Growth Effects of Composition of Fiscal Expenditures in Sri Lanka: An Application of Barro Model

M. Kesavarajah
Department of Economics, University of Colombo, Sri Lanka

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Introduction

Fiscal policy is a fundamental instrument that can be used not only for economic stabilisation but also for stimulation of economic growth. In macroeconomic issues such as high unemployment, inadequate national savings, excessive budget deficits and large public debt burdens, fiscal policy has been acknowledged to hold center stage in policy debates in both developed and developing economies. During the global economic recession of the 1930s, the government sectors of both developed and developing economies, played a vital role in stimulating economic growth and development, as advocated by Keynes. Every economy attempted to promote its economic growth through increasing government expenditure and reducing taxes.

These empirical achievements and the Keynesian theoretical outpourings generated considerable interest among economists and policy makers to the issues of fiscal policy as a stimulating force. Moreover, the effectiveness of fiscal policy can be evaluated by its capability to reduce output fluctuations. Both taxation and public expenditure are key instruments in this regard. Generally fiscal expenditure represents a form of government intervention designed to promote allocative efficiency through correction of market failures, to redistribute resources equitably and to promote economic growth and stability (Musgrave and Musgrave, 1989). It also influences the sustainability of fiscal finances through effects on fiscal balances and government debt.

In general, despite the financing of government expenditure can be growth retarding; the provision of social and physical infrastructure through government expenditure can improve productivity by way of more efficient allocation of resources.

Therefore, issues relating to criteria for the allocation of government expenditure among different sectors and implementing appropriate tax policies are of special policy relevance, since they are directly related to the country's growth and development.

Rationale of the Study

It is well established in the literature that fiscal policy can affect macro economic variables such as economic growth, poverty, income inequality, and national welfare through different channels. It is also noted that the sectoral allocation of public investment and its implications for economic growth is vital in making choices on fiscal spending priorities (Summers, 1990).

However, despite the attempts of modern economies to achieve their fiscal policy goals using fiscal expenditure and revenue policy as key instruments, concerns in this regard have further intensified the need for an in-depth research on the effect of the composition of fiscal expenditure on economic growth. Similarly, it is also noted that there have been dramatic changes in the trends and components of public expenditure and revenue during the last three decades, which have generated an emerging consensus on public finance reforms in the context of fostering economic growth in Sri Lanka. In this context, it is important to assess the relative contribution of fiscal policy variables to economic growth in view of identifying appropriate and potential tax reforms and/or public expenditure reform policies for Sri Lanka. However, in the Sri Lankan context, while some studies [Jayawickrama, 2006; Jayasundara, 1986; Dilrukshini, 2004; Herath, 2010 and Naeem Akram, 2012] have analysed the key features of fiscal policy and/or examined the impact of fiscal policy variables on other important macroeconomic and social variables such as inflation, unemployment, poverty and equity to our knowledge, no previous studies could be found in the literature which have attempted to model the impacts of fiscal policy on economic growth. This study therefore aims at filling this gap and contributing to the existing literature by shedding light on growth effects of fiscal expenditure patterns with regard to the economy of Sri Lanka over the period from 1977 to 2011, using time series approach.

Data and Methodology

This study is based on the modeling strategy of Barro (1991) and by developing a Cobb-Douglas production model that features a government that undertakes fiscal expenditure on education and health facilities which enhance human capital, defense, agriculture as well as infrastructure and communication. A production model was developed where the economic growth was expressed as a function of the above types of capital stocks plus labour, revenue and private capital. The annual time series data between 1977 and 2011 have been used and were drawn from various annual reports of Central Bank of Sri Lanka. With the purpose of avoiding possible structural breaks in the economy, the study did not consider the period prior to 1977. Furthermore, the empirical analysis conducted in this study begins with unit root and Johansen and Juseliues (1990)

cointegration tests to examine stationarity of variables and to determine whether the variables are cointegrated. The stationary properties of all time series variables were tested using both Augmented Dickey Fuller (ADF) and Phillips Perron (PP) tests, both at level and at first-differences. The selection of the number of lags was based on the Akaike Information Criterion (AIC). Further, Granger causality tests were used to analyse the existence of unidirectional or bidirectional causality in the long run among variables.

Results and Discussion

The empirical evidence exhibits that effects of fiscal expenditure on economic growth are complex and varied. The results of the unit root test indicated that all variables were non-stationary at levels but they were stationary at first differences. Upon establishment of their stationarity, these variables were included in the cointegration technique developed by Johanson and Juseliues (1990) to estimate the long run equilibrium relationship among them. According to the Johansen maximum likelihood test, the computed Trace statistic, maximum Eigen statistic and their corresponding critical statistics indicated that the null hypothesis of "no-cointegration" can be rejected at five percent level of significance.

This result supports the hypothesis that there exists a long run relationship among the variables. Further, the study found that the level of fixed capital, government expenditure on goods and services, and private capital had a positive and statistically significant long term impact on growth. The interest payments, lending minus repayments and revenues showed negative and statistically significant long run growth impacts. Increases in government transfer payments and capital transfers showed a positive coefficient but their influence on output appeared statistically insignificant. The impact of labour also was statistically insignificant on output determination, while the sign of its coefficient also was negative. Interestingly, both the level of education expenditure and the growth rate of public infrastructure investment exhibited positive and statistically significant impact on the growth rate of the economy, while the defense expenditure indicated having a statistically significant negative impact on economic growth. Expenditures on health and agriculture showed positive coefficients though their impacts on growth appeared statistically insignificant.

Granger causality analysis confirmed that there has been unidirectional causality running from education expenditure to economic growth, defense expenditure to economic growth, and public infrastructure investment to economic growth, which brings evidence to support the hypothesis that Keynesian effect has been present in the Sri Lankan economy. However, analysis also indicated that existence of unidirectional causality which was running from economic growth to health expenditure.

Conclusion

This paper examined the effects of the composition of fiscal expenditure on economic growth in Sri Lanka during the post liberalisation period based on the modeling strategy of Barro (1991) and by developing a Cobb-Douglas production model that featured two types of capital; private and public. Empirical evidence found in the paper shows that various types of fiscal expenditure have different degrees of impacts on economic growth, implying existence of a significant potential to improve "growth generating efficiency" of fiscal spending by reallocating expenditures among sectors. Given the positive and significant growth push indicated by public infrastructure investment and education expenditures and the negative but significant influence indicated by defense expenditure, this study suggests that reforming fiscal expenditure priorities in favor of human capital development and away from military spending could provide a positive stimulus towards growth of the Sri Lankan economy. It can also be concluded that sound fiscal policies and improved efficiency of fiscal spending could promote growth while supporting macroeconomic stability, which need to be taken into consideration in policy formulation and implementation.

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