Financialisation of Economy and its' Macro-Economic Dynamics

A Study of Pakistan Economy

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Gratitude

I am thankful to ALLAH ALMIGHTY for HIS special blessings.

It is said that journey of a thousand miles begins with the first step. I recall my first step towards PIDE, on a bright Sunday morning of July, 2012. Beyond that was not my control, but the help and push and pull of so many people and so many motives, I shall not be able to recount. My sincere prayers, may ALLAH shower HIS very exclusive favours upon all.

I am indebted to my vibrant and dynamic organisation, the Pakistan Air Force, for giving me the wings to aim for excellence and the urge to undertake challenges. I am grateful to the PIDE staff for their invaluable help, my colleagues who though younger in years but higher in intellect for energising me and the teachers for enlightening me with jewels. I specially acknowledge the priceless contributions of my supervisor, Dr Hassan M. Mohsin; firstly, for introducing me to the concept of *dynamic economics*, a concept devised for my basic profession and late on encouraged me to venture into the nascent and innovative concept of financialisation.

The sacrifices of my family are countless. I was not only spared from the discharge of very very vital obligations but was also facilitated to study and encouraged to strive.

No certificate, no transcript and no degree can inscribe this.

*To **Ka Ka**, my father*

He lived his day for our today and our childrens' tomorrow

Abstract

In this thesis we have studied the phenomenon of financialisation and its macroeconomics dynamics in Pakistan economy for the period from 1974 to 2010. The first part of the study explores the ontology of financialisation. The methodology of study for this part consists of descriptive statistics, graphs and stylised facts, an approach used in nearly all studies of financialisation. As a first step the financial architecture, its constituents and profile have been analysed. The outcome of this step is then used to measure financialisation by devising three measures; the rate of financialisation of the economy, the level of financialisation of the economy and finally, the (National) Financial Index – the main innovation of this study. The second part of the thesis analyse the dynamics of financialisation by studying its long and short term relation with GDP, real interest rates, inflation and capital formation (investment)- the main macroeconomic and financial variables of the economy using Johansen Cointegration and Vector Error Correction techniques. The study finds that the components of financialisation have grown at different rates with the public sector experiencing the highest level of financialisation followed by the banking institutions. Measurements indicate that financialisation of Pakistan economy has grown at a mean rate of 18% with an approximate level of 22% of GDP. The Financial Index shows rising trend from 1992-94 with deregulation and liberalisation. From 2001-2 the index shows sharp climb to peak in 2007-8, descending thereafter. This profile of the financial index shows great similarity to the international trend of the phenomena. The econometric results show significant relation of financialisation with GDP, capital formation, inflation and interest rate in the short run and with capital formation and real interest rates in the long run. The results comply with economic theory.

Contents of the Study

Chapter 1
INTRODUCTION

Finance has acquired enormous importance in the dynamics of global economy today. Financial indicators are counted as the façade of economic performance (Krippner, 2005). Credit ratings, stock indices and financial indicators are vital signals of economic performance and vice versa. Bernanke (2007) observes that "deep and liquid financial system" has furthered growth and resilience in the US economy by effective capital allocation, risk sharing and diversification. Healthy financial conditions are vital for the realization of full potential by the modern economy (Bernanke, 2007).

Financialisation, simply described, is the diversion of resources to financial activities from the real sector due to the higher return potential of former and elimination of profits in the later by increased competition. Alternatively, the higher growth of finance, both vertically and horizontally (Passet 2000) in the global economy vis a vis the real sector (Krippner, 2005) begets financialisation. Financial institutions, instruments and services, all have multiplied many a times encompassing every sector of the economy. Stockhammer (2011) identify it as a massive surge in financial activities financialisation is the post-Fordist and post-neoliberal evolution of the capitalist economy.

Crotty (2008) terms the finance dominated structure of the global economy as the New Financial Architecture (NFA) and describe it as "the integration of modern day financial firms and markets with its associated regime of light government regulation……a globally integrated system of giant bank conglomerates and the so-called 'shadow banking system' of investment banks, hedge funds and bank-created Special Investment Vehicles (SIVs')".

Financialisation is also regarded as one of the corollary of deregulation and globalisation. Financial markets deregulation and the inception of new

financial institutions (Palley, 2007) resulting in explosion of financial activities, innovation and financial engineering of new financial products have been the drivers of the phenomenon. Stock markets and international capital flows expands it globally.

