Government Welfare Expenditure and Economic Growth in Sri Lanka: A Comparative Analysis of Different Policy Regimes

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Introduction

The specific feature of the government policies that were implemented by the different regimes that came into power in Sri Lanka after independence was the intervention in socioeconomic affairs and the diversity of the process of intervention. The elected governments allocated a considerable percentage for welfare from aggregate government expenditure. The main goals of government expenditure were to accelerate economic growth, uplift the living condition of the population and achieve social development. This study examines the relationship between economic growth and government welfare expenditure, with reference to different policy regimes; 1959-1977 (Inward-looking), 1978-2005 (Outward-looking economic policies) and the *Mahinda Chinthana* policy regime.

Many studies concerning economic growth start from the aggregate production function where factors of production determine the national output. According to the Neo-classical theories growth comes from three ways, if land is fixed. Those are increase in labor supply, increase in the capital stock and increase in productivity. The effectiveness of education, health and overall social welfare expenditure are very much crucial for the development of all the three factors mentioned above.

Many studies have been conducted on examining the relationship between government expenditure and economic growth. As a whole, the conclusions of these studies are quite contradictory. Alam and Mohammad (2010) and; Jiranyakul & Brahmasrene (2007) have found a positive relationship between government expenditure and economic growth. Baum & Lin (1993) and Sjoberg (2003) have found a negative relationship between government expenditure and economic growth. Apart from that, what has been indicated by the study on Sri Lanka by Abhayaratne and

Kalansooriya (2008) is that additional growth gained by the investment of welfare resources is not quite proportional for achieving higher economic growth. It has been further explained that without the higher welfare expenditure, the social indicators would never be able to achieve their present status; also, a considerable level of economic growth can never be achieved.

In each of these studies, welfare expenditure is considered as government expenditure. Although the relationship between economic growth and the government welfare expenditure has been studied in Sri Lanka, it is not examined in terms of the different policy regimes. This study aims to fill this lacuna by analyzing the relationship between government welfare expenditure and economic growth with reference to different policy regimes during the period of 1959-2009.

Methodology

Secondary data on government expenditure and the investment on education, health and overall social welfare expenditure, as a percentage of the GDP of Sri Lanka for the period of 1959-2009 were used to conduct several econometric tests.

The Augmented Dickey-Fuller test was employed to test whether government welfare expenditure and economic growth are stationary. By regression analysis, the relationship between different types of government welfare expenditure and economic growth was studied in relation to different policy regimes. The following regression model was estimated;

$$EG = \beta_0 + \beta_1 EX + \beta_2 HX\ \beta_3 SWX + \beta_4 IX + \beta_5 PG + \beta_6 D_1 + \beta_7 D_2 + \beta_8 D_3 + U_t \quad \ldots \ldots \ldots \ (1)$$

Where, EG – Economic Growth (percentage change in annual GDP), EX- Education Expenditure, HX- Health Expenditure, SWX- Overall Social Welfare Expenditure, IX- Investment, PG- Population Growth, D_1-Inward Looking Economic Policy, D_2 - Outward Looking Economic Policy, D_3 - *Mahinda Chinthana* Policy and U_t is the random error term. Apart from that, to study the causality, the Granger Causality Test was conducted and the results are given in Table 1.

The Johansen & Juselius Co-integration Test was used to test the long-term relationship. Following is the VAR equation of Johansen Multi-variate Co-integration Test.

$$EG_{t} = \alpha_1 Y_{t-1} + \ldots + \alpha_n EG_{t-n} + \beta_1 EX + \beta_2 HX + \beta_3 SWX + \beta_4 IX + \beta_5 PG + \varepsilon_t \ \ldots(2)$$

Research Findings

According to unit root tests, all variables were non-stationary at the levels, but in the first difference those variables were stationary.

The dummy variable D1, which represents the 'inward-looking policy regime', was dropped, and it is treated as the benchmark category. According to the regression results, the model is statistically significant; $R^2 = 26.28\%$, which is relatively low in a time series regression analysis.[1] The "*Mahinda Chinthana*" policy regime is statistically significant at 5 percent but not the other regimes. The independent variables, education expenditure, health expenditure, and aggregate social welfare expenditure which represent the government welfare expenditure were not statistically significant. Investment and population growth are statistically significant at 5 percent.

Table 01. Results of Granger Causality Tests

H_0 (No Granger Cuasality)	No. of Lags	Probability	H_0 Rejection
EX ⟶ EG	01	0.41107	Cannot reject
EG ⟶ EX	01	0.04689**	Can reject
HX ⟶ EG	01	0.70137	Cannot reject
EG ⟶ HX	01	0.75462	Cannot reject
SWX ⟶ EG	01	1.23976	Cannot reject
EG ⟶ SWX	01	0.25687	Cannot reject
IX ⟶ EG	01	0.39724	Cannot reject
EG ⟶ IX	01	0.01875**	Can reject
PG ⟶ EG	01	0.04622**	Can reject

[1]Two diagnostic tests, namely Durbin-Watson test for autocorrelation and partial co-linearity matrix for multicolinearity were employed. The results indicated that there is no first-order autocorrelation in the model (based on Durbin-Watson test statistic). No high multicolinearity was detected among the explanatory variables in the model (based on the partial co-linearity matrix).

EG → PG	01	0.36622		Cannot reject

** Significant at 5% level

The result of Johansen & Juselius Co-integration Test which was done to examine the long-term relationship is as follows.

Table 02. Results of the Johansen & Juselius Test of Co-integration

Maximum Rank (r)	Maximum Eigen Value (λ max)	Trace Statistic (λ trace)	Critical Value (5%)	Critical Value (1%)
0	0.6226	109.4491***	94.15	103.18
1	0.4237	61.7055	68.52	76.07
2	0.3322	34.6980	47.21	54.46
3	0.1274	14.9170	29.68	35.65
4	0.1116	8.2423	15.41	20.04
5	0.0486	2.4422	3.76	6.65

*** Significant at the 1% level

The estimated model from the Johansen and Juselius Co-integration procedure is given below.

EG = -6.63 +0.81EX + 2.41HX - 0.03SWX + 0.27IX – 0.56PG

Conclusion

According to the regression model, it is clear that there is no significant relationship between the government welfare expenditure and the economic growth, as all the three variables which represent the government welfare expenditure are not statistically significant. Among dummy variables, only the "*Mahinda Chinthana*" policy regime seems to have a favorable impact on economic growth.

According to the results of the Granger causality test, population growth seems to have a unilateral causality with the economic growth. That is, population growth Granger causes economic growth. Yet, economic growth seems to have a reverse causality with investment and education expenditure. But the other variables which represent welfare expenditure, do not have a Granger causal relationship with the economic growth.

The Co-integration test results conclude that the education and health have a positive relationship with economic growth, but when it comes to the overall social welfare expenditure, it has a negative relationship with the economic growth. Further, the investment has a positive impact on the economic growth while population growth maintains a negative impact.

References

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