicitly about voters as the source of government growth) was published by Meltzer and Richard in 1981. The two researchers used a general equilibrium model in which there are only two governmental activities, taxation and redistribution, the budget is balanced, voters has perfect information and the majority rule is used. The conclusion of this model is that the median revenue voter is decisive. In the authors' own

words, “The spread of the franchise in the nineteenth and twentieth centuries increased the number of voters with relatively low income. The position of the decisive voter shifted down the distribution of income, so tax rates rose” (Meltzer, Richard, 1981, p. 924). As an effect of these redistributive pressures, the government began to grow. Another theory (with a more restricted domain than Meltzer and Richard’s theory) was formulated by Lott and Kenny in 1999. They explain a part of government growth by women suffrage. This institutional factor along with the preferences of women for redistributive public policies and their increased appetite for voting (Lott, Kenny, 1999, p. 1.165) explains (in part) government growth and size especially for the first period after adopting universal suffrage.

The second class of models, the path dependency models, starts with the ratchet hypothesis. In Halcombe’s words, “the theory is that government responds to crises like wars and depressions by ratcheting up expenditures, and then, after the crises pass, expenditures fall somewhat but remain above their pre-crisis level” (Halcombe, 2005, p. 100). This is the ratchet effect of government growth: once the level of government expenditure increased, it will never be set back to its original (before crisis) level. This hypothesis was first formulated by Peacock and Wiseman in 1961. Their central argument is that government expansion in the XX century had a faster pace than economic growth. This was caused by crisis episodes which justified tax increases. Rasler and Thompson (1985) had a similar argument. In their view global war was the major crisis factor which explains government growth (Rasler, Thompson, 1985, p. 491). In the same line of thought, Higgs (1987) designed the crisis hypothesis (Higgs, 1987, p. 17). Another explanation of government growth and size was Olson’s (1984) argument about the decline of nations. Starting from his logic of collective action Olson (1965) argued that long periods of political and economic stability are a suited soil for the growing of redistributive coalitions. These are pressure groups which succeed in creating privileged links with the government and redistribute state’s resources in their private interest and against public interest. Their success means lower economic growth and bigger governments. As Halcombe (2005) argue, all these theories suggest that the actual level of government expenditures or of government size “is not the result of some process that responds only to current conditions, but rather is dependent upon historical circumstances” (Halcombe, 2005, p. 101). For this reason they could be classified as path dependency theories.

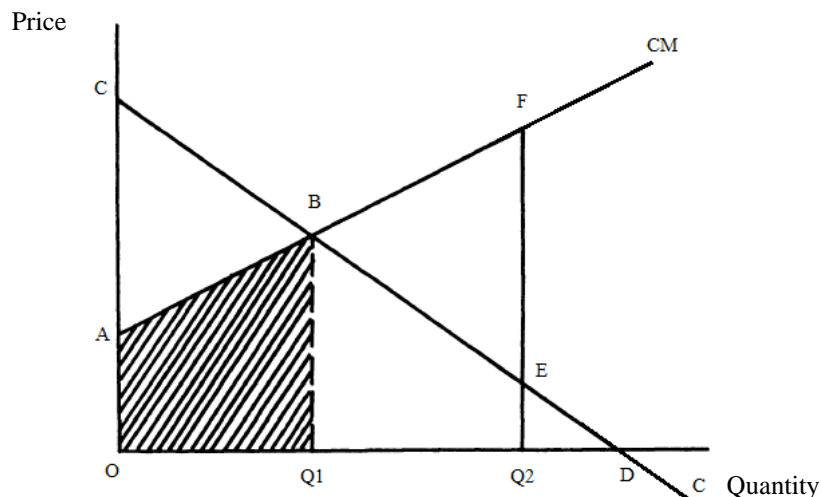
2. Budget or revenue maximization – bureaucracy and Leviathan

The third class of theories of government growth and size are those of revenue or budget maximization. In their case the growth is not caused by citizens' demand (voters or pressure groups) or by a historical context in which the government gains bigger role and budgets. This time, the source of growth is caused by government's internal and present circumstances. In this section of our paper we analyze two types of models from this class, the bilateral monopoly model of budget maximization and the monolithic model of revenue maximization. Both models have state's own agents, bureaucrats and politicians as main actors.

