THE COMPOSITION OF GOVERNMENT SPENDING AND ECONOMIC GROWTH IN DEVELOPING COUNTRIES: THE CASE OF LATIN AMERICA

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Abstract: This paper aims to identify the effects of the two economic components of government spending, namely, capital and current spending, on the per capita economic growth rate in a set of Latin American countries over the period 1975 – 2000. Within the neoclassical framework (Solow, 1956; Swan, 1956), government spending, and public policy in general, has no role in determining the long-run economic growth rate, since this is determined by the exogenous population growth and technological progress rates. On the other hand, in some endogenous growth models developed mainly since the early 1990s, such as Easterly (1990), Barro (1990), Barro and Sala-i-Martin (1992, and 2004), Cashin (1995), Bajo-Rubio (2001), and Milbourne *et al*. (2003), fiscal policy affects the long-term growth rate through decisions on either taxes or expenditures.

The empirical literature tends to reject the predictions of the neoclassical model, in the sense that according to this model, fiscal policy cannot affect growth in the long term. However, results are far from conclusive and it seems they depend on various aspects such as methods or techniques used, assumptions, country or set of countries analyzed, and so on. As long as theoretical models about the influence of public spending on growth is concerned, some of them such as Barro (1990), Cashin (1995), Bajo-Rubio (2000), and Milbourne *et al*. (2003) predict that a positive effect is expected to be found in countries where the size of government is smaller than a certain threshold, and a negative one in countries where the size of government is bigger than that. Therefore, since generally speaking, with few exceptions, one finds very large public sectors only in developed countries (DCs), studies evaluating the impact of public expenditure on growth should analyze DCs and less developed countries (LDCs) separately. In line with recent growth literature, the study uses a generalized method of moments as suggested by Arellano and Bond (1991) in order to obtain consistent and efficient estimates for a dynamic model, such as an economic growth model.

This paper's findings suggest that neither government capital nor current expenditures have any impact on the per capita economic growth rate. The positive effect of government capital spending reported in some literature was not found here. Statistically insignificant estimated effects of these kinds of spending could be due to inefficiency. Perhaps they are vulnerable to rent seeking. In addition, inefficiency of government spending has widely been associated in the literature with poor governance and corruption, which are, typically, some characteristics of developing countries.

Keywords: Economic growth, generalized method of moments, government spending, Latin America

INTRODUCTION

From a theoretical point of view, there are two main approaches regarding the effects of government spending on economic growth. Within the neoclassical framework (Solow, 1956; Swan, 1956), government spending, and public policy in general, has no role in determining the long-run economic growth rate, since this is determined by the exogenous population growth and technological progress rates.

On the other hand, in some endogenous growth models developed mainly since the early 1990s, such as Easterly (1990), Barro (1990), Barro and Sala-i-Martin (1992, and 2004), Cashin (1995), Bajo-Rubio (2001), and Milbourne *et al.* (2003), fiscal policy affects the long-term growth rate through decisions on either taxes or expenditures. This happens because some types of both of them can affect decisions by private firms about investing in human capital, knowledge or research and development, which constitute the engine of growth within the endogenous growth framework (Romer 1986, 1990; Lucas, 1988; Grossman and Helpman, 1991; and Aghion and Howitt, 1992; among others). Moreover, government spending on public goods and other goods with positive externalities are particularly important as they can lead to higher economic growth rates (Hemming *et al*., 2002: 9).

Empirical studies tend to reject the prediction of neoclassical models that fiscal policy cannot affect growth in the long run. Government spending, particularly capital spending, has been found to be growth promoting in the literature (Aschauer, 1989; Easterly and Rebelo, 1993; Haque and Kim, 2003; Odedokun, 1997 and Shioji, 2001, among others. Therefore, the importance of analysing growth effects of various components of government spending rather than the total is evident. Effects vary across those different components. In this line, some recent literature analyses the effect of different components of public spending on economic growth (see, i.e., Devarajan *et al.*, 1996; Odedokun, 2001; Devarajan *et al*., 2001; and Ramirez and Nazmi, 2003).

