FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH: A SURVEY OF LITERATURE

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ABSTRACT

The paper provides a survey of the literature on the relationship of financial development and economic growth. In the finance-growth nexus literature, a large body of research has empirically shown that financial development exerts positive impact on economic growth. Higher level of financial development suggests that the well-functioning financial sectors are efficient in mobilizing and allocating capital to its most productive use. From the classical views, financial sector development has been recognized as a major catalyst that contributes positively to economic growth. Well-functioning financial sectors have been shown to enhance economic growth by lowering transaction costs, reducing market frictions and ensuring that capital flows are steered towards the most productive use possible. The paper also provides directions for future research.

Keywords: Financial development; Economic growth

INTRODUCTION

Financial development and economic growth are shown to be closely related as discussed by previous literature starting from Schumpeter (1911). The evidence becomes stronger and even more convincing after studies by Levine (1997) and Levine and Zervos (1996) that find the level of financial development as a good predictor for future economic growth, capital accumulation and technological change. The importance of financial development is theoretically acknowledged through its functions and services rendered in the process of economic growth (Levine 2005; Hermes and Lensik 1996). The theoretical framework of financial development-growth nexus is strongly underpinned by growth theories namely the neoclassical model and endogenous growth theory which shall be further discussed next.

The neoclassical growth theory which is developed by Solow (1956) is inspired from Harrod-Domar's model of economic growth, emphasizing on capital accumulation in the growth process. It is shown by a long-run growth model which is derived from equations that includes two production factors of capital and labor as well as exogenous technological possibilities that are denoted by production function. A possible growth patterns is shown by using the variable of the ratio of capital to labor indicating that capital accumulation is consistent with the growth rate of the labor force. According to Grossman and Helpman (1994), the growth theory observes that an

array of economic, social, political variables and others that affect policies tend to correlate with the country's growth rates. In addition, an endogenous technology of innovation from the new growth model perspective may function as an engine to spur growth due to an increase of additional resources into R&D which contributes to their profitability's increase. Fundamentally, the capital is seen to be the main factor for the long-term growth as well as knowledge from investment

In addition, Romer (1990) who demonstrates a one-sector neoclassical model with technological change, observes that growth is promoted, assisted by the technological change that arises from international investment decisions made by profit-maximizing agents in the world market integration. Basically, technological change has been found to be an efficient channel of financial development to growth which distributes incentives for prolonged capital accumulation. Therefore, capital accumulation supported by technological change expedites an increase in the output by the hour, which indirectly accelerates the country's rate of growth. Here, as a hub of the financial activities, financial development is theoretically shown to have a positive contribution to economic growth.

The endogenous growth theory is different from the neoclassical growth theory that is also known as the exogenous growth model, which stresses that the outcome obtained from the economic system is endogenous and is then generated as economic growth. Romer (1994) views two versions of the original work on endogenous growth theory i.e. convergence controversy and the passing of perfect competition. However, the endogenous growth theory has dismissed the main assumptions in the neoclassical theory that technological change is exogenous and the same technological opportunities can be obtained in all countries of the world. From the version of convergence controversy, Romer (1994) observes that by comparing the poorer countries with richer countries, per capital income in different countries is shown as not converging in all the countries. To get the same effect, the higher rate of investment would be necessary. In addition, poor countries do not flourish any faster than their rich counterparts and the growth rate is expected to increase over time, which therefore shows that the level of the technology is dissimilar in all countries. From the second version, Romer (1994) argues that the neoclassical assumption of economy is attributed by the perfect competition where there are many firms in a market economy, different information can be technologically accessible at the same time, there is a possibility that physical activities are to be replicated, the aggregate rate of discovery is endogenous by nature, indicating that technological change is not discovered by chance and many individuals and firms are in possession of market power and that they can earn monopoly profits since information has no opportunity cost.

On the other perspective, Aghion and Howitt (1992) extensively discuss and develop the endogenous growth model through a creative destruction based on the Schumpeterian theory, where it is driven by vertical innovations, namely the unintentional by-product of learning by doing and the fact that they are produced by competitive research sector as sources of growth.[1] In

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[1] The Schumpeterian theory focuses on quality-improving innovations that cause old products to become obsolete through the process of creative destruction (Schumpeter 1942). In addition, Shleifer (1986) views the Schumpeter's theory on the innovation process as essentially autonomous, completely independent of market demand and its inventions create markets rather than adapt to penetrate good markets.

the study of Aghion and Howitt (1992) they observe that the creative destruction in the model on the prospect of future research disapproves the current research by threatening to devastate the rents created by the current research. They discover that as the size of innovations is endogenized, the business stealing effect has the tendency to make innovations too small.[2] Aghion and Howitt (1992) also suggest the model to increase its realism by introducing capital-either physical or human capital that represents technical change, or research and development capital since it affects the innovations' arrival rate.

Furthermore, Aghion et al. (2005) have developed and tested the Schumpeterian model that is consistent with some large facts surrounding convergence and divergence, implying that all countries which have exceeded some crucial level of financial development should be in unison as far as the growth rate is concerned, and that in such countries financial development has a positive, and yet eventually, disappearing, effect on the steady-state GDP. The study provides empirical evidence in the form of a country-growth regression with a sizable negative and highly significant coefficient on initial-per-capita GDP (relative to the United States) which is involved in the interaction with financial intermediation. The empirical finding by Aghion et al. (2005) suggests that financial development is among the most potent force that contributes to non-convergence, particularly in accounting for educational achievement, initial relative output and a vast array of other variables that have no analogous effect when placed in the same regression with financial development. In addition, the findings also suggest the main channel through which financial development affect convergence is productivity growth rather than capital accumulation and a country might escape divergence by using FDI as a substitute for lending to local entrepreneurs.

FINANCIAL DEVELOPMENT–GROWTH NEXUS

The importance of well-functioning financial institutions in economic development has been extensively discussed in the literature more than decades ago since earlier works by Bagehot (1873), Schumpeter (1911), Goldsmith (1969), McKinnon (1973) and Shaw (1973). These classical views profoundly recognize the development of financial sectors as a major catalyst that contributes positively to the country's economic growth, in spite of the fact that there are other economists who dispute the role of finance as determinant to the economic development (see Robinson 1952; Stern 1989).[3] The earlier study by Bagehot (1893) highlights the important role of the banking sector in promoting economy through the mobilization of productive financial capital. Schumpeter (1911) has further expanded the views in regard of finance where he argues that the financial services are more important when it comes to dealing with the development of the economy. Schumpeter (1911) discovers a well-functioning financial system that provides various services; mobilizing savings, evaluating projects, managing risks, monitoring managers and facilitating transactions and encouraging technological innovations, all of which result in economic growth. Moreover, Schumpeter (1911) highlights the importance of financial

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[2] Business stealing exists due to the presence of conflicting distortionary effects that cause the work in the opposite direction, where in the context of the study, researchers do not internalize the destruction of existing rents from innovations. When the size of innovations is taken as given, business stealing effect can lead to too much growth.

[3] Robinson's (1952) well-known argument of "where enterprise leads finance follows" indicates that financial development that does not directly contribute to the economic growth, but finance grows as a response to the development in the economy. Meanwhile, Stern (1989:670) argues on the fact that "some countries with high savings and investment rates have not experienced the short and the medium term rise in growth rates that might have been expected". In addition, Stern (1989) stresses industrialization as a major factor to development.

intermediaries in granting credits to entrepreneurs as a key point in accelerating economic growth since it can begin to stimulate other financial activities and innovations that eventually encourage economic circulations.

Meanwhile, Goldsmith (1969) makes an emphasis on the importance of financial development in the process of economic development via capital accumulation. The flows of funds are integral to the financial development since they ease an accomplishment of the technology transfer and entrepreneurship towards accelerating economic growth. Moreover, Goldsmith (1969) also concludes that the country's level of financial development is positively associated with economic growth, in reference to the plotted chart of the current value of the financial interrelation ratio for eighteen countries to the level of economic development reflected in the real national product per head.

