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How Public Spending Can Help You Grow: An Empirical Analysis for Developing Countries

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Although many studies indicate that both the level and composition of public spending are significant for economic growth, the results in the empirical literature are still mixed. This note is based on a paper of the same title (Bayraktar and Moreno-Dodson 2010) that compares a set of fast-growing developing countries to a mix of developing countries with different growth patterns. Considering the full government budget constraint, the empirical analysis shows that public spending, especially its “core” components, contributes to economic growth only in countries that are capable of using funds for productive purposes. In addition, those countries must have an adequate economic policy environment with macroeconomic stability, openness, and private sector investments that are conducive to growth.

Motivation

Many governments have been increasing their public spending to provide a short-term economic stimulus since the start of the recent global economic crisis. However, their effects on economic growth are yet to be determined.

The importance of public spending and its components for economic growth have been extensively studied in the literature, following the seminal paper of Barro (1990). Even though many studies suggest that there is a positive link between public spending and growth, there are different views on which categories of spending promote growth.¹

There are two interesting questions to raise:

1. Are there any obvious differences in the *level* of public spending, its components, and their link to growth in fast-growing developing countries?

2. What is the role of the *composition* of public spending with respect to the growth performance in developing countries?

The answers to these questions may have important policy implications in the composition of public expenditure to the extent that budget allocations and their composition involve dynamic trade-offs in their short- and medium-term impacts on growth.

Methodology

Sample selection

While most empirical analyses linking public spending and its components to growth combine many different countries in their samples, this analysis classifies countries into two groups: a sample of developing countries with similar growth performances and a comparison sample including developing coun-

tries with mixed growth performance records during the time period considered (1970–2005).² The first set contains the Republic of Korea, Singapore, Malaysia, Thailand, Indonesia, Botswana, and Mauritius, which were among the top performers in the world in terms of real gross domestic product (GDP) per capita growth during the period considered. The second set includes Chile, Costa Rica, Mexico, the Philippines, Turkey, Uruguay and the República Bolivariana de Venezuela, and is used as a comparison group to further examine the influence of public expenditures on growth in developing countries.³

Classification of public spending

This analysis uses two alternative classifications of public spending. Total public spending is first disaggregated using a definition based on Bleaney, Gemmell, and Kneller (2001) and Kneller, Bleaney, and Gemmell (1999), both of which classify public spending as, a priori, productive versus unproductive components. It is a presumptive criterion that is based on the expected impact of public spending items on the private sector production function.⁴ The authors introduce an alternative classification, core versus noncore public spending,⁵ which may be more appropriate for developing countries. The main difference between the two definitions is that the latter includes public spending on energy and fuel, which is often closely interlinked with other critical spending categories and can significantly affect their overall impact on growth, and excludes defense expenditures, a category for which economists do not always have enough knowledge.

Qualitative and Quantitative Analysis

Comparative study

While the fast-growing countries had (on average) a 5 percent growth of real GDP per capita during 1970–2005, it was only 1.6 percent in the comparison group. The size of public spending in GDP on average is very close in both groups (around 21 percent). The budget deficit is observed to be slightly larger for the comparison group (1.9 percent of GDP on average) than the one for the fast-growing countries (1.3 percent).

When the components of public expenditures are compared, the share of a priori productive expenditure in total public expenditure is significantly higher for the fast-growing group: 64 percent compared to 50 percent for the comparison group. The other interesting observation is that this share tends to decline significantly for the second group, especially after 1980.

Possible differences between the two groups may also be associated with government effectiveness and quality of governance. In terms of government effectiveness,⁶ all countries in the first group (with the exception of Indonesia) rank more favorably when compared to the second group. Similarly, a noticeable gap between the two groups also exists in terms of bureaucratic quality.

Empirical results

The overall results suggest that public spending, especially its productive components, has indeed a statistically significant and positive impact on the growth rate of real GDP per capita in the first group, while a similar link cannot be established robustly for the comparison group. In addition, the joint net effect of fiscal policy (calculated as sum of the coefficients of expenditures, revenues, and the fiscal balance) is also positive and statistically significant only for the first group.

The original results are robust to the alternative classification of public spending: core versus noncore spendings. The core component is, again, a statistically and economically significant determinant of growth for the first group only.

It is critical to acknowledge the contribution of private sector and macroeconomic stability to growth. Inflation is negatively correlated with growth mainly for the fast-growing group, indicating that reducing inflation leads to faster growth for these countries and therefore growth is more responsive to improvements in macroeconomic stability. The two alternative control variables used to capture the private sector influence, private investment and trade openness, also tend to have a higher significance in explaining growth for the first group, which points to the existence of an economic policy environment more conducive to growth and a strong contribution from the private sector in the first group.