As long as theoretical models about the influence of public spending on growth is concerned, some of them such as Barro (1990), Cashin (1995), Bajo-Rubio (2000), and Milbourne *et al*. (2003) predict that a positive effect is expected to be found in countries where the size of government is smaller than a certain threshold, and a negative one in countries where the size of government is bigger than that. Therefore, since generally speaking, with few exceptions, one finds very large public sectors only in developed countries (DCs), studies evaluating the impact of public expenditure on growth should analyse DCs and less developed countries (LDCs) separately. Besides, practically all studies on the topic published before 1997 do not control for all the relevant fiscal variables, in other words, they do not include the government budget constraint (GBC). Nevertheless, some recent research has shown that it is easy to draw wrong conclusions when some elements of the GBC are excluded from a growth regression.

On the basis of the discussion above, this paper aims to identify the effects of different components of government spending on the per capita economic growth rate in a set of Latin American Countries (LACs) over the period 1975 – 2000. The results show that none of its components on the basis of an economic classification is statistically significant.

The study is organised into five sections. The first one introduces the study. Section 2 reviews relevant literature about economic growth and presents some general aspects of the relationship between economic growth and fiscal policy within the endogenous growth framework. Section 3 introduces a theoretical framework of the study, while the next one corresponds to the empirical work based on a set of LACs. Finally, section 5 draws some conclusions and policy recommendations.

A LITERATURE REVIEW

Researchers have been interested in studying economic growth and its determinants for a very long time. Growth models have been classified in the literature into two broad categories: those built on the basis of the neoclassical one (Solow, 1956; Swan, 1956), and those known as endogenous growth models (Romer 1986, 1990; Lucas, 1988; Grossman and Helpman, 1991; and Aghion and Howitt, 1992; among others).

Within the neoclassical framework, government policy, and particularly fiscal policy, which is the focus of this study, has no role in determining the long-run economic growth rate, since this is determined by the exogenous population growth and technological progress rates. On the other hand, in the endogenous growth framework, the engine of growth is human capital, knowledge, or technology. Accumulation of any of these three variables takes place according to a conscious decision by private agents in the economy. This allows fiscal policy to have an impact on the long-run growth rate through either some taxes or some types of government expenditure being able to affect decisions by private firms about investing in human capital, knowledge or research and development. In this regard, it is important to mention that public goods play a crucial

role as they can bring about changes in the long-run growth rate through different channels.

Empirical studies tend to reject the prediction of neoclassical models that fiscal policy cannot affect growth in the long run. However, the results are far from conclusive. In particular, with regard to the effects of government spending on growth, several studies analyse the growth effects of either total government spending or its components. For example, Landau (1983), Kormendi and Menguirre (1985), Ram (1986), Aschauer (1989), Barro (1990, 1991), Levine and Renelt (1992), Easterly and Rebelo (1993), Cashin (1995), Devarajan *et al*. (1996), Mendoza *et al*. (1997), Nazmi and Ramirez (1997), Odedokun (1997, 2001), Tanzi and Zee (1997), Kneller *et al*. (1999), Bleaney *et al*. (2001), Devarajan *et al*. (2001), Gemmel (2001), Shioji (2001), Feehan and Matsumoto (2002), Gupta *et al*. (2002), Bose *et al*. (2003), Clements *et al*. (2003), Fan and Rao (2003), Haque and Kim (2003), Milbourne *et al*. (2003), Ramirez and Nazmi (2003), Barro and Sala-i-Martin (2004), among others. The results of these studies are often contradictory depending on the assumptions made, the methodology used, the country or set of countries studied, and so on. On the one hand, public expenditure can displace private investment (crowding-out effect), and on the other hand, public expenditure can encourage private investment, and therefore economic growth.