Furthermore, based on the earlier works by Schumpeter (1911), McKinnon (1973) and Shaw (1973), there is an emphasis of the role of the financial system in promoting economic growth by propounding a financial liberalization as a way to stray from the financial repressive policies believed to retard the economic growth. Financial liberalization is suggested in the costly monetary system based on extensive bank lending to draw in savings and to magnify the real size of the monetary system, as well as alleviate financial repression. McKinnon (1973) depicts the phenomenon of financial repression where banks seem to be lacking the efficiency due to the regulated ceilings interest and collateral requirements where this, therefore, leads to the incapability of banks to earn high equilibrium rates of return from borrowers to depositors and the promotion of economic growth.

Later works by Greenwood and Jovanovic (1990) are inspired by classical views of Goldsmith (1969), McKinnon (1973) and Shaw (1973) where they construct a model in which both financial development and growth are endogenously determined to be linked. In specific, the model highlights a causal relationship of financial development and growth since financial intermediaries allow a higher rate of return to be earned on capital, that is through an efficient investment and in turn, growth supplies the means to execute costly financial structures. Moreover, Greenwood and Jovanovic (1990) also find that, in theory, the relationship between financial development and economic growth is associated with the link between income distribution and economic growth. Income equality increases in the early stage of an economic development where growth is slow and the financial sector is lagging behind in terms of its development. However, as economy evolves into a more mature phase and financial sector becomes more developed, the income inequality gap gradually narrowed over time.

It is supported by Greenwood and Smith (1997) who further examine the relationship of financial markets and development by providing two models with an endogenous market formation.[4] From the observation carried out in the study, the first model shows the arisen intermediation under frail conditions whereas the second model shows the consequences of a perfect competition in the market formation. On the whole these models illustrated by Greenwood and Smith (1997) indicate market formation as endogenous and that growth is

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[4] The first model examines the role of the financial markets that include banks and stock markets in mobilizing funds to the highest valued use in the economic system meanwhile the second model concentrates on the role of the markets in sustaining specialization in economic activity (Greenwood & Smith 1997).

enhanced subsequent to its existence. Market formation encourages growth since it involves a process of capital allocation to the highest return use, which then creates competitions among market players and potentially leading to market efficiency.

Moreover, motivated by the degree of financial repression by McKinnon (1973) and Shaw (1973), Bencivenga and Smith (1991) develop an endogenous growth model with multiple assets, that observe the effect of banks' resource allocation to the real rates of growth. The model validates a common assertion in the past literatures where Bencivenga and Smith (1991) put forward the possibility of examining a thorough theoretical construct as well as considering policies in developing countries such as the effects of various regulations on the country's financial system i.e. reserve requirements and interest rate ceilings that can be examined in terms of their consequences for growth.

Furthermore, Levine (1997) provides a theoretical review which proves that financial development plays an important role to the country's economic growth. Levine (1997) highlights five functions of financial system i.e. facilitate risk management, allocate resources, exert corporate control, mobilize savings and ease trading of goods and services which consequently channels capital accumulation as well as technological innovation to growth. The more efficient the functions the more developed financial development will be which impliedly ameliorate market frictions of information and transaction costs. Levine (2005) further discusses the five major functions of financial system in detail which provides different implications in every dimension due to the possible improvements of the functions that consequently enhance economic growth. Collectively, empirical past studies find a significantly positive relationship between financial development and economic growth (King & Levine 1993a, b; Levine & Zervos 1996, 1998; Beck & Levine 2004; Arestis et al. 2001).

Consistent with Schumpeter's (1911) view, King and Levine (1993a) provide empirical evidence that shows financial development strongly stimulates economic growth by improving the efficiency of the capital allocation. It also indicates that the better financial system which is determined by its level, the faster will be the economic growth. King and Levine (1993a) which conduct a purely cross-country regressions using data averaged over 1960-1989 and pooled cross-country, time-series study using data averaged over 1960s, 1970s and 1980s for three observations for 80 countries, empirically find that there is a strong and robust correlation between all indicators of the level of financial development and economic growth, physical capital rate, accumulation and improvements in the efficiency of capital allocation. This signifies that financial development is a good predictor for economic growth specifically for long-run. In the study, King and Levine (1993a) use four indicators to measure financial sector development that are financial depth (the ratio of liquid liabilities of the financial system to GDP), the relative importance of specific financial institutions (the ratio of deposit money bank domestic assets to the deposit money bank domestic assets plus central bank domestic assets), and domestic asset distribution that are measured by ratio of claims on the nonfinancial private sector to total domestic credit which excluding credit to money banks and ratio of claims on nonfinancial private sector to GDP.