The bilateral monopoly model of budget maximization

In 1968 and 1971 Niskanen published a new explanation of government size and growth. This explanation became one of the most cited results from public choice literature. Niskanen's model starts with the standard neoclassical economics behavioral assumption, that all actors are utility maximizers. This assumption is operationalized in the form of budget maximization. "The bureaucrats maximize the total budget of their bureau" (Niskanen, 1968, p. 293). This is further operationalized as things that bureaucrats might appreciate: salary, perquisites of the office, public reputation, power, patronage, ease of managing the bureau, and ease of making changes. "All these variables are a monotonic function of the bureau's total budget" (Niskanen, 1968, p. 294). The structural assumptions of this model along the behavioral assumption about the financing organization's representatives (the sponsor in Niskanen's terms) are more clearly presented in 1971. First, the sponsor's representatives are politicians, therefore they maximize their re-election in public office (Niskanen, 1971, p. 29). Second, the relation between the bureau and the sponsor is described as a bilateral monopoly (Niskanen, 1971, p. 25). In this relation the bureau has no more than one source of money (sponsor's monopsony position) and the sponsor buy public services form a single source, the bureau (bureau's monopoly position). The bureau's negotiation power is, though, bigger. This is because, by assumption, bureaus are in a position of informational superiority (information asymmetry assumption). The sponsor has no knowledge about the real bureau's production costs. On the other part, the bureau's representatives know the sponsor's utility function. This information asymmetry prevents the sponsor to use its monopsony position.

From this, the conclusion is that the bureau will obtain a larger than the necessary budget. This conclusion is depicted in Figure 3.



Source: modified version of Breton, Wintrobe 1975.

Figure 3. Bureau's production

In the above figure, the sponsor's demand curve (C) is equivalent with society's demand, and the marginal cost curve (CM) intersects in point B. At this point the marginal cost of bureau's production is equal to the marginal revenue for society/sponsor. Assuming perfect competition, bureau's production should stop at the Q_1 quantity because at this point Pareto optimality is attained. In Niskanen's model we have a bilateral monopoly market and the sponsor cannot use its monopsony position. This implies that the production will extend to the Q_2 quantity with a budget equal with $OAFQ_2$. This budget-quantity combination is though bigger than the one produced in conditions of perfect competition. The conclusion is that bureaucratic production is inefficient. This conclusion was slightly modified in the 14th chapter of Niskanen's (1971) book. Here, Niskanen introduced the mechanism of committees, aimed at assessing costs and activities. Despite this new assumption, Niskanen maintained that the budgets would be larger than necessary and they would over produce public goods. This was, as Niskanen, concluded, a major source of government growth and size.

Niskanen's model received a great deal of attention in public choice literature. It was criticized and reformulated in several other important

researches. For example, in 1973 Thompson considered Niskanen's model as empirically unreasonable (Thompson, 1973, p. 952) and criticized it for several reasons. First, informational asymmetry has nothing to do with who gets to choose the production level and the price. Relative returns and costs of making bargaining commitments are of importance here (Thompson, 1973, p. 951). Since the same group of trustees (sponsor's representatives) generally deals with many different bureaus and a bureau deals with only one group of trustees, the returns of making commitments are higher for the sponsor than for the bureau chief. Additionally, in Thompson's words, "Furthermore, a commitment of a single bureaucrat, the bureau chief, to withhold output is essentially meaningless because he controls no resources vital to the production of the bureau—he will simply be replaced if he refuses to produce the output that the trustees want at any price they set which is not below the supply price" (Thompson, 1973, p. 951). Thompson further argues that a necessary assumption for Niskanen's model would be that bureaucrats are able to misrepresent their costs at outputs other than their desired output to the extent that the sponsor's representatives are induced to choose bureaucrat's ideal budget. This misrepresentation is though, implausible.