Government capital spending has been found to be growth promoting in some empirical work. For instance, in a study based specifically on the United States during the 1949-1985 period, Aschauer (1989) finds that military public investment and public consumption have little effect on private investment in equipment, while infrastructure capital stock, what he calls 'core' infrastructure (streets, highways, airports, mass transport, sewers, and water systems, etc.) has a strong positive effect on the return rate of private capital and the level of output. In the same direction, Easterly and Rebelo (1993) find that investment in transport and communications is consistently correlated with growth using a cross-section of 100 countries for the 1970-1988 period, and a panel of annual data for 28 countries for the same period. Odedokun (1997) and Shioji (2001) obtain a similar result as they find that infrastructural public investment promotes economic growth. Odedokun concentrates on a sample of 48 developing countries during the period 1970-1990, while the latter study focuses on 48 states in the United States over the period 1963-1997, and on 46 Japan's prefectures during the 1955-1999 period. Furthermore, several studies find that countries with high shares of total public investment tend to grow quickly (Landau, 1983; Aschauer, 1989; Knight *et al*., 1993; Cashin, 1995; Nazmi and Ramirez, 1997; Kocherlakota and Yi, 1997; Kneller *et al.*, 1999; Gupta *et al.*, 2002; Clements *et al*., 2003; Ramirez and Nazmi, 2003).

Results of the empirical literature are far from conclusive and it seems they depend on various aspects such as methods or techniques used, assumptions, country or set of countries analysed, and so on. In addition, the importance of analysing growth effects of various components of government expenditure rather than the total is evident, since the effects vary across those different components. Some recent studies analyse the effect of different components of public spending on economic growth (see, i.e., Devarajan *et al.*, 1996; Odedokun, 2001; Devarajan *et al*., 2001; and Ramirez and Nazmi, 2003). However, a common characteristic of these studies that has been criticised lately relates to the fact that none of them includes the GBC; therefore, the results can be affected by omitted variables bias. It is necessary to include the GBC, given that government decisions on spending are not independent from those on revenues, but are interdependent. Kneller *et al*. (1999) demonstrate that there are substantial changes in coefficient sign, magnitude and significance when some elements are omitted from the budget constraint, and how easy it is to reach incorrect conclusions by mis-specifying the regression equation.

Theoretical models on the relationship between government spending and economic growth such as Barro (1990), Cashin (1995), Bajo-Rubio (2000), and Milbourne *et al*. (2003) predict that a positive effect is expected to be found in countries where the size of government is smaller than a certain threshold, and a negative one in countries where the size of government is bigger than that. Therefore, since generally speaking, with few exceptions, one finds very large public sectors only in developed countries (DCs), studies evaluating the impact of public expenditure on growth should analyse DCs and less developed countries (LDCs) separately. In addition, the composition of public expenditure also differs between DCs and LDCs. The various programmes that have been associated in theoretical work as having positive growth effects (infrastructure, schooling and R&D subsidies) typically amount to less than 20 percent of public expenditure in OECD countries, whilst they typically amount to more than half of public spending in LDCs (Folster and Henrekson, 2001: 1503).

THEORETICAL FRAMEWORK

In spite of various theoretical advances of endogenous growth models, their particular characteristics, especially those related to the presence of exactly constant returns to scale in the

key production processes (i.e. human capital in Lucas (1988), and knowledge in Romer (1990)), require very specific values of parameters, which makes their empirical tests rather difficult. Therefore, the use a neoclassical model augmented with some of the key variables in endogenous growth models seems to be a better option to study the determinants of growth.

Thus a number of empirical studies have introduced different modifications to the neoclassical Solow model aiming at highlighting the role of a (some) factor(s) in explaining growth. For example, the influential study by Mankiw et al. (1992) (MRW) emphasises the importance of adding human capital to the Solow model. Nonneman and Vanhoudt (1996) introduce a further augmentation of the model by including accumulation of technological know-how through R&D. Islam (1995) and Caselli et al. (1996) examine whether or not the results of the augmented Solow model obtained by MRW using cross-section regressions change by using different techniques, namely panel data and a generalised method of moments (GMM), respectively. Barro (1990), Cashin (1995), Bajo-Rubio (2001), and Milbourne et al. (2003), in turn, allow for the government to affect the production function within the Solow model framework.

This paper is more in line with the latter set of studies since its general purpose, as already mentioned, is to determine the effects of different components of government spending on economic growth in a set of LACs in a period spanning from 1975 to 2000. To achieve this goal, a theoretical model built on the basis of the literature above mentioned in now introduced.

