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Financial Development and Economic Growth of India

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Abstract – The causality between economic growth and financial development has been a wide-ranging subject of experiential research. However, it is not easy to establish directional causality between them. Therefore, an attempt has been made to realize whether financial development causes economic growth or vice-versa in relation to Indian economy. It is imperative to ascertain the role of financial system in the economic progress of peripheral as well as cosmopolitan economies of the world especially in the light of the debacle of the Greece economy in the recent past. Growing human capital in less developed countries unquestionably needs spectrum of economic activities to imbibe itself in them which vigorously rafter upon the strong financial market of such economy of the world.

It has been strongly observed that Indian economy is not growing in consonance with the initiatives that Government of India has taken towards giving impetus to its economic growth. Therefore, it assumes phenomenal significance to have unfathomable analysis and interpretation between two sine qua non variables i.e., financial development and economic growth, which seem to be intertwined with each other. We also endeavor to ascertain whether India is in a better stage in terms of its growth potential and efficient financial system that is likely to evolve in the upcoming years to suit the changing global economic environment or not.

Keywords- Financial Development, Economies, Indian Economy

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INTRODUCTION

Over the last several decades, economists seemed to have reached a general consensus that the link between financial development and economic growth is positive. The last five years have witnessed a resurgence of interest in the relationship between financial intermediation and economic growth. This issue had been extensively studied nearly five decades earlier by Goldsmith (1969), McKinnon (1973), Shaw (1973) and others, who produced considerable evidence that financial development correlates with growth. Against the backdrop of the global financial crisis and contagion to the developing world, discussion on recent financial market development and regulation in India has assumed a new urgency. India has witnessed a considerable development in the credit and capital markets both from a regulatory and legal perspective. In the past decade the Indian financial sector has deepened extensively and become more integrated globally. Taking stock of the impact of these developments on the health of the financial sector and on the overall economy, particularly in times of financial tumult, maintaining financial stability is imperative for future policy actions. The aim of the workshop is to recount the recent developments in the Indian financial system and assess the impact of global financial crisis to broadly sketch out the policy prescriptions in terms of macro-economic measures developing economies like India. Different schools of economists provide contradictory theoretical notion on the causality between financial development and economic growth.

Consequently, axiom verdict on the financial development and economic growth relationship is still expected to come. In the prospective workshop, we will re-examine this relationship in the context of Indian economy. Thus, various economic scholars shall be invited to discuss causality between the financial and economic growth of India.

Economist like Walter Bagehot and John Hicks argue that financial institutions have unequivocally played a critical role in mobilizing capital to ignite industrialization in a country like England.

Joseph Schumpeter opined that financial development unscrupulously perform a role of principal instrumentality in bringing innovation among backward economies of the world.

"Where enterprise leads finance follows," perception of Joan Robinson appears extremely contradictory to the aforesaid notion of Walter Bagehot, John Hicks

and Joseph Schumpeter. According to him, economic development creates demand for particular type of financial arrangements, and the financial system responds automatically to such demands.

Moreover, some economists believe that the finance-growth relationship is not that important. Robert Lucas asserts that economists "badly over-stress" the role of financial factors in economic growth, while development economists frequently express their skepticism about the role of the financial system by ignoring it.

In the light of these conflicting views, we have sought to use existing theory to organize an analytical framework of the finance-growth causality and then assess the quantitative importance of the financial system in economic growth.

Albeit the contemporary views of the present school of economic thought would grow skeptics toward the belief that the development of financial markets and institutions is a critical and inextricable part of the growth process, the financial system has been playing a consequential role in the economic growth and industrialization of developing countries from the beginning of their development programme.

The evidences regarding high level of financial development are available that portray it as a good predictor of future rates of economic growth, capital accumulation, and technological change. Moreover, case study of industries and firms at national as well as state level is needed frantically to explore whether financial development or the lack thereof crucially affects the speed and pattern of economic development.