Another critique of Niskanen's model was published by Migué and Bélanger in 1974. They argue that bureau managers are not total budget or production maximizers. First, "if any one of the large number of conceivable other expenses do provide any satisfaction to the manager, he will never seek to reach the maximum output attainable. At some point on the budget line, the utility generated by one dollar of other desirable expenses is bound to become greater than the utility obtained from allocating this dollar to increased output. This is all the more so that by virtue of the budget line being concave to the origin, the cost of increasing output in terms of sacrificeable expenses rises as output rises" (Migué, Bélanger, 1974, p. 33). Second, the manager is not a budget maximizer. He/she will actually want to maximize his/her discretionary budget (the part of the total budget which he/she is able to use in no pre-fixed ways).

Another important critique of Niskanen's model belongs to Breton and Wintrobe (1975). They proposed two arguments about Niskanen's model. First, they notice that the tax rises necessary to support bigger budgets and outputs will eventually result in losing the next election for the ruling political party. The new party will also be in an inferiority position towards the bureaus and will have the same fate as its predecessor, and so on. This "doesn't seem to be supported by facts" though (Breton, Wintrobe, 1975, p. 198). Starting from this observation, the main problem of Niskanen's model is the assumption of sponsor's passivity, its incapacity to use its monopsony power). The next step

is to replace this assumption with a more realistic one. This new assumption states that “the bureau managers are subjected to the control – by penalties and rewards – of the governing political party” (Breton, Wintrobe, 1975, p. 199). In other words, “even if the bureau has a monopoly position, the individual bureaucrat is not in the same position” (Breton, Wintrobe, 1975, p. 199). The implication is, therefore, similar to Thompson’s critique: The Niskanen’s model conclusion depends on the bureau’s manager capacity of hiding relevant information about real costs and budgets. To reduce this effect the sponsor has to employ monitoring devices. “The systematic and rational use of control devices implies that the preferences of sponsors, and possibly those of citizens, are reflected in the supply of public output” (Breton, Wintrobe, 1975, p. 203). In addition to this first argument, Breton and Wintrobe formulated a second one. It refers to the absence of a positive monotonic relation between bureaus. In other words, the salaries and other benefits which bureaucrats enjoy by being members of a bureau could be bigger in smaller organizations. These smaller organizations, though, could have bigger budgets than large organizations. Further, personnel mobility in governmental organizations is relatively high and many bureau chiefs use to raise their salaries (and other benefits) by moving from bigger organizations to smaller ones (if the salaries are bigger). In authors’ own words, “this would seem to indicate that a different (from Niskanen’s) objective function is being maximized” (Breton, Wintrobe, 1975, p. 204). Therefore, “we would expect to observe the kinds of behavior associated with budget maximization only where mobility is relatively restricted” (Breton, Wintrobe, 1975, p. 206). From this, the budget maximization assumption has a domain limited to certain contexts.

Starting from some of the critiques reviewed above, Niskanen (1975) suggested a modified model of bureaucratic production. Amongst the modified assumptions are: the maximization of a discretionary budget (from Bélanger and Migué suggestions), and the active sponsor assumption (from Thompson’s critique) capable to use monitoring devices (from Breton and Wintrobe’s model). These modified assumptions have impact on the over production conclusion (modifying it in underproduction) but not on the higher than necessary budget conclusion. Niskanen maintained that monitoring activities will be undersupplied (Niskanen, 1975, p. 627). From this, bureaucrats will maximize their discretionary budgets up to a level above the median voter and median legislator ideal budgets.

