The Effect of Financial Development on Economic Growth, Income Distribution and Poverty

By

Zaheer Abbas

Supervisor

Dr. Eatzaz Ahmad
Professor and Chairman

A Thesis Submitted to
the Department of Economics,
Quaid-i-Azam University, Islamabad,
in partial fulfillment of the requirement
for the Degree of Master of Philosophy in
Economics.

Department of Economics, Quaid-i-Azam University,
Islamabad, Pakistan.
2003

CERTIFICATE

We accept the work contained in this dissertation titled " The Effect of Financial Development on Economic Growth, Income Distribution and Poverty": as a confirmation to the required standard for partial fulfillment of the degree of Master of Philosophy in Economics.

Supervisor:

.....

Dr. Eatzaz Ahmad
Professor and Chairman
Department of Economics,
Quaid-i-Azam University,
Islamabad, Pakistan.

External Examiner:

.....

Dr. Rashid Aziz
Senior Energy Specialist,
World Bank,
Islamabad.

Chairman:

.....

Dr. Eatzaz Ahmad
Professor and Chairman
Department of Economics,
Quaid-i-Azam University,
Islamabad, Pakistan.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENTS

First and foremost, I owe profound gratitude to Allah the Almighty, the most merciful, the most beneficent, which bestowed upon me strength and ability to complete my dissertation. Doubtlessly, without his will, this dissertation would never have been possible.

I am deeply indebted to venerable Dr. Eatzaz Ahmad, my teacher and supervisor, for his guidance, patience, and understanding. He encouraged me to complete this piece of reasrch when I was down and out. I have never seen such a devoted teacher and wonderful person, all in one, in my entire life.

It would have not been possible for me to reach at this stage without the guidance of all my teachers, Dr. M.A.Chaudhry, Dr.Tariq Javed and Dr.Alliya Khan, who have taught me at the Economics Department, Qauid-I-Azam University, Islamabad.

I cannot forget my friend Qazi Faysal, for supporting me to complete my work. He is the one who is the loyal, sincere, loveable and kind friend in this hustle-bustle world to me. May all find such a friend in their life?

I am especially thankful to Omer Siddique who helped me in my work by providing data. All through M.Phil. and particularly during writing of this dissertation my friends Safdar Ullah, Ahsan Abbas, Umer Riaz Cheema, Amanat Ali, Ayesha Malik, Hashim Rashid, Imran, Mahjabeen Cheema, Bu Ali, Summer Abbas and Raja Manzar Ali Kiayni, helped and encouraged me a great deal. I owe thanks to all of them. I am also thankful to Malik Riaz, Qaiser and Fakhar Alam who encouraged me during my work.

Finally a special word of thanks is reserved for my parents, uncle Khizar Hussain, my brothers, and Ishfaq Hussain who enable me to peruse my interests and provided moral advice and support without which I would never be able to concentrate and steady in my student life.

Zaheer abbas

Chapter

INTRODUCTION

1.1 Introduction

There has been a longstanding interest among development analysts and practitioners in the contribution that finance can make to the development process. The relationship between financial development economic growth and income distribution has received a lot of attention in the economic literature in the last ten years. The predominant view is that the increased availability of financial instruments and institutions reduce transactions and information costs in an economy. Well-developed financial markets, then, help economic agents hedge, trade, and pool risk raising investment and economic growth. Specifically, a series of empirical articles by King and Levine (1993) brought the discussion to the forefront of economic literature in the 1990s. The usual result from this literature is that development has positive effect on growth.

Economists have been concerned about the distribution of income for a long time. Kuznets (1955), which is perhaps the seminal study on the distribution of income, argued that economic development is associated first with an increase and then a decrease in income inequality, resulting in an inverted u-shaped relationship between the two variables. In the 1990s, economists started to consider the link between financial development and income inequality. Building on the Kuznets' hypothesis, Greenwood

and Jovanovic (1990) showed how the interaction of financial and economic development can give rise to an inverted u-shaped relationship between income inequality and financial intermediary development. The recent empirical literature has established a positive effect of financial development on economic growth, less is known about the empirical link between finance and income distribution.

More recently, attention has switched to the role of financial development on poverty that is the major problem of the developing countries. A fundamental cause of poverty is market failure, and financial market imperfections often prevent the poor from borrowing.

There is a growing body of empirical evidence to support the view that financial development can reduce income inequality and poverty levels in the developing world.

1.1 Objective of the Study

The objective of this study is to address the above-mentioned issues and to explore the effect of financial development on economic growth, income distribution and poverty in the developing countries. For this purpose, thirty years time series data starting from 1971 to 2000 for seventeen developing countries has been taken. In order to observe the effect of financial development on economic growth, income distribution and poverty, we have estimated three equations. The pooled least squares method is applied for the estimation.

1.2 Organization of the Study:

The organization of this study is in the following order, Chapter 2 is devoted to the review and appraisal of theoretical as well as empirical literature, and Chapter 3 develops the framework of the study for econometric estimation. Data description, construction of variables and estimation procedure are illustrated in Chapter 4, while Chapter 5 discusses the empirical results. Conclusions are in Chapter 6.

Chapter

LITERATURE REVIEW

2.1. INTRODUCTION

The literature traces a causative relationship among financial development, economic growth, income distribution and poverty reduction. A lot of articles and research papers have shown the relationship between financial development and economic growth; and, between income distribution and poverty reduction separately. So far, little attention has been switched to show the relationship among all these factors collectively.

Too much research has been held with different results because of the usage of different techniques and the confirmed data sets. Parallel to this reality, another reality is that the different economic systems; the different political systems, the legal environment and the level of growth leave everlasting impact upon the factors too. First segment reviews the literature about the relationship of Financial Development and Economic Growth; second segment reviews the link of Financial Development, Economic Growth and Income Distribution, lastly the link between financial development, Economic Growth and poverty.

2.2. Financial Development & Economic Growth

Bagheot (1873), Schumpeter (1912), Wicksells (1935) and Keynes (1936) and Gurley and Shaw (1955) time to time has eyed the link between financial development and economic growth. Economic historians such as Davis (1965), Cameron (1967), and Sylla (1969) have acknowledged it, too. These scholars primarily used the historical experiences of England and the United States to illustrate the role of the financial system in the path to market leadership. Some macro and development economists have studied the hypothesis more formally with theoretical models in which countries achieved rapid growth through well-developed financial systems that reduced credit market frictions Greenwood and Jovanovic (1990). Greenwood and Smith, (1997), studied with cross-country and time series statistical that uncovered the significant effects of financial sector size on macroeconomic out comes.

Schumpeter (1912) said that financial intermediation via banking system played a fundamental role in economic development by moving the allocation of savings, as a result of it, there was an increase in production, technical innovation and the role of economic growth. Wicksell (1935) in his "Loan Able Funds Theory" advocated for the role of credit and financial markets so as to stabilize the disturbed economy. It is argued that the rate of interest by banks may be different from the "Natural Rate" as a result, but the excess demand for supply of loan-able funds may occur which leads to economic fluctuations too.

Keynes (1936) in his famous "Liquidity Preference Theory" discussed the leading role of financial market in the disturbed economy. In the standard IS-LM analysis securities and loans are perfect substitute among themselves.

Lewis (1954) suggested a two-way relationship between financial development and economic growth, whereby financial markets develop as a consequence of economic growth, and in turn, act as a stimulus to real growth. Subsequent analysis has developed on these earlier ideas by developing a fuller understanding of the various functions performed by the financial system.

In the decades of 1950s and 1960s, the conventional view of financial development policy was that governments should actively intervene in financial markets, in order to influence the allocation of credit to the required people, including moving households out of poverty.

By the early 1970s, this interventionist approach was replaced by financial liberalization, which emphasized a market-led approach to financial development policy that urged for privatizing state-owned financial institutions and encouraging private institutions to enter the market and by removing controls on interest rates, credit allocation and strengthening the prudential regulation and supervision of financial institutions.

Shaw (1973) also supported the importance of financial intermediation in exciting economic growth. However to him, most firms rely on external finance that comes from

bank credits. As deposit accumulates, banks have more funds for lending. Thus, growing financial intermediation can contribute economic growth.

Financial endogenous growth models have mainly focused on the locative role of financial system. All growth models are based on the notion that capital accumulation increases growth and that to accumulate capital there is a need to increase savings. Looking at recent changes and advances in ever more sophisticated growth models (i.e. models that include financial intermediation), it is fairly obvious that the financial markets have an important role to play in promoting growth.

Endogenous Growth Model by Romer (1986), Lucas (1988)and Rebelo (1991) established the relationship between economic growth and financial system. These models emphasized on steady-state growth rate, which can be influenced either by capital externalities or capital goods produced using constant returns to scale, but; without the use of non-produce able factors. These models stated that financial system can alter capital accumulation and hence growth rate by changing the saving rates among different capital producing technologies.

Jeremy Greenwood and Boyan Jovanovic (1990) developed a model where the extent of financial intermediation and economic growth are endogenously determined. In their model, financial intermediaries can invest more productively because of their better ability to identify the investment opportunities. So, financial intermediation promotes

growth as it allows a higher rate of return to be earned on capital and growth, in turn, provides the means to implement costly financially structures.

Saint Paul (1992) explained by arguing that a developed financial system allows increased specialization in production through diversification of demand risks. A small household- enterprise producing a simple good using general-purpose tool is better to sudden changes in the composition of demand. So, in the absence of financial system, which offers risk sharing, productive units prefer to hedge risk through their choice of a less specialized technology. Productivity remains low and economic growth is impaired[1].

In short, economic theory tells us that a well-functioning financial system plays an important role in the process of economic growth. But, in the presence of severe market imperfections resulting from asymmetric information, financial liberalization cannot be relied upon to induce an improvement in market efficiency.

One of the first empirical studies was Goldsmith (1969). This author examined the finance-growth relationship in 35 countries over 103 years (1860-1963), using as measure of financial development, the ratio of financial assets of all financial intermediaries to GDP. He concluded that financial development and economic development occurred simultaneously. However, Goldsmith's measure to take only into account the extent of countries' financial systems and ignored the efficiency of financial services.

[1] Although focus in the Saint-Paul model is on capital markets, the results carry over to the case of banks in a straightforward manner.

King and Levine (1993) extended Goldsmith's analysis by measuring of financial development as the ratio of liquid liabilities of the financial system to GDP and the ratio of credit provided to private enterprises (by both private-sector banks and the central banks) to GDP . These authors measured the efficiency of financial development by (a) the share of total credit provided by private banks relative to the credit provided by the central bank and (b) the share of credit allocated to private non-financial firms relative to total credit.

Based on these improvements, they confirmed strong empirical links between financial market development and economic growth. Moreover, King and Levine also found that the level of financial development in I960 in 80 different countries was correlated with the subsequent average rate of economic growth over the next 29 years across these countries.

Murinde (1996) examined the effects from financial markets on seven Asian countries. He found only weak support for the notion that financial markets have played a significant role in the growth process. Of three financial markets studied by Murinde, only the stock market has been important in promoting growth. Odekoun (1996) investigated the effect on economic efficiency (measured as the incremental output-capital ratio) from financial variables, such as financial intermediation, real interest rate, inflation and exchange-rate valuation. The results suggested that financial depth variables that are measured in the form of monetary or credit stock variables be negatively related

to efficiency. If these variables are measured in the form of real monetary credit flow variables there is a strong positive relation with economic efficiency.

LaPorta (1997) studied the relationship between economic growth and the legal system. He found that variations in investors' rights and protections across countries could not be explained solely by differences in GDP per capita. Rather they were related systematically to differences in legal traditions because the degree of investor protection affected the availability of external finance. Nation's legal principles were basically independent of its current level of economic development; such legal traditions then could be used to isolate the part of an economy's overall financial development that was uncorrected with its economic status. This supports to the hypothesis that financial development encourages economic growth rather than being caused by it.

Rajan and Zingales (1998) have conducted study for 36 industries of 41 countries from (1980-90) by using Stock Market, capitalization, bank debt and accounting standards as independent variable and estimated Growth of value, added in industry. They concluded that interaction variables are positively significant, suggesting that firms demand finances grow speedily, if the financial system results from the growth of number of firms than size of firms.

Levine and Zervos (1998) related two measures of liquidity to growth, capital accumulation and technological change. It turned out that liquidity could significantly predict growth, capital accumulation and productivity growth over the next 18 years,

which is stronger than a correlation. Ample evidence on information costs showed that the investment decisions of firms with more severe asymmetric information problems are more sensitive to cash flow fluctuation than firms where it is less expensive to monitor. This result holds independent of whether they have received bond ratings or not, dividend Sizes, firm sizes, high or low shadow value on internal funds based on their response to taxes, and whether there are regulations that restrict bank credit allocation.

Recent empirical paper by Beck, Levine and Loayza (1999) estimated four types of regressions to explain growth: capital accumulation; private savings; productivity; and per capita GDP growth. The authors found a strong causal impact on real per capita GDP growth and per capita productivity growth from banking-sector development, while the results on capital accumulation and savings are ambiguous. The results were consistent with the view that banks choose which firms get to use society's savings. The banks are capable of altering the path of economic progress by affecting the allocation of savings and not necessarily by affecting the saving rate.

Levine et al. (2000) subjected the analysis of casual relationship between the banking sector development and economic growth to a more advanced econometric treatment in a paper. They firstly examined the role of financial development in a pooled cross –section, setup using averaged data spanning the period 1960-1995. Endogeneity bias was addressed by the construction of instruments for financial development using a legal origin dummy, where legal origin (English, French, German, and Scandinavian) was taken as an exogenous endowment. Using a Generalized-Method-of-Moments (GMM)

estimator, the authors observed that the exogenous component of financial development is positive, significant and robust in the standard growth regressions. Moreover, Levine Loyaza and Beck analyzed that unobserved country- specific effects can be controlled for in a panel data setting and that panel data models offer a way to control for the potential Endogeneity bias in all the explanatory variables by using "internal instruments"(i.e. lagged values of the explanatory variables) .The dynamic panel estimations of Levine, Loyaza, and Beck confirmed that the weekly exogenous components of financial intermediary development exert a statistically significant and positive influence on economic growth.

Loayza and Ranciere (2002) established empirically the coexistence of long run positive effects and short run negative effects of financial development on growth. Authors first extended the result of Beck, Loayza and Levine (2000) using the same instrumental technique and showed that the growth enhancing effect of financial depth is weaker but still significantly positive in countries that experienced a financial crisis. The "Pooled Mean Group" estimation technique was used. They observed that a long run homogenous positive relation between financial intermediation and growth coexist with heterogeneous and mostly negative short run effects. Analyzing the cross-country distribution of the short run effects, they found that such a negative short run relation could be linked to the occurrence of banking crises.

The empirical study shows dynamic relationship between economic growth and financial intermediation is negative around financial crisis. Furthermore, the positive link between

"long-run" economic growth and financial deepening is smaller in countries that have suffered banking crisis than in the rest.

2.3 Financial development, economic growth and income distribution

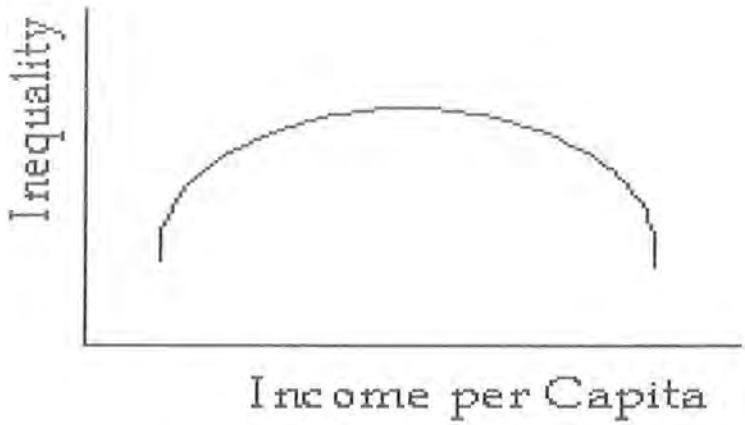
2.3.1 Economic Growth and Income Distribution

More recently, a growing number of studies on the effects of economic growth on income distribution have challenged, on both theoretical and empirical grounds. A series of papers studied the performance of GINI coefficients [2] over time and cross-countries and concluded that these coefficients are relatively stable over time within countries but different across countries.

Simon Kuznets was pioneer of the research. He stated that, how economic growth affects the distribution of income. In his influential paper Kuznets (1955) he argued that the effects of economic growth on income distribution change at different stages of development. His hypothesis was most well established view on linkages between growth and income distribution. This postulated that growth would first lead to an increase and then to a decrease in income inequality. This was captured diagrammatically in the "Kuznets curve".

[2] The Gini coefficient is one of the most popular representations of income inequality. It is based on the Lorenz curve which plots the share of population against the share of income received.

Figure 2.1 Kuznets Curve



This was backed by Kuznets's investigation of a time-series of inequality indicators for England, Germany and the United States. In the 1950s, these were the only countries for which long time series data was available and, by that time, inequality was indeed falling in all three countries, after achieving high figures. The economic mechanism thought to underline this phenomenon was the "transfer of labor from low-productivity (and medium inequality) sectors to high-productivity (and low inequality) sectors. The result was consistent that inequality between the sectors was substantially greater than the inequality within them. Given the data available at the time, it was impossible to reject this rather sensible hypothesis.

The Kuznets curve became one of the stylized facts of the study of income distribution for nearly four decades. Only recently tests of the hypothesis based on much larger data sets have consistently refuted it. These studies were largely made possible by the compilation, in 1995-6, of the Deininger-Squire (1996) international inequality database, which contained 682 'high-quality' observations (of Gini coefficients and quintile shares) for 108 countries. Another slightly modified 'dynamic version' of the hypothesis postulated that fast growing patterns led to higher inequality, regardless of the initial level of income.

Deininger and Squire (1996) also investigated that possibility, by considering growth episodes defined by the availability of distributional data that spanned at least one decade. They concluded that: "there appears to be little systematic relationship between growth and changes in aggregate inequality". Periods of growth were almost equally as often associated with increases in inequality as they were with declines.

It is evident from the literature that economic reform in the transition economies of Eastern Europe and Central Asia (ECA) may have changed the nature of that empirical result. Looking at a sample of 64 changes in mean income and inequality, or 'spells', between 1981 and 1994. Chen and Ravallion (1997) find a significant negative correlation between economic growth and changes in inequality which supported that growth reduces inequality. The effect disappears when ECA spells are eliminated from the sample. The study concluded that the negative link between growth and inequality

detected was brought about by the rather specific circumstances of transition in Eastern Europe and Central Asia, where negative growth and increasing inequality both prevailed since 1990, not necessarily one because of the other.

This type of result has led most economists to adopt a more skeptical view about systematic causal links running from economic growth (a rising distribution mean) to inequality (changes in the dispersion of the distribution). Recent evidence seems to refute the Kuznets hypothesis about an inverted-U relationship between the level of income and the level of inequality. Outside transition economies, growth episodes do not, on average, seem to be associated with contemporaneous increases in inequality.