Stockhammer (2012) regards ffinancialisation as one of "the most ubiquitous and pervasive phenomena of the modern macro-economy". It has evolved as one of the major drivers of economic change primarily in the US, regarded as the *heartland of financialisation* (Muller, 2013) and also in the other advanced economies (Palley, 2007). Financialisation has flourished in the last two decades of the 20th century and peaked in the first decade of the present century (Guillén, 2013) before crashing in 2007, triggering global economic downturn.

Business benefits and competitive returns have embedded financialisation in the micro-structure of the economy. Resources have been diverted to financial activities by leveraged capital augmented returns and tax benefits that maximise share holder value (Palley, 2007). Public finance, corporate sector and households, all have financialised extensively. The effects of financialisation proliferate through three mutually interacting channels; financial market operations, financial activities of non-financial corporations and the structural and regulatory changes of economic policy (Palley, 2007).

Major macro-economic effects of financialisation include sluggish growth of real sector, fragility of the economy and wider oscillations of the business cycles. Financial bubbles and financial crisis are considered as the hallmarks of financialisation. Palley (2007) observes that financialisation transfers income from real to financial sector, skews income distribution and results in wage stagnation. The frequency and intensity of financial and economic crisis increase. The Black Monday crash of US markets in 1987 was attributed to the fragility of

financial system as was the increased flow of international capital and integration of international financial systems to the South East Asian currency crisis of 1998.

The roots of the US financial crisis of 2008; lax monetary policy, failure of micro & macro prudential regulatory authority, imbalances in global payments and weakness in international financial architecture, all had financial orientation (Kawai, 2012). Initiating with the sub-prime mortgage, the crisis spread to financial institutions, infected the entire financial system and finally precipitated into full scale economic crisis (Stockhammer, 2011). Infecting Europe, the crisis accelerated and aggravated the burgeoning problems of housing bubbles and "toxic assets" especially in Ireland, Spain and Greece (Wyplosz, 2005). The Asian economies also experienced the effects of the crisis due to capital withdrawal by the western financial institutions and reduced credit for exports.

The phenomenon of financialisation is relevant to the developing economies on two counts (Tellalbasi, 2013). Firstly, the adoption of financial models of the developed economies by them and secondly, global economic integration do not permit insulation to any economy from change anywhere. Pakistan is no exception and remains vulnerable to the negative its implications.

1.1 Significance of the Study

Financialisation is a process, co-integrated and simultaneous, with globalisation and economic progress. It proliferates through various channels with diverse effects on the global economy. Pakistan cannot isolate itself from this trend of change and is likely to be effected both through the domestic and international means. It is, therefore, important to investigate and determine the roots and traces of the phenomenon in Pakistan.

Financialisation and its dynamics have received academic pursuit mainly in the advanced economies. However, lately it has been studied in the developing economies also. These include studies of the economies of Turkey,

Brazil, South-East Asia, South Korea and South Africa. No study of financialisation has yet been done in the context of Pakistan.

This thesis is supposedly a pioneering work on the subject of financialisation and its dynamics in Pakistan economy. An effort has been made to gain an insight into the specifications and mechanics of the phenomenon and understand its nature and behaviour. The study is expected to lay groundwork for further investigation and aid in policy formulation to avail its benefits and protect against any negative implications.

1.3 Objectives of the Study

The objectives of the study include:

1. Specification of Financial Architecture of Pakistan economy
2. Construct the components of financialisation
3. Measure financialisation by:
    a. Rate of Growth
    b. Level of financialisation
    c. Financial Index
4. Assess the macroeconomic dynamics of financialisation

Chapter 2
REVIEW OF LITERATURE

Researchers generally agree that financialisation has received much lesser attention compared to its importance. Literature in the field lags far behind the growth and expansion of the phenomenon. The major focus of research has been the US and other developed economies and to a lesser extent the developing economies. However, the US financial crisis of 2008 brought financialisation in greater focus of study. In post 2008 period research on financialisation was undertaken with higher frequency.

The infancy of the phenomenon has been one of the major factors limiting research on the subject. Owing to this specific tools to explore the phenomenon are yet to be developed restricting study methodology to numerical analysis and stylised facts only (Epstein, 2005) that evade deeper and surer understanding of the phenomenon. Tellalbