

***ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES***

**Financial Sector Development, Economic Growth &
Poverty Reduction: A Critical Review of the Theory
& Evidence**

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List of Acronyms

DFID	Department For International Development
FSD	Financial Sector Development
GDP	Gross Domestic Product
GNP	Gross National Product
GMM	Generalized Method Of Moments
HIC	High Income Countries
IMF	International Monetary Fund
MDG	Millennium Development Goals
OLS	Ordinary Least Squares
PRSP	Poverty Reduction Strategy Paper
SAP	Structural Adjustment Program
SSA	Sub-Saharan Africa
VAR	Vector Autoregressive
WB	World Bank

Abstract

In this paper we critically re-examined the different theories and empirical evidences on the relationship between financial development, economic growth and poverty reduction with a view to identifying some outstanding issues.

The findings from this review imply that financial sector development is important for growth and poverty reduction, and that without it development may be held back, even if other conditions are met, suggesting that greater emphasis should be placed on promoting financial sector development, improving substantially the efficiency of the financial sector, and improving access to financial services for the poor.

Keywords

Financial Sector Development, Economic Growth, Poverty Reduction

1. Introduction

Economists hold different views about the impact of financial sector including banks and markets on long- run economic growth. To date four views exist in the literature regarding the relationship between financial development and economic growth. The first view argues that financial development is important and leads to economic growth (McKinnon, 1973, Shaw 1973), and endogenous growth models of Greenwood and Jovanovich (1990), King and Levine (1993a, 1993b) and Pagano (1993), among others). The second view, however, maintains that it is economic growth that drives the development of the financial sector (Robinson, 1952). The third view focuses on the detrimental effects of financial development on growth (structuralists led by Van Wijnbergen, 1983 and Buffie, 1984) while the fourth view treats finance as a relatively unimportant factor for growth (Lucas, 1988).

A number of papers studied the issue in a cross-country framework and a lot of studies were made using purely time-series investigations while some others used panel data approach and they usually end up supporting one or the other views making the debate still active in the academic circle.

The other hotly debated issue in the literature as well as in empirical testing concerning the finance-growth nexus is the relative merits of bank- dominated financial systems [German-Japanese model] and capital market-dominated financial systems [Anglo-Saxon model] in promoting growth (see Allen and Gale, 2000).

While most of the studies have largely focused on studying the relationship between financial development and economic growth, recent studies have extended this line of argument and directly attempted to examine the follow up link between financial development, poverty

reduction and hence inequality. (See Jalilian and Kirkpatrick, 2001; Green et al., 2003 and Jeanneney and Kpodar, 2005, among others)

The shift has occurred as a result of recent developments in international development theory and practice such as the consensus on the Millennium Development Goals (MDGs)¹ and the establishment of poverty reduction strategy programs (PRSPs) which have re-established poverty reduction as a central goal of development efforts (Guha-Khasnobis and Mavrotas, 2008). For instance Claessens and Feijen (2006) have showed that financial sector development can contribute to poverty reduction as well as help to achieve the other millennium development goals.

However, there are competing arguments as to whether financial development benefits the whole population, whether it primarily benefits the rich, or whether it disproportionately helps the poor. According to Clarke, Xu and Fou (2002), the two theories are classified as the linear hypothesis and the inverted U-shaped hypothesis respectively. The former hypothesis which is developed by Banerjee and Newman (1993) and Galor and Zeira (1993) suggest that there is a negative relationship between financial development and income inequality. On the other hand, the later hypothesis, which is developed by Greenwood and Jovanovic (1990), predicts a nonlinear relationship between financial development and income inequality during the process of economic development.

¹ The Millennium Development Goals are 8 goals, 21 targets and 60 indicators to be achieved by 2015 that respond to the world's main development challenges. The MDGs are drawn from the actions and targets contained in the Millennium Declaration that was adopted by 189 nations and signed by 147 heads of state and governments during the UN Millennium Summit in September 2000. (<http://www.undp.org/mdg>)



While precise measures of these effects are important to the academic literature, they are also essential for the policy arena. For instance, following the policy recommendation of the McKinnon-Shaw school, liberalization was a prior agenda and it was prescribed for most developing countries as a reform packages called Structural Adjustment Programmes (SAPs) by the World Bank (WB) and the International Monetary Fund (IMF). However, many of the developing countries, with the exception of few in Asia (such as South Korea and Taiwan), that undertake the reform process were unable to enjoy the promised benefits (Geda, 2005). Hence, detail understanding of both theory and evidences made so far on the finance-growth-poverty reduction nexus is required in order to draw policy implications towards achieving a sound development policy.

This paper therefore aims to critically review the theoretical and empirical literature on the relationship between financial sector development, economic growth and poverty reduction. It is hoped that the study will make a moderate contribution by serving as a useful reference for policy makers, researchers and others interested in the subject.

The rest of the paper is organized as follows, Section 2 deals with the theoretical literature on finance, growth and poverty link; Section 3 presents empirical evidence on the link between financial sector development, growth and poverty reduction; Section 4 discusses summary findings of the literature and evidence together with its implication for a developing country such as Ethiopia and the last section concludes by providing a recap of the evidence and its implications for future research.

2. Review of the Theoretical Literature

Under this chapter the different literatures in the area of financial sector development (hence forth FSD), growth and poverty reduction are discussed. The first sub section discusses the concept and measurement of financial development. The second sub section is devoted for the discussion of the theories relating FSD with economic growth including causality issues and the third sub section deals with bank based or market based theories. Finally, the fourth sub section presents the theories relating FSD and poverty reduction.

2.1. Financial Sector Development: Concept & Measurement

2.1.1. The concept of financial development

The Department for International Development (2004) defines financial sector as *“the wholesale, retail, formal and informal institutions in an economy offering financial services to consumers, businesses and other financial institutions...it includes everything from banks, stock exchanges, and insurers, to credit unions, microfinance institutions and money lenders”*.

According to Khan and Senhadji (2000), the fundamental frictions that give rise to financial intermediaries are either of a technological or an incentive nature. Using their word *“the former prevents individuals from having access to economies of scale, while the later occurs because information is costly and asymmetrically distributed across agents in world where contracts are incomplete because not all contingencies can be spelled out”*. Thus according to them and as explained by Levine (1997), financial intermediaries are believed to relax these frictions by: Facilitating the trading, hedging, diversifying, and pooling of risk; Efficiently allocating risks; Monitoring managers and exerting corporate control; Mobilizing savings; and Facilitating the exchange of goods and services.

DFID (2004) identifies many different ways in which the financial sector can be said to 'develop'. For example:

- ✚ The efficiency and competitiveness of the sector may improve;
- ✚ The range of financial services that are available may increase;
- ✚ The diversity of institutions which operate in the financial sector may increase;
- ✚ The amount of money that is intermediated through the financial sector may increase;
- ✚ The extent to which capital is allocated by private sector financial institutions, to private sector enterprises, responding to market signals (rather than government directed lending by state owned banks), may increase;
- ✚ The regulation and stability of the financial sector may improve; and
- ✚ More of the population may gain access to financial services which is particularly important from a poverty reduction perspective.

2.1.2. Measurement of financial development

The selection of key variables to represent the level of financial services produced in an economy and how to measure the extent and efficiency of financial intermediation are the major problems in an empirical study. According to Ang and McKibbin (2005), construction of financial development indicators is an extremely difficult task due to the diversity of financial services provided by the financial system and due to the existence of a diverse array of agents and institutions involved in financial intermediation activities. For them the extent of financial deepening is best measured by the intermediaries' ability to reduce information and transaction costs, mobilize savings, manage risks and facilitate transactions.

Ndikumana (2001) roughly classifies the indicators of financial development used in empirical studies in to three broad categories as: monetary aggregates, stock market indicators, and structural and institutional indicators. Initially the indicators were based on monetary aggregates, such as M1 or M2 mainly because these aggregates are widely available. However, as noted by Khan and Senhadji (2000), *“they are poor proxy for financial development since they are more related to the ability of the financial system to provide transaction services than the ability to channel funds from savers to borrowers”*.

Thus researchers shifted to broader definitions (M3), which is referred to as liquid liabilities of the banking system. However, this measure also is not without criticism. First it consist currency which is criticized earlier for measuring the degree of monetization than financial intermediation; second Demetriades and Hussein (1996) have raised doubts about the validity of the use of such a variable (M3 expressed as a percentage of GDP) to test the hypothesis that financial development leads economic growth because GDP is a component of both focus variables. In addition the availability of foreign funds in the financial system also renders this an inadequate measure of financial development as pointed out by Ang and Mckibbin (2005).