King and Levine (1993b) extend their previous study of King and Levine (1993a) by incorporating key role of financial intermediaries of entrepreneurship that lead to innovation as a

link of finance to the process of economic growth. A theoretical model of the links is developed based on the basic theory of endogenous technical change and stress that the innovative activity efficiency will be improved through better financial services and therefore will accelerate economic growth.[5] King and Levine (1993b) review the cross-country evidence on links between financial indicators and economic growth, and relationship between financial institutions and public policy interventions based on its empirical support results of cross-country regressions and a number of case studies. The study's cross-country econometric results suggest that financial services have an important link with the economic growth and productivity improvements.[6] Meanwhile Levine and Zervos (1996) empirically find that stock market development is positively associated with economic growth by applying an aggregate index of overall stock market development as constructed by Demirguc-Kunt and Levine (1996) that covers stock market size, liquidity and integration with world capital markets.[7] In the study, Levine and Zervos (1996) use cross-country regression for a sample of 24 countries for the period of 1976-1993, and also find that the predetermined component of stock market development is strongly connected with the economic growth particularly in the long-run. Thus, indirectly it also indicates that well-functioning financial system is important for growth. Furthermore, Levine and Zervos (1998) provide strong evidence on the link of financial development and growth, where they empirically find a positive and robust correlation between stock market liquidity and banking development with growth rate, capital accumulation and productivity growth, even after controlling for economic and political factors. Levine and Zervos (1998) employ OLS and cross-country regression for the data of 47 countries for 1976-1993. Six indicators are used to measure the stock market development that includes size that measures capitalization, liquidity that includes turnover and value traded, and international integration measures, APT and volatility. Meanwhile, one indicator is used to measure banking development that is bank credit.[8]

The empirical finding by Beck and Levine (2004) is consistent with the previous study by Levine and Zervos (1998) where they empirically find that stock markets and banks positively influence economic growth. The study examines the relationship among stock markets, banks and economic growth by applying OLS and GMM estimation for dynamic panels of 40 countries with 146 observations for the period of 1976-1998. Beck and Levine (2004) follow the measurements for stock markets and banks by Demirguc-Kunt and Levine (1996) and Levine and Zervos (1998). However, for bank credit, Beck and Levine (2004) deflate it by end-of-period deflators. Moreover, Arestis et al. (2001) are empirically in support of the view that both stock

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[5] This theoretical prediction contradicts with some economists' view that the performance of enterprises leads to the development of financial sector, not conversely.

[6] This study reviews the empirical results as constructed by King and Levine (1993a) which do not include measurements of stock market development as part of the financial sector development and thus may affect its interpretations towards the overall financial systems.

[7] Levine and Zervos (1996) use all the aggregate indexes by Demirguc-Kunt and Levine (1996) that construct aggregate indexes from a broad array of indicators of stock market and financial intermediary development that include stock market size (market capitalization ratio equals value of listed shares by GDP), liquidity contains total value traded/GDP and turnover ratio equals the value of total shares traded by market capitalization, concentration equals to share of market capitalization for ten largest stocks, volatility equals to a twelve-month, rolling, standard deviation estimate based on market returns, and asset pricing based on two pricing-error estimates of asset pricing theory (APT) and international capital asset pricing model (ICAPM).

[8] Levine and Zervos (1998) apply almost similar indicators of stock market development as Demirguc-Kunt and Levine (1996) except for market concentration measure that is not included in Levine and Zervos (1996).

market and banks contribute positively to economic growth. However, Arestis et al. (2001) who adopt the time series data for five developed economies for the various years between 1972 and 1998, find that the effects of the bank-based financial system are more powerful than the capital-market-based counterparts in promoting long-term growth. Arestis et al. (2001) demonstrate straightforward measures of logarithm of stock market capitalization ratio for stock market development and logarithm of domestic bank credit to nominal GDP for banking development with empirical investigation by using a vector autoregression (VAR).

