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August 14, 2015

RBI Working Paper Series No. 3: Inter-sectoral Linkages in the Indian Economy

The Reserve Bank of India today placed on its website a Working Paper titled [Inter-sectoral Linkages in the Indian Economy](#) under the Reserve Bank of India Working Paper Series* authored by Rajib Das, Binod B. Bhoi, Pankaj Kumar and Krittika Banerjee.

The paper attempts to establish linkages within and across sectors of the macro-economy in India for enabling an econometric model for India through a series of structural equations. The economy is conceived as a network of five sectors, viz.; output (GDP and its components), prices (WPI and its components), monetary (money supply and interest rates), government finance (government expenditure and receipts) and the external sector (trade, capital flows and exchange rate). Estimations are made over 1980-81 to 2012-13 using annual data and at a disaggregated level. The emphasis is on understanding the evolving economic structures in India over a long period of time.

The set of equations together portrays a detailed transmission network from monetary policy instruments/ rates to money market rate to a broader spectrum of deposit and lending rates. Through deposit and credit aggregates, effect on the broader real economy in terms of GDP growth and WPI inflation is also reflected. Fiscal condition impacts lending rates through lower private sector borrowings. The impact of credit cost on private investments is prominent. Monetary policy variables like money growth and interest rate affect non-food manufacturing inflation. Global integration and exchange rates have notable impact on several components of WPI inflation. Exchange rate affects prices directly through imported goods and has an indirect impact through net exports and real GDP.

The growth of real GDP and prices impact many other variables in the fiscal and external sectors. The revenue growth of government as also government's capital expenditure shows pro-cyclicality. Revenue expenditure on the other hand is relatively sticky, while government's ability to spend depends on its cost of borrowings to a large extent.

India's services sector output growth shows a far greater influence on India's services exports as against the impact of manufacturing growth over merchandise exports. With respect to global income elasticity of India's exports, services exports exhibit relative resilience to the global growth cycle as opposed to merchandise exports showing large movements in response to the same. India's imports of goods and services also show high elasticity in response of domestic activities. The impact of real exchange rates on both exports and imports is relatively small.

Although forecasts of the macro-aggregates can technically be obtained using these equations, the authors are of the view that making forecasts using these equations may not be advisable since estimations are made over a very long time period with many structural breaks and regime changes. However, the paper offers insights for extending these relations towards developing an econometric model to address important policy issues faced in monetary policy making.

** The Reserve Bank of India introduced the RBI Working Papers series in March 2011. These papers present research in progress of the staff members of the Reserve Bank and are disseminated to elicit comments and further debate. The views expressed in these papers are those of authors and not of the Reserve Bank of India. Comments and observations may kindly be forwarded to authors. Citation and use of such papers should take into account its provisional character.*

Press Release : 2015-2016/411

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