LITERATURE REVIEW

The study of the relationship between financial development and economic growth can be traced back to the work of Schumpeter (1911) who argued that financial services are paramount in promoting economic growth. However, until 1960 the impact of financial sector's development on the process of economic growth of a nation did not gain sufficient weight in literature. The later works of economist like Goldsmith (1969), McKinnon (1973) and Shaw (1973) threw light on this aspect of economic growth which has succeeded in drawing attention and interest of many economists in modern times. But it was the findings of a study by King and Levine (1993) that has thrived to generate renewed interest in the effect of finance on economic growth and there has been considerable research into this relationship since then. The study attempted to answer the two questions related to the finance-growth nexus, namely: the correlation between financial development and economic growth; and the direction of causality between financial development and economic growth. The direction of causality between financial development and economic development has always been a matter of great controversy. Patrick (1966) posited that the direction of causation could either run from economic development to financial development (demand- following phenomenon), or it could run from financial development to economic development (supply-leading phenomenon). Patrick's conclusion was that the supply leading phenomenon was likely to be predominant in the early stages of development and then as the economy develops the demand-following phenomenon begins to gain prominence (p. 177). Besides there is another possibility that a state's financial development and economic growth is not causally related (Graff, 1999). This implies that neither financial growth causes economic growth nor economic growth causes financial development and that the empirically observed correlation between them is merely the result of a historical peculiarity. That is to say, the real sector is governed by the real factors; whereas the financial sector is rooted in the history of financial institutions. (Graff, 1999) On the one hand, growth provides the ability and acts as a catalyst for the development of the financial structure. Financial development is caused by long run economic growth when real growth has taken place so that the expansion of financial institutions is only a result of the need of the expansion of the real economic activities (Demetriades and Hussein, 1996). On the other hand, the latter facilitates higher growth rate through efficient allocation of limited resources of the economy. The expansion of financial institutions can foster economic growth by increasing savings and borrowing options and the reallocation of capital (Beck et al., 2000; Xu, 2000; Levine et al., 2000; Neusser and Kugler, 1998; Levine, 1997). In this study an initiative is undertaken to find out which of the above arguments hold good in case of financial development and economic growth in Assam in a VAR framework. Several studies have addressed the potential links between financial development and economic growth in case of India as well. The empirical researches carried out so far suggest that there is a nexus between financial development and economic growth in India. In the Indian context, Misra (2003) studied the credit-output nexus by using data of 25 Indian states during the period of 1981-2000. This study tested for causality in Vector Error correction framework and concluded that there is a significant support in favour of the credit- output nexus in Indian States. It further confirmed a significant presence of causation from output to credit which implied that economic growth leads to financial development. The study also asserted that lack of credit off-take is due to growth fatigue, requiring a serious attention on the credit-output nexus in India. But such a small data-set may lead to certain difficulties. A larger data set may provide sufficient degrees of freedom to assess the credit and output link. Hence there is a need of addressing such an issue in the developed and under-developed Indian states to get a clearer picture of the relationship.

Table 1 presents a review on some empirical studies on the finance and growth relationship

Authors	Period	Number of countries	data	FD indicators	Direction of of causation
King and Levine (1993a, 1993b, 1993c)	1960- 1989	80	Cross- section	i) liquid liabilities of financial system divided by GDP, the ii)ratio of bank credit divided by bank credit plus central bank domestic assets, iii)ratio of credit allocated to the private enterprises to total domestic credit, iv) credit to private enterprises divided by GDP	FD→EG
Gregori o & Guidott i(1995)	1960- 1985	80	Pooled cross section	Bank credit	FD→EG
Bethele my & Varoud akis (1995)	1960- 1989	91	Panel	M2	Bi- direction al
Demetri ades & Luintel (1996a)	1961-1981	India	Time series	Bank deposits liabilities	Bi-directional
Demetri ades & Luintel (1996b)	1962-1982	Nepal	Time-series	Bank deposit liabilities	Bi-directional
Rajan& Zingle (1995, 1998)	1980- 1990	55	panel	1) the ratio of credit to private sector GDP 2) accounting standards	**FD→** Industrial growth **FD→** Economic growth
Levine and zervos (1998)	1976-1993	41	Time series	1) Ratio of market Capitalization to GDP 2) ratio of total value of trades to GDP 3) turnover ratio	Stock market development →economic growth banking development→ economic growth
Rousseau & wachtel (2000)	1980-1995	47	Panel	Liquid liabilities	Stock markets→ economic growth
Beck etal.,(2001)	1960-1995	63CC 77 Panel	Cross section and panel	Private panel	FD→ Economic growth
Chakra borty (2007)	1996-2005 (quarter)	India	Time series	1.Total bank credit 2. total market capitalization 3. Turnover as percentage of GDP	Economic growth → financial development