In addition, other study by Demirguc-Kunt and Levine (1996) find stylized facts in the relationship between stock markets and the growth of financial intermediaries where different measures are used which include stock market size, market liquidity, market concentration, market volatility, institutional development, and integration with world capital markets. Demirguc-Kunt and Levine (1996) construct aggregate indexes and analyze the relationship between the emergence of the stock market and the growth of financial intermediaries for the sample of 44 developing and industries for the period of 1986-1993. From the documentation of a broad array of stock market indicators and analyses, Demirguc-Kunt and Levine (1996) find stock market development and financial intermediary development is positively correlated where countries with well-developed stock markets tend to have well-developed financial intermediaries.

Meanwhile, Rajan and Zingales (1998) provide a justification that financial development serves more as a leading factor than a causal factor since it can function as a predictor to future economic growth. It is due to the situations in stock market that capitalize the present value of growth opportunity with financial institutions that would simultaneously lend more if they think that the sectors have the potential to grow. Thus, stock market activities may significantly lead to a direction for growth. Moreover, Bloch and Tang (2003) that examine the potential links between financial development and economic growth empirically find a statistically significant positive relationship between both variables based on cross-country data and balanced panel data regressions for the period of 1960-1990 of 75 countries. Bloch and Tang (2003) also make an observation of the existence of the concurrent development of financial intermediation with its exponential economic growth that points to the bi-directional relationship rather than a one-way causality relationship between financial development and economic growth.

Collectively, the literature has shown that financial development has a strong positive relationship to economic growth. Higher level of financial development suggests that well-functioning financial sectors are efficient in allocating capital to its most productive use. That is, well-developed financial sector enhances a country's absorptive capacity that allows the positive growth effects of the FDI to be realized. Rousseau and Wachtel (2000) assert that financial development is associated with potential gains leading to the overall improvement in the global economy in the long-run.[9] In addition, more recent studies also show that finance is of utmost importance for growth (see, for examples Ergungor 2008; Hung 2009; Hasan et al. 2009; Jalil et al. 2010; Kendall 2012; Law et al. 2013; among others). These studies collectively find that financial development has a positive link with economic growth. As an instance, Ergungor (2008) and Hung (2009) provide evidence that there is a contingent relationship between the two. In addition, Hung (2009) also discovers that the effect of financial development on economic

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[9] Rousseau and Wachtel (2000) apply the panel analysis with vector autoregressions and annual data for a sample of 47 countries for a period of 1980-1995.

growth is determined by the magnitude levels of investment loans and consumption loans. Hasan et al. (2009) find that the development of the financial markets is associated with more robust economic growth. Another research by Jalil et al. (2010) re-examines the finance-growth nexus in China and it is discovered that the growth of the Chinese economies is driven by its financial development.

Recently, Kendall (2012) explores into the relationship of banking sector development, human capital and the economic growth in Indian districts and finds that banking sector development is positively linked with economic growth. Kendall (2012) discovers that the under-developed local banking sector contributes to the delayed growth in Indian districts. Kendall (2012) applies the regression analysis in a sample of 209 Indian districts across 9 Indian states in the period of 1991 to 2001. Kendall (2012) measures the banking sector development through the use of credits and deposits of commercial banks. In a more recent study by Law et al. (2013) which is an extension from the studies on finance-growth nexus, it is established that financial development is positively related to growth after a certain threshold level of institutional development has been reached. In the study, Law et al. (2013) apply a threshold regression with a sample of 85 countries from 1980 to 2008, where three financial development indicators are employed in the study namely private sector credit, liquid liabilities and commercial bank assets.

CONCLUDING REMARKS

Overall, past literature has shown that financial development clearly functions as a key engine to economic growth. The substantial role of financial development is recognized in the promotion of growth through its various major functions. Financial management is important for growth, as a well-functioning financial system highlights the consequent low levels of asymmetric information and transaction cost which ultimately promote the flows of capital to be directed to the most productive use and to affect economic growth in a positive manner.

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