A strand of the growth literature that stresses that government spending can affect economic growth was discussed in the previous section. To evaluate empirically if that is the case, a theoretical framework is needed. Thus, by considering first the role of public capital into the production function, that framework is developed. The model is basically a variation of the augmented Solow model introduced by MRW (1992). It includes different categories of public capital as additional inputs in the assumed Cobb-Douglas production function as follows:

$$Y = K(t)^{\alpha} H(t)^{\beta} \left[\frac{G_1(t)}{K(t)}\right]^{\gamma_1} \cdots \left[\frac{G_m(t)}{K(t)}\right]^{\gamma_m} (A(t)L(t))^{1-\alpha-\beta-\sum_{i=1}^{m}\gamma_i}, \quad (1)$$

where Y is output, K is the stock of private physical capital, H is the stock of human capital, G_i is the stock of government capital of type i, L is labour force, and A is a labour-augmenting technological factor. Returns to scale are assumed to be constant, and L and A to grow exogenously at rates *n* and *r* so that

$$L(t) = L(0)e^{nt}$$

$$A(t) = A(0)e^{rt}$$

Let a constant fraction of private output be saved and invested, and another one be devoted to human capital investment, which are denoted by s_K and s_H, respectively. Besides, let constant shares in the public budget, $s_{G1},\ldots, s_{Gm}$, be invested in the different types of public capital. The model assumes that accumulation of reproducible factors goes according to the following equations:

$$\dot{K} = s_K(1-\tau)Y - \delta K$$

$$\dot{H} = s_H(1-\tau)Y - \delta H$$

$$\dot{G}_i = s_{G_i}\tau Y - \delta G_i, \forall i = 1,\ldots,m \quad (2)$$

where δ is the depreciation rate, which for simplicity is assumed to be common to every category of capital stock and constant over time, and τ is the size of the public sector, that is the share of the public budget in total output.

Following a similar procedure to the ones used in MRW (1992) and Barro and Sala-i-Martin (1995), we get an equation showing the per worker growth rate between periods zero and t as a function of the following investment ratios: private investment in physical capital (s_K), investment in human capital (s_H), and each of the m categories of public investment ($s_{G1},\ldots, s_{Gm}$), the size of the public sector (τ), the initial income per worker ($\tilde{y}(0)$), and the factor (n+r+δ). This equation constitutes the basis of the theoretical framework of this study since it allows one to achieve its general purpose, which is to estimate the growth effects of various components of government spending in a set of LACs over the period 1975 - 2000.

ESTIMATION OF A GROWTH MODEL WITH GOVERNMENT SPENDING

In the previous section we discussed the theoretical framework. On the basis of such a framework, the present section aims to estimate the more appropriate version of the model for the set of 12 LACs mentioned above.

To be able to compare the results of this study with most of the existing literature, the study follows the common approach by using the per capita GDP growth rate as the dependent variable in the model. In addition, the results obtained by doing so are more in line with the literature.

Before proceeding with estimation, it is necessary to recall the importance of including the government

budget constraint (GBC) in any study evaluating the role of public expenditure on growth like the present one. Moreover, in accordance with the literature, other explanatory variables should also be included in the model. For instance, terms of trade shocks (TOT) control for the effects of external sector activities. The inclusion of the ratio of broad money supply (M2) to GDP controls for financial deepening, while international trade intensity ratio (OPEN) does the same for the degree of a country's openness. Inflation rate (INFL) is used as a measure of macroeconomic stability. Finally, black market premium (BMP) captures distortions in the foreign market.

However, the approach taken here for estimation of the model does not start with a general one that comes from the existing economic growth literature. That model includes the different variables that pertain to the GBC and a set of control ones along with the various concepts considered in the augmented Solow model in MRW (1992). This means that the number of explanatory variables is fourteen or more, depending on whether government expenditure is disaggregated or not.

The number of Latin American countries for which disaggregated government spending data were obtained in order to carry out this study is 12 at most. Thus, it is not possible to consider all the explanatory variables simultaneously in the model because of the increasing number of instruments implied by the technique used here, namely, the first-differenced GMM Arellano and Bond estimator. Recall that within this framework, the number of instruments increases with the number of explanatory variables included in the model.

Therefore, a different approach is taken here. The set of explanatory variables is added with the other components of the GBC, that is, public spending other than investment, the different concepts of government revenue, and fiscal balance. As stated before, this has to be considered in the estimation given that government decisions on spending are not independent from those on revenues, but interdependent. Nevertheless, most of the literature does not include explicitly the GBC.

It is vital to note that many of the possible omitted variables in the growth regression may be correlated with government investment. Among these variables, we can mention rule of law, geographic factors, climate, ethnic fractionalisation, or colonial history. Nevertheless, they change little and slowly over time. Therefore, by using the generalized method of moments (GMM) estimator that differences the growth equation, we can at least be sure that the estimated coefficients on government spending or its components are not simply picking up a correlation with these omitted 'time-invariant' characteristics[1].

Estimation process of the role of government spending starts by disaggregating it into just two economic components, namely current and capital spending from the Government Finance Statistics – International Monetary Fund (GFS - IMF). Next, we analyse the results on the control variables before concluding in the following section.

Capital and current spending and economic growth[2]

In this section government spending is disaggregated into two economic categories, capital and current spending. The rationale for doing so is that a strand of the growth literature shows that investment is an important factor in explaining growth. Therefore, it is appropriate to split government spending into the two categories mentioned above in order to establish whether or not capital spending has been growth promoting in the set of countries over the period considered in the study. This type of spending could be associated with the productive one that Barro (1990) assumes to be an additional input to the private production function.

The set of explanatory variables in the growth model obtained above is added with the other components of the GBC, that is, public spending other than investment, the different concepts of government revenue, and fiscal balance. Nevertheless, due to the presence of specification problems in the model, one of the control variables, TOT, is also added in the initial regressions. By doing so, the specification problems seem to be removed.

The first three columns in Table 1 present the two-step estimator of the model. This estimator is considered because of the likely presence of heteroskedasticity across countries. In addition, the two-step Sargan test may be better for inference on model specification, which is the main objective at this stage of the estimation process.

[1] This point is made by Dollar and Kraay (2004: F38) with respect to international trade.

[2] In a previous exercise we evaluated the role of total government spending on growth. However, the analysis suggested that its overall impact was statistically equal to zero, which is consistent with the literature as discussed in section two. In other words, total government expenditure does not have any effect on the per capita economic growth rate in LACs in the period 1975-2000.

Table 1 : Results on the effect of government capital and current spending on growth

Variable	GMM Two-step			One-step robust	GMM Two-step Final model (5)	One-step robust Final model (6)
	All explanatory variables as exogenous (1)	Predetermined explanatory variables (2)	Fiscal variables and PI as endogenous (3)	Predetermined explanatory variables (4)		
GDP_{-1} [c]	-1.046	-0.082	-0.992	-0.286	0.387	-0.375
	*0.387***	*0.188*	*1.116*	*0.075****	*0.756*	*0.060****
PI [c]	0.020	0.089	0.114	0.008	-0.002	0.018
	*0.005****	*0.102*	*0.145*	*0.004**	*0.019*	*0.008***
KE [c]	0.013	-0.009	0.023	0.004	-0.032	0.003
	*0.003****	*0.016*	*0.026*	*0.004*	*0.026*	*0.004*
CE [c]	0.012	-0.012	0.149	0.002	-0.036	0.005
	0.022	*0.043*	*0.245*	*0.023*	*0.099*	*0.026*
TAX [c]	-0.016	-0.067	-0.084	-0.003	0.053	-0.007
	0.013	*0.047*	*0.090*	*0.008*	*0.108*	*0.010*
KR	-0.004	0.009	-0.025	0.000	0.013	-0.001
	0.004	*0.017*	*0.037*	*0.003*	*0.021*	*0.004*
GR	-0.005	0.039	0.013	-0.001	0.035	0.000
	0.005	*0.051*	*0.011*	*0.005*	*0.051*	*0.005*
DEF	0.000	0.001	-0.006	0.000	0.006	0.000
	0.001	*0.004*	*0.009*	*0.001*	*0.007*	*0.001*
H [c]	-0.037	0.082	-0.066	-0.015	-0.039	0.006
	*0.021**	*0.239*	*0.125*	*0.023*	*0.049*	*0.008*
$n+r+\delta$ [c]	0.065	0.048	-0.050	*0.051*	0.216	0.017
	*0.024****	*0.101*	*0.253*	*0.019****	*0.226*	*0.026*
TOT	0.003	-0.001	0.002	0.002	0.001	0.002
	*0.001****	*0.003*	*0.002*	*0.001****	*0.002*	*0.001****
BMP [d]					-0.042	-0.018
					0.026	*0.003****
Constant term	0.007	-0.007	-0.003	0.005		
	*0.002****	*0.026*	*0.014*	*0.002***		
Observations	30	30	30	30	28	28
Number of countries	12	12	12	12	12	12
Wald test of joint significance	0.000	0.000	0.000	0.000	0.000	0.000
Sargan test	1.000	1.000	1.000	-	1.000	-
m1 (test of serial correlation)[e]	0.575	0.659	0.421	0.298	0.556	0.615
m2 (test of serial correlation)[f]	0.209	0.589	0.505	0.257	0.516	0.121