In 2001 Niskanen further modifies its model assuming a different budget reversion level. At Romer and Rosenthal (1978) suggestion, Niskanen wrote that “one implicit assumption of my initial framework is that a bureau and its sponsor bargain over the whole range from a zero budget to the bureau’s

proposed budget” (Niskanen, 2001, p. 265). Starting from this idea, Niskanen explicitly states a new assumption: “The reversion-level budget is very dependent on the institutions of the budget review process but, in general, is not zero. In the limiting case, the reversion level is that for which the benefits to the sponsor are so low that the sponsor exercises its authority to replace or otherwise discipline the bureau” (Niskanen, 2001, p. 269). The main conclusion of this modified model is that depending on the reversion-level budget, the discretionary budget maximizing bureaucrats will ask for bigger or smaller budgets. But in reality the bureaus and the monitoring committees usually have the same interests and this will imply a relative passivity of the sponsor. This will immediately result in an excess budget. Therefore the conclusion is maintained: bureaus are an important source of government growth and size.

2.1. The monolithic model of revenue maximization – government as Leviathan

All the budget maximization models presented above assumed to a certain degree a form of differentiation between bureaucrats and politicians. The clearest form of this separation was the bilateral monopoly assumption from Niskanen’s model. This differentiation is eliminated in the Leviathan models of government growth. This tradition started with Brennan and Buchanan papers from 1977 and 1980. The Leviathan model could be described in several simple steps. First, there is a distinction between constitutional and post-constitutional choices. Second, the government is pictured as a non-benevolent despot who needs to be constitutionally constrained. Third, the problem of taxation and the necessity of a tax constitution are being analyzed. Fourth the monitoring capacities of citizens are scrutinized. We discuss all these in the following lines.

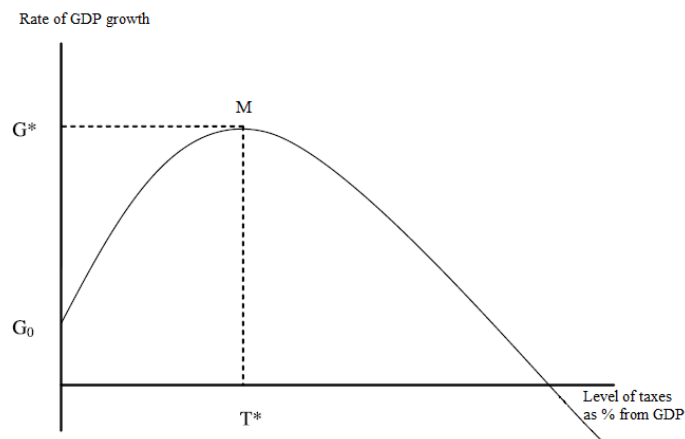
The Leviathan model starts from a distinction between constitutional choice and post-constitutional choice. To describe this distinction, the authors use an analogy with a game and its rules: “A game is described by its rules its constitution. These rules establish the framework within which the playing of the game proceeds; they set boundaries on what activities are legitimate, as well as describing the objects of the game and how to determine who wins. It is clear intuitively that the choice among alternative strategies that a player might make in the course of a game is categorically quite distinct from his prior choice among alternative sets of rules. After hitting a particular shot, a tennis player may reasonably wish that the net was lower, yet prior to the game he may have agreed to a set of rules in which the height of the net was specified.” (Brennan, Buchanan, 1980, p. 5). Starting from this analogy, it is argued that

every individual is confronted with a constitutional choice which will constrain his and others behavior in the post constitutional phase.