An alternative and commonly used measure of financial development is bank credit to private sector which is often argued to be a more superior measure of financial development. Since the private sector is able to utilize funds in a more efficient and productive manner as compared to the public sector, the exclusion of credit to public sector better reflects the extent of efficient resource allocation.

market returns; and (d) Market concentration- measured by market concentration ratio- the share of market capitalization accounted by the ten largest stocks.

Structural and institutional indicators provide information that enables to directly or indirectly assess the efficiency and sophistication of the financial systems. These indicators include: Indicators of financial structure (bank-based or market-based financial systems), indicators of banking regulation, banking ownership structure, and banking concentration, which provide information on the degree of concentration in the banking sector (Demirgüç-Kunt and Levine, 1999).

In addition to discussing measurement of financial development others have analyzed the fundamental determinants of cross-country differences in financial development. For instance the findings of Huang (2005) suggest that the level of financial development in a country is determined by its institutional quality, macroeconomic policies, geographic characteristics, the level of income and cultural characteristics where as Stiglitz (1994) and Demirgüç-Kunt and Levine (2008) emphasize the role of state in shaping the operation of financial systems especially in developing countries.

2. 2. Theories on Financial Sector Development & Growth

2.2.1. Base line theoretical arguments

Using the terminologies adopted by Kemal et al (2004), the literature on the finance-growth nexus may be grouped into four schools of thoughts.

2.2.1.1. Finance promotes growth- The McKinnon-Shaw and endogenous growth models:

According to the McKinnon-Shaw school of thought financial intermediaries that is banks act as an engine of economic growth as noted in McKinnon (1973) and Shaw (1973). The McKinnon-Shaw financial repression model imply that economic growth can be increased by abolishing institutional interest rate ceilings, by abandoning selective credit programs by eliminating the reserve requirement tax, and by ensuring that the financial system operates competitively under conditions of free entry.

The endogenous growth models, include among others, Bencivenga and Smith (1991), Greenwood and Jovanovich (1990), King and Levine (1993a, 1993b) and Pagano (1993), argue that financial systems can encourage portfolio investment allocation in favor of productive investment, so increasing both the quality and quantity of productive investment and hence increase the rate of economic growth (Fry, 1995).

i) The McKinnon-Shaw model and Transmission Channels

According to Fry (1995), the main intellectual basis for financial sector analysis and policy advice over the past years lies in the work of Ronald McKinnon (1973) and Edward Shaw (1973), who developed models of economic development in which financial liberalization and development accelerate the rate of economic growth where they highlight the deleterious effects of financial repression² such as interest rate ceilings, high reserve requirements, directed credit policies, and discriminatory taxation of financial intermediaries on economic growth.

² For a detailed discussion on financial repression refer to the works of Fry (1995)

As illustrated in Fry (1978), both of them assume that there is a financial constraint, taken to consist simply of an administratively determined institutional nominal interest rate, which holds the real rate below its equilibrium level thereby limiting actual investment.

Their model heavily relies on the assumption that non-price rationing of investable funds must occur. According to Fry (1978) this typically takes place on the basis of quality of collateral, political pressures, name, loan size, and covert benefits to the responsible loan officers, which can be counted on to discriminate inefficiently between investment opportunities. Interest rate ceilings discourage financial institutions from taking risks where risk premia cannot be charged when ceilings are binding and effective, which by itself rations out a large proportion of potentially high-yielding investments. In a financially repressed economy, as argued in Fry (1995) there is a tendency for investments that are financed to yield returns barely above the ceiling interest rate.

Thus, relaxing the financial constraint increases saving, investment and it also rations out all those low-yielding investments (because they are no longer profitable at the higher rate of interest). Hence, the real rate of interest as the return to savers is the key to a higher level of investment, and as a rationing device to greater efficiency.

As explained in Koetter and Wedow (2006) along the lines of this school there are two channels through which financial development can influence growth. The first is Hicksian in nature and emphasizes the enhanced accumulation of capital through higher savings (Hicks, 1969). The second represents a Schumpeterian point of view and centers on the improved ability of the financial sector to increase technological progress through an efficient selection, funding and monitoring of projects (Schumpeter, 1934).

McKinnon (1973) considers an outside money³ model which rests on two assumptions: i) all economic units are confined to self finance; and ii) indivisibilities in investment are of considerable importance (investment expenditures are lumpier than consumption expenditures). Hence, physical capital has a lumpy nature where firms must accumulate sufficient savings in the form of monetary assets to finance the investment projects. In this sense, money and capital are viewed as complementary assets where money serves as the channel for capital formation ('complementarity hypotheses').

The 'debt-intermediation' view proposed by Shaw (1973) is based on an inside money model⁴. Shaw (1973) argues that high interest rates are essential in attracting more saving. With more supply of credit, financial intermediaries promote investment and raise output growth through borrowing and lending. Lazaros Molho (1986a) cited in Fry (1995) argues that the models of McKinnon and Shaw need not be viewed as incompatible with one another, even though McKinnon's formal analysis uses outside money.

In general the McKinnon-Shaw model shows that financial repression reduces both the quality and quantity of investment in the economy as a whole and forwarded the so called 'liberalization thesis' which has exerted a considerable influence on macroeconomic policy in developing countries, particularly through the recommendations of the IMF and the world Bank.

³ According to Fry (1995) outside money is backed by loans to the government. A change in outside money does change private wealth and it is not available to finance private sector investment. If money is entirely outside money, banks hold government bonds and make no loans to the private sector.

⁴ The term inside money refers to money created as loans to the private sector. Any change in either the nominal or real amount of inside money leaves private sector wealth unchanged where the asset change is matched exactly by a corresponding liability change in the consolidated balance sheet. (Fry, 1995)

However, this model has been criticized for the following reasons: First, the McKinnon and Shaw model lacked analytical foundation. As argued by Pagano (1993), this has led for the introduction of endogenous growth models which have offered important insights into the effect of financial development on growth and vice versa. Second, the McKinnon and Shaw model argues for non-intervention by government in financial markets, but recent theories identify a case for government intervention⁵.

Third, the liberalization thesis forwarded by these models is also criticized on the ground that financial repression may be justified as a second best strategy, if institutional constraints prevent the government from collecting enough normal tax revenue to finance the level of government expenditure it regards as optimal. Government deficits can be financed at a lower inflation rate and a lower required reserve ratio when the private sector is hindered from competing for available funds (Giovannini and de Melo, 1993).

The fourth challenge comes from the arguments of structuralists [for a detailed discussion refer to section 2.2.1.2] who contend that financial liberalization simply means that intermediated finance is substituted for informal finance. As the informal sector is not subject to the cost generated by required reserves and has an advantage in terms of risk monitoring for local markets, it may be more efficient in the financing of short term projects than the formal sector (Van Wijnbergen, 1983).

⁵ Stiglitz (1994) criticized the liberalization thesis of the McKinnon and Shaw school and justified for government intervention. His argument focuses on the prevalence of market failures in financial markets and suggested that "*there exist forms of government intervention that will not only make financial markets function better but also improve the performance of the economy.*" Thus, argued for financial repression because the repression helps to increase firm equity, improve the average quality of the pool of loan applicants, reward good performance, and encourage lending to sectors with high technological spillovers. Building on the works of Stiglitz (1994), Levine (1996) asserts that intervention and/or regulation may be growth enhancing in the presence of pervasive market failures. He also proposed a checklist to elucidate under what conditions intervention may be useful.

ii) Endogenous Growth Models and Transmission Channels

To overcome the limitations of the McKinnon and Shaw models, recently theoretical works which incorporate the role of financial factors in models of endogenous growth in an attempt to analyze formally the interactions between financial markets and long-run economic growth has emerged. (See Greenwood and Jovanovich, 1990; Bencivenga and Smith, 1991; King and Levine, 1993a, 1993b; Greenwood and Smith, 1993)

In contrast to the McKinnon-Shaw models, the endogenous growth models provide a rationale for financial intermediation and explain how financial intermediaries emerge. For instance, Pagano (1993) used the simplest endogenous growth model - the 'AK' model, where aggregate output is a linear function of the aggregate capital stock to capture the potential effects of financial development on growth. The production function is given by

$$Y_t = AK_t \quad (1)$$

Y_t denotes aggregate output at time t , which is generated with one production factor only, namely capital K_t . A is a positive constant that reflects the current level of technology. Here, the marginal product of capital equals total factor productivity A . Output can only be consumed or saved so that $Y = C+S$. He assumed that the population is stationary and capital stock depreciates at a constant rate δ . Investment equals the difference in capital stocks in two subsequent periods, K_t and K_{t+1} :

$$I_t = K_{t+1} - (1 - \delta) K_t \quad (2)$$

Next, He assumed that the financial goods market is in equilibrium so that aggregate savings S equal aggregate investment I which reflects the assumption of a small closed economy.

$$I_t = \theta S_t. \quad (3)$$

The factor θ is $0 \leq \theta \leq 1$ and captures the ability of the financial sector to intermediate funds. Only a fraction of savings is converted into investments because it is assumed that frictions exist when channeling funds from surplus to deficit units. High values of θ indicate that only little resources are wasted.