Table 1 presents some of the recent studies that strived to determine the direction of causality between financial development and economic growth. It is quite clear from Table 1 that most of the recent studies have found that the direction of causation runs from financial development to economic growth. Six out the 10 studies mentioned here support the view; while three studies show a bi- directional relation and only one of them found that causation runs from growth to finance. Moreover, two studies have specifically mentioned about the role of stock markets in their discussion on financial development.

OBJECTIVES

1. To explore the rationale and theoretical underpinning regarding the role of financial development in accelerating the growth of Indian economy.

2. To assess the causality of financial and economic development in the Indian economy during the post liberalized period.

3. To ascertain whether differences in financial development and structure are associated with differences in economic growth rates or not.

METHODOLOGY

In this paper, time series data has been used to ascertain the impact of the causality of financial market and economic growth. Post liberalization has been taken as a period of the study.Gross domestic product and financial development indicator are the variables that are to be used for recognizing their relation regarding the economic growth and financial deepening in Indian economy. Data of GDP (independent variable) is collected from reserve bank of India Bulletins and its database on Indian Economy which is available at its official website. We have employed mathematical method, i.e., principal component analysis (PCA) that helps to convert a set of observations of prospective correlated variables into a set of uncorrelated variables which is known as principal components. The study adopts the vector autoregressive model (VAR) to analyze the relationship between financial development and economic growth. Granger causality test is applied in the vector autoregressive regression (VAR) framework to determine the direction of causation between the two variables. The analysis is worked out in the three steps. Dickey –fuller test is applied to detect the consistency between GDP and financial indicators (FI). J. Johansson's modus operandi of co-integration is applied to analyze the association between two variables. The nature of the causality is detected with the help of applying Granger –Sims method

FINANCIAL SECTOR IN INDIA

In the regulated economies, money merely plays the role of medium of exchange and the central bank clubs the standard functions of monetary authorities with some of the functions of a commercial bank.

Besides, in most economies there were banks specializing in different sectors, namely export trade operations, financing of long-term investment, and the agriculture and food industry. At the time, there was only a state savings bank collecting available resources and household deposits. Thus, banking activities were characterized by segmentation along functional lines. The transactions within the state sector, including those between state-owned production enterprises, involved no monetary payment while households used cash for transactions. The first step in the transition process for the financial sector was the development of market oriented financial institutions, banks being the most visible and often the dominant ones. The transition to a market economy started in the Central and Eastern European (CEE) countries in 1991 with reforms of the banking sector. In all transition countries, the first step was the abolition of the mono-bank system. New banking legislation was introduced allowing private banks to develop and foreign financial institutions to enter the domestic banking sector. Banks were allowed to operate as universal trade banks, whilst the new Central Bank remained in charge of monetary policy, including exchange rate policy, and monitoring of the newly created banking sector. The new system was very similar to that already existing in European Union. Thus, most transition countries like India have been experiencing a rapid expansion of the banking sector since new banking legislation was introduced at international arena due to the entry of new (foreign) banks and the decline in state monopoly in banking sector. The transition generated macroeconomic turbulence and made any new bank lending extremely risky. During the 1990s, the increase in stocks of non-performing loans led to banking crises in many countries. The stock of bad loans evolved partly as a result of the gradual recognition of the quality of existing relationships in state-owned banks (the stock issue), and partly because of continuing bad lending

practices (the flow problem) (Bonin and Wachtel, 2003). The privatization of the state-owned banks and the participation of foreign strategic investors in banking represented effective ways to solve these problems. Thus, progress in the banking sector in developing countries has led to a smaller amount of non-performing loans. Foreign banks have played an important role in the development of the financial system of the developing countries by increasing credit availability, technology transfers and competition. They have been more innovative in terms of the number and range of new products offered, some of them already available in the foreign banks' home markets. Besides, they have helped consolidate the developing countries' banking systems, producing waves of mergers and acquisitions that have decreased the number of banks. The majority of banks in the newly privatized banking sector are in fact foreign-owned.

