AN ANALYSIS OF ECONOMIC GROWTH AND CREDIT IN INDIA

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Abstract

In this research paper examines the impact of the developments in the financial sector on economic growth in India in the post-reform period. *The interdependence between credit expansion and economic growth has been a subject of some debate. While some economists contest that the development of the financial system is a byproduct of economic growth others assert that credit expansion is critical for growth itself. India's impetus on expanding its banking reach and recent changes in the way transactions are being done begs the question whether such changes directly affect the growth trajectory. This paper aims to examine and understand the relationship between credit and growth in India in the last few decades. Different metrics for credit and output is used to test the relationship at an overall as well as sectoral level.* An increase in the market capitalization dampens economic growth, whereas turnover has no significant effect, and an increase in the money market rate of interest has a positive effect on economic growth. Real wealth, debt burden, real effective exchange rate and the rate of growth of labour have negative effects. Vector error correction method shows that the ECM term relating to market capitalization and inflation help adjust short-run dynamics of economic growth when we use market capitalization as the indicator of the stock market development. The findings lend no support to the theoretical prediction that the stock market development would play an important role in enhancing economic growth in India. On the contrary, reform measures on the market rate of interest that were introduced in the Indian banking system appear to have promoted economic growth significantly.

Key words: *Bank credit, Granger Causality, Johansen Test, Credit and Economic Growth.*

INTRODUCTION

An inquiry into the importance of credit in an economy and the role it plays in driving growth has been often pursued. Those who assert that credit influences growth stress that the financial system, especially banking, facilitates efficient allocation of resources from savers to borrowers with productive investment opportunity, thereby promoting economic growth. Also by providing financial intermediation, accepting and deploying large amounts of public funds, and creating money supply, banks act as an important channel of monetary policy transmission. Those who disagree point out that economic growth depends on utilization of physical resources and real growth is affected by only real variables. The expansion of economic activities, however, may generate credit and influence it. Several approaches have so far been used to study the relationship, utilizing a variety of econometric techniques to study this complex relationship between credit and economic growth. While all these methodologies carry their own merits, the results of these studies have been mixed. Studies implying causality in both directions have been well documented in literature. In India, credit has been expanding. The capital markets such as the debt and equity markets have gained significance in recent times and the reach of the banking system has been enhanced by policies such as the Jan Dhan Yojana. The use of credit cards for making consumption based transactions is on the rise. Thus the study of the relationship between bank credit and economic growth holds not just a pedagogic interest, but is also of practical significance in policy making.

- Infrastructure development is critical for improving India's manufacturing competitiveness and achieving higher growth.

- Timely execution of projects within budgeted costs will be the key challenge, even if funding is available for economically viable projects.
- Power generation and transmission are improving, but transportation infrastructure capacity constraints continue to limit corporate performance and investments.
- Successful infrastructure development can provide a boost to many sectors, including steel, cement, auto, real estate, and others.

Despite India's significant infrastructure investments (about 35% of GDP), the government estimates that it requires US$1.5 trillion in infrastructure investments over the next decade. But even this would likely only help bridge the infrastructure deficit rather than create room for future growth. We believe, for India, investments in infrastructure equal to 1% of GDP will result in GDP growth of at least 2% as infrastructure has a "multiplier effect" on economic growth across sectors.

Review of literature:

The study of Credit and GDP and the relationship between the two has been the subject of much research. There are two views on the relationship between finance and growth. According to one view prevalent in 19th century, enterprise leads and finance follows implying that banks do not have a leading role in growth. The other view stresses complementarities between development and capital accumulation. So banks could finance investment in physical capital and growth in a proactive manner. Schumpeter (1934), highlighted the importance of financial intermediaries in mobilizing savings, evaluating projects, diversifying risks, monitoring management of firms in debt, and facilitating transactions which are essential for innovation and economic growth. He argued that bank credit acts as money-capital, and thus, constitutes the necessary premise for realization of innovative processes planned by entrepreneurs. Schumpeter (1970) discusses the role of banks as "social accountants" – needed for the constrained realization of individual choices and to make those choices mutually compatible. Economic models based on the neo-classical traditions of Harrod-Domar and Robert Solow that emerged after World War II ignored the significance of the financial sector. As described in Rajan and Zingales (2001), economists, at best held the view that when opportunities arise in an economy that require financing, the economy will develop the necessary markets and institutions to finance these opportunities, i.e. as Robinson (1952) states "where enterprise leads, finance follows". Tobin (1965) explored the growth models of neo-classical economics and considered the possibility of monetary assets as an alternative way of accumulating wealth rather than productive capital. He found that development strategies, after World War II were driven predominantly through direct government intervention to promote accumulation of physical capital. This resulted in a repression of financial markets and curtailed their contribution to economic growth. These views and policies were eventually challenged when McKinnon (1973) stressed that in the developing world complementarities between financial development and capital accumulation may be more important than idle money-physical capital substitution. Shaw (1973) emphasized the growth enhancing attributes of financial capital deepening through its impact on market integration. Both Shaw and McKinnon incorporated money and finance in models relevant for developing countries, highlighting the growth reducing and distorting effects of financial repression. Their work influenced the financial policy reforms of the following two decades. Minsky (1992) posited that the proper role of the financial system was to promote the "capital development" of the economy. In times of high credit growth, in exuberance, quality standards could get compromised, which are

