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Review

The association between financial development and economic development: A review

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This paper presents an overview of the theoretical and related empirical literature on the association between financial system development and economic growth. It describes the role of financial system development in economic growth at the macro level, both theoretically and empirically. It also describes briefly the relationship of corporate finance and firm performance. It finally concludes the review and presents some policy implications in view of the reviewed literature.

Key words: Financial development, growth, financial system.

INTRODUCTION

This paper explores the nature of relationship between financial development and growth by reviewing the current available work on the topic. It is not possible to cover all the aspects and refer to all studies in this review paper. Therefore, the efforts in this paper are directed to cover two important dimensions: (i) relationship between financial development and economic growth at macro level, and (ii) availability of finance and firms level performance.

Economic development is subject to availability of the physical and human capital. Financial resources are needed to ascertain the availability of these capitals. In fact, an economic system equipped with an effective and efficient financial system can mold this investment function in an optimal manner. For example, financial system can contribute towards this end by encouraging the public to save and reallocate their savings to productive investment projects, while competently addressing the issues of risk and return. Hence, financial system development is the process involving actions such as founding and expounding functions of financial institutions, developing new (innovative) financial products and developing markets for these products. However, the recent financial crisis in the developed economies is an example of the downside of the financial development and is an indication of the complexities involved in relationship between economic and financial development. Moreover, despite the fact that the two are related, the direction of causality in this relationship is yet another undecided phenomenon.

Bagehot (1873) and Shumpeter (1912) stated that availability of funds from banking system influence technological progress and hence influence level and rate of economic growth. On the other hand, Robinson (1952) stated that demand of financial development results due to economic growth (that is, economic growth is not subject to financial system development). The sharp contradiction in the existing literature to theoretically link economic growth with financial development is not the only reason for the researcher to take keen interest in this area, but also, the existence of different financial systems, structures and economic growth rates in different regions and countries around the globe has stimulated the interest of financial scientist to explore this area. Research in the area of finance and growth nexus received major attention since the survey by Levine (1997). There exist two major conflicting approaches: the endogenous growth models and the neo-classical approach. These two approaches have enriched the literature. The neo-classical theory identifies no role of financing in the economic development of a country. On the other hand, the endogenous growth model considers the existence of an efficient financial system as an

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important ingredient of economic growth via facilitation of research and development activities. Moreover, advancement in economics of information and contract theory has influenced scholars' understanding of the relationship of funds suppliers and receivers. These developments have expounded the discussion about finance and growth nexus.

This study presents theoretical discussion and empirical evidences on the relationship between finance and growth both at macro and micro level by reviewing and synthesizing the extant literature. Specifically, it introduces the topic and the relationship between financial development and economic growth at macro level is explored. It further discusses the role of finance in firms' performance from whence a conclusion is drawn.

FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH

Arrow (1964) and Debreu (1959) argued that in the absence of any information or transaction costs, there is no need for a financial system, the so-called Arrow-Debreu model. Goldsmith (1969), McKinnon (1973) and Shaw (1973) are among those economists who explored the relationship between financial development and economic growth some four decades ago. They found that financial markets and economic growth rate are positively related. The major weaknesses in their study were; i) lack of theoretical explanation for this relation (the then existing theoretical discussion was about financial development and level of productivity and not the rate of growth), and ii) failure to establish the direction of causality between financial development and growth. Current developments in this area have focused to address these shortcomings.

Theoretical foundation

There are two main approaches that explain the relationship between financial and economic development. These approaches are the neo-classical approach and the endogenous growth models, as explained here onward. The neo-classical advocates explain that economic growth is dependent on both the accumulation of productivity input factors and the technological advancement and traditionally, finance was related to the first item. However, if technology is to increase production and thus growth rate, then firms' capital stock must incorporate these advances which will require a supportive financing system. The underlying assumption is thus, that the interest rate brings state of equilibrium in savings and investments. Neo-classical theory suggests that the optimal growth rate equals the real interest rate. Prior to the realization of market imperfections and information asymmetries, investment decisions were considered independent of financing decisions. Despite the fact that considerable amount of work has been done under the influence of the two main approaches. However, the uncertainty still exists as far the relation of economic development and financing is concerned. The endogenous growth models realize the importance of entrepreneurship and innovation and magnify the role of finance to induce research and innovation. These models encompass financial institutions impact on economic growth rate.