From equation (1) we know that the growth rate of output $g = (Y_{t+1}/Y_t) - 1$ and it depends on the development of K . In the steady state, both capital and output grow at the same rate. Rewriting the investment expression in equation (2) yields:

$$\theta s A K_t = K_{t+1} - (1 - \delta)K_t. \quad (4)$$

where s is the gross saving rate which denotes the ratio of saving to output. Rearranging terms, suppressing subscripts and noting that $[(Y_{t+1}/Y_t) - 1] = [(K_{t+1}/K_t) - 1]$ holds in the steady state, we can write the growth rate g as:

$$g = \theta s A - \delta. \quad (5)$$

Equation (5) illustrates how financial development can influence growth: via a larger fraction of income that is saved, s ; via enhancing total factor productivity, A ; and via an improved quality of intermediation, θ , that is by reducing the fraction of savings lost in intermediation.

Other endogenous growth models emphasizing different functions of the financial sector have also came up with a growth enhancing effect of financial development on economic growth.

For instance Greenwood and Jovanovic (1990) present a model in which both financial intermediation and growth are endogenous. They show that there is a positive two-way causal relationship between economic growth and financial development. On the one hand, the process of growth stimulates higher participation in financial markets thereby facilitating the creation and expansion of financial institutions. On the other hand financial institutions, by collecting and analyzing information from many potential investors, allow investment projects to be undertaken more efficiently and hence stimulate investment and growth.

Bencivenga and Smith (1991) present a three-period lived overlapping-generations model⁶ in which individuals face uncertainty about their future liquidity needs. Individuals will be forced to liquidate their investment (i.e., their savings held in illiquid assets) when liquidity needs arise. In contrast, banks (by the law of large numbers) face a predictable demand for liquidity and can, therefore, allocate investment funds more efficiently. Using their words "*Relative to the situation in the absence of banks (financial autarky), banks reduce liquid reserve holdings by the economy as a whole, and also reduce the liquidation of productive capital. Then, with an externality in production ... higher equilibrium growth rates will be observed in economies with an active intermediary sector*" (Bencivenga and Smith, 1991).

Adopting same model as Bencivenga and Smith (1991), Levine (1991) has also showed that liquidity risks can be managed directly through the setting up of a stock market. They further argue that stock markets provide consumers who have been subjected to liquidity shocks with a means of exchanging investments with other agents who have not experienced such a shock. Being able to exchange securities without being obliged to liquidate productive assets

⁶ In the model individuals can choose to invest in a liquid asset-which is safe but has low productivity-and/or an illiquid asset- which is riskier but has high productivity whose yield is only realized after two periods.

prematurely encourages agents to hold more of their wealth in the form of productive investments and hence accelerate growth.

A model developed by Saint-Paul (1992) highlights the effects of investment return risks on technological choices. Improving productivity implies selecting more specialized technology, which makes agents more vulnerable to profitability shocks arising from, for instance, unforeseen variations in demand. When no financial markets exist, these shocks can be diversified through technological flexibility which implies choosing less specialized and less productive technologies. Thus, the development of financial markets enables agents to reduce such risks through the diversification of their investments, while at the same time choosing more productive and specialized technology.

Utilizing a different approach; Roubini and Sala-i-Martin (1992) analyze the relationship between financial intermediation and growth by emphasizing the role of government policy. In particular, they show that high income tax evasion induces policymakers to repress the financial system and set a high inflation rate in an attempt to generate higher revenues from the inflation tax⁷. They quote *"As a side effect this policy will tend to reduce the amount of services the financial sector provides to the whole economy and, given total stock of inputs, the total amount of output will be reduced. This will reduce the asymptotic marginal product of the inputs that can be accumulated...and, consequently, the steady-state growth"* (Roubini and Sala-i-Martin, 1992).

⁷ As explained in Fry (1995) this could be the main reason why developing countries favor the banking system against bond and equity market because reserve requirements and obligatory holdings of government bonds can be imposed to tap this source of saving at zero or low interest cost to the public sector

King and Levine (1993b) provide an alternative way of including finance in endogenous growth models by separating the economy into households, financial institutions, and firms. In their model financial institutions play a key role in evaluating prospective entrepreneurs and financing the most promising ones because it is assumed that financial institutions provide research, evaluative and monitoring services more effectively and less expensively than individual investors. Since productivity growth depends on innovation and since more entrepreneurs increase the probability of an innovation, "*better financial services expand the scope and improve the efficiency of innovative activity; they thereby accelerate economic growth*" (King and Levine, 1993b).

However, the endogenous growth models are also not without criticism. The major limitation of these models is that since they only investigate steady state conditions, they do not provide any guidance about the dynamic transition paths that might occur when financial conditions are deliberately changed.

2.2.1.2. Finance hurts growth-structuralists: structuralists represented by among others Buffie (1984), Taylor (1983), Van Wijnberger (1983) predict opposite effects of financial development to those derived from the McKinnon-Shaw models. They treat curb markets as a crucial feature of their models of developing economies.

They claim that banks can not intermediate as efficiently as curb markets between savers and investors due to the fact that reserve requirements constitute a leakage in the process of intermediation through commercial banks. Taylor (1983) differentiates between curb markets and banking system saying "*the informal market operates with no reserve requirement,*

channeling resources toward firms with great efficiency. By contrast, a fraction of each new deposit in the commercial banks goes to reserves and can not be loaned out."

Contrary to the McKinnon-Shaw models which specify only two assets (gold or other inflation hedges and money), in the neo-structuralist models households face three categories of assets: gold or currency, bank deposits, and curb market loans. In their model the relevant interest rate is the curb market rate which represents the marginal cost of borrowing and enters in the money demand function because curb market loans constitute an alternative to holding money (see World Bank, 1989, chapter 8 and Fry, 1995 for a more detailed analysis).

Thus, for them development in the formal financial sector will lower the supply of investible resources available in the informal sector which raises the curb market rates that again increases inflation in the short run through a cost push effect and lowers economic growth. A rise in the curb market rate reduces output by deterring investment because it increases cost of working capital. Thus, conclude that financial liberalization is likely to reduce the rate of economic growth by reducing the total real supply of credit available to business firms (Buffie, 1984; Taylor, 1983; Van Wijnberger, 1983).

In line to this school, Singh (1997), argues that development of the financial markets may well turn out to be an impediment to economic growth when it induces volatility and discourages risk averse investors from investing. In support of this idea, Pagano (1993) notes "*consumers will save less if their utility function has a positive third derivative...introducing the insurance market reduces the need for precautionary saving. In an*

endogenous growth model, this fall in the saving rate lowers the growth rate, providing one instance in which financial development can retard growth.”

However, the arguments forwarded by structuralists were criticized on the ground that first in the informal sector it is also common to hold some portion of savings as a form of deposit insurance in order to respond timely in cases where depositors demand back their deposits and second since the informal sector lacks the institutional capacity to monitor borrowers and enforce contracts implies that they will be forced to lend small amount of loan to a relatively fewer number of borrowers, thus leads to leakages (Bisley, 1994 quoted in Muluaem, 2007). Besides, as Bencivenga and Smith (1993) have shown, financial liberalization is still probably a better option, given the considerable comparative advantages of the formal intermediation sector in the areas of productivity, risk diversification and management of liquidity risks.

2.2.1.3. Finance follows growth-causality issues: The explanation initiated by Robinson (1952) argues that finance does not exert a causal impact on growth. Instead, financial development follows economic growth as a result of higher demand for financial services.

The possible directions of causality between financial development and growth are labeled by Patrick (1966)⁸ as the supply-leading and demand-following hypothesis. The *supply-leading hypothesis* posits a causal relationship from financial development to economic growth. On the other hand, the *demand-following hypothesis* postulates a causal relationship from

⁸ As explained in Muluaem (2007), Patrick (1996) is known to be the first to postulate a bi-directional relationship between financial development and economic growth and to give the names “demand following” and “supply leading” hypothesis.

economic growth to financial development. Here, financial sector responds passively to economic growth.

The third possible direction which is claimed by the endogenous growth models is a bi-directional relationship between financial development and economic growth which implies that financial markets develop as a consequence of economic growth that in turn feed back as a stimulant to real growth.

2.2.1.4. Finance does not matter: in this line of argument finance is not considered as having a role in the process of economic growth. For instance, Lucas (1988) argues "*the importance of financial matters is very badly over-stressed in popular and even much professional discussion.*" In a similar manner, Chandavarkar (1992) magnifies this view saying that finance was not mentioned in a collection of essays by the pioneers of development economics including three Nobel Laureates.

2.3. Bank based or Market Based Theories

Besides debates concerning the role of financial development in economic growth, financial economists have debated the comparative importance of bank-based (German-Japanese model) and market-based (Anglo-Saxon model) financial systems for over a century (Goldsmith, 1969; Demirguc-Kunt and Levine, 1999; Allen and Gale, 2000).

As extensively reviewed in Allen and Gale (2000) and Levine (2005), a bank-based system can promote growth through: (1) promoting effective corporate governance; (2) providing stable and efficient long term finance; (3) permitting a higher investment than would be



possible under stock market based system; (4) promoting long term perspective by preventing a free market for corporate control; and (5) encouraging more rapid sectoral mobility.

However, a bank-based system is not without limitations, where some of them as explained in Levine (2005), are (1) banks may hinder the ability of new innovative firms to obtain external financing; (2) the market power of the banks reduces the incentive of firms to undertake profitable investments; (3) banks might also continue to finance unprofitable companies; and (4) banks may collude with managers against creditors and minority shareholders.

According to Levine (2005), the case for favoring a market-based system is essentially a counterattack that focuses on the problems created by powerful banks and the stock market can promote economic growth through (1) raising the savings rate; (2) increasing the level of investment; and (3) ensuring that past investments are efficiently used (the takeover mechanism). The limitations of stock market development are (1) stock market liquidity by reducing uncertainty can slow growth; (2) stock market liquidity may also negatively influence corporate governance; and (3) the operation of the takeover mechanism leads to short termism and low investment.

Rejecting the above debate, Merton and Bodie (1995) argues that it is the availability and quality of financial services are important not who provides them, it is not financial structure but overall financial development that promotes growth. Supporting this argument, others view both structure (bank and equity financing) as complements rather than substitutes. (World Bank, 2001; Boyd and Smith, 1996)

2.4. Theories on Financial Sector Development & Poverty Reduction

According to the DFID (2004) financial sector development can have both direct and indirect impact on poverty reduction. The direct impact of financial sector emanates from a wide access of financial services to the poor such as, enabling the poor to accumulate funds in a secure place over time to finance future expenditure or investment, providing a return on their savings, reducing the vulnerability of the poor to shocks by providing credit, and easier access to remittance funds and other services.

The indirect impact is through its impact on growth. Since the financial sector positively and significantly affects growth and as growth is believed to be good for the poor (for instance, Ravallion (2001) argues that the poor in developing countries typically do share in the gains from rising aggregate affluence and losses from aggregate contraction), thus financial sector development will have a positive impact on poverty.

Some economists have proposed opposing relationships between financial development and the distribution of income. Greenwood and Jovanovic (1990) argue that there is an inverted U-shaped relationship between income inequality and financial development, that is, financial development leads to greater inequality to begin with, but which falls back again as financial development continues. This theory is based on the idea that financial intermediaries provide savers with higher returns and lower risks, but that poor individuals initially cannot afford to make use of these financial intermediaries, which results in growing inequality. It is assumed, however, that more and more poor people will be able to afford to use these intermediaries over time, offsetting the initial increase in inequality.

On the other hand, the linear hypothesis of Banerjee and Newman (1993) and Galor and Zeira (1993) claim that financial intermediary development will have a disproportionately beneficial impact on the poor and suggest that long run convergence in the income levels of rich and poor will not necessarily happen in economies with capital market imperfections and indivisibilities in investment, in human or physical capital.

Galor and Zeira (1993) construct a two-sector model with bequests between generations, where agents who make an indivisible investment in human capital can work in a skill-intensive sector. However, given capital market imperfections, only individuals with bequests larger than the investment amount or who can borrow will be able to make this investment. This results in income inequality that is perpetuated through bequests to the next generation. In their model, an economy with capital market imperfections and an initially unequal distribution of wealth will maintain this inequality and grow more slowly than a similar economy with a more equitable initial distribution of wealth.

Similarly, Banerjee and Newman (1993) construct a three-sector model, in which two of the technologies require indivisible investment. They argue that only rich agents can borrow enough to run these indivisible higher-return technologies saying "*because of capital market imperfections, poor agents choose working for a wage over self employment, and wealthy agents become entrepreneurs who monitor workers.*" Hence, they argue that imperfections in financial markets create hurdles to borrowing funds for income-enhancing investments. As only the rich are able to overcome these hurdles, they serve to perpetuate the initial distribution of wealth. FSD which overcomes these imperfections therefore reduces income inequality i.e. there is a negative relationship between the two.

3. Review of Empirical literature

Large bodies of empirical work using different statistical procedures, different proxies for the variables involved and data sets have attempted to solve the theoretical controversies. Thus, the first subsection presents empirical evidences on the relationship between finance and growth together with evidence on causality issues and financial structure where this section is organized based on econometric approaches due to the fact that most of the studies differ largely on the methodologies applied. The second subsection presents evidence on financial sector development and poverty reduction.

3.1. Evidences on Financial sector development & Growth

In general empirical studies usually employ cross-country regressions, time-series analysis, dynamic panel data approaches or industry and firm level studies. Thus, in the next section empirical evidences under each econometric methodology will be discussed.

3.1.1. Pure Cross-Country Growth Regressions

Using data for 35 countries covering the period from 1860-1963 on the value of financial intermediary assets divided by GNP, Goldsmith (1969), has made a pioneering study and found out that first the size of financial development indicator rises as countries develop and second documents (graphically) a positive correlation between financial development and economic development. The major drawbacks of his study were that he used only 35 countries, does not systematically control for other factors influencing growth, close association does not identify the direction of causality and finally the measure of financial development used may not accurately proxy for the functioning of financial system.

The other most popular cross-country study which was made after Goldsmith's work is that of King and Levine (1993a) where they used 77 countries (77 observations) for the period 1960 – 1989. After controlling for other factors affecting growth, they examined three growth indicators: namely real per capita GDP growth, growth in capital stock per person and total productivity growth ("Solow residual"⁹). They have also constructed additional measures of the level of financial development¹⁰.

Using alternative econometric methods, they concluded that there is a strong positive relationship between each of the financial development indicators and the three growth indicators and sizes of the coefficients are economically large. For instance rise in DEPTH alone eliminates 20% of the growth difference between the slowest growing and the fastest growing quartile of countries. King and Levine (1993b) confirm these findings using alternative econometric methods and robustness checks. Further more, they found out that financial depth in 1960 is a good predictor of subsequent rates of the three growth indicators and coefficients are economically large.

However, their study is not without criticism. First while their study shows that finance predicts growth, it still do not formally deal with the issue of causality and second while it improves upon the measure of financial development still it focus on only one segment of the financial system that is banks and still do not directly proxy for the five financial functions stressed in theoretical models of finance and growth.

⁹ "Solow residual" is defined as real per capita GDP growth minus (0.3) times the growth rate of the capital stock per person

¹⁰ DEPTH: liquid liabilities of financial system divided by GDP which measures the size of financial intermediaries, BANK: bank credit divided by bank credit plus central bank domestic assets which measures the degree to which the central bank versus commercial banks are allocating credit and PRIVY: credit to private enterprises divided by GDP.