Tanzi (1998) advanced some theoretical arguments why inequality may not be strongly affected by economic growth. He argued that, in addition to broad economic changes and economic activity, inequality is much influenced by social norms and attitudes. In traditional and poorer societies where public sector intervention is limited, social norms are very important. These norms tend to be relatively stable over time in specific countries even though they may differ among countries. As such, they have strong influence in maintaining the existing income and wealth distribution. According to Tanzi, this is a reason why many studies find that Gini coefficients are relatively stable within countries but different among countries. In more open and more developed societies the role of government and the impact of broad economic forces are more important.

Li, Squire and Zoë (1998) found such results using the data set on Gini coefficients covering 112 developed and developing countries for the year1947-94. This suggested that inequalities are largely determined by the factor change only slowly within countries but are quite different across countries.

2.3.2 Financial development and income distribution

The relationship between financial development and income distribution is important for policy makers. It is important for policy makers to know whether finance can be used as an instrument to affect income inequality and in what context it might be useful in doing so.

Recent models suggested that capital market imperfections might affect income inequality during economic development. Greenwood and Jovanovic (1990) presented a theoretical model in which financial development fosters economic development, which, in turn, facilitates necessary investment in financial infrastructure. In their model, agents operate the more profitable, but more risky, of two technologies only when they can diversify risk by investing in financial intermediary coalitions. However, the fixed costs fees associated with these coalitions prevent low- income individuals from joining them. Assuming that poor individuals save less, and thus accumulate wealth more slowly, income differences between (high- income) members of intermediary coalitions and (low-income) outsiders will widen, resulting in an increase in income inequality. However, since the entrance fee is fixed, all agents eventually join these coalitions, resulting in an eventual reversal in the upward trend. Consequently, Greenwood and Jovanovic's (1990) model predicts an inverted u-shaped relationship between income

inequality and financial sector development, with income inequality first increasing and then decreasing – before eventually stabilizing – as more people join financial coalitions (the *inverted u-shaped hypothesis*).

Galor and Zeira (1993) suggested that long-run convergence in the income levels of rich and poor would not necessarily happen in economies with capital market imperfections *and* indivisibilities in investment in human or physical capital. Depending on the initial wealth distribution, income inequality might persist. They constructed 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. Due to capital market imperfections, only rich agents can borrow enough to run these indivisible, higher-return technologies. Once again, the initial distribution of wealth has long-run effects on income distribution and growth. Holding all else equal, these models suggest that countries with larger capital market imperfections (i.e. higher hurdles to borrow funds to finance indivisible

investment) should have higher income inequality. Consequently, we should observe a negative relationship between financial development and income inequality (the *linear hypothesis*).

The predictions of these models can also be combined with the insights of Kuznets (1955) to suggest potential links between the sectoral structures of the economy, financial sector development, and income inequality. Focusing on the transition from agriculture to industry, Kuznets (1955) conjectured that there might be an inverted u-shaped relationship between income inequality and economic development. As people move from the low- income, but more egalitarian, agricultural sector to the high- income, but less egalitarian, industrial sector, income inequality initially increases. However, as the agricultural sector shrinks and agricultural wages increase, this trend reverses and income inequality decreases.

More general models involving a traditional sector with a simple technology and a modern sector that employs an advanced technology that requires familiarization before adoption can make similar predictions. Since only a minority of people initially benefits from the higher income possibilities in the modern sector, income inequality increases at the initial stage of economic development. However, as more people adopt the new technology, and as new entrants catch up with those who started earlier, this reverses and income inequality starts to fall. Financial sector development might affect income inequality if agents require access to finance in order to migrate to the modern sector.

Since, as suggested by Kuznets (1955), income inequality is likely to be higher in the modern sector (industry and services), and if entry into this sector is made easier when it is easier to gain access to finance, inequality will be greater in economies with larger modern sectors. Further, if highly talented individuals can garner larger rewards in the modern sector, these individuals might be able to gain especially large rewards when they have easier access to finance, resulting in greater within-sector income inequality in the modern sector than would have been possible in the traditional sector.

Consequently, inequality will be higher in countries with large modern sectors and greater financial depth than in countries with only one (or neither) of these characteristics. In other words, holding constant the direct impact of financial sector development on inequality, the coefficient on an interaction term between financial depth and the size of the modern sector would be positive. Thus arrive on the *augmented Kuznets hypothesis: sector structure will affect how financial depth impacts inequality. In particular, expecting a positive interaction between financial depth and the importance of the modern sector (as characterized by industry and service sectors).*

The empirical investigation yields several results. Firstly, on average there appears to be a negative relationship between financial sector development and income inequality. This is consistent with the conjecture in Banerjee and Newman (1993) and Galor and Zeira (1993). Secondly, found little evidence to support the Greenwood-Jovanovic hypothesis of an inverted u-shaped relationship between inequality and finance. Thirdly, consistent with insights based on Kuznets (1955), sectoral structure appears to affect how financial

intermediaries impact inequality. In particular, the inequality-reducing effects of financial intermediaries is muted in countries with larger modern (i.e., non-agricultural) sectors. Theory thus makes different predictions about the relation between financial intermediaries and income inequality.

2.4. Financial Development, Economic Growth, and Poverty

2.4.1 Economic Growth and Poverty

Economic growth is necessary for poverty reduction. Numerous studies have shown that the incomes of the poorest are responsive to growth (Ravallion, 1993;Ravallion and Datt 1994; Bell and Rich, 1994).

Roemer and Gugerty 1997 used data on income distribution covering twenty-six developing countries to compare the growth of average income for both the poorest 20 percent and the poorest 40 percent of the population to the growth of GDP per capita. The analysis showed that an increase in the rate of per capita GDP growth translated into a one-for-one increase in growth of average income of the poorest 40 percent. GDP growth of 10 percent per year is associated with income growth of 10 percent for the poorest 40 percent of the population. For the poorest 20 percent the elasticity of response was 0.921; GDP growth of 10 percent is associated with income growth of 9.21 percent. These regressions indicated that on average the poor do benefit substantially from economic growth. On average, the poor do better in countries that grow quickly, even if income distribution deteriorates slightly. Countries that experienced rapid economic growth over the last thirty years, such as Hong Kong, Korea, Malaysia, and Indonesia, saw the per

capita incomes of the poorest 20 percent and 40 percent of the population grow significantly.

Timmer (1997) using data on income distribution for 27 developing countries, this paper estimated the impact of average per capita income growth on the growth of per capita income of each income quintile. The paper called for visible and pro-active measures to reach the poor so as to sustain growth friendly

Gallup, Radelet and Warner (1998) extended the results by looking at a wider sample of countries and a longer time period. They examined the relationship between economic growth and poverty through two models. The first model (the "short panel") used the same essential framework as Gugerty and Roemer, but used data from 69 countries that include 488 growth periods, with an average growth period of 2.7 years. The second model was a long-run growth model (the "long panel") that examined one long-term growth episode from the 1960s to the 1990s for 54 countries. In their short panel analysis, they found that in a simple regression of the income growth of the poor against overall income growth, the "elasticity of connection" was nearly one. In addition, their analysis indicated that where the initial income share of the poor is low, the subsequent income growth of the poor is higher than average income growth. This suggested a tendency for countries to converge to similar income shares for the poorest quintile.

The paper also estimated the same regression using fixed-effects estimates, creating a model similar to that of Timmer (1997). This technique allows a separate intercept for

each country in the sample, and attempts to control for country differences in income growth of the poor due to unobservable factors. Again they found that the elasticity of connection of the poor to GDP growth is one, and income growth of the poor is higher in countries with an initially lower income share of the poor. Their analysis also tested the presence of measurement error as potential driver of the results.

In the early years of the study, the income of the poor might have been badly estimated because of poor survey and data quality. If that is the case, then the first income estimate may be different than the actual income, implying that subsequent growth in income is misestimated. By using instrumental variable analysis they found evidence of some measurement error in the data. Using the previous period's income share as an instrument reduces the impact of initial distribution to a statistically insignificant level, though the sign remains the same. They turned to the analysis of longer-run effects, estimating the model over a growth period of thirty years. They found the results of the short panel confirmed over the longer term: growth of income of the poor is highly connected to overall income growth and income growth of the poor is higher in countries with a lower initial share for the poor.

In an important paper, Dollar and Kraay (2001) investigated empirically the relationship between the growth and poverty. Using a sample of 80 countries over four decades, they examine the relationship between the effects on economic growth on the income of the bottom 20% of the population and found that the income of this group had unitary elasticity with respect to growth. In other words, the economic growth did not

disadvantage the poor by excluding them from growth-induced prosperity. They also found that the poverty / growth relationship did not change in negative growth episodes or positive growth episodes. The relationship between the growth and income for the lowest quintiles appeared to hold regardless of the levels of development of countries examined.

Ravallion (2001) revisited the debate on whether growth lowers or raises poverty, by drawing insights from a comparison of national accounts and household survey data. The poor in developing countries typically do share in the benefits of rising affluence, and they typically do suffer from economic contraction. However, there is a variance around "typical" or "average" outcomes for the poor. Recent theories and evidence suggest some answers, but deeper microeconomic empirical work is needed on growth and distributional change.

2.4.2 Financial Development and Poverty

More recently, attention has switched to the role of finance in poverty reduction in developing countries. A fundamental cause of poverty is market failure, and financial market imperfections often prevent the poor from borrowing. Improving the access of the poor to financial services, particularly to credit and risk-insurance services, strengthens the productive assets of the poor, enhances their productivity, any increase the opportunities for achieving a sustainable livelihood World Bank (2001).

There is a growing body of empirical evidence to support the view that financial development can reduce poverty levels in the developing world, both directly through widening access of the poor to financial services, and indirectly through the impact of financial development-led growth on poverty reduction.

A closely related literature is concerned with capital market failures resulting from problems of moral hazard and adverse selection in credit markets Stiglitz (1998). Imperfect or failing capital markets result in unequal access to credit, whereby a group of people are unable to invest productively, simply because they do not have sufficient wealth for collateral or are caught in a low return – high borrowing rate situation Ferreira (1999). The poor are prevented from choosing the most productive activity because imperfect information and incomplete contracts cause a credit market failure.

Barro (1999) argued that the credit-market imperfections typically reflect asymmetric informations and limitations of legal institutions. Creditors may have difficulty in collecting on defaulted loans because law enforcement is imperfect. A bankruptcy law that protects the assets of debtors may also hamper collection. With limited access to credit, the exploitation of investment opportunities depends, to some extent, on individuals' levels of assets and incomes. Specifically, poor households tend to forego human-capital investments that offer relatively high rates of return. In this case, a distortion-free redistribution of assets and incomes from rich to poor tends to raise the average productivity of investment. Through this mechanism, a reduction in inequality raises the rate of economic growth, at least during a transition to the steady state. If

capital markets and legal institutions tend to improve as an economy develops, then the effects related to capital-market imperfections are more important in the poor economy than in the rich economy. Therefore, the predicted effects of inequality on economic growth (which were of uncertain sign) would be larger in magnitude for poor economies than for rich ones.

Mosley (1999) argued that removal of controls on interest and financial deepening did not increase the volume of savings or access to credit in rural areas, except for those who already have collateral. This distortion can, however, be relieved by investment in institutions, which use peer-review as a substitute for collateral. Financial innovations in rural locations do have a strong and significant correlation with both credit and availability. Thus the provision of appropriate technical support for institutions which lend to the uncollateralized is a viable strategy in order to protect the poor against and to cope with risk.

The Poor households react to income volatility in two ways. Firstly, they may adopt production plans or employment strategies to reduce their exposure to risk of adverse income shocks even if this entails lower average income. It has been found that households, which are more vulnerable to income shocks, devote a smaller share of their land to risky high-yielding varieties compared to households with better access to coping mechanisms Morduch (1990). Secondly, poor households may also try to smooth consumption by creating buffer stocks, withdrawing children from school, and developing informal credit and insurance arrangements. However, informal mechanisms

of insurance are unable to cope with systemic risks. Negative income shocks in rural areas following a decline in agricultural output usually impact on whole villages. No matter how good the within-village insurance mechanisms that have been developed villagers would be unable to protect themselves from such shocks Udry (1994).

The potential for financial development as an instrument of economic management and of poverty reduction will be unfulfilled so long as the conventional financial institutions are reluctant to expand their activities beyond their traditional creditors. Microfinance institutions[3] will play an important role in filling this gap and possibly also, in a longer-term, reduce imperfections in the market and thus improve access to credit to poor households in urban and rural areas.

Microfinance may also enable small and marginal farmers to purchase the inputs they need to increase their productivity, as well as financing a range of activities adding value to agricultural output and in the rural off-farm economy. Access to savings facilities also plays a key part in enabling the poor to smooth their consumption expenditures, and in financing investments, which improve productivity in agriculture and other economic activities.

Microfinance reduces the vulnerability of client households by helping them to diversify their sources of income, build their base of physical, financial, human and social assets, and empower women. In the latest research, it is argued that Microfinance institutions do have an important role to play in poverty alleviation. The provision of Microfinance

services can only be effective in reducing poverty if it enhances the ability of the poor to generate sustainability higher income and to save for the future.

[3] Microfinance institutions (MFIs) can be defined as formal, semi formal or informal providers of financial services to low-income clients, including the self-employed. Financial services generally are restricted to landing although some MFIs also provide savings, insurance and payments services

Chapter

3

FRAMEWORK OF THE STUDY

3.1. Theoretical Framework

It's worth mentioning functions of financial sector prior to discuss, in detail, the link of financial development with economic growth, income inequality and poverty. Financial sector performs various functions some of which are discussed in the following lines.

3.1.1. Payment Services

Financial institutions through providing efficient means of payment services facilitate Exchange of goods and services. A monetized economy with a readily accepted means of exchange eliminates the need for double coincidence of wants, economizes on transaction cost and thus enables greater specialization than does an economy based on barter. Financial institutions can lower the costs of transactions further by offering a trusted, timely and efficient payment system that reduces the geographic and time barriers to monetary exchange. By offering trusted, timely and efficient payment services, financial institutions can increase the public's confidence, attract funds, and thus increase inside money; that is the resources that are intermediated through the financial system.

3.1.2. Mobilizing Savings

Financial institutions mobilize and pool savings. By aggregating small savings from individuals, financial institutions can make possible large-scale investments and the adoption of better technologies. The capacity of the financial sector to attract savings, however, depends on the trust and confidence that savers have in their financial institutions.

3.1.3. Risk Diversification

Financial institutions facilitate risk amelioration. Specifically, they help decrease the liquidity risk stemming from investment in long term illiquid projects. By transforming callable deposits into long-term loans, banks can offer liquid assets to savers, and long term financing to investors. Liquid capital markets allow savers to hold assets that they can easily and quickly sell, and at the same time they offer long-term resources to firms. Financial markets also help diversify the risks facing individual firms, industries, regions, or countries, and thus faster innovation and technical change.

3.1.4. Resources Allocation

Financial institutions facilitate the acquisition of information about potential investment projects and thus resource allocation. In major role of banking industry is to develop expertise in the process of collecting and analyzing the collection of information about investment opportunities and thus more efficiently identify the most promising entrepreneurs and the projects most deserving of investment. This function is especially

important in a transition economy that needs to redefine its industrial structure in order to transform to a market economy and integrate with the global economy.

3.1.5. Corporate Control

Financial intermediaries can exert corporate control over inside owners and managers. This serves not only to protect the capital provided by outside investors but also to ensure efficient resource allocation. Again, this function is especially important in a transition economy that is in need of industrial restructuring.

Having explained the major functions of the financial sectors now we analyze the relationship of financial development with economic growth, income inequality and poverty.

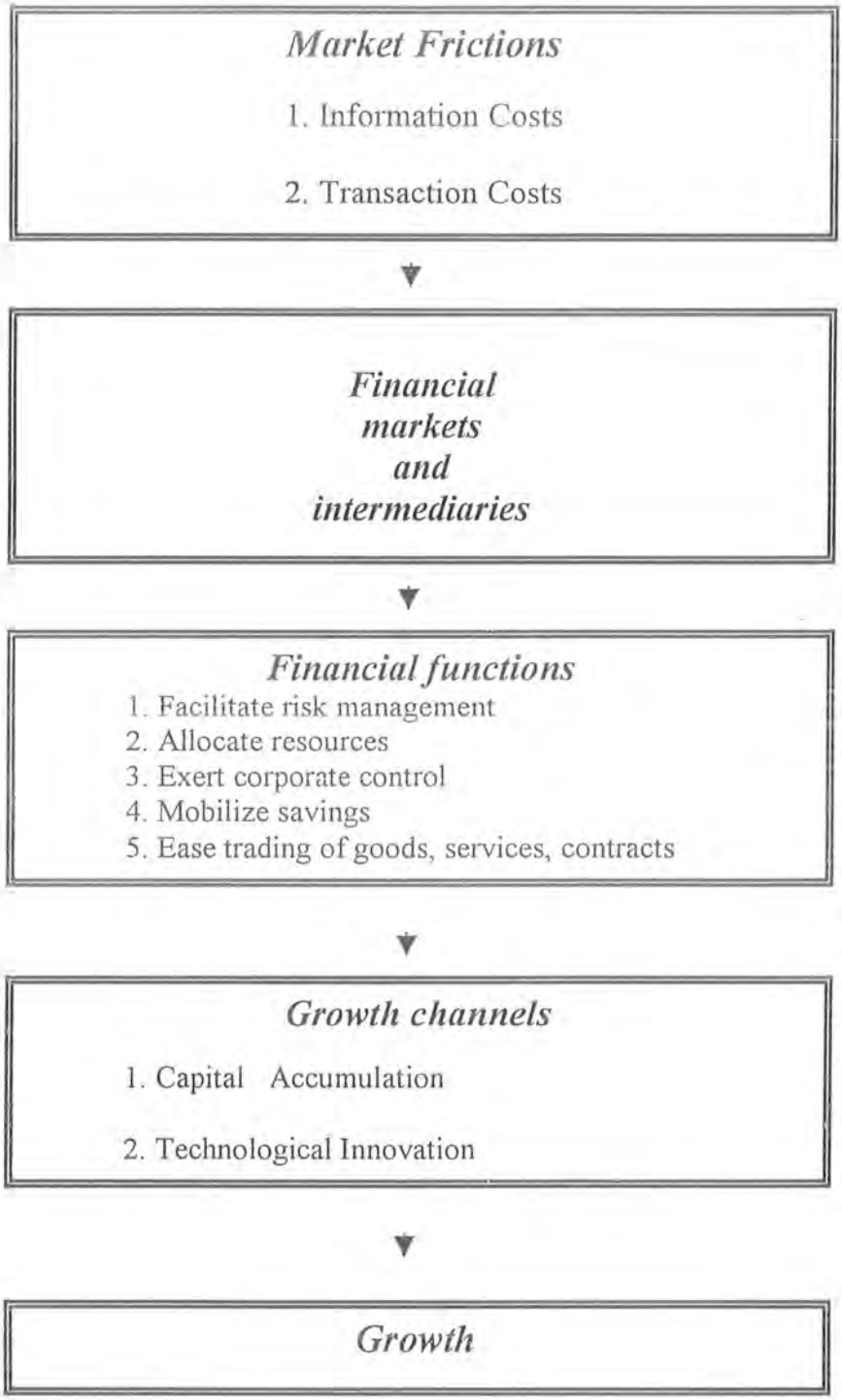
3.1. a. Financial Development and Economic Growth

The relation between financial development and economic growth can usefully be illustrated by sketching the progress from market frictions to growth via the emergence of financial market (see figure 3.1). The cost of acquiring information and making transactions, and the problem of such endeavors, motivate the emergence of financial markets and institutions. Financial systems facilitate the allocation of resources across space and time in an uncertain environment. The financial system five basic functions affect growth through capital accumulation and technological innovations (Levine, 1997). A well developed financial system promotes growth in the following ways in financial intermediaries can reduce information cost even further because they can economize on

monitoring costs. The intermediary collects saving from many savers and lend these resources to project owners. Economizing arises because monitoring of borrowers is undertaking by one agent and not by all individual savers Merton and Bodie (1995) argue that a system facilitates the corporate control allows for an efficient separation of ownership from management of the firm. In turn, this allows for efficient specialization in production, in line with the principle of comparative advantage.

Bencivenga and Smith (1991) show that without banks, households are forced to hold unproductive liquid assets in order to protect against unpredictable future liquidity needs (i.e. self-insurance). The quantity of investments then is lower and the number of liquidated investments higher (since households need to self-finance to a larger extent). The consequence is that growth-promoting saving, and hence capital accumulation and real growth, is lower when banks do not act as financial intermediaries between savers and investors. The reason is that banks, with large number of depositors – and hence predictable withdrawal demand – can economize on liquid reserve holdings that do not contribute to capital. In other words, high liquidity risk leads to less investment and lower growth.

Figure 3.1 Growth through Financial Intermediaries



Source: Levine (1997)

Financial systems also mitigate idiosyncratic risk through risk diversification, trading, and pooling. If risk can be diversified, risk-averse savers are willing to lend some of their funds to high-return projects that are riskier than low-return projects; hence, resource allocation and the savings rate may be altered.

Risk diversifications can also affect technological innovation as agents continuously try to make technological advances to gain a profitable market niche. Since innovation is risky, the ability to hold a diversified portfolio of innovative projects reduces risk in growth-enhancing innovative activities (King and Levine, 1993a).

Greenwood and Jovanovic (1990) argue that since many firms and entrepreneurs will solicit capital, financial intermediaries and markets that are better at selecting the most promising firms and managers will induce a more efficient allocation of capital and faster growth. In the same vein, King and Levine (1993b) introduce agency costs of figuring out the value of a research project. The larger the agency costs, the lower the equilibrium level of research and therefore the lower the growth rate. As a result of scale economies, financial development can lower the intermediation costs.

Developed financial intermediaries add to economic growth through monitoring managers and exerting corporate control than individual investors (Levine et al. 2000, Beck et al. 2000). There is a classic principal agent problem faced by the investor. Although the investor can monitor a project's performance himself but this is likely to be

costly and difficult. A financial sector that can effectively and efficiently monitor projects for investors will obviously lead to more investment and thus economic growth.

Capital accumulation from savings mobilization (pooling), better savings mobilization can improve allocation and boost technological innovation. Better risk diversification, liquidity, and the size of feasible firms enhance resource allocation. Mobilization involves the build-up of capital from disparate savers for investment. With multiple investors, many production processes can enjoy economically efficient scales. Mobilization also means the creation of small denominated instruments, which provide opportunities for house holds to whole diversified portfolios, invest in efficient scale firms, and to increase asset liquidity.

However, savings mobilization from many desperate savers is costly because there are substantial transaction costs associated with savings collection. Furthermore, there are costs involved in overcoming information asymmetries associated with making savers feel comfortable in relinquishing control of there savings. These information and transaction costs can be reduced by the emergence of various financial arrangements.

3.1. b Financial Development and Income distribution

Several recent models suggest that credit market imperfections might affect income inequality during economic development. Credit market imperfections is an important determinant of inequality because, in the absence of credit markets or when such markets are imperfect, investment in both human and physical capital is likely to be determined

by individual's wealth and income. Development of the financial system may ultimately provide an avenue to weaken the link between asset ownership and productive investment activity. As in Greenwood and Jovanovic (1990) the dynamics of financial investment activity is expected to follow a Kuznets type pattern. At the initial stage of development of an economy, there are few financial markets and economic growth is slow. As the economy develops, the financial system also develops but transactions costs and credit market failures are such that only those with command over a certain level of assets are likely to be engaged with the financial system and to benefit from it. As the financial system approaches maturity, the transaction cost of using financial services decline and there is improved access to its use for a wide section of society. Gradual development of the financial system can be expected, therefore, to weaken the link between asset ownership and investment. During this process, the dynamics of income distribution will change. In the early stages inequality is likely to increase as financial development takes place and benefits are unequally shared in favor of the relatively wealthy. Gradually, as further development takes place and benefits from such development are more widely shared, inequality will begin to decline.

3.1. c Financial Development and Poverty

The predominant view was founded on the belief that state-owned banks, including special development banks, and subsidized lending could massively reduce poverty. This view was based on the perception that the private sector was not able or willing to supply the necessary financial services to key economic sectors nor did it have any interest in lending to the poor. However, the state-owned financial institutions hindered more

general financial market development, often served only to destroy savings and failed to provide sustainable financial services to the poor. While discussing financial development one must not forget that microfinance is an integral part of modern day financial sector. Empirical evidence reveals that micro financing reduces vulnerability of poor households. This is achieved through opportunities created by microfinance for wage employment, raising agriculture productivity among small and marginal farmers, and increasing opportunities for self-employment. Although rapid and sustainable poverty reduction depends on the integration of a wide range of policy measures, it can be argued that viable micro-finance sector might also reinforce other poverty-reduction policies.

3.2 Empirical Framework

To further explore the relationship between 1) financial development and economic growth; 2) financial development and income distribution; 3) financial development and poverty, we estimate regression equations by using the following variables.

GPCY = GROWTH RATE OF PER CAPITA INCOME

PCY = PER CAPITA INCOME

$(PCY)^2$ = SQUARE OF PER CAPITA INCOME

LPCY1 = LOG OF INCOME OF POOR

LPCY = LOG OF PER CAPITA INCOME

DCP = DOMESTIC CREDIT TO PRIVATE SECTOR

LLI = LIQUID LIABILITES

BLR = RATIO OF BANK LIQUID RESERVES TO BANK ASSETS

GINI = GINI COEFFICIENT

GL = GROWTH RATE OF LABOUR FORCE

SEP = ENROLLEMENT OF PRIMARY SCHOOLING

EXP = GOVERNMENT EXPENDITURE

100*(X+Y)/Y = IMPROTS PLUS EXPORTS MULTIPLY BY HUNDRED AND DIVIDED BY GDP

The definitions of the variables are given in the forthcoming chapter.

3.2.1 Financial Development and Economic Growth

We adopt a variant of the model developed by King and Levine (1993) to measure directly any contribution that financial development is likely to make to economic growth. As growth is directly related to financial development as well as to other explanatory variables, that is:

$$GPCY = \alpha_0 + \alpha_1 DCP + \alpha_2 LLI + \alpha_3 BLR + \alpha_4 ((X+M)/Y)*100 + \alpha_5 GL + \alpha_6 SEP + \alpha_7 EXP + \varepsilon_{it} \quad (3.1)$$

The dependent variable 'GPCY' denotes Growth Rate of Per Capita Income where as the independent variables are 'DCP' which stands for Domestic Credit to Private Sector and is known as the size of financial sector development, 'LLI' represents Liquid Liabilities and is a typical measure of financial depth, 'BLR' is bank liquid reserve ratio, ((X+M)/Y)* 100 capture the degree of openness of an economy, 'GL' is Growth rate of Labour Force, 'SEP' is Enrolment of Primary Schooling, and 'EXP' is the Government Expenditures respectively.

3.2.2 Financial development and income distribution

To analyze the link between financial development and income distribution, we have used a model similar to the one used in most Kuznetian literature; Barrow (2000) is one recent example of using such type of model. Gini Coefficient measures the income distribution. In present study we have estimated the following regression.

$$GINI = \beta_0 + \beta_1 PCY + \beta_2 PCY^2 + \beta_3 DCP + \beta_4 LLI + \beta_5 BLR + \beta_6 ((X+M)/Y)*100 + \beta_7 GL + \beta_8 SEP + \beta_9 EXP + \varepsilon_{it} \quad (3.2)$$

The dependent variable 'GINI' (Gini Coefficient) measures Income Inequality in the economy where as the independent variables are 'PCY' is the Per Capita Income , 'PCY^2' is used to test the Kuznet hypothesis, 'DCP' stands for Domestic Credit to Private Sector and is known as the size of financial sector development, 'LLI' represents Liquid Liabilities and is a typical measure of financial depth, 'BLR' is bank liquid reserve ratio,((X+M)/Y)* 100 captures the degree of openness of an economy, 'GL' is Growth rate of Labour Force , 'SEP' is Enrolment of Primary Schooling, 'EXP' is the Government Expenditures respectively.

3.2.3 Financial Development and Poverty

The third relation to be invested is the link between financial development and poverty. In model used by Dollar and Kraay (2000), the poverty is measured by income of the poor .The relationship between the two has been shown by equation.

$$LPCY1 = \gamma_0 + \gamma_1 LPCY + \gamma_2 DCP + \gamma_3 LLI + \gamma_4 BLR + \gamma_5 ((X+M)/Y)*100 + \gamma_6 GL + \gamma_7 SEP + \gamma_8 EXP + \varepsilon_{it} \quad (3.3)$$

The dependent variable '$LPCY_1$' is Log of Income of poor, where as the independent variables are LPCY which represents the log of Per Capita Income, 'DCP' stands for Domestic Credit to Private Sector and is known as the size of financial sector

development, 'LLI' represents Liquid Liabilities and is a typical measure of financial depth, 'BLR' is bank liquid reserve ratio,((X+M)/Y)* 100 captures the degree of openness of an economy, 'GL' is Growth rate of Labour Force , 'SEP' is Enrolment of Primary Schooling, 'EXP' is the Government Expenditures respectively.

Chapter

4

DATA DESCRIPTION, CONSTRUCTION OF VARIABLES AND ESTIMATION PROCEDURE

4.1 Data Description

An upgraded research is based on the availability of reliable data. So, Data collection is a stepping-stone towards the destination of the researcher. Therefore any mistake in data collection will cause inconsistent results. It is imperative to avoid doing errors while collecting data.

Data on various indicators of financial development, control variables and growth are taken from World Bank CD-ROM World Development Indicators. However, for a reliable and up to date data series on poverty and inequality is based on Deninger and Squire (1996) and Lunberg and Squire (1998), which give data for income as well as 'Gini Coefficients'. Dollar and Kraay (2000) have extended the series regarding countries and time period; and it is their data for income for the bottom quintile that we use

4.2 Variables

Domestic Credit to Private Sector

Domestic credit provided by banking sector includes all credits to various sectors with the exception to the central government. The banking sector includes monetary authorities, deposit money bank and other banking institution for which data is available.

Domestic credit is given through loans, purchases of nonequity securities, and trade credits and other accounts receivable, which establish a claim for repayment. This measure isolates credit issued to the private sector as opposed to credit issued to governments and public enterprises. This measure indicates one of the main functions that are to channel savings to investors. This indicator has been used by Levine and Zervos (1998), Levine and Beck et al (2000).

Liquid Liabilities

Liquid liabilities are also known as broad money, or M3.These are the sum of currency and deposits in the central bank (M0), plus transferable deposits and electronic currency (M1), plus time and savings deposits, foreign currency transferable deposits, certificates of deposit, and securities repurchase agreements (M2), plus travelers checks, foreign currency time deposits, commercial paper, and shares of mutual funds or market funds held by residents. Liquid Liability is a typical measure of 'financial depth' and thus overall size of the financial sector (King and Levine 1993a). This measure of financial development is used in Levine (1997).

Ratio of Bank Liquid Reserves to Bank Assets

Ratio of bank liquid reserves to bank assets is the ratio of domestic currency holdings and deposits with the monetary authorities to claims on other governments, nonfinancial public enterprises, the private sector and other banking institutions.

Growth rate of Per Capita Income

We have used the growth rate of per capita income as a measure of economic growth. This is most widely used in the imperial literature of economic growth. Mankiw et al, (1992), Barrow (1991), Easterly et al. (1997) are a few of the most well known empirical studies on economic growth, which have used this measure.

Gini Coefficient

One familiar interpretation of this coefficient comes from the Lorenz curve, which graphs cumulated income share versus cumulated population shares, when the population is ordered from low to high per capita incomes. In this context, the Gini coefficient can be computed as twice the area between the 45-degree line that extends northeastward from the origin and he Lorenz curve. Gini coefficient is used by Barro, R.J (1999) as measure of income inequality.

School enrollment, primary

It is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Primary education provides children with basic reading, writing, and mathematics skills along with an elementary understanding of such subjects as history, geography, natural science, social science, art, and music. Barro (1991) used primary school enrollment as a proxy for human capital.

Labor force

We have used the growth rate of labor force as the second proxy for human capital. Total labor force comprises people who meet the International Labor Organization definition of the economically active population: all people who supply labor for the production of goods and services during a specified period. It includes both the employed and the unemployed.

Government Expenditure

Total government expenditure includes both current and capital expenditures. It does not include government lending or repayments to the government or government acquisition of equity for public purposes. Data are taken for central government only. Most of the economic study stresses that government expenditures play important role in the economic growth.

Barro (1999), Dollar and kraay (2000) used this measure in determining the growth level.

Income of the Poor

The incomes of the poor are equal to the first quintile share times average incomes divided by 0.2. This measure for the income of the poor is preferred by Dollar and Kraay (2000).

4.3 Estimation Procedure

There are seventeen countries included in our sample and the data related to our concerning variable is taken from 1971 to 2000. We use the panel data set. A Panel data

set is one that includes a sample of countries over a period of time. A panel data set can be useful because it allows the researchers to sort out economic effects that can not be distinguished with the use either cross section or time series data alone. The use of panel data has an advantage. For example, it provides an increased number of data points, and that generates additional degrees of freedom. Due to the limitations of the data, the numbers of observations are very small. So, we pooled the data. There are several methods to carry out empirical analysis of the pooled data. One way of estimation is to pool all the time series data over different cross- sections. In our case there are 17 countries (cross-sections) and time series (1971 to 2000). As the data relating to our variables obtained from these countries is very limited. Only 69 observations are obtained after pooling. Thus, the model is to be estimated by using all the observations with common constant term, using OLS, known as "pooled least squares".

4.4 Countries Used In our Study

Most of the researchers have proved that financial development has a flourishing effect on economic growth for financially developed countries. These countries usually fall in high-income group. However, in order to investigate the effect of financial development on economic growth have been given little attention both theoretically and empirically in financially less developed countries. That's why we have selected the countries which are financially less developed in our sample taken on the basis of three different income groups i.e. low-income, lower middle-income, upper middle-income. High-income group consists of the countries with per capita annual income of U$ 9,206 or more. Low-income group consists of the countries with per capita annual income of U$ 745 or less. Lower

middle-income group consists of the countries with per capita annual income of U$ 746-U$ 2,975. Upper middle-income group consists of the countries with per capita annual income of U$ 2,976- U$ 9,205.

The main consideration in the selection is the availability of the consistent data series used in the anaylysis. Although initially a large number of countries were selected but later on only some are selected. Selected countries have consistent data series.

Low-income countries are Ghana, India, Indonesia, and Pakistan. Lower middle-income countries are China, Colombia, Jamaica, Peru, Philippines, Sri Lanka, and Thailand whereas the upper middle-income countries are Brazil, Chile, Costa Rica, Malaysia, Mexico, and Venezuela.

Chapter

5

EMPIRICAL RESULTS

The results of the Table 5.1 are obtained by using pooled data of 17 countries starting from 1971 to 2000. There has been applied *pooled least squares* estimation technique. The results prove that value of R^2 is equal to 0.77 and Durbin-Watson is close to two. There were signs of auto correlation problem, which was removed by applying the AR (1) technique to each country separately. It is evident from the results that domestic credit to private sector (*DCP*) has significantly positive impact on growth rate of per capita income (*GPCY*). The value of coefficient of *DCP* is 0.11 and it is significant at 10% level of significance. Its sign remained positive in two versions of our model. It means, "1 unit increase in *DCP* will result in 11% increase in *GPCY*". This outcome is quite consistent with the empirical findings of Levine (2000). The liquid liability *(LLI)* has negative and significant impact on *GPCY* and the value of its coefficient is -0.17 and it is significant at 1% level of significance. The value of coefficient of growth rate of labor force *(GL)* is -8.64 and it is also significant at 1% level of significance. This negative impact can be due to the fact that population is composed of unemployed and employed labour force. The countries used in this study have bigger proportion of unemployed labour force in their population. There is negative but insignificant effect of expenditure *(EXP)* on *GPCY*. The result is consistent with the economic theory, according to the theory a major share of total expenditure in developing countries is directed towards non-development expenditure. Ratio bank liquid reserves to bank assets (BLR) and trade

Table 5.1

Determinants of Growth Rate of Per Capita Income (GPCY)

Regression Results

Variable	*Coefficient*	*t-statistics*	*Probability*
C	40.34	(-4.58)*	0.00
DCP	0.11	(1.91)***	0.06
LLI	-0.17	(-2.81)*	0.01
BLR	0.02	(0.64)	0.52
100*(X+M)/Y	0.02	(0.65)	0.00
GL	-8.64	(-4.51)*	0.00
SEP	-0.10	(-2.35)**	0.02
EXP	-0.13	(-1.12)	0.27
BRA -- AR(1)	0.85	(4.08)*	0.00
CHL -- AR(1)	-0.63	(-1.15)	0.25
CHN -- AR(1)	0.40	(1.12)	0.27
COL -- AR(1)	-0.31	(-1.30)	0.20
COS -- AR(1)	0.01	(0.02)	0.98
GHA -- AR(1)	1.70	(1.65)**	0.11
IDI -- AR(1)	0.62	(2.58)*	0.01
IDO -- AR(1)	0.77	(4.19)*	0.00
JAM -- AR(1)	0.96	(10.11)*	0.00
MAL -- AR(1)	0.95	(5.72)*	0.00
MEX -- AR(1)	0.47	(1.50)	0.14
PAK -- AR(1)	-0.18	(-0.61)	0.55
PER -- AR(1)	0.58	(4.88)*	0.00
PHI -- AR(1)	0.79	(2.91)*	0.01
SRI -- AR(1)	0.39	(0.64)	0.53
THI -- AR(1)	-0.24	(-0.58)	0.56
VEN -- AR(1)	0.61	(3.43)*	0.00
R^2	0.77		
DW	2.24		

t-statistics are given in parenthesis.

*, **, and *** indicate that the coefficients are significant at 1%, 5% and 10% level of significance

openness (*100*(X+M)/Y*) have positive impact on *GPCY* but they are found to be statistically insignificant. This may be due to the composition of trade balance; countries with greater import bills have nothing to do with the growth rate of the economy. The effect of enrollment of primary schooling (*SEP*) is significant at 5% level of significance but bears negative sign; possible reasons of this unexpected sign are the error in data and the primary schooling may cause reduction in employment as very large proportion of minors from rural sector and low income group do child labour.