Financial development affects economic growth through several channels as indicated by the famous "AK" model; $Yt=AKt$ (Pagano, 1993). This model assumes production of one type of good (Y) with one type of input that is capital (K), and "*A"* here refers to capital productivity. K depends on the rate of savings, where only certain portion (f) of savings (S) is invested. Form this simplest model, a steady growth equation is derived, that is: $g = A f S – d$. Here, "d" is for depreciation rate. This equation explains that financial development can impact economic growth either through capital productivity or financial system efficiency; in other words by reducing loss of resources, and/ or the saving rate.

Financial system efficiency in capital allocation

The efficient channeling of funds means use of them in most optimal investments. Financial system can foster economic growth through channeling capital to projects with the highest marginal capital productivity. Harrison et al. (1999) stated that the transaction costs are subject to geographic distance between funds suppliers and the users. Funds suppliers' profit margin increases with increased economic growth that encourages more entrants of suppliers and boost specialization. While this will decrease transaction costs due to reduction in distances and thus results in more economic growth, they showed that the upward movement of employees' wages in banks hinders the new entrance and the process thus stops.

Further, it is imperative for an effective financial system to design a risk-sharing strategy to be able to encourage investors to participate; else it cannot attain optimal state of economic growth. Greenwood and Jovanovic (1990) showed that financial intermediaries have the ability to manage this risk aspect of projects better than the individual investors. Therefore, financial intermediaries can allocate capital resources to projects with higher returns.

Diamond and Dybvig (1983) stated that managing liquidity for individual investors is a vital function of financial intermediaries. Individual investors in the absence of financial intermediaries will be exposed to investments in illiquid assets and their risk averse nature will hinder this investment. Financial intermediaries can pool the individual investors' liquidity risk and can invest their deposits in illiquid but high-return assets. In this

context, Bencivenga and Smith (1991) showed that financial intermediaries can potentially reduce the level of unnecessary liquidity maintained by individual investors. Financial intermediaries can invest funds in more illiquid but productive assets. In this way, the chances of premature retirements of investments are reduced and productivity of capital is increased and thus, will promote growth rate. Moreover, the chances of investment of these savings by individual investors in unproductive liquid assets can decrease capital productivity but these intermediaries can potentially have optimum liquid assets and can control unnecessary drain of funds towards unproductive asset. It is identified that stock market offers opportunity to insure against the risk of variation in expected rate of return through diversification and the liquidity risk of capital investments by individuals. Levin (1991) identified that an active stock markets can enhance liquidity within an economic system as investors can sell their assets as and when they desire. Saint-Paul (1992) stated that stock market offers the opportunity of portfolio diversification which can reduce risk of sectoral shocks, hence, business firms can opt for more specialization which furthers growth. An interesting empirical finding by Stulz (2000) stated that investors' value specialized firms higher than the diversified firms. Thus, the opportunity to diversify and the liquidity of stock markets contribute towards economic growth.

Efficiency in channeling saving to investment

Existence of optimal combination of risk and return may lead to more savings and higher economic growth. Wicksell (1935) identified this important role of financial intermediaries and stated that financial intermediaries and markets are means of coordinating savings of households and investments of firms. In this way, financial development enhances economic growth. One of the reasons of inflation is excessive money holdings, in this context, it is argued that if states encourage financial development, public will not carry money and will reduce the base of inflation tax and thus, will positively impact economic growth (Roubini and Sala-i-Martin, 1995). The other information based explanation by Harrison et al. (1999) stated that reduction in costs of financial intermediation due to growth induced competition among existing and new institutions ensure availability of higher fraction of saved capital and enhance economic growth. In fact, both financial intermediaries and security market consume part of resources, for example, banks spread, which are required by them to function. This fraction will become a drain and depress economic growth if they are set inefficiently high or directed towards private consumption and inefficient investments (Tsoru, 2000). It is generally accepted that this relation of saving and investment is ambiguous. Savings may actually be lower when investors prefer present consumption over future consumption. Also, reduction in investors' risk exposure due to holdings of diversified portfolio may on one hand induce them to invest in high risk, high return security and might instigate them on the other hand to lower pre-cautionary savings level (Theil, 2001). This means that investors will either try to pursue their own goals which may not coincide with the goal of economic development or they may increase their present consumption level or the level of more productive investment while reducing the level of precautionary savings.

