



भारतीय रिज़र्व बैंक

RESERVE BANK OF INDIA

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The Reserve Bank of India today released [Volume 33 \(No. 1 & 2\) of its Occasional Papers](#). Starting with this Volume, the Occasional Papers will have two issues in a year. RBI Occasional Papers is a research journal of the Reserve Bank and contains contributions of its staff and reflects the views of the authors. This issue contains following articles, special notes and a book review.

Threshold Level of Debt and Public Debt Sustainability: The Indian Experience

The paper titled “*Threshold Level of Debt and Public Debt Sustainability: The Indian Experience*” by Balbir Kaur and Atri Mukherjee assesses the sustainability of public debt in India. It also examines the relationship between public debt and growth in the Indian context. The sustainability analysis, based on empirical assessment of inter-temporal budget constraint and fiscal policy response function at the general government level for the period 1980-81 to 2012-13, indicates that the debt position in India is sustainable in the long run. The empirical results also reveal that there is a statistically significant non-linear relationship between public debt and growth in India, implying a negative impact of public debt on economic growth at higher levels. The threshold level of general government debt-GDP ratio for India works out to be 61 per cent, beyond which an inverse relationship is observed between debt and growth. This threshold level is lower than the actual level of debt at 66 per cent of GDP in end March 2013. This calls for a greater focus on a credible fiscal consolidation to safeguard against adverse debt dynamics should the interest rate-growth differential turn less favourable, keeping in view the recent slowdown in growth.

Real Time Business Conditions Index: A Statistically Optimal Framework for India

The paper “*Real Time Business Conditions Index: A Statistically Optimal Framework for India*” by Dipankar Biswas, Nivedita Banerjee and Abhiman Das proposes a framework to construct a real-time business conditions index for India. Based on four selected indicators, viz., daily Yield curve term premium, fortnightly Narrow Money, monthly Index of Industrial Production, and quarterly Non-Agricultural GDP measured at different frequencies, this paper develops a real-time business conditions index for India following a dynamic factor model framework for extracting signals from continuously evolving states. A Kalman filter routine is used for signal extraction from state-space representation as well as evaluation of likelihood function. Empirical results show that this coincident indicator tracks the overall economic activity reasonably well.

Asset Pricing Model for Inefficient Markets: Empirical Evidence from the Indian Market

In a paper titled "*Asset Pricing Model for Inefficient Markets: Empirical Evidence from the Indian Market*", Debasish Majumder attempts to study and propose a model for appropriate asset pricing for those markets which are not uniformly efficient for all periods. The paper proposes a transformation through which the original market would be transformed to a hypothetical market which is relatively efficient. Based on an analysis of daily portfolio returns in equity market during January 2003 to March 2009, the author suggests that the process of transforming the original market to a hypothetical market smoothens out, at least partially, the abnormal volatility and large autocorrelations often found in the asset return data without changing the properties of the original asset pricing model. According to the author, the outcome might be a superior alternative to a conventional model in terms of its greater applicability.

Recent Trends in Rural Wages: An Analysis of Inflationary Implications

In his paper titled, "*Recent Trends in Rural Wages: An Analysis of Inflationary Implications*", G.V. Nadhanael attempts to study the recent increase in rural wages and its implication for inflation. Using Vector Error Correction Model, the paper empirically tests for the presence of a wage-price spiral in rural India. The analysis in this paper brings out the following major inferences: (i) increases in real wages have been a recent phenomenon; (ii) during 2000-2007 period, real wages remained constant or declined in rural areas and money wages were largely responding to inflation; (iii) since 2007, wage changes are not explained by changes in prices, but wages impact prices as increase in real wages has been feeding into cost of production; (iv) MGNREGA wages were higher than market wages for most labour supply states indicating that the pressure on market wages in those states could be significant; (v) the coverage of MGNREGA has remained relatively low to exert pressure from demand arising out of cash transfers and (vi) reduced work force participation rates in recent period both on account of increased participation in education and withdrawal of female work force as well as shift of labour away from agriculture could have contributed to labour market tightening and increase in wages. The paper also finds that the recent increase in wages has not resulted in convergence of rural wages across states.

