ABSTRACT OF THE THESIS

Macroeconomic Implications of Financial Integration:
Empirical Evidence from India in a Liberalized Era

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Against the theoretical backdrop of complementarity hypothesis between the financial sector and the real sector, the study analyses the changing structure of the Indian financial sector pre and post-liberalisation periods to explain their macroeconomic implications to the economic growth in India. Following several crises in the international market, financial integration has become one of the most controversial aspects of financial liberalization. Given that financial integration remained as one of the important outlines of financial reforms in India, the extent to which Indian economy is integrated and how far this integration facilitates the growth of the economy may be interesting issues to examine.

Financial integration is used as an indicator of long run equilibrium which explains a greater inter-linkage or greater complementary relationship across different market segments. We empirically test the following three broad objectives: first, how far this goal is realized both in the domestic (the four major market segments – money, equity, government bond and foreign exchange market) and international fronts (money and government bond market for both the developed and developing countries); Second, we explore the changing investment and lending portfolio of banks in the era of universal banking and examine the exposure of Schedule Commercial Banks to the systematic risk; third, in the backdrop of booming stock market and a sustainable high growth trajectory of Indian economy our study analyzes the hypothesis that in the early stage of development, the growth of the real sector economy requires simultaneous development of banking industry and capital market. This issue is addressed in the light of relative importance of the banking sector and market economy for the growth of Indian economy, pre and post to the process of financial liberalization. This study also investigates the hypothesis that a complementary relationship exists across the bank lending channel, stock market channel and the real sector growth.

Though, correlation analysis precedes the degree of integration in terms of linear association in the short run, we employ Johansen-Juselius (JJ) co-integration (1988) tests to examine the long-run linkages as our variables are non-stationary at level. The presence of a co-integration forms the basis of the vector error correction (VEC) specification. We use JJ co-integration technique to test the financial integration in the domestic and international front for the period of 1997-2007 and also to test the complementary relationship between real and financial sector for the period 1980-2008.

Data related to real and financial variables for the domestic economy drawn from RBI Handbook of Statistics on Indian Economy, Handbook of Monetary Statistics in India, Report on Currency and Finance, RBI Annual Reports and CSO's National Accounts Statistics and National Stock Exchange. For the data related to world financial markets, we broadly depend on the database of
The test of India’s domestic market integration finds long run relationship persists for the major four markets – money, equity, bond, exchange market. Our finding of financial market integration on the domestic front indicates co-development of different financial sectors. It helps India in the transmission of policy rates to the entire spectrum of other financial rates (both short and long term, in the money, credit and bond markets), which critically depend on the resilience of the integrated domestic market to withstand and absorb external shock.

Our study finds long run equilibrium relationship across call money market and 10-years government bond market. Also, analysis on the mean deviation of seasonally adjusted short term interbank rates reveals that Law of One Price holds (LOOP) in the short term money market rate for India, Canada and the US. Interestingly, in the recent US crisis, we see that the banking sector played the main role in transmitting the systematic risk to other financial sectors as well as to the real sector economy. It is, therefore, very important that we identify the inter-linkage between the bank and market economy.

In this context we find that the analysis of banks’ non-SLR investment portfolio shows a strong preference for the investment in the financial assets Mutual Funds and FIIs. Our study concludes that adopting universal banking model is more or less successful in addressing the problem of huge Non Performing Assets. It also, reveals banks’ increasing trend for earning non-interest income. Though the index of banking sector is well performing, the effect of the recent US crisis is evident in the sudden decline in BANKEX. Also, descriptive statistics of the twelve most liquid and large capitalized banks in NSE reveal a very high coefficient of variation for all the banks. Moreover, a significant skewness is evident in the distribution of the stock return for these banks. Likewise, the high kurtosis value for all the banks shows the possibility of unexpected gain or loss. Our study also finds SBI and ICICI are more prone to systematic risk though both the CNX Bank Index and S&P CNX Nifty show positive and significant effect on all the banks stock return.

Next, the hypothesis on relative conducive financial system concludes India as bank based economy for the period of 1980-1992 while the increasing trend towards market finance is evident in the period of 1993-08. This finding supports the conventional theory that at the early stages of economic development, banking industry fosters economic growth to a greater degree than market-based financial system. Also, we find a significant long-run relation between the private credit lending channel and the stock market development, supported by the short run adjustment parameter. This result indicates that if external shocks affect any of the financial institutions (stock market is more likely), it may have an adverse impact on the growth of the Indian economy through the non-availability of finance. Also, capital flow, especially, the capital outflow may be more restricted to prevent sudden crisis of liquidity and exchange rate risk. Hence, it may be concluded that before having to achieve a resilient domestic market with a better and extended provision of financial services for the majority of the population, the increasing global integration may turn to be costlier for Indian economy.