a Standard errors in italics

b * p<0.10; ** p<0.05; *** p<0.01.

c The variable is included in the regression as ln(variable)

d The variable is included in the regression as ln(1+variable)

e The null hypothesis is that there is no first-order autocorrelation in the first-differenced residuals

f The null hypothesis is that there is no second-order autocorrelation in the first-differenced residuals

In regression (1) all the explanatory variables are assumed to be exogenous. The results of the specification tests suggest that the model does not face specification problems. However, with respect to the assumption of exogeneity of the explanatory variables in the model, a number of studies suggests the likely presence of reverse causation of some of the explanatory variables to the per capita economic growth rate. Moreover, some of them may be better modelled as predetermined rather than exogenous. Therefore, in regression (2) all explanatory variables are assumed to be predetermined with the exceptions of TOT and the factor $(n+r+\delta)$ that are assumed to be exogenous. The results of the two specification tests give evidence of no mis-specification of the model (the p-value of the Sargan test is approximately equal to one, while the corresponding to the test of 'no second-order serial correlation' is 0.59).

As an alternative option, in column (3) fiscal variables (capital expenditure, KE, current expenditure, CE, impuestos, TAX, capital revenue, KR, grants, GR, and fiscal balance, DEF) and private investment (PI)) are assumed to be endogenous instead of predetermined. The results show that the two specification tests are passed. In other words, the model does not face specification problems. The p-value of the Sargan test is the same as in the previous scenario, while the p-value corresponding to the other specification test drops slightly from 0.59 to 0.50. These results suggest that there is no difference in assuming the fiscal variables and PI to be either predetermined or endogenous.

On the basis of the above discussion, in what follows these variables are treated as predetermined. Inference on the coefficients is not included at this stage because Arellano and Bond (1991) recommend not to use the two-step estimator for inference on coefficients, but the one-step estimator instead.

To make inference on the coefficients, the one-step robust estimator is presented in column (4). The specification test is passed (p-value = 0.26). The statistically significant variables in the model are the lagged dependent variable (GDP_{-1}), private investment (PI), terms of trade growth (TOT), and black market premium (BMP). PI is statistically significant at the five percent level of significance, while the rest are so at the one percent level. The growth effects of all these variables are in the expected direction.

Although the results of regressions (2) and (4) suggest that the model does not have specification problems, it is necessary to control for a set of factors that can affect the per capita growth rate, as discussed before. Estimates of the coefficients of the explanatory variables that remain in the model at the end of the process are presented in the columns (5) and (6), the two-step and the robust one-step estimators, respectively. Following the results in regression (4), all right-hand side variables are assumed to be predetermined with the exceptions of TOT and the factor $(n+r+\delta)$ that are treated as exogenous. The p-value of the Sargan test for the two-step estimator is approximately equal to unity, which means that there is not enough evidence to reject the null hypothesis that the over-identifying restrictions are valid. The other specification test is also passed (p-value = 0.52), which suggest that the final model in this section is 'well specified'.

