

Summary of Doctoral Thesis

External Commercial Borrowings of India (Foreign Currency): Macro and Micro Dimensions

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Introduction

External Commercial Borrowings of India (ECBs) refer to commercial debt capital flow into India, borrowed by eligible domestic entities, from eligible foreign creditors at commercial lending rates. Channels of ECBs are through banks, bonds and trade credits. A salient feature of the trend in debt capital flows across Emerging and Developing Economies (EMDEs) is the drastic decline in the share of official external borrowings and increase in private external borrowings. India is no exception to this global phenomenon. From the mid-2000s, foreign borrowings by India's corporate sector (ECBs), *has been occupying the largest share in India's external debt (36.7 percent as of September 30, 2016).*

Need for the study

Huge accumulation of private external debt has potential challenges for macroeconomic management. Correlated defaults by several borrowers and unhedged foreign currency exposure, specifically with shorter maturity are potential for systemic risks that may lead to a crisis. It may also affect the credit worthiness of the capital importing country, besides inviting tough debt restructuring conditions. These macroeconomic challenges coupled with dominant share of ECBs in India's external debt create a need to understand its macro and micro dimensions.

Objectives

Firstly, the study aims to explore key descriptive characteristics of ECBs such as type of borrowing firms, distribution of industry and sectors that accumulate foreign debt, maturity of borrowings, trends in pricing and firm level descriptive characteristics such as size of borrowing firms, export-to-sales ratio, profitability, ratio of foreign currency debt to total debt and investment in new fixed assets.

Secondly, it aims to understand the relative significance of determinants of inflow of ECBs, with specific reference to push factors and pull factors.

Thirdly, it aims to understand the effect of exchange rate movements on investment decision of firms holding foreign currency debt.

Period of the study and Sources of Data

Determinants of ECB inflows are analyzed for the period from 1995 to 2015. Effect of changes in exchange rate on investment decision of firms is analyzed for the period from 2003 to 2014. Sources of data include the Ministry of Finance, Reserve Bank of India, the World Bank, Bank of International Settlements, Chicago Board of Exchange, the Federal Reserve of St. Louis and Prowess database of Center for Monitoring Indian Economy.

Methodology

A series of Ordinary Least Squares regressions are used to understand the significance of determinants of ECB inflows. Effect of changes in exchange rate on investments is analyzed by Panel Data Fixed Effects model on a sample of 842 firms.

Organization of the thesis

The thesis is organized into **seven chapters**.

Chapter 1 introduces the subject of study in the broader context of international capital flows, changing dimensions of debt flows, argues the need for the study, defines the objectives, scope and methodology described as above.

Chapter 2: A review of literature on capital flows and ECBs shows that there are several unexplored areas with respect to ECBs. These include understanding the determinants of inflow of ECBs, balance sheet effect of exchange rate movements, firm behavior towards changes in exchange rate, foreign currency risk management, systemic risks and costs, firm level determinants of foreign borrowing, trade credits and dimensions and issues of Foreign Currency Convertible Bonds. This work aims to fill this gap in part, by seeking to address questions on *determinants of inflow of ECBS and sensitivity of investment decisions to changes in exchange rate*.

Chapter 3: India found itself in a sweet spot amidst declining official sources of credit and surplus private funds in the international market during the early 1980s, enabling private debt flows. Since then, ECBs have evolved in terms of size and importance. Policy approach towards ECBs has been one of gradual liberalization coupled with consideration towards prudent management of external debt. Evolution of policies can be divided into six phases between 1981 and 2016. Each phase brings in some form of liberalized policy framework. Contribution of ECBs towards Current Account Deficit and Foreign Exchange Reserves is the least when compared to other forms of capital flows.

Chapter 4: *Descriptive analysis* shows ECBs are largely borrowed by public limited companies, mostly through Automatic Route; often in small sizes and maturity terms concentrated in the range of 3 – 7 years. Firms borrowing in foreign currency are larger in size, record higher sales turnover, higher profitability, higher share of exports in sales, lower debt equity ratio and higher cash outflow towards investments. Manufacturing sector holds the largest share of the foreign debt

outstanding, followed by Power and Services. Major purposes of borrowings are import of capital goods, modernization and new projects.

Chapter 5: Understanding the **determinants of ECB** inflows help design policy tools to attract or control the flows as needed. To meet this objective, an analysis of macroeconomic and institutional variables identified as *pull factors and push factors* is carried out by a series of Ordinary Least Squares regressions. Pull factors considered are India's domestic GDP growth, domestic lending rate, market capitalization of the domestic corporate sector and India's rank on Regulatory Quality and Political Stability criteria. Push factors considered are GDP growth and interest rates of Advanced Economies, global financial liquidity and expectations on volatility and default risk in the US financial market. Findings are summarized below.

Chapter 6: Understanding the **effect of changes in exchange rate on investment decision** of firms holding foreign currency debt is important from policy perspective. A large number of firms with unhedged exposure during sharp exchange rate depreciations is a potential trigger for systemic risk. A sample of 842 firms is analyzed using Panel Data Fixed Effects model for two different periods – of exchange rate appreciation (2003-08) and exchange rate depreciation (2009-14) and again for the full period (2003-14). Nominal exchange rate is used for the analysis.

Findings

Determinants of ECB inflows: Interest rate differential appears to be a key factor in determining ECB inflows. When interest rate differential is divided into domestic and Advanced Economies interest rates, the explanatory power of interest rates of Advanced Economies is higher. Other variables which account for higher explanatory power are global liquidity and market capitalization of domestic corporate sector. Overall, the analysis favors the conclusion of relatively higher role of push factors than pull factors.

Effect of changes in exchange rate on investment: Results show that investment decisions by foreign currency borrowing firms are *independent of changes in exchange rate*. The sign and significance of the variable of interest in the Panel Data Fixed Effects model (interaction term between foreign debt and changes in exchange rate) is positive and significant, both for the period

of depreciation in exchange rate and the full period; it is not significant for the period of appreciation in exchange rate. The results suggest that the *competitive effect* likely offsets the *net-worth effect* caused by currency depreciation. Furthermore, it is likely an indirect indication of currency matching practices by firms holding foreign currency liabilities.

Chapter 7: The findings have **implications and lessons for policy making**. Under the Mundell-Fleming model, at any given time, a country can choose only any two of these three objectives: an independent monetary policy, fixed exchange rate or free capital mobility (the ‘*impossible trinity*’). As global economic conditions emerge rapidly, India needs to keep itself ready to meet challenges. Accumulation of private foreign debt largely induced by push factors, coupled with limited information about hedging of exchange rate risk may pose challenges for effective external debt management. While ECBs may be beneficial to an individual borrower subject to favorable interest rate differential and exchange rate movement, the country as a whole incurs a cost in managing external debt and foreign exchange reserves. On a comparison with its peers, India ranks the least in terms of supply of domestic credit to private sector. Policy options include mandatory disclosure of hedging foreign currency exposure, increased availability of domestic credit and a system of real time credit register.

There is also a large scope for further research, such as the effect of ECBs on economic growth and various aspects of Foreign Currency Convertible Bonds and trade credits. This work is possibly an early attempt to show firm level evidence on effect of changes in exchange rate on investment decisions as well on the question of determinants of ECB inflows divided into push and pull factors. It provides new insights as well as opens up more questions.