Financial system and saving rate

Literature identifies four major channels through which development of financial system will influence saving rates. First, financial intermediaries can cause reduction in idiosyncratic risks which in turn reduces precautionary savings and that may lower the growth rate (Lel 1968; Sandmo, 1970; Kimball, 1990 and Caballero, 1990). Second, financial intermediaries due to portfolio diversification lower rate-of-return risk but this relation is not clear (levhari and Srinivasan, 1969). They showed that greater the risk aversion coefficient, lower will be the saving and vice versa. Hence, portfolio diversification acts as insurance against negative variation in the expected rate of return. Therefore, individual investors may increase their savings. This portfolio diversification may have negative implication as Theil (2001) explained that expected higher returns may cause increase in present consumption and will thus, decrease today's savings. In other words, the reduction in risk level may only direct savings to more risky assets to earn more returns rather to enhance current level of savings. Third, financial system development though increase financial flexibility and may increase the rates of interest of savers but the theory of income distribution effects make this relation ambiguous. Finally, financial development brings liquidity (for example, availability of easy loans to public which may induce them to spend/consume more) that may negatively affect saving rates (Jappelli and Pagano, 1994). Theoretically, one may say that financial development will hamper economic growth by negatively influencing the saving rates; however, this is not so clear. Financial development will promote economic growth due to increasing capital productivity and channeling savings to optimal investment projects. However, it may negatively influence saving rate and the growth but this relation is not conclusive.

Empirical evidence: Financial development and economic growth

Empirical studies, in general, show a direct relationship between finance and growth. These studies differ with regards to sample size, sample units, data sets, time

horizons, the variables used, and estimation techniques. The study by Goldsmith (1969) is considered as a pioneering work that showed financial development speeds up economic growth. This study used data from 1860 to 1963 of 35 countries with no control variables. The study is quiet about direction of causality and also does not discuss how or through which channel this effect occurs. The study of King and Levine (1993) exhibited significant positive relationship between four financial variables and three growth measures while controlling for number of other factors. They also opined on the basis of correlation between past financial measures and current growth measures that financial development leads the economic growth. Later on in 1999, the database of the World Bank gave further impetus to research in this area as large amount of country level data could easily be extracted from.

The two famous historical but opposite views about the causal relationship between economic growth and financial development are presented by Schumpeter (1912) and Robison (1952). According to the former, businesses require credit to enhance their production capacities and financial intermediaries support this need, hence financial system development can channel financial resources to these productive undertakings. In contrast, the later described that economic growth development creates demand for financial services and financial system development thus, follow the economic growth. Rousseau and Wachtel (1998) analyzed bank assets, bank liabilities and real economic growth data of five industrial countries for a period of 59 years (1870 to 1929) to establish that financial development leads economic growth. They observed that change in financial measures influence growth measures. In another study in 2001, they showed significant effect of financial measures on growth measures; further, this study revealed that in the presence of high inflation, this relation is unobservable. The cross country study of Levine and Zervos (1998) analyzed seventeen years data (1976 to 1993) and reported statistically insignificant relationship between private saving rate and financial indicators. In this study, they used six financial variables and three real growth variables and saving ratios. Using the World Bank database, Levine et al. (2000) found that financial intermediaries have significant impact on growth indicators but have inconclusive influence on physical capital growth and saving. Cross-country growth regression is the main tool used in these studies, where financial variables of number of countries are regressed on growth measures. Numbers of these studies have also used other control variables. Bank advances to corporations, stock market capitalization and turnover relative to GDP were the measures of financial variables to quantify the financial system development. The real economic growth rate is one of the major dependent variable used.