seeds to a crisis that follows thereafter. This culminates in a "Minsky Point" or a "Minsky Moment", which is the starting phase of a financial crisis where the supply of credit dries up, causing a panic in the financial system. Patrick (1966) identifies two possible causal relationships between financial development and economic growth. According to the "demand-following" view, as the real economy grows, demand for financial services grows. According to the "supply-leading" view, financial institutions and services are created in advance of the demand for them. According to him, in the initial stages of growth, supply-leading view becomes important. As sustained macroeconomic growth gets underway, the demand-following response becomes more dominant. Jung (1986) studied the causality relationship between financial development and economic growth for 56 countries using Granger Causality tests. He found some evidence that less developed countries (LDCs) predominantly have a supply-leading causality pattern while developed countries (DCs) have the reverse causal direction. Levine et al. (2000), Calderon and Liu (2002) and Hassan et al. (2011) utilize panel data to study the link between financial development and growth across multiple countries. Although specific conclusions on the directionality of causation and the proxy variables for financial development vary, these studies conclude the existence of a strong relationship between financial development and growth. Demetriades and Hussein (1996) separately study the direction of causality between financial development and growth for 16 countries and find little evidence of finance being the leading sector of economic development. The relationship between financial development and economic growth in the Indian context has been studied from multiple perspectives. Bell and Rousseau (2001) studied post-independence India and the role that financial system played in industrialization. Using a set of Vector Autoregressive (VAR) and Vector Error Correction Models (VECM), they conclude that the financial sector was instrumental in not only promoting aggregate investment and output but also enabled the steady shift towards industry. Several studies including those by Pradhan (2009), Chakraborty (2010), Singh (2011), Ray (2013) and Mahajan and Verma (2014) among others have utilized various econometric methods and a multitude of proxies for financial development to study the impact it has on the economic growth of India. The results of these studies in terms of direction of causality between financial development and growth have been mixed. Das and Khasnobis (2007) studied the transmission mechanism from the degree of financial intermediation to economic growth through the perpetuation of short term and long term credit. They have found two long term co-integrating relationships – one linking financial development and the allocation of credit to various purposes and the other linking economic growth to short term and long term credit, i.e. the transmission mechanism through the credit market. Pradhan et al. (2014) have studied the nexus between trade openness and Indian economic growth. Utilizing an ARDL approach to co-integration and Granger causality, they conclude that trade openness and financial development in the form of banking sector and stock market depth are co-integrated with economic growth. The causality between variables is bi-directional. Katircioglu and Benar (2007) studied the triangular relationship between finance, trade and economic growth for the case of India. Their study indicates a unidirectional causation from real income growth to growth in trade and a bi-directional causation between financial sector development and economic growth. Sehrawat and Giri (2015) has studied the impact of financial development on growth of the 28 Indian states during the period 1993 – 2012. Utilizing a panel cointegration and panel causality approach, the study concludes that there is causality from per capita credit as well as per capita deposits to economic growth. Furthermore, there is a bi-directional relationship between per capita credit