The other interesting result is that when the two groups are combined in a panel, the economic and statistical significance, as well as the magnitude of total public expenditure in determining growth, drops substantially. Similarly, when the different components of public spending are disaggregated, productive and core expenditures become insignificant in explaining growth in the pooled sample. These results indicate that when a more heterogeneous group of developing countries (in terms of growth performance) is included in the study, the significance of public spending and other budget components drops. This may partially explain why some previous empirical studies that mixed countries with very different growth patterns could not find a statistically significant link between government spending and economic growth.

Policy Implications

The results show that while taking into account the (negative) effects of taxation, public spending has a positive impact on growth through its productive and core components in a policy environment where private sector investment, openness, and macroeconomic stability are also conducive to growth.

The analysis indicates that the bulk of public expenditures in productive and core sectors, which consist of a combination of current and capital spending on infrastructure, health, education, and other economic sectors that are critical for development, can have a significant joint impact on growth. For policy

makers, this result implies that integrated planning and execution of public spending in those core sectors in an integrated manner, taking into account interlinkages among them, as well as their current and capital components, should be conducive to growth.

These results have important implications for the current debate about the design of fiscal rules in a growth context. Many developing countries, under a Golden Rule approach, are trying to maintain a balance or surplus in their current spending budget, while capital spending is being financed increasingly by borrowing. More precisely, under the Blanchard-Giavazzi (2002) rule, governments should borrow in net terms on a continuous basis only to the extent that this net borrowing finances net public investment, that is, gross investment less capital depreciation (which counts as current spending). This rule therefore allows increasing gross borrowing for the purpose of refinancing maturing debt, thereby leaving net debt unaffected.

In addition to the creative accounting, negative incentives, and budget fragmentation distortions that the Blanchard-Giavazzi rule can trigger, another possible problem with this rule would be the fact that it does not account for possible interactions among sectoral categories of public spending regardless of whether they correspond to capital or current items. Under the Golden Rule, it is possible that some public investments, for example in hospitals or in schools, may be fully funded without any current expenses for staff, operations, and maintenance. Given that these current expenses are essential to ensure the proper functioning of capital assets, their shortage in complementing capital spending may result in inefficient public services and a liability for the country in the end, with doubtful effects on growth.

However, it is important to note that to be able to draw recommendations regarding the composition of public spending at the country level in connection with growth, the conclusions of any cross-country study should be followed by additional individual country empirical studies, which should consider country-specific characteristics that possibly affect the public spending composition, as well as other determinants of growth.

The definitions of productive and core spending suggested in this note should therefore be tailored and adapted at the individual country level.⁷ For example, in a country where agriculture still represents a high percentage of total GDP, public spending in irrigation, rural infrastructure, and rural energy should be considered as core, while in other countries heavily dependent on exports of mineral products and energy, public funds allocated to that sector should be included in the core spending group.

Finally, since the qualitative analysis shows that the quality of governance, measured by government effectiveness and bureaucracy quality, is consistently higher for the fast-growing group, the group effects that are introduced in the empirical

specifications (fast-growing versus comparison group) partially capture the quality of governance. However, one meaningful extension of this analysis would be the detailed empirical study of the role of indicators capturing governance quality in explaining public spending growth implications.

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Notes

1. See Moreno-Dodson (2008) and Bayraktar and Moreno-Dodson (2010) for a detailed literature review. Some of the recent papers in the literature are as follows: Bose, Haque, and Osborn (2007), in a study focusing on developing countries, find that the capital component of government expenditure, especially education expenditure, is positively linked to growth, while the current component does not have any significant impact. Benos (2009), using 14 European Union countries, shows that a reallocation of the components of government spending, especially toward infrastructure and human capital, can enhance growth. Ghosh and Gregoriou (2008), for a group of 15 developing countries, show that the current component of spending has a positive impact on growth, while the capital component influences it negatively. Baldacci et al. (2008) indicate that with explicit control for governance and incorporation of nonlinearity, both education and health spending support higher growth in developing countries. Segura-Ubiergo et al. (2009) present a positive impact of fiscal adjustment on growth in transition economies. Colombier (2009), focusing on Organisation for Economic Co-operation and Development countries, and Ang (2009), studying the case of Malaysia, both support the significance of public capital expenditure for growth.

2. This study is the extension of Moreno-Dodson (2008), which includes only fast-growing countries. Moreno-Dodson shows that the link between total public spending and growth is positive overall with some components of public spending being particularly significant in affecting growth. Unproductive components of public expenditure are less significant—or even have a negative impact on growth—while the productive component of public spending is statistically significant.

3. The main data source is Government Financial Statistics.

4. Productive expenditure is defined as the sum of the expenditures for general public services, defense, education, health, housing, transportation, and communication.

5. Core spending includes expenditures for general public services, education, health, housing, transportation, communication, and fuel and energy.

6. Using the KMM governance indicators.
7. For country applications of this methodological framework, see for example the *Peru Public Expenditure Review* (Calvo forthcoming), and Working Bank Working Paper “Fiscal Policy for Growth and Development in India: A Review” (Brahmbhatt forthcoming).

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