The results of equation (3.2) are reported in table 5.2. The results of the Table 5.2 prove that over-all performance of our model is reasonably fine as R^2 is close to one and Durbin-Watson is close to its desirable limits. The problem of auto correlation is removed by applying AR (1) process to each country separately. The coefficients of per capita income (*PCY*) and per capita income square term (PCY^2) have correct signs and they are statistically significant at 1% significance level respectively. The result is quite consistent with the Kuznets' Hypothesis i.e. inequality first increases (shown by the sign of *PCY*) and later decreases (shown by the sign of PCY^2) in the process of economic development. It is also evident from the results that domestic credits to private sector (DCP), bank liquid reserve ratio (*BLR*) and enrollment of primary schooling have significant and negative impact on Gini Coefficient or *Gini* (a measure of inequality). The results support the theory that domestic credit to private sector increases the inequality in developing countries because only privileged class in these countries has more access to credit rather than the deserving class. On the other hand, liquid liabilities (*LLI*) and expenditures (*EXP*) have significantly positive impact on *Gini Coefficient*. It means that due to these

Table 5.2

Determinants of GINI Coefficient (GINI)

	Regression Results		
Variable	*Coefficient*	*t-Statistic*	*Probability*
C	29.68	(3.20)*	0.00
PCY	0.01	(4.28)*	0.00
PCY^2	-2.35	(-3.48)*	0.00
DCP	0.18	(3.03)*	0.00
LLI	-0.24	(-3.51)*	0.00
BLR	0.11	(1.95)***	0.06
100*(X+M)/Y	-0.01	(-0.35)	0.73
GL	2.03	(1.80)**	0.07
SEP	0.19	(2.25)**	0.03
EXP	-0.34	(-3.50)*	0.00
BRA--AR(I)	0.96	(24.01)*	0.00
CHL--AR(I)	-0.34	(-0.45)	0.65
CHN--AR(1)	0.61	(6.24)*	0.00
COL--AR(1)	0.80	(9.55)*	0.00
COS--AR(1}	0.90	(12.88)*	0.00
QHA--AR(1)	0.77	(6.62)*	0.00
IDI --AR[1)	0.88	(4.57)*	0.00
IDO --AR(1)	0.95	(45.73)*	0.00
JAM--AR(1)	-0.31	(-1.44)	0.15
MAL--AR(1)	0.95	(10.91)*	0.00
MEX--AR(1)	-0.16	(-0.92)	0.36
PAK --AR(I)	0.90	(3.28)*	0.00
PER --AR(1)	0.97	(40.54)*	0.00
PHI --AR(1)	0.46	(0.74)	0.46
SRI -- AR{1)	0.94	(15.09)*	0.00
THI --AR(1)	1.29	(6.16)*	0.00
VEN--AR(1)	0.19	(0.61)	0.54
R^2	0.97		
DW	2.62		

t-statistics are given in parenthesis.

*, **, and *** indicate that the coefficients are significant at 1%, 5% and 10% level of significance respectively.

factors income inequality decreases and income distribution may become equal. The expenditure (EXP) by government in socio-economics sector promote the economic growth and thus by following Kuznet Hypothesis the inequality may be reduced. However, control variable *100*(X+M)/Y* is found to be statistically insignificant. It shows that, it is not playing significant role in the reduction of income inequality. Whereas growth rate of labor force (GL) and (SEP) are statistically significant at 5% level and negative impact means increase in income inequality. The explanation of this result is that higher growth rates of population imply greater pressure of labour supply on their productive factors with the consequent deterioration in the share of labour in total output. This is especially so in the presence of fixed factors such as land, which are likely to be particularly important in developing countries. A higher population density generated by faster population growth is likely to produce a higher rental share, which in turn generates greater inequality given the typically concentrated pattern of land ownership. Econometric exercise is done to investigate an inverted u-shaped relationship between inequality and financial variables. The estimated results do not support the Kuzent type (inverted u-shaped) relationship. Therefore the results are not presented here.

The results of equation (3.3) are reported in table (5.3). The results of the Table 5.3 show that over-all performance of our model is reasonably fine as R^2 is close to one (0.99) and the value of Durbin-Watson is 2.72. The problem of auto correlation is removed by applying AR (1) process to each country separately. The equation is estimated by incorporating the variables, log of per capita income (*LPCY*), domestic credit to private sector (*DCP*), liquid liabilities (*LLI*), ratio of bank liquid reserve to bank asset (*BLR*),

Determinants of Income of the Poor ($LPCY_1$)
Regression Results

Variable	*Coefficient*	*t-statistic*	*Probability*
C	-0.98	(-1.40)	0.17
LPCY	0.92	(20.45)*	0.00
DCP	0.00	(-2.42)**	0.02
LLI	0.00	(1.89)***	0.07
BLR	0.00	(-2.40)**	0.02
100*(X+M)/Y	0.01	(3.52)*	0.00
GL	-0.14	(2.27)**	0.04
SEP	0.00	(0.61)	0.55
EXP	0.02	(3.09)*	0.00
BRA--AR{1)	0.99	(27.45)*	0.00
CHL--AR(1)	0.73	(1.73)***	0.09
CHN--AR(1)	0.36	(2.49)**	0.02
COL--AR{1)	0.75	(4.43)*	0.00
COS--AR(1}	0.83	(9.23)*	0.00
GHA--AR(1)	0.87	(21.12)*	0.00
IDI--AR(1)	0.97	(11.34)*	0.00
IDO--AR(1)	0.97	(60.48)*	0.00
JAM--AR(1}	-0.32	(1.23)	0.23
MAL--AR(1)	1.07	(11.23)*	0.00
MEX--AR(I)	-0.28	(-0.79)	0.43
PAK--AR(1)	1.02	(20.52)*	0.00
PER--AR(1)	0.68	(2.60)*	0.01
PHI--AR(I)	0.62	(0.84)	0.41
SRI--AR(1)	0.97	(38.31)*	0.00
THI--AR(1)	4.22	(0.35)	0.72
VFN--AR(1)	0.84	(3.85)*	0.00
R^2	0.99		
DW	2.72		

t-statistics are given in parenthesis.*, **, and *** indicate that the coefficients are significant at 1%, 5% and 10% level of significance respectively.

trade openness (*100*(X+M)/Y*), growth rate of labor force (*GL*), enrollment of primary schooling (*SEP*) and expenditures (*EXP*). The table shows the significance of *LPCY*, *100*(X+M)/Y* and *EXP* at 1%, *DCP*, *BLR* and *GL* at 5%, *LLI* at 10% level of significance respectively, whereas *SEP* is found to be insignificant. The elasticity of the income of the poor ($LPCY_1$) with respect to the average income of entire population (LPCY) is positive and equal to 0.92. It means that average income growth of entire population of 10% is associated with income growth of 9.2% for the poorest 20 percent.

Most of our selected countries are agriculture economies based on small-scale farming, most of the poor are engaged in agriculture. When a country grows through agricultural exports, or when growth in manufacturing increases the demand for food and materials supplied by the rural sector, growth benefits both poor farmers and the even poorer laborers they employ. In land-poor but labor-abundant economies, such as those of East Asia, rapid growth of manufactured or service exports creates a large pool of new jobs, absorbs the supply of low-productivity workers, and eventually causes a rise in real wages that further reduces poverty. The result is also consistent with Dollar and Kraay (2001). Domestic credit to private sector (*DCP*) and the ratio of bank liquid reserve to bank asset (*BLR*) are statistically significant but have negative impact on income of the poor.

In developing countries bank tend to lend to only the largest borrowers with a well-established reputation or those who are "connected" to them. This results in least portion

of credit being availed by small businesses and poorer individuals. Increase in liquid liabilities causes increase in income of the poor because there will be more fund available for loans for investment purposes. The growth rate of the labor force (GL) hurts the income of the poor because the return to the unskilled labour force are lower than the skilled one and majority labour force working in agriculture sector is unskilled. Whereas, increase in expenditures (EXP) causes increase in the income of the poor specially when government make plans of socio-economic development and for poverty alleviation. One unit increase in expenditures causes 2% increase in the income of the poor. The positive effect of trade openness (*100*(X+M)/Y*), shows that one unit increase in this factor causes 1% increase in income of the poor. This result coincides with the findings of Fitzgerald and Perasino (1995). These researchers concluded that liberalization of the economy encourages an inflow of resources that can lead to employment generation and increased in productivity, which leads to an increase in trade and wages and hence results in alleviation of poverty.

Chapter

6

CONCLUSIONS

A large empirical literature has assumed that the effects of financial development are uniformly positive and much policy advice has been based on these findings. However, the conclusions of our study are different than the earlier studies in this respect. The conclusions of our study are that the different instruments of financial development have different impact on economic growth, income distribution and poverty. One of the instruments-domestic credits to private sector has a little positive impact on growth; but the results of liquid liabilities and the ratio of bank liquid reserves to bank assets are different than the previous one. The liquid liabilities have negative impact on the growth but the ratio of bank liquid reserves to bank assets have no effect on the growth.

However, concerning the role of financial development instruments on income distribution, we find that domestic credit to private sector has negative effect on income inequality. As regard the role of the ratio of bank liquid reserves to bank assets we find that, it has also negative impact on income inequality. So for as third variable is concerned, liquid liability having positive impact on income inequality.

Third conclusion identifies the effect of financial development instruments on the income of the poor. The domestic credit to private sector and ratio of bank liquid reserves to bank

assets are having negative effect on the income of the poor. Where as the liquid liabilities have a little bit effect on the income of the poor.

An important conclusion emerges from our analysis, is that the instruments of financial development have a little bit or negative effect in the underdeveloped countries. The possible reason for this unexpected result is that financial instruments used in the study measure somewhat different things. Liquid Liability is a size measure, which does not show the effectiveness of financial sector in the economy. Similar is the case for Domestic Credit to Private Sector. In developing countries the official financial institutions sometimes raise credit upon government directives without looking at expected future productivity and profitability of the project. The failures of these projects in long run increase the liquid liability and thus may have ambiguous impacts on growth, income distribution and poverty.

Another reason of having little bit or negative effect of financial development on economic growth, income distribution and income of the poor in low-income, lower middle income, and upper middle income countries is that these countries have less developed financial system. As low-income countries are dominated by state-owned financial institutions. The opportunistic behavior of politicians, which worsens the problem of adverse selection and failure in corporate governance, which worsens the problems of moral hazard are the main reasons of this dominancy. In lower-middle income group, the countries have faced banking crises, which results in an undue burden of debt. In upper-middle income group with still-shallow financial system, the financial

depth i.e. full ranges of services are lacking in these countries and are reflected in our results. Missing of Micro finance variables could also be the reason for weak relationship among finance, growth, income distribution and income of the poor.

REFERENCES

Bagehot, W. (1873). Lombard Street. Richard D.Irwin, Homewood, IL, (1962 Edition).

Banerjee, Abhijit V. and Andrew F. Newman. (1993): "Occupational Choice and the Process of Development." *Journal of Political Economy* 101 (2): 274-298.

Barro, R. (1991): "Economics Growth in a cross section of countries." *Quarterly Journal of Economics*, 106:407-443.

Barro, R. (1999): "Inequality, Growth and Investment." Manuscript, Harvard University.

Barro, R. (2000): "Inequality and growth in a panel of countries." *Journal of Economic Growth*, pp 5-32.

Beck, T., R. Levine and N. Loayza (2000): "Finance and the sources of growth." *Journal of Financial Economics*, 58:261-300.

Bell and Rich (1994): "Rural poverty and agricultural performance in post-independence India." *Oxford Bulletin of Economics and Statistics*, 56(2): 111-133.

Cameron, Rondo (1967): "Banking in the Early Stages of Industrialization." *A Study in Comparative Economic History*. New York: Oxford University Press, pp. 15 - 59.

Chen, Shaohua and Martin Ravallion (1997): "What Can New Survey Data Tell Us about Recent Changes in Distribution and Poverty?" *The World Bank Economic Review*, 11(2): 357-382.

Datt, G. and M. Ravallion (1992): "Growth and distribution components of changes in poverty measures." *Journal of Development Economics*, 38:275-295.

Davis, Lance E.(1965): "The Investment Market, 1870-1914: The Evolution of a National Market." *Journal of Economic History*, 25(3): 355 - 399.

Deininger, K. and L. Squire (1996): "A New Data Set Measuring Income Inequality." *World Bank Economic Review*, 10(3): 565-591.

Demirgüç-Kunt, Asli and Maksimovic, Vojislav. (1998) "Law, Finance, and Firm Growth." *Journal of Finance*, 53(6):2107-2137.

Deininger, K and Olinto, P (2001):"Asset distribution, Inequality and Growth." Development Research Group, World Bank.

Dollar, D and Kraay, A (2000): "Growth Is Good for the Poor." Development Research Group,World Bank.

Dollar, D and Kraay, A (2001): "Growth Is Good for the Poor." Development Research Group,World Bank.

Easterly, William (1999): "Life During Growth." *Journal of Economic Growth*, 4:239-276.

Ferreira,F.,G.Prennushi,M.Ravallion (1999): "Protecting the Poor from Macro-economic Shocks:An Agenda for Action in Crisis and Beyond." *World Bank Working Paper, Washington* DC.

Fitzgerald,E.V.K and G.Perosino (1995): Trade liberalization, Employment and Wages: A critical Approach. International Development Centre,Ottawa

Gallup, John, Steven Radelet, and Andrew Warner. (1998): "Economic Growth and the Income of the Poor." Mimeo (August). Prepared for the Consulting Assistance on Economic Reform (CAE R) II Project. Cambridge, MA: Harvard Institute for International Development (HII D).

Galor, Oded and Joseph Zeira. (1993): "Income Distribution and Macroeconomics." *Review of Economic Studies* 60 (1):35-52.

Greenwood J. and B. Jovanovic (1990): "Financial development, growth and the distribution of income" *Journal of Political Economy*, 98(5): 1076-1107.

Greenwood, Jeremy and Smith, Bruce.(1997) : "Financial Markets in Development, and the Development of Financial Markets." *Journal of Economic Dynamics and Control*, 21(1): 145-186.

Gurley, John G., and Edward S. Shaw. (1955): "Financial Aspects of Economic Development." *American Economic Review*, 45(3): 515 - 538.

Keynes, J. M. "*The General Theory of Employment, Interest and Money*", London: Macmillan, 1936.

King, R. G and Levine, R (1993a): "Finance and Growth: Schumpeter Might be Right." *Quarterly Journal of Economics* 108, pp717-737

King, R G and Levine, R (1993b): "Finance, Entrepreneurship and Growth." *Journal of Monetary Economics* 32:1-30

Kuznets, S. (1955): "Economic growth and income inequality." *American Economic Review*, 45:1-28.

Laporta, Rafael; Lopez-de-Silanes, Florencio; Shleifer, Andrei; and Vishny, Robert W. (1997): "Legal Determinants of External Finance." *Journal of Finance*, 52(3): 1131-1150.

Levine (1997): "Financial development and economic growth: Views and agendas" *Journal of Economic Literature*, XXXV: 688-726.

Levine, R, and SARA ZERVOS. (1998): "Stock Markets, Banks, and Economic Growth." *American Economic Review*, 88(3), 537-58.

Levine, Ross. (1999): "Law, Finance, and Economic Growth." *Journal of Financial Intermediation*,

Levine, R, Loayza, N and Beck, T (2000): "Financial Intermediation and Growth: Causality and Causes." *Journal of Monetary Economics*, 46:31-77

Lewis, W.A. (1954): "Economic development with unlimited supply of labour." *Manchester School of Economics and Social Studies*, 22:139-181.

Li, Hongyi; Lyn Squire and Heng-Fu Zou, (1998): "Explaining International and Intertemporal Variations in Income Inequality." *Economic Journal* 108 (446): 26-43.

Li, Hongyi; Lixin Colin Xu and Heng-Fu Zou, (2000): "Corruption, Income Distribution, and Growth." *Economics and Politics* 12(2): 155-182.

Lucas,R.E.(1988): "On the Mechanics of Economic Development." *Journal of Monetary Economics*, 22(1):3-42.

Mankiw, N.D., Romer P and D. Weil (1992): "A Contribution to the Empirics of Economic Growth." *Quarterly Journal of Economics*, CVII, 407-37.

Merton, R. and Z. Bodie (1995): A Conceptual Framework for Analyzing the Financial Environment, in D. B. Crane et al (Eds), The Global Financial System: A Functional Perspective, Boston , MA: Harvard Business School Press.

Morduch,J.(1990): "Risk, Production and Saving: Theory and Evidence from Indian Households." *Working Paper*, Department of Economics Harvard University.

Mosley,P.(1999): "Micro-Macro Linkages in Financial Markets: The Impact of Financial Liberalisation on Access to Rural Credit in Four African Countries" *Journal of International Development* 11:367-384.

Murinde,V.(1996): "Financial Markets and Endogenous Growth:An Econometric Analysis for Pacific Basin Countries, in Hermes,N.and R.Lensink,Eds". *Financial Development and Economic Growth: Theory and Experiences from Developing Countries, Routledge*, London.

N.Loayza and R.Ranciere, (2002): "Financial Development, Financial Fragility and Growth", unpublished

Rajan, Raghuram G. and Zingales, Luigi. (1998): "Financial Dependence and Growth." *American Economic Review,* 88(3): 559-86.

Ravallion,M.(1993): "Growth and Poverty :Evidence for Developing Countries in the 1980s." *Economic Letters.*

Ravallion,M.and G.Datt ,(1994): " Growth and Poverty in India." Washington.DC: World Bank, Poverty and Human Resource Division

Ravillion, M, (2001): "Growth, Inequality and Poverty: Looking Beyond Averages." *World Development* 29:1803-16

Rebelo, S.(1991): "Long-Run Policy Analysis and Long-Run Growth." *Journal of Political Economy*, 99(3): 500-521.

Romer,P.(1986): "Increasing Returns and Long-run Growth."*Journal of Political Economy, 94*(5): 1002-37.

Saint Paul, G.(1992): "Technological Choice, Financial Markets and Economic Development." *European Economic Review*, 36:763-81.

Schumpeter, Joseph A. (1912) : "The Theory of Economic Development." Cambridge, MA: Harvard University Press.

Shaw, E S (1973):"Financial Deepening in Economic Development." Harvard University Press, Cambridge MA

Stiglitz, J (1998): "The Role of the State in Financial Markets." *Proceedings of the World Bank Annual Conference on Development Economics*: 19-52

Sylla, Richard. (1969): "Federal Policy, Banking Market Structure, and Capital Mobilization in the United States, 1863-1913." *Journal of Economic History*, 29 (4): 657 - 686.

Tanzi,(1998): "Fundamental Determinants Of Inequality and Role Of Government." IMF Working paper 98/178.

Timmer, C. Peter. (1997): "How Well Do the Poor Connect to the Growth Process?" Mimeo. Cambridge, A: Harvard Institute for International Development.

Udry,C.(1994): "Risk and Insurance in a Rural Credit Market: An Empirical Investigation in Northern Nigeria." *Review of Economic Studies*, 61:495-526.

Wicksell, K. "*Lectures on political economy*", 2 Vols.London:Routledge and Keg an PAUL, 1935.

World Bank (2000) *World Development Indicators Databas*e, Washington DC

World Bank, 2001, *World Development Report* (Washington, DC: The International Bank for reconstruction and Development).