

## A Cointegration and Causality Analysis of Fiscal Deficits and Macroeconomic Variables

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*Deficits impact major macroeconomic variables such as money supply, interest rates, consumption- public and private, investment and growth. With the State increasingly being viewed as a welfare state, this relationship between fiscal deficits and macroeconomic variables is becoming very evident particularly in developing countries. This paper attempts to examine the relationship between fiscal deficits and the macroeconomic variables employing the cointegration and the causality technique for 1952-53 to 1996-97. Cointegration is first employed to test whether a long run equilibrium relation exists between deficits and the variables. Bivariate causality tests using Hsiao's Method and in the Granger-Modified Sims framework were conducted for the cointegrated variables. Our results indicate unidirectional causality from the macroeconomic variables to the fiscal deficit and indicate bi-directional causality for the Government Bond Yield Rate. Instantaneous Causality is also observed for three of our five variables*

### I Introduction

Rising government deficits and public debt in both developed and developing economies has been one of the major changes in the world economy and hence one of the important aspects of fiscal policy is the management of the public sector deficit. Deficits, by themselves do not imply macroeconomic problems, as, when the resources are used productively then it can generate a future stream of income to cover the servicing costs of the debts incurred.

However, it is the manner in which a given public debt is financed that determines the extent to which the deficit can be reconciled with broader macroeconomic goals. A deficit can be financed in any of the three following ways: (i) domestic borrowing (ii) external borrowing and (iii) printing money. Over reliance of any one of these sources can create macroeconomic imbalances. A high dependence on domestic borrowing may mean high real interest rates and falling private investment. Similarly, over reliance on foreign borrowing can cause appreciation of the real exchange rates, widening current account deficits, unsustainable external indebtedness and dwindling foreign exchange reserves. Also, over dependence on money creation can prompt higher inflation in an economy.

Therefore, a prudent fiscal policy is one that maintains public deficit at a level consistent with other macroeconomic objectives such as: controlling inflation, prompting private investment and maintaining external creditworthiness.

While literature suggests a positive relationship to exist between fiscal deficits and macroeconomic variables, it would be interesting to study alongside whether a causal relationship also exists between fiscal deficit and the macroeconomic variables and the direction of causality. The causal relationship is examined employing the Hsiao and the

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