Estimation methodology, type and level of data, etc., is said to have influence on the relationship of financial system and economic development. The debate on estimation techniques is still continued; most of the earlier empirical studies have used cross-country estimation and have found direct relationship between financial development and economic growth. In some studies, the use of instrumental variables to deal with endogeneity issue is declared inefficient because after averaging, data set of longer periods may dilute growth dynamics and can also produce spurious relationship (Ahmed, 1998; Ericsson et al., 2001). In 1984, Gupta used quarterly data of industrial output of 14 developing countries to measure economic development. This study is considered the first time series based work and he reported that direction of causality is from financial development to economic development. It is generally observed that for developing countries sufficient amount of time series data availability poses a problem and makes the estimation less reliable (Ang, 2008). In recent times, a number of authors have suggested the use of panel techniques and have reported in general, that causality runs from financial development to economic growth (Christopoulos and Tsionas, 2004). Calderon and Liu (2003) reported two-way causality between financial development and economic growth; moreover, they showed that financial development impact is more pronounced in the case of developing countries than in developed countries. In this study, they used Geweke (1982) decomposition test on penal data for the period of 1960 to 1994 of 109 developed and developing countries. In this study, they in fact tested for three different cases of causality; i) financial system development causes economic growth, ii) Economic growth causes financial system development, and iii) instantaneous causality between financial system development and economic growth. Pesaran and Smith (1995) and Wachtel (2003) are among those who have pointed out limitations of dynamic and penal data estimation respectively. In Malaysia, Ang and McKibbin (2007) used multivariate cointegration with few tests of causality and reported that output growth positively influence financial development in the long-run. They performed principal component analysis and used financial indicators to compute financial development index in order to control the multicollinearity problem and the resultant upward bias in the estimators. In Malaysia, it is reported that stock market development through investment efficiency increases economic productivity (Caporale et al., 2005). Some authors have tried to examine this relationship by conducting time series analysis. Arestis et al. (2001) found that influence of banks on economic development is more pronounced than the stock market; in fact, they showed negative effect of stock market on economic growth. Contrary to this view, in Australia, it is found that economic growth granger causes banking sector development (Thangavelv and Ang, 2004). In contrast to this Australian study, in an Indian empirical study conducted by Rao and Tamazian (2008), it is rejected that finance follow where enterprise

goes and reported that financial development have permanent, significant, but small economic effect on economic growth. Oura and Kohli (2008) and Allen et al. (2007) reported that financial development helps India in enhancing economic growth. Hurlin and Venet (2008) investigated the causal relationship between financial development and economic growth using panel test of the Granger non causality hypothesis on a sample of 63 industrial and developing countries over periods of 1960-1995 and 1960-2000; they used three financial development indicators. Their study showed the direction of causality from economic growth to financial development; but in most of the cases they could not reject the existence of influence of financial development on economic growth and they stated that this relationship cannot be identified through simple bi-variate Granger causality test. Using provincial panel data in China, Aziz and Duenwald (2003) found no evidence of the hypothesis that financial development enhances economic development. They reported that financial intermediation as proxied by bank deposit and lending was directed towards inefficient public sector during 1978 to 2002. The contribution of these firms was indirectly related to China's economic growth as without such financing, the fast growing private sector could not have re-employed the huge number of public sector employees. Luintel and Khan (1999) concluded on the basis of data of 10 less developed countries that there is bi-directional causality between financial development and economic growth. Ang (2008) provides more discussion on estimation methodologies in the investigation of the relationship between economic and financial development.

In relation to country specific investigations of financial and economic growth relationship, it is predicted that countries with low-income and low financial development will continue to be laggards and countries acquiring higher level financial development will reach to a point at similar level (Aghion et al., 2005). They showed that the process of economy convergence quickens due to financial development, however, in case of steadily growing economies, there is no effect of financial development. Moreover, it is reported in the light of empirical findings that legal system and financial system of a country have interrelationship. Creditors' supportive legal and regulatory environment of a country boosts development of financial intermediaries (Levine, 1999). In their study, Demirguc-Kunt and Maksimovic (1998), using firm-level data of 30 developing and developed countries, showed that economic growth spurs due to financial and legal development. In this study, the measures of law enforcement, stock market turnover and bank size were negatively associated with measure of dependence on long-term finance. Therefore, they argued that firms grow faster in countries where external financing is easily available. Tsuru (2000) gives more details of the influence of nature of legal system on the relationship of economic and financial development.

CORPORATE FINANCING AND FIRMS' PERFORMANCE

The influence of external financing on firms' performance and firm's growth is discussed here. It is a stylized fact that the business environment all around the globe is competitive but there exist lot of imperfections. It is therefore important to study financial system operations in terms of availability of funds at micro level as these will influence corporate growth and hence economic growth at macro level. The study of comparison of industrial and capital market development based on firm-level dataset from 1830 to 1930, in Brazil, Mexico, and US, reported that variation in financial system development affects the rate of industrial growth across countries (Haber, 1997).

Modigliani and Miller (1958) suggested that there is no association of financing and investment decision. This view does not hold given the capital market imperfections which exist due to information asymmetries and agency costs. The agency based theory of finance postulated that managers as agent of shareholders will undertake high risk investment projects at the expense of creditors which will raise costs of debt (Jensen and Meckling, 1976). Stiglitz and Weiss (1981) added that due to increase in credit premium, the adverse selection will take place and will result in credit constraints. Further, it is argued that internal finance is cheaper than external finance, as investors understand the managers' intentions in the presence of asymmetric information environment (Myers and Majluf, 1984). Therefore, external equity is more costly than external debt. These lines suggest that due to information asymmetry and agency costs, financing decisions will influence the availability of funds by the lenders and the execution of investment opportunities by the borrowers. Moreover, both internal funds of firms and capital investment opportunities are vital factors in financing decisions.