In this model of constitutional choice “the individual must know the pattern or distribution of positions under several rounds of play under all sets of rules, while remaining ignorant about his own position under any one of these patterns” (Brennan, Buchanan, 1980, p. 5). Further, the model assumes state to be a non-benevolent despot (Brennan, Buchanan, 1980, p. 17). In authors’ own words, “Those who might argue that governments should be analyzed on such a presumption of agent benevolence are denying the legitimacy of *any* constraints on government, including electoral ones. There is no logical basis for a constitution in this setting” (Brennan, Buchanan, 1980, p. 8). Here, the government is defined as a monolithic actor, a collective actor formed by bureaucrats and politicians, which unitary acts as a revenue maximizer using its tax collecting power. In the authors’ words, “the simplest version of the model presumes that governments maximize revenues from whatever sources of taxation are made available to them constitutionally” (Brennan, Buchanan, 1980, p. 33). This premise is supplemented by another: „Specifically, we assume that the political process, as it operates post constitutionally, is not effectively constrained by electoral competition as such, and that the electoral process can appropriately constrain the natural proclivities of governments only when it is accompanied by additional constraints and rules imposed at the constitutional level” (Brennan, Buchanan, 1980, p. 18). Finally, the last essential premise of the Leviathan model is the information asymmetry assumption. The monolithic politicians-bureaucrats actor is in an information superiority position when facing the citizens. The latter are depicted, in Downs (1957) tradition as being rational ignorant. First, the information about government actions is a public good. Second, there are costs of acquiring such information. Third, the benefits of acquiring such information are not fully appropriable by the informed voter. Therefore, all voters will rationally choose to be under informed. On the other side, bureaucrats and politicians have lots of incentives to produce information. All these imply the conclusion of information asymmetry: “the necessary asymmetry between information held by the electorate as distinct from the politician-bureaucrat offers scope for misleading the electorate, and a differential power which can within limits be exercised by politicians-bureaucrats in whatever way they choose” (Brennan, Buchanan, 1980, p. 25). Resuming the argument: the government is a monolithic revenue maximizer. Compared to it, citizens are in a position of information inferiority. From this, the usual electoral process won’t efficiently constrain the government. This implies that government will grow at the expense of its citizens. Therefore we should limit government’s capacity to

3. Bureaucracy and government growth. Discussion

In the above sections we presented some of the most important theories about government growth and size. We also presented some of the critiques of one of the most cited theories of government growth, namely Niskanen's model of bureaucratic production. Of course, all these theories could be criticized. For example, a systematic problem of all public choice models is the pervasive use of uniformity assumptions. When these assumptions are in the causal core of the model world (Ungureanu, 2011, 2012) they are unsuitable for policy use. Another important argument against public choice models attacks its core value, efficiency. In public choice theory considerations about efficiency are the only guiding values for policy use. This could be criticized on normative grounds because many things we value won't satisfy an efficiency criterion (for example culture or egalitarian based medical assistance). Although valid, we will not use these arguments here. Rather we employ a third argument which maintains that the undisputable growth of the government from the XX century is not a problem per se. This argument is built on Armeij's (1995) theory and it starts with the economic theory of state. This theory no matter its form – at Buchanan (1975) or Olson (1993) – argues that the existence of state will produce economic growth. This observation is explicitly formulated by Witte and Moesen (2010) and it is depicted in Figure 5, below.



Source: Witte, Moesen, 2010, p.40.

Figure 5. Armeij curve

“If the government has no resources (i.e., zero taxation level), the growth rate of the economy corresponds to C_0 . In a world without rule of law, private agents have to protect their own property rights. The establishment of a government skims some income, but creates a higher growth rate by introducing the provision of public goods and services which increases overall economic efficiency” (Witte, Moesen, 2010, p. 42). Starting from this observation, Armeij’s argument is that we can think about government growth as a U shaped curve. This curve is named after its author, and it explains that we cannot talk about government growth as being a negative phenomenon per se. It also shows that there is an M point and until this point government growth is a positive phenomenon. After this point, the tax distortive effect will generate economic inefficiency.

Starting from Armeij’s argument and applying it the Romanian case, we design the underdeveloped state hypothesis. (UDSH). We formulate it only for the case of Romanian public administration. In this restricted domain form, UDSH means that the level of growth of Romanian public administration in terms of number of employees and allocated budget is underdeveloped. In other words, apart from being a burden on economy’s shoulders (as it has been argued in public discourses in the past few years) the administrative system didn’t reach the point of its maximum efficient growth. This means that bureaucracy is underdeveloped and it should grow to reach the point M from Ffigure 5. We will not present a test for this hypothesis here. This will be done in another paper.

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