CAUSES AND EFFECTS OF THE CURRENT FINANCIAL CRISIS

Unlike previous market crises, the present financial crisis originated in mature economies. The decoupling hypothesis, which had maintained that developing and emerging economies would be largely unaffected by the crisis in the US and Europe, proved to be a myth. The contagion effect works mainly through two channels i.e. the financial market channel and the real economy channel, which caused a steep decline in exports from developing and emerging economies, foreign direct investment into these economies, remittances and trade finance. While discussing the future outlook for India, the then Indian Finance Minister P. Chidambaram who in October 2008 said that India was safe from the global turmoil and that "the only fear is fear itself". This had clearly been a far too optimistic assessment, as in the meantime the crisis has also had its impact on the Indian economy with further downward revisions on Indian growth likely. Turning to the origins of the crisis, regulation failure in financial markets was a major cause, but excessive liquidity caused by lax monetary policy in the US and global imbalances with the concomitant capital imports to the US also played a major role for the onset of crisis. The policy responses should include reforming the international financial system to maintain financial stability. This calls for international cooperation in crisis prevention and crisis management. The Financial Sector Assessment Programs should be made mandatory for systemically important for all countries. Lastly, there is a need to strengthen the role of International Monetary Fund (IMF) and International Financial Institutions (IFIs), which would require governance reform of these institutions, and highlighted the importance of a further development of banking sectors and securities markets in developing countries and emerging markets to reduce dependency on financial intermediation in financial centers of industrialized countries. The present crisis seems to be an outcome of global "macroeconomic imbalances". The macroeconomic imbalances at international level are necessarily to be corrected before it affects other developing countries in the world.

QUALITATIVE ANALYSIS

In light of conflicting views of different school of thoughts, we have applied the existing theories to comprehend the causality between financial development and economic growth in context to Indian Economy. Albeit the contemporary views of the present school of economics represent it as a good predictor of future rates of economic growth, capital accumulation, and technological change. Moreover, expansion of industries and infrastructural facilities are positively correlated with unyielding growth of Indian financial system. The problem of unbalanced industrial growth would be resolved by financial deepening as well as financial widening in Indian economy.

Applied analysis and interpretation

1. Composite financial development indicator:

Principal component analyses (PCA) are data reduction methods used to reiterate multivariate data with fewer dimension and identifying patterns of association across variables.

$$\Upsilon_j = \lambda_{j1}\beta_1 + \lambda_{j2}\beta_2 \ldots\ldots + \Upsilon_{jA}\beta_A \quad \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

($\lambda_{j,}$) are the factor score coefficients and (A) is the number of variables.

Table :1

Principal components	Eigen values	Percentage Variance	Cumulative variance	Factor score
NB	2.04	74.65	75.21	-0.199
ROTG	0.84	32.56	93.21	0.943
SIB	0.46	26.23	96.54	0.921
CDR	1.02	01.18	94.12	-0.234

The Eigen values in table 1 point out that first principal component explain about 75 percent of the consistent variance. Thus, first component is more significant measure of financial development, since it explains the variations of dependent variable better than any other linear combination of explanatory variables. Therefore, the variation of the first principal component is considered to establish composite indicator. Factor scores are obtained by multiplying the consistent values by the corresponding factor score coefficients which are used in ïïequation1.The factor scores are obtained by multiplying the standardized values by the corresponding factor score coefficients to obtain

composite financial development indicator in consonance with above equation.

Unit test

Time series analysis depends upon the consistency of each individual time series The study uses ADF unit root test to examine consistency of each time series as proposed by Dickey and Fuller (1981). The ADF unit root test requires the estimation

$$\Upsilon_t = \alpha + \beta_t + \acute{K}_{xt-1} + \epsilon_t \quad \text{----------.} \quad (11)$$

In equation (11) α is the intercept, (β) is the co-efficient of lagged term, (k)is the number of lagged term chosen to ensure that (ε) is white noise. The optimal lag length is chosen by using the Akaike Information Criteria (AIC). Based upon this estimate the hypotheses of the test are

H 0: =1, i.e., there is a unit root-the time series is non-stationary.