Using two different data sets and methodology¹¹, De Gregorio and Guidotti (1995)¹² examined the empirical relationship between long-run growth and financial development, proxied by the ratio between bank credit to the private sector and GDP.

Using the cross-country growth regressions, first they find a positive effect of the measure of financial development on long-run growth of real per capita GDP where this positive effect is particularly strong in middle and low-income countries. Second, their findings suggest that the effect of financial intermediation on growth is due mainly to its impact on the efficiency of investment rather than its volume. They find that only one-fourth of the effect of the measure of financial development on growth is channeled through the volume of investment, the rest being explained by improved efficiency of investment.

Adding stock markets to cross-country studies of growth Levine and Zervos (1998) including 42 countries (Observations: 42 for the real per capita GDP growth regression and 41 for the others) for the period from 1976 to 1993 constructed numerous measures of stock market development to examine the relationship between stock market development and growth. For instance, the turnover ratio (total value of shares traded divided by the value of shares listed on stock exchanges) which reflect trading friction.

¹¹ First, they extend Barro's (1991) cross-country growth regressions for a sample of 98 countries during 1960-85 and second, used De Gregorio's (1992) panel data set for 12 Latin American countries.

¹² De Gregorio and Guidotti (1995) have also presented an example which shows in situations where the financial system is liberalized and allowed to operate under a poor regulatory environment, higher financial intermediation may have negative effects on growth performance, because of government incentives to provide relief to the financial system during crisis, the level of financial intermediation -measured by bank lending to the private sector -may be positively associated with lower productivity of investment and with greater fragility of the financial system.

They find that initial levels of stock market liquidity and banking development are positively and significantly correlated with future rates of economic growth, capital accumulation and productivity growth whereby stock markets provide different financial functions from the banks. For instance one standard deviation increase in initial stock market liquidity implies that real GDP per capita would have been over 15% higher over 18 years. They also find that stock market size (market capitalization/GDP) is not robustly correlated with growth, capital accumulation and productivity improvements.

Again despite the great improvement in incorporating stock market measures, qualification has been raised on their work and some of them are that first they do not deal formally with the issue of causality and second while they include measures of the functioning of stock markets and banks they exclude other components of the financial sector such as bond markets and the financial services provided by non-financial firms.

In general, evidence concerning the effect of financial development on economic growth from these studies varied according to the set of countries in the sample, the time span, and the set of variables included in the regressions. For instance using cross-sectional data leaves open the question of spurious correlation arising from non-stationarity, and does not permit an examination of the direction of causality (Christopoulos and Tsionas, 2004).

The other problem of using a cross-sectional method is that by grouping countries that are at different stages of financial and economic development, it fails to address the country-specific effects of financial development on economic growth and vice versa (Ghirmay, 2004).

3.1.2. Time-Series Evidences

To improve a number of statistical problems with pure cross-country investigations, a number of pure time-series econometric applications which frequently use Granger-type causality tests and vector autoregressive (VAR) procedures to examine the nature of the finance growth relationship have been undertaken.

As explained in Mulualem (2007) these method, as the sample size used is small, has helped researchers to examine individual countries in depth, employ a more powerful econometric technique and test a variety of financial development measures. Where as the problem of generalizing time-series evidences to other countries were found to be the major limitation of this method. In general the evidences from time series analysis were mixed owing to shorter time span of the data, measures of financial development used and difference in model specification.

Jung (1986) was among the first to test for causality by applying a Granger-causality procedure. He used annual data for 56 developed and developing countries. However, his results were inconclusive because they varied according to the financial development indicator used¹³. Jung's test was conducted in a levels vector autoregression (VAR) framework without testing for stationarity of the data. However, as data are very likely to be nonstationary, Jung's findings are debatable (Granger and Newbold, 1974).

¹³ For example, using the currency ratio as a measure for financial development, causality from financial development to economic growth in LDCs was more frequently observed than the reverse and an opposite conclusion was obtained for the developed countries. However, when the M2/GDP ratio was used, causality from financial development to economic growth was as frequently observed as causality from economic growth to financial development both in LDCs and developed countries.

In a frequently-cited paper, Demetriades and Hussein (1996) have presented a time-series evidence for 16 countries excluding highly developed countries based on a criteria¹⁴ and used two measures of financial development (the ratio of money to GDP and the ratio of bank claims on the private sector to GDP). Their result provides little support to the view that finance is a leading sector in the process of economic development. However, they find a considerable evidence of bi-directionality and some evidence of reverse causation where their findings also clearly demonstrate that causality patterns vary across countries.

Arestis et al. (2001) enhanced time-series studies of finance and growth by incorporating measures of both stock market and bank development using quarterly data to five developed economies. They find support for the view that finance stimulates growth but raise some cautions on the size of the relationship and they show that while both banking sector and stock market development explain subsequent growth, the effect of banking sector development is substantially larger than that of stock market development.

Christopoulos and Tsionas (2004) after noting that many time-series studies yield unreliable results due to the short time spans of typical data sets, used panel unit root tests to yield causality inferences within a panel context that increases sample size in ten developing countries over the period 1970–2000. Contrary to the findings of Demetriades and Hussein (1996), they find strong evidence in favor of the hypothesis that long-run causality runs from financial development to growth and that there is no evidence of bi-directional causality.

14 The criteria for including a country in their data set: the country must not be highly developed in 1960 (according to the World Bank definition); it must have at least 27 continuous annual observations on the variables of interest and its population must exceed 1 million in 1990

In order to provide further evidence on the causality issue, there has also been a movement away from applying time-series methods to a variety of countries towards examining individual countries, which allows research to design country-specific measures of financial development and expand the time-series dimension of the analyses in some cases.

For instance, Kar and Pentecost (2001) examined the causal relationship between financial development and economic growth in Turkey for the period from 1963 to 1995. After developing five alternative proxies for financial development, they showed that the direction of causality is sensitive to the choice of proxy used for financial development. On balance, however, for Turkey, growth seems to lead financial sector development.

Choong et al. (2004) carried out a time series study in the context of Malaysia, for the period from 1978 to 2000 and suggested that stock market development has a significant positive long-run impact on economic growth. In contrast to Choong et al. (2004) findings, Ang and Mckibbin (2005) using time series data from 1960 to 2001 for Malaysia and conducting a co-integration and various causality tests concluded that output growth causes financial depth in the long-run.

Shan and Jianhong (2006) examined the impact of financial development on economic growth in China and supported the view that financial development and economic growth exhibit a two-way causality. Whereas, Guryay et al. (2007) examined the relationship for Northern Cyprus for the period from 1986 to 2004 using OLS method and two proxies for financial development and presented evidence of causality from economic growth to the development of financial intermediaries.

3.1.3. Panel Data Evidences

Panel data sets where the same cross-sectional units are followed over time are being used more and more in applied work, especially for policy analysis on macroeconomics and analysis for financial markets. Most studies utilize the *difference*¹⁵ Generalized Method of Moments (GMM) and *systems*¹⁶ GMM. As explained in Levine (2005) and Mulualem (2007), these methods improve upon pure cross-country work in three respects.

The first benefit from moving to a panel is the ability to exploit the time-series and cross sectional variation. The second benefit from moving to a panel is that it avoids biases associated with cross country regressions: With cross-country regressions, the unobserved country-specific effect is part of the error term so that correlation between unobserved country-specific effect and the explanatory variables results in biased coefficient estimates.

The third benefit from moving to a panel is that it permits the use of instrumental variables for all regressors and thereby provides more precise estimates of the variables because pure cross-sectional estimators do not control for the endogeneity of all the other explanatory variables which can lead to inappropriate inferences on the coefficient on financial development.

A pioneering work utilizing these methods in the finance-growth linkage was that of Levine et al. (2000). They use a GMM dynamic panel estimator as well as a cross sectional instrumental

15 The difference dynamic-panel estimator was developed by Arellano and Bond (1991). Arellano- Bond estimation starts by transforming all regressors, usually by differencing, and uses the Generalized Method of Moments (Hansen 1982), and so is called Difference GMM.

16 The system estimator which was developed by Arellano and Bover (1995) and latter developed by Blundell-Bond (1998) improves upon the difference estimator by making an additional assumption, that first differences of instrument variables are uncorrelated with the fixed effects. This allows the introduction of more instruments, and can dramatically improve efficiency. It builds a system of two equations-the original equation as well as the transformed one-and is known as System GMM.

variable estimator¹⁷. In addition, unlike other cross-country growth literatures, they use instrumental variables to address the issue of causality.