The study of Fazzari et al. (1988) investigated the influence of financial constraints on firms' investment behaviour. They formed high, medium, and low dividend payout firms' categories and predicted firms' investments with Tobin's Q (a proxy for a firm's investment) and cash flow in each group. For low-dividend-payout firms, the coefficient of cash flow was higher. Thus, they inferred that financial constraints are important and rejected the existence of perfect capital market. Many studies, in different countries, reported the sensitivity of cash flow to investment in financially constrained firms (Hoshi and Kashyap, 1991; Schaller, 1993). Rajan and Zingales (1998), using industry level data, stated that financial system development reduces the cost difference between internal and external financing by removing agency and information costs. This lower cost of external financing stimulates firm growth and support establishment of new businesses. Thus, developed financial systems will facilitate industries with more external finance needs than industries with low external finance need.

Empirical study by Nickell et al. (1998) reported that interest payments proxy for financial pressures is positively related to productivity growth. In this study they used data of 580 UK manufacturing firms for the period 1982 to 1994.

Jensen (1986) stated that the availability of excessive cash flows than needed for necessary investment can induce managers to invest in sub-optimal projects, the so-called free cash flow hypothesis; such projects will not be funded by lenders; in this situation he proposed that issuance of relatively more debt may stop managers from this overinvestment. Lang et al. (1996) found results consistent with the free cash flow hypothesis and reported that leverage is negatively related with future growth for firms with low Tobin's Q (q<1); those are the firms with fewer growth options. McConnell and Servaes (1995) also reported results consistent with the free-cash flow hypothesis.

Existence of developed financial system within an economy may help to identify and execute profitable growth opportunities. As such, a system will be able to allocate funds efficiently. Demirguc-Kunt and Maksimovic (1998) used firm-level data to investigate financial system development effect on firms' investment in profitable growth opportunities. They found that active financial intermediaries positively affect excess growth of firms. In addition, existence of an effective legal system is considered vital to reap optimal advantages of financial intermediaries as in such environment both the parties (suppliers and users of capital) may feel secure. Demirguq-Kunt and Maksimovic (1998) reported that in countries where exist an efficient legal system, firms use greater proportion of long-term debt. They stated that size of financial intermediaries is not but an active financial market is important to support external financing needs of firms. One of the reasons of this greater reliance is said to be the lower profit margins in these countries. In a recent study by Gosh (2006), it is reported that financial system deregulation, post 1992, in India, contributed in financing investment of both small and large firms. He used data of 1141 firms for the period 1995 to 2004. Using household dataset of various regions of Italy, it is found that regional/ local financial development provides opportunities for individuals to start new business, raise competition, and improves firms' growth. Moreover, this outcome was more pronounced for small firms which have no or very little access to funds outside of their area of operations (Guiso et al., 2002). Similar findings are reported in the study by Shah (2011) who tested the impact of judicial efficiency on debt-maturity structure in Pakistan. In a study of bank branch reforms effect on economic growth rate, in US, Jayaratne and Strahan (1996) reported that due to improved quality of bank lending, in states where such reforms were allowed, real per capita rate increased. In the case of China, it is reported that small firms with more access to bank credit grows faster than firms relying on other informal sources (Ayyagari et al., 2007).

It is thus evident that corporate financing is important for the better performance of firms. Development of financial system can provide the necessary support to firms to perform well and this in turn will enhance the aggregate growth of the economy.

CONCLUSION AND POLICY IMPLICATIONS

The interrelationship between economic growth and financial development is not simple and the direction of causality is not conclusive in the extant literature. Estimation techniques and methodology and study environment and geographic scope have produced mixed evidences, though in general, most of the studies have shown that financial development lead economic growth. Legal system of a country also influences the relationship between economic and financial development. Moreover cash flows, as internal source of financing, can have both positive and negative effect on firms' investment and hence growth. Financial market development has resulted in firms' growth in different countries. So, generally, it is evident that availability of finance and the existence of a developed financial system are associated with enhanced economic growth.

In the light of this review, it is recommended that policies should be devised to encourage financial system development along with economic growth. Moreover legal system reforms should be introduced to supplement and ensure that financial system development produce desired benefits.

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