H1:<1,i.e.,there is no unit root- time series is stationary.

series	ADF Statistic 2ND difference	Critical Values	Accepted/ Rejected	Stationarity	Order of integration
GDP	3.456 (3)**	-3.492	Rejected	Stationary	1(2)
IFD	-2 786(3)**	-2.987	Rejected	stationary	1(2)

** indicates significance at 5% level.

It represents rejection of null hypothesis of unit root at 5% of the critical values. The figures within parenthesis are lag lengths. The lag selections are in compliance with the Akaike Information criteria.

The results of ADF unit root test show that the null hypothesis of the presence of a unit root is rejected for both the variable of study when they are transformed into their second differences. That is, both the series are stationary on second differencing. Therefore GDP and IFD are integrated of order two i.e. they are 1(2). After confirming stationarity of the two series, the study proceeds to conduct co-integration test to ascertain that the variables are co-integrated.

(iii) Co-integration test:

Co-integration analysis is performed to investigate long term relationship between financial development and economic growth. For this VAR based co-integration test, the methodology developed by Johansen (1988) and Johansen and Jesulius (1990) are deployed. It is involves two steps i.e., "trace test" and "maximum Eigen value test" as follows:

The trace test (Ø)is represented as follows

$$\text{Trace} = -t \sum n_{r+1\,(\log)}\, \text{Øí} \quad \text{----------} \quad (2)$$

In equation (2) the null hypothesis shows that the co integration vectors is ≤ (r) as against the alternative hypothesis i.e., the cointegration vectors =(r)

In its second part the maximum Eigen value test (Ø max) is symbolized as below

$$\text{Ø}_{\max} = -t \log (1-\text{Ø}_1) \quad \text{.....} \quad (3)$$

In equation (3) the null hypothesis reflects that the Cointegration vectors =(r) is found against the alternative hypothesis i.e., cointegration vector =(r+1). According to this method the cointegration of maximum likelihood method and Eigen value statistics is to exist if the value of computed statistics remains different from zero.

The cointegration of linear, stable, and long-run relationship among variables reveals their single – directional movement in the long run.

Outcome of Johansen's test of cointegration in context to GDP and FDI

The trace test (Ø) and Eigen value test (max Ø) rejects the hypothesis. Therefore, cointegration test demonstrates that GDP and FDI have linear relationship in the long run.

Granger –Sims' Causality tests:

Granger Sims causality test has been used to examine the causality between financial development and economic growth in India.

X is said to cause Y, if we use the past values of x and that improves the current values of Y. It is examined by regressing Y on past values of y and X. (HO) is the null and alternative hypothesis of the test which reflects no casual relation between financial development and economic growth.(HI) shows the causality between financial development and economic growth. The above hypotheses are examined by applying bivariate linear auto-regressive model of GDP and IFD.

$$y_t = \sum_{j=1}^{n} (\alpha_1\, x_t - 1) + \sum_{j=1}^{n} (\beta_j y_t - 1) + u1t \quad \text{.....} \quad (4)$$

$$x_t = \sum_{j=1}^{n} (\alpha_1\, y_t - 1) + \Sigma^{n}j=1\ \mu j\ x_{t-j} + u2t \quad \text{.....} \quad (5)$$

Sequel of Granger causality test

lag	GDP to IFD AIC	F-Statistics	IFD to GDP AIC	F-Statistics
1,1	34.98	3.43	65.23	43.21
2,2	34.54	2.65	56.54	12.65
3,3	34.43	2.13	64.23	49.12

The Granger sequel hints triple lag order on the basis of Akaike information criterion it also suggests that IFD don't cause GDP is rejected at 1percent level of significance. It implies no evidence of causation from IFD to GDP and the null hypothesis cannot be rejected. Thus, results imply a unidirectional relation between financial development and economic growth. The relation between them may be kept forth as financial development granger causes economic growth in India.

CONCLUSION

Financial development and Economic growth have been strange bedfellows. Financial development plays a significant role in fostering growth in Indian economy. However, the results are divergent to those who advocate the adverse affect of the growth of financial deepening in the developing economy. Furthermore, it appears that financial development and economic growth are negatively associated in the long run while in the short run they have a positive correlation as far as the Indian economy is concerned.

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