and deposits. A key factor to note in the GDP growth history of India is that the Indian economy had experienced a turnaround in growth in the early 1990s. In the context of this study it is important to separate the change in GDP caused because of structural reasons. However, there has been a lot of debate on the specific years which define a structural break in India's growth story. Wallack (2003) analyzed GDP growth and its components for a structural break in the early to mid- 1980s. She utilized a novel approach of carrying out F-tests for all possible years and selecting the most statistically significant year as a break date. She arrives at a break date of 1980 using this method. Rodrik and Subramanian (2004) analyze Indian growth data for structural breaks in the 1970s-80s. They studied the variables GDP/Capita, GDP/Worker and Total Factor Productivity (TFP) using the methodology of Bai and Perron (1998, 2003) and identify a single breakpoint at 1979. Hatekar and Dogre (2005) establish that when the entire 20th century is taken, structural break occurs around the year 1950. Balakrishnan and Parameswaran (2007) utilize an exponential function for growth rate and identify a single structural break in the GDP data at 1978-79. Panagariya (2004) argued that the growth in the 1980s was higher than the preceding periods but was fragile and culminated in a crisis in 1991. Furthermore, he attributes the high growth during the 1980s to the growth during the period 1988-91, excluding which, the average growth of the 1980s would be much lower than 1990s. He further argues that the reforms in the 1990s were more systematic and gave rise to sustainable growth from 1992 onwards. Singh (2005) also argues that despite a shift in growth to a higher level during the 1980s, a comparison with the shift since 1991 may not be appropriate. He discusses an aspect of political economy that played a role in bringing about a structural change. Following the emergency of 1975-77 a succession of non-congress governments followed introducing a new paradigm for the economy. Changes such as a focus on the rural sector, decentralization of power, growth of co-operatives and priority sector lending were initiated. In the 1980s as well the governments changed multiple times and selective liberalization was carried out resulting in a shortage of power and infrastructure, uneven capacity buildup in industry and high fiscal and current account deficits with exchange controls. This culminated in a crisis in 1991. Only after the structural reforms of 1991, had the economy recorded consistently high growth rates since 1992. In the context of this study the year 1992 is considered as the structural break point for GDP growth.

Bank Credit and Economic Growth:

Increase in bank credit creates demand for goods and services which, in turn, creates employment, and generates return on capital. Barring the changes in inflation, availability of bank credit certainly fuels economic growth, at constant or increased supply of goods and services. Thus, growth of an economy is affected by bank credit. Hence, the expected sign of the coefficient of Total Credit is positive.

Government Expenditure and Economic Growth:

Public expenditure plays a significant role in the economic development of a country. If it is employed in development programs such as social and economic services sectors, government expenditure yields an increase in the economic growth by increasing the economic growth. In economic literature, the traditional Keynesian macroeconomics believes the positive effect of government expenditure on economic growth. According to Keynes, an increase in the government expenditure is likely to lead to an increase in employment, profitability and investment through multiplier effects on aggregate demand. Hence, in the present study, the sign of the coefficients of both the capital outlay and developmental expenditure is expected to be positive in the model.

Methodology:

The authors attempt to study the relationship between credit growth and GDP growth in different sectors of the Indian economy. This has been achieved through the use of Co-integration and Granger Causality tests. The natural logarithm of the level series has been used for the current study. The stationarity of the credit and GDP time series has been tested using Augmented Dickey Fuller (ADF) test, Phillips Perron (PP) unit root test and supported through the use of Kwiatkowski–Phillips– Schmidt–Shin (KPSS) unit root test. For the purpose of the current study, the Johansen test of co integration has been employed. In order to test the time series for co-integration, it is necessary that they all be integrated of first order, i.e. I(1). The current study uses the methodology suggested by Granger (1969) to test for Granger causality in econometric series.

Conclusion

The study investigates the relationship between credit and GDP for different sectors of the Indian economy. An attempt has been made to estimate whether a long term co-integration relationship exists between credit and GDP. The study also attempts to identify if a causal relationship exists between credit and GDP and the direction of the causality. Johansen test and Granger causality test was used to study the relationship between the variables. The empirical findings suggest that a long term co-integration relationship exists in the manufacturing sector between credit and GDP. Furthermore, this co-integration relationship is also exhibited in the overall GDP and credit data during the initial period of Indian economic growth. Since, bank credit has favorable effect on economic growth, the government of India should make policies that favor more credit allocation in the economy. At the same time, banks needs to maintain risk-return trade off across loan portfolios and ensure asset quality for sustainable growth. Improvement in technology and innovation should be applied in credit selection, evaluation, monitoring and controlling the credit risk. Thus, effective credit and risk 13 management practices should be exercised which would improve the asset quality in particular and the economic growth in general. Capital outlay and developmental expenditure have also significant and positive effect on economic growth. Hence, the government of India with more cautious should encourage public expenditure. This should happen revenue surplus and fiscal deficit. There should be high degree of transparency and accountability of government spending reviewing mechanism with performance budget in various sectors of the economy in order to prevent the channelizing of public funds into private accounts of government officials and workers. Therefore, it is essential to improve quality and accountability of expenditures, an outlay to outcomes budgeting methodology (i.e., program performance budgeting (PPB)) to be practiced for prioritizing the allocation of public funds, improving program planning, monitoring and evaluation, increase transparency, accountability, and consequently, the quality of public services delivery. A proper process driven expenditure review mechanism should be put into place to track the outcome of the expenditures.

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