Is India's Trade Balance Sensitive to Real Exchange Rates? A Bilateral Trade Data Analysis

In another paper titled "*Is India's Trade Balance Sensitive to Real Exchange Rates? A Bilateral Trade Data Analysis*", Vivek Kumar and Vishal Maurya analyse the effect of real exchange rate on India's bilateral trade balance with her trading partner countries. Using the annual data from 1991 to 2010, the paper examines the long-run effects of bilateral real exchange rate on bilateral trade balance of India with her 89 trading partner countries. The study uses Fully Modified Ordinary Least Square (FMOLS) method, a non-parametric heterogeneous panel cointegration technique, for removing the endogeneity problem among regressors. The result shows an existence of a long-run relationship between India's trade balance and real exchange rate. India's trade balance would improve with the real depreciation of exchange rate in the long run but deteriorate with the rise of India's real income.

Special Notes

A note on *"Inflation Indexed Bonds and Public Policy: An Examination in the Indian Context"* by Sunil Kumar and Jai Chander examines the potential benefits of inflation indexed bonds (IIBs) to the public policy in India from the perspective of public debt management, monetary policy, and external sector management. From the public debt management perspective, the authors find that IIBs could benefit Government in terms of cost savings, at least to the extent of inflation uncertainty premium. Further, as interest payouts on these bonds are linked to actual inflation and so are largely the tax collections; IIBs reduce the mismatch between these two cash flows due to inflation. The analysis on the impact of inflation on tax collections suggests almost one-to-one relationship which is statistically significant. From monetary policy perspective, it is suggested that IIBs for a critical amount in the Government's debt portfolio may improve public policy's credibility towards price stability, besides providing information about inflationary expectations. With regard to external sector management, it is found that higher inflation causes higher gold imports. As IIBs would provide an alternative asset for inflation hedging, the regular issuance of this instrument as part of the debt management strategy may dissuade investors from investing in gold for inflation protection which, in turn, may curtail gold imports.

In another note on *"Major Episodes of Volatility in the Indian Foreign Exchange Market in the Last Two Decades (1993-2013): Central Bank's Response"* Anand Prakash analyses six major phases of volatility in Indian forex market during the period from 1993 to 2013, caused either by exogenous or endogenous factors, or a combination of both and RBI's response to contain the volatility. The analysis reveals that there has been a significant increase in exchange rate volatility in the aftermath of the global financial crisis, signifying the greater influence of volatile capital flows on exchange rate movements. An important aspect of the policy response in India to the various episodes of volatility has been market intervention combined with monetary and administrative measures to meet the threats to financial stability, while complementary or parallel recourse has been taken to communications through speeches and press releases. Availability of sufficient tools in the toolkit of a central bank is also a necessary condition to manage crisis. The note concludes that the structural problems present in India's external sector, especially the persistence of large trade and current account deficits, will need to be addressed for a sustainable solution to the problem.

Book Review

Avdhesh K. Shukla reviews a book titled *"The Offshore Renminbi: The Rise of the Chinese Currency and its Global Future"* authored by Robert Minikin and Kelvin Lau and published by John Wiley & Sons Singapore Pte. Ltd.

In this book, authors have dissected various facets of the offshore renminbi such as its micro-structure, policy rationale, global linkage, impact on the onshore renminbi, etc. The book has attempted to answer (i) how the offshore renminbi is different than other currencies, (ii) what are the developments related to the international use of the offshore renminbi so far and its future prospects? and (iii) what are the investment and hedging opportunities available in the offshore renminbi market? The book has concluded that in coming decades, the Chinese renminbi will attain a dominant role in the global financial system, however, it will not eclipse the US dollar, which will remain an important economic force.