Both estimation techniques produce consistent findings: the exogenous component of financial intermediary development is positively and robustly linked with economic growth. Using instrumental variable, they found out that the strong link between financial development and growth is not due to simultaneity bias and the data do not reject Hansen's (1982) test of the over identifying restrictions. Instrumental variable results also indicate an economically large impact of financial development on growth. Their paper's finding also indicate that legal and accounting reforms that strengthen creditor rights, contract enforcement, and accounting practices can boost financial intermediary development and thereby accelerate economic growth.

Using the same data set and techniques, Beck et al. (2000) concluded that *"(1) financial intermediaries exert a large, positive impact on total factor productivity growth, which feeds through to overall GDP growth and (2) the long-run links between financial intermediary development and both physical capital growth and private savings rates are tenuous"*. While these studies take into account the problem of simultaneity of regressors, they did not consider the integration and co-integration properties of the data. Christopoulos and Tsionas (2004) advocate this criticism saying *"it is not clear what the estimated panel models represent: Do they represent a structural long run equilibrium relationship or a spurious one."*

¹⁷ Under the GMM dynamic panel estimators, they assemble a panel dataset of 74 countries, where the data are averaged over each of the seven 5-year intervals composing the period 1960-95. With respect to this method they employed two GMM panel estimators: difference dynamic-panel estimator and the system estimator. Under the cross-sectional estimator, they included data for 71 countries averaged over the period 1960-95, so that there is one observation per country.

Using a panel estimator, Benhabib and Spiegel (2000) has also found out that financial development indicators are correlated with total factor productivity growth, physical and human capital accumulation. However, their findings were criticized by Christopoulos and Tsionas (2004) on the ground that their empirical results are very sensitive to model specification.

Rioja and Valev (2002) including a panel of 74 countries and using GMM dynamic panel techniques, they documented that there exist three distinct regions of financial development. In the low region (countries with very low levels of financial development), additional improvements in financial markets have an uncertain effect on growth. In the intermediate region, financial development has a large, positive effect on growth. Finally, in the high region, additional financial improvements have a positive, but smaller effect on growth.

Contrary to the above finding, Ketteni et al. (2000) using same data set as previous researchers but employing nonparametric estimation techniques concluded that *“contrary to recent research, the impact of financial development on economic growth is linear, when account is taken of the nonlinearity between growth and initial income/human capital. It appears that the alleged nonlinearity between finance and growth uncovered by recent research is the product of ignoring other established nonlinearities in the economic growth literature”*.

Utilizing some what different approach that employ the Geweke (1982) decomposition test, Calderon and Lui (2003) using pooled data for 109 developing and industrial countries from 1960 to 1994, concluded that *“(1) financial development generally leads to economic growth; (2) the Granger causality from financial development to economic growth and the Granger*

causality from economic growth to financial development coexist; (3) financial deepening contributes more to the causal relationships in the developing countries than in the industrial countries; (4) the longer the sampling interval, the larger the effect of financial development on economic growth; (5) financial deepening propels economic growth through both a more rapid capital accumulation and productivity growth, with the latter channel being the strongest."

Kemal et al. (2004) using panel data from 19 High Income Countries (HIC) for the period 1974-2001 with 485 observations, reported that there is no definite evidence that finance spurs economic growth or growth spurs finance. Most of their findings are in line with the Lucas (1988) view that the importance of financial matters is overstressed. The only exception is the case of activity in stock markets where their result supports the Robinson (1952) view that finance follows enterprise.

Huang and Lin (2007) using unbalanced panel data for 78 countries over the period from 1960 to 1995, they find a positive, two-way causal relationship between real economic growth and financial development. Particularly, better developed financial systems induce faster economic growth and, in turn, higher economic growth facilitates development of financial intermediation.

3.1.4. Industry and Firm Level Studies

Since macro-economic studies are to aggregate and are unable to provide details about the transmission mechanism between financial development, growth, employment creation and poverty alleviation, these studies seek to resolve causality issues and to document in greater detail the mechanisms, if any, through which finance influences economic growth.

3.1.4.1. Industry Level Studies

The strategy under industry level analysis is to test whether industries grow faster in economies with better developed financial systems that is to say industries that are naturally heavy users of external finance should benefit more from greater financial development than industries that are not.

Rajan and Zingales (1998) argue that better-developed financial intermediaries and markets help to overcome market frictions that drive a wedge between the price of external and internal finance where lower costs of external finance facilitates firm growth and new firm formation. Therefore, industries that are naturally heavy users of external finance should benefit disproportionately more from greater financial development than industries that are not naturally heavy users of external finance. They assume that: (1) financial markets in the U.S. are relatively frictionless; (2) in a frictionless financial system, technological factors influence the degree to which an industry uses external finance; (3) the technological factors influencing external finance are constant (or reasonably constant) across countries.

Using 36 industries, 42 countries for the period covering 1980-90 found out that increase in financial development¹⁸ disproportionately boosts the growth of industries that are naturally heavy users of external finance. The percentile of dependence for machinery was 75th and for beverages was 25th and the percentile of stock market capitalization: Italy 75th, Philippines

18 To measure financial development, Rajan and Zingales (1998) examine (1) total capitalization, which equals the summation of stock market capitalization and domestic credit as a share of GDP and (2) accounting standards. As recognized by Rajan and Zingales (1998) there are problems with these measures: first, stock market capitalization does not capture the actual amount of capital raised in equity markets and it does not necessarily reflect how well the market facilitates exchange; second, accounting standards reflect the potential for obtaining finance rather than the actual finance raised.

25th; thus concluded that machinery should grow 1.3% faster than beverages in Italy compared to Philippines.

Fisman and Love (2003b) cited in Levine (2005) critique the Rajan and Zingales (1998) methodology, arguing that it does not accurately test whether financial development boosts growth in externally dependent industries. They argue that the method simply tests whether financial intermediaries allow firms to respond to global shocks to growth opportunities, rather than the extent to which financial systems foster the growth of industries with an inherent financial dependence.

Wurgler (2000) using industry-level data for 65-country, 28-industry, 33-year panel over the period 1963-95 found out that countries with higher levels of financial development, as measured by the size of the domestic stock and credit markets relative to GDP, increase investment more in growing industries and decrease investment more in declining industries than financially underdeveloped economies.

His results also indicate three of the channels through which financial markets improve capital allocation: stock markets appear to provide useful public signals of investment opportunities; state owned firms do not allocate capital efficiently; and minority investor rights appear to curb overinvestment in declining industries. As acknowledged by Wurgler him self, even if his paper proves that financial markets and associated institutions improve the allocation of capital through several channels, which ones are most important, and whether capital allocation can be improved by competition or policy are ignored from his discussion.

Pang and Wu (2008) using same method adopted by Wurgler (2000) and taking the financial dependence index from Rajan and Zingales (1998), found out that financial development has differential effects on industrial capital allocation, namely industries more dependent on external funds have higher investment elasticities in countries with better developed financial sectors. Thus conclude that *“financial markets not only improve the overall efficiency of capital allocation in a country as found in Wurgler (2000), but also benefit more toward those financially dependent industries.”*

3.1.4.2. Firm Level Studies

Firm level studies were made by Demirguc-Kunt and Maksimovic (1998) to investigate whether specific differences in financial systems and legal institutions constrain firms to grow at rates no greater than those they could attain by relying on their internal resources or short-term borrowing. Similar to Rajan and Zingales (1998), they focus on a particular mechanism through which finance influences growth but rather than focusing on the external financing needs of an industry as in Rajan and Zingales (1998), they estimate the external financing needs of each individual firm in the sample.

Using firm-level data for 30 developing and developed countries for the period covering from 1980-91, they found out that the proportion of firms that grow at rates exceeding this predicted rate in each country is associated with specific features of a country's legal and financial systems. More specifically firms in countries which have active stock markets and high ratings for compliance with legal norms are able to obtain external funds and grow faster and size of the stock market is not related to firm growth.

Guiso, Sapienza, and Zingales (2002) exploit variance across Italian regions in order to estimate the impact of differential financial development on entrepreneurship. They find that in the most financially developed regions of Italy: an individual's odds of starting a business increases by 5.6 percent and starts a business at younger age; firms grow faster (by six percent); and per capita GDP grows faster than the rest of the regions. As a consequence, the ratio of new firms to population is 25 percent higher in the most financially developed regions of Italy.