Inference on the estimates is based on the robust one-step estimator in column (6). The variables that are statistically significant in the model are GDP_{-1}, PI, TOT, and BMP. The first three variables were also statistically significant in regression (4). It follows that the results on significance of these variables in that regression are robust to the inclusion of the other control variables. However, the only statistically significant one among them is BMP. Thus, this variable is the only additional one in regressions (5) and (6). Besides, the point estimates are more precise now, given that PI is statistically significant at the five percent level of significance while the other three before-mentioned variables are so at the one percent level of significance. All the significant estimated coefficients in the model have the expected sign from theory. Thus, the effects of $GDP_{-1}$and BMP are negative whereas the effects of PI and TOT are positive. It is important to state that the effects of the focus variables in this section on the per capita economic growth rate, namely government capital and current expenditures, are positive but statistically insignificant.

To sum up, this section has found that neither government capital nor current spending have a statistically significant effect on economic growth in LACs during the period 1975-2000.

The insignificant effect of capital government spending on the per capita economic growth rate has been reported in other studies, such as Barro (1991) for a wide cross-country sample, and Devarajan et al. (2001) for a set of 28 African countries.

SUMMARY

This section has evaluated the effects of the two components of government spending on the basis of an economic classification on the per capita economic growth rate in a set of Latin American countries over the period 1975 - 2000. The results show that neither capital nor current government spending has a statistically significant effect on growth.

Statistically insignificant estimated effects of government capital expenditure could be due to inefficiency in these kinds of expenditure. Perhaps

they are vulnerable to rent seeking. For example, De Gregorio and Lee (2003) argue that high education spending and lower outcomes in the sector are to a certain extent an outcome of unequal income distribution. Latin America has a more unequal income distribution than most other regions in the world. This gap cannot be closed in a short period of time. For instance, improvements in education take time to pass through to a large share of the labour force (De Gregorio and Lee, 2003: 19).

In addition, inefficiency of government spending has widely been associated in the literature with poor governance and corruption. For instance, Rajkumar and Swaroop (2002) find that an increase in government spending on primary education is likely to be more effective in increasing primary education attainment in a country with good governance. They also find that government spending on health and education is less likely to lead to better outcomes if countries have poor governance, which is, typically, a characteristic of developing countries (Rajkumar and Swaroop, 2002).

Therefore, it can be argued that the theoretically expected positive and significant effect of government capital spending is likely to be weakened by countries' poor governance and high levels of corruption. On the basis of this, it is not surprising to find no effect of public capital expenditure on economic growth for the set of LACs considered in this study.

The above discussion offers various explanations of some of the results obtained here, particularly with regard to the absence of a significant effect of government capital spending. In addition, it is important to recall that the study considers only the effect of contemporaneous five-year averages of different components of government expenditure on five-year averages of per capita economic growth rate and that a five-year period may not be long enough to incorporate fully some of those effects. In this respect, Gerson (1998) argues,

"…in the case of education it would take many years for students benefiting from increased school funding to pass through the educational system and join the labour force. Similarly, the benefits from increased spending on prenatal care may not materialize until years after the children receiving the care are born".

(Gerson, 1998: 13)

Therefore, it would be appropriate to include not only contemporaneous five-year averages but also lagged five-year averages of the explanatory variables. Nevertheless, that is not a feasible option to be carried out in the study given the short period covered due to availability of the data, and the small number of observations for each country in the sample. Given that the model considered here do not include such lagged effects of the explanatory variables but just the contemporaneous five-year averages, the results obtained should be taken with caution. However, it can be pointed out that despite this limitation, most of them are broadly consistent with the literature.

CONCLUDING REMARKS

This study has evaluated the effect of the two economic categories of government spending on the per capita economic growth rate in a set of LACs during the period 1975 - 2000. The results suggest that neither government capital nor current expenditures have any impact on the per capita economic growth rate.

The positive effect of government capital spending reported in some literature was not found here. Statistically insignificant estimated effects of these kinds of spending could be due to inefficiency. Perhaps they are vulnerable to rent seeking. In addition, inefficiency of government spending has widely been associated in the literature with poor governance and corruption. For instance, Rajkumar and Swaroop (2002) find that government spending on health and education is less likely to lead to better outcomes if countries have poor governance, which is, typically, a characteristic of developing countries.

Another classification of government spending could be considered within the framework of this study, particularly, a functional one, in which spending is disaggregated in several categories, such as education, health, transport and education, etc. Nevertheless, this exercise is beyond the purpose of this article and is likely to be a matter of our next paper.

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