Again for the same country, Benfratello et al. (2006) investigated the effect of local banking development on firms' innovative activities, using a rich data set on innovation for a large number of Italian firms over the 1990's. Their evidence suggests that banking development affects the probability of process innovation and reduces the cash flow sensitivity of fixed investment spending, particularly for small firms, and that it increases the probability they will engage in R&D. evidence for product innovation is weaker.

Oura (2008) examined the efficiency of the different segments of India's financial system using firm-level data on corporate financing patterns. His study shows that firms are increasingly relying on external funds to finance their investment in most recent years. The empirical analyses indicates that (1) the financial system in India is not channeling funds into industries with higher external finance dependence; (2) the debt financing system does not allocate funds according to firms external finance dependence, while equity financing system does; and (3) firms in an industry that are more dependent on external finance grow more slowly.

3.1.5. Evidences on Sub Saharan Africa

An extensive amount of empirical investigations have been conducted, aimed at testing the conflicting theoretical developments presented above using different techniques. These studies, however, for the most part, focused on high-income and middle-income countries and there is a relative absence of Sub-Saharan African countries in the sample of countries studied, making it difficult to generalize their results across all developing countries.

Applying a time series analysis in a broad study of 41 countries (16 lower income countries, 14 lower middle income countries and 11 upper middle income countries) over the period from 1960 to 1993, Xu (2000) came up with strong evidence that financial development is important for long-run growth. Although his result indicates that 27 of the 41 countries display a positive long-term cumulative effect, the remaining 14 countries (9 of which are located in Africa) show negative long-term effect of permanent financial development on the growth of GDP and domestic investment. Where as Ghirmay (2004) including 13 countries (selected by having time-series data for at least 28 years), found a long-term relationship between finance and growth in 12 of the 13 countries and bi-directional causality in 6 of the SSA countries. However, as the sample considered in his study is small, it will be misleading to generalize to all SSA countries.

With respect to the question of the appropriate structure of the financial sector, the debate is perhaps misplaced. The question is not whether or not the banking system is more important than security markets, but how to promote both. However, some scholars have suggested that at their current level of development and given their immense needs for financing physical

capital accumulation in infrastructure, African countries should explicitly emphasize banking sector development over stock market development for two reasons.

First, historical evidence suggests that there is a connection between a country's stage of development and the structure of its financial system. In the early stages of development, banks play a predominant role in financing investment in infrastructure, which stimulates the growth process and more developed countries tend to have relatively larger and more liquid stock markets (Gerschenkron 1962, and Demirgüç-Kunt and Levine 1999). Second there is a close connection between financial structure and the type of investment finance supplied by the financial system. Banks tend to specialize in debt finance, while stock markets provide equity finance (Levine, 2005).

In cross sectional analysis, Ndebbio (2004) utilizing averaged data from 1980 to 1990 for a sample of SSA countries and using the ratio of M2 to GDP as a measure of financial development, found a positive impact of financial deepening on economic growth. However, his study suffers from two major weaknesses: the methodology adopted (cross sectional analysis) and the measure of financial development used (M2 to GDP ratio).

In a panel data analysis, Ndikumana (2000) investigated the effects of financial development on domestic investment in a sample of 30 sub-Saharan African countries over 1970-95. The results indicate a positive relationship between domestic investment (total investment and private investment) and all four indicators of financial development (M3/GDP, total credit to the private sector as a percentage of GDP, total domestic credit provided by the banking sector as a percentage of GDP and claims on government and other public entities as a percentage of

GDP). The findings also suggest that high financial development is a predictor of future levels of domestic investment. The findings imply that financial development can stimulate economic growth through capital accumulation.

Using a panel data set of 27 SSA countries for the period 1974-2003 and by applying a system of GMM estimator on three different growth models, Mulualem (2007) obtained a negligible support to the view that finance leads to economic growth. He also found out that though financial development has a positive influence on physical capital growth in SSA, it has insignificant impact on total factor productivity. Though, the study's attempt to see the impact of financial development on total factor productivity for the first time in SSA countries makes it substantial; it has its own limitations. First, the results can not be generalized to all SSA countries as the sample excludes almost half of the SSA countries. Second, the methodology adopted (panel data analysis) fails to address country heterogeneity that is in panel data models it is common to assume that the slope coefficient is identical across the countries included in the panel, which implies that financial development generates equivalent investment and productivity increase across countries, but in reality it may vary across groups (Ghirmay, 2004).

In overcoming the problem of measuring financial development, Gelbard and Leite (1999) have made a significant contribution in the African context. From a survey of 38 sub-Saharan African countries in 1997, they compiled indicators on six major aspects of financial development: (1) the market structure and competitiveness of the financial system, (2) the range of financial products available on the market, (3) the degree of financial liberalization, (4) the institutional environment under which the financial system operates, (5) the degree of

integration with foreign financial markets (financial openness), and (6) the degree of sophistication of monetary policy instruments.

Countries were then classified as undeveloped, minimally developed, somewhat developed, or largely developed. The report indicates that in many countries, the range of financial products remains extremely limited, interest rate spreads are wide, capital adequacy ratios are insufficient, judicial loan recovery is a problem, and the share of non-performing loans is large. Finally they tested the significance of the index of financial development for economic growth in the region and found that both the level and the change in financial development have an effect on per capita GDP growth.

Few Country specific researches have also been made to solve the finance growth nexus. For instance, Odhiambo (2007) examined the causal relationship between financial depth (measured by the ratio of M2 to GDP), savings and economic growth for Kenya during the period 1969–2005 using a tri-variate causality framework. The empirical results reveal that there is distinct uni-directional causality from economic growth to financial depth in Kenya.

In contrast to Odhiambo's finding, Digafie (2007) using OLS method covering the periods from 1970/71 for Ethiopia concluded that there is no long run impact of financial sector development measured by claims on the private sector to GDP ratio on real per capita GDP growth despite the fact that its sign is positive. The empirical results also revealed that there is a feedback or bilateral relationship between financial sector development and economic growth.

3.2. Evidences on Financial Sector Development & Poverty Reduction

Few studies have attempted to establish the relationship between financial sector development and poverty reduction. The first attempt to examine the link between financial development and poverty reduction by using data for a sample of 26 countries, including 18 developing countries was that of Jalilian and Kirkpatrick (2001). They use bank deposit money assets and net foreign assets as measures of financial development. Their results suggest that a 1 per cent change in financial development raises growth in the incomes of the poor in developing countries by almost 0.4 per cent.

Clarke, Xu and Fou (2002) using data from both developed and developing countries (91 countries) between 1960 and 1995, supported the theory that there is a negative relationship between financial development and income inequality. They note that financial development reduces inequality, even when there are initially low levels of financial development. They also find that the beneficial impact of financial development on income inequality is smaller in countries with larger modern (non-agricultural) sectors.

Beck, Demirgüç-Kunt and Levine (2004) used data on 52 developing and developed countries over the period 1960-99 to assess whether there is a direct relationship between financial development (measured by credit to private sector ratio) and changes in income distribution. They find that the income of the poorest 20 percent of the population grows faster than the average GDP per capita in countries with higher financial development, and that income inequality falls. They also find that financial development contributes to reductions in infant mortality.

Jalilian (2004) included 255 observations covering 64 countries (43 developing and 21 developed countries) and rather than working with annual observations he constructed five-year non-overlapping averages for the series for the period 1960-95 and applied simple OLS, panel as well as two-stage least square (2SLS) to both sets of data. His results support the inverted u-shaped hypothesis indicating that the relationship between financial development and inequality is quadratic.

Quartey (2005), using time-series data for the period from 1970-2001 investigated the interrelationship between financial sector development and poverty reduction in Ghana. The main findings of his study were, first, that even though financial sector development does not Granger-cause savings mobilization in Ghana, it induces poverty reduction; and second, that savings do Granger-cause poverty reduction in Ghana. In addition he found a long-run co-integration relationship between financial sector development and poverty reduction.

In another study, Jalilian and Kirkpatrick (2005) included 285 observations covering 42 countries (26 developing and 16 developed countries) for the period from 1960 to 1995. Their result suggests that (1) financial development improves growth prospects where most of the impact is evident at lower income levels indicating that poorer developing countries will gain most from the growth and development of the financial sector and (2) the link between financial development and inequality is quadratic where at a low level of development financial development is likely to be positively related to inequality but once a threshold level of development is achieved then the link between the two becomes negative.

Jeanneney and Kpodar (2005) using a panel estimation technique for developing countries for the period from 1966 to 2000 and adopting two measures of poverty¹⁹, argued that the poor benefit from the ability of the banking system to facilitate transactions and provide them with saving opportunities whereas financial instability which accompanies financial development is detrimental to the poor and dampens the positive effect of financial development on the reduction of poverty.

A more relevant study was made by Geda et al. (2006), using the rich household panel data of urban and rural Ethiopia that covers the period from 1994 to 2000. They showed that access to finance is an important factor in consumption smoothing and hence poverty reduction. They also found evidence for a poverty trap due to liquidity constraints that limits the ability of the rural households from consumption smoothing. In their study the use of finance to address poverty is found to be as important as other determinants of poverty, finance being among the top five (out of 17) determinants of poverty with strong and statistically significant effect.

Beck et al. (2007) empirically assessed the relationship between financial development, poverty alleviation and changes in the distribution of income including 72 countries for the period covering from 1960 to 2005 and used a Generalized Methods of Moments (GMM) panel estimator. Their paper has three key findings: (i) even when controlling for real per capital GDP growth, financial development reduces income inequality beyond the growth

¹⁹ The first is the mean income of the poorest 20 per cent of the population (data available for 75 developing countries with 187 observations) and the second is relative to the incidence of poverty that is the proportion of the population whose income is below one dollar a day (data available for 65 developing countries with 121 observations)

effects themselves; (ii) financial development induces a drop in the Gini coefficient²⁰ measure of income inequality; and (iii) financial development reduces the fraction of the population living on less than \$1 or \$2 a day and lowers the Poverty Gap²¹. However, their research is silent on how to foster specific policies which directly aim at alleviating poverty.

Liang (2008) using panel data over the period 1991–2000, and applying the generalized method of moment (GMM) technique to empirically investigate the impacts of rural financial development on the distribution of income in rural China: found that rural financial development (the ratio of total rural loans to rural GDP), significantly contributes to the reduction of rural inequality in China. His findings strongly support the linear relationship rather than the Greenwood and Jovanovic inverted U-shaped relationship between finance and inequality.

However, these studies use traditional measures of FSD, which may not be much related to increases in access to financial services, and hence may capture only the indirect impact of FSD on poverty through growth. The magnitude of the direct effect of financial development on poverty reduction highlights the relevance of more active financial sector reforms. It is also undoubtedly useful to encourage microfinance lending to the poor, since credit growth does not benefit them directly, especially when bank branches are geographically concentrated.

²⁰ Gini coefficient is an aggregate numerical measure of income inequality ranging from 0(perfect equality) to 1(perfect inequality). It is measured graphically by dividing the area between the perfect equality line and the Lorenz curve by the total area lying to the right of the equality line in a Lorenz diagram. The higher the value of the coefficient the higher the inequality of income distribution (Todaro, 2008).

²¹ Poverty gap measures the depth of poverty and it is defined as the mean shortfall of the poverty line expressed as a %age of the poverty line. Here non-poor are counted as having zero poverty gap. (Todaro, 2008)

4. Conclusion and Recommendation

In this paper we re-examined the different theories and empirical evidences on the relationship between financial development, economic growth and poverty reduction with a view to identifying some outstanding issues.

To date four views exist in the literature regarding the relationship between financial development and economic growth. The first view argues that financial development is important and leads to economic growth (McKinnon, 1973, Shaw 1973), and endogenous growth models of Greenwood and Jovanovich (1990), King and Levine (1993a, 1993b) and Pagano (1993), among others). The second view, however, maintains that it is economic growth that drives the development of the financial sector (Robinson, 1952). The third view focuses on the detrimental effects of financial development on growth (structuralists led by Van Wijnbergen, 1983 and Buffie, 1984) while the fourth view treats finance as a relatively unimportant factor for growth (Lucas, 1988).

The empirical evidence has mixed results, depending on how financial development is measured or on the empirical strategy being employed. On the one hand, cross country and panel data studies find positive effects of financial development on output growth even after accounting for other determinants of growth as well as for potential biases induced by simultaneity, omitted variables and unobserved country-specific effect on the finance-growth nexus. On the other hand, time series studies give contradictory results.

However, as pointed out in Levine (2005): *“the bulk of existing research suggests that (1) countries with better functioning banks and markets grow faster, but the degree to which a*

country is bank-based or market-based does not matter much, (2) simultaneity bias does not seem to drive these conclusions, and (3) better functioning financial systems ease the external financing constraints that impede firm and industrial expansion, suggesting that this is one mechanism through which financial development matters for growth.”

But in my view most studies suffer from two major shortcomings. First, in a Schumpeterian world it is the quality rather than the quantity of financial intermediation that influences economic growth. However, most studies specify proxies of financial systems by size, for example the credit to GDP ratio. Second, most studies are of a cross-country nature, frequently sampling very different economies. Thus, significant financial indicators may partly be driven by excessively heterogeneous samples.

In sum, the question of the relationship between financial development and growth is now a settled matter. There is a broad consensus that finance plays a crucial role in the process of growth, and that it does so through a variety of mechanisms: by reducing the cost of capital to firms, by allocating capital more efficiently to entrepreneurs, and by encouraging greater competition among non-financial firms.

Concerning the relationship between FSD and poverty reduction there are two main theoretical viewpoints. Greenwood and Jovanovic posit an inverted U-shaped relationship; that is, financial development could widen income inequality during the early period, then tend to lessen it as average income rises and more households gain access to financial intermediaries and services. By contrast, other theoretical models suggest a negative and linear relationship, showing that development of the financial market and financial intermediation helps reduce income inequality.

Only a few empirical studies have tested these alternative theories and the existing empirical evidences generally support the linear hypothesis suggestion rather than an inverted U-shaped pattern²². These studies generally find that: better-functioning financial markets are strongly associated with lower income inequality; inequality is lower in countries with better-developed financial sectors; and inequality decreases as economies develop their financial intermediaries.

The findings from this review imply that financial sector development is important for growth and poverty reduction, and that without it development may be held back, even if other conditions are met, suggesting that greater emphasis should be placed on promoting financial sector development, improving substantially the efficiency of the financial sector, and improving access to financial services for the poor. Thus, in order to make financial sector development more pro-poor and benefit from it, policies should aim at:

- ✎ Increasing the size and outreach of financial systems, particularly encourage the creation and the development of micro-finance institutions committed to give loans to the poor as credit growth does not benefit them directly;
- ✎ Promoting and improving diversification and competition in the financial sector while enhancing the autonomy and prudential regulation capacity;
- ✎ Stabilize and improve the general economic and institutional environment including infrastructural improvements and

²² The only exception to this consensus is that of Jalilian and Kirkpatrick (2005) where their finding supports the Greenwood and Jovanovic predictions of an inverted U-type relationship. They find that at particularly low levels of development, financial development is likely to be positively related with income distribution but that once a threshold level of development is achieved, then financial development reduces inequality.

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- ✎ Reduce risk and vulnerability and enable the poorest to participate in and benefit from growth processes.

However, it is also important to control the global development of financial intermediaries as financial crises are specifically detrimental to the poor. Overall the relationship between financial depth, economical growth and poverty reduction points to a number of areas for future research. These include, for example, the following:

- ✎ More work is needed on collection of better-quality and more extensive indicators of financial depth which are directly related to what the theory suggests
- ✎ Much work remains to be done on which policies to enact and what reforms to undertake to support the development of growth-promoting financial systems as some recent work shows that legal and regulatory reforms that strengthen creditor rights, contract enforcement, and accounting practices will boost banking and securities markets development.
- ✎ It is extremely useful to undertake more in depth analysis, including individual country case studies, to understand the exact transmission mechanism through which financial development can enhance pro-poor development.
- ✎ The analysis needs to be extended to incorporate the important inter-linkages between domestic and international financial markets. In the era of globalization, it is clear that the role of foreign financial systems and institutions cannot be ignored for the development of domestic financial systems.
- ✎ Finally, future work needs to examine the linkages between particular policies toward the financial sector development and poverty alleviation

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Declaration

I, the undersigned, declare that this project is my original work and has not been presented for a degree in any other university and that all source of materials used for the project have been duly acknowledged.

Declared by:


Name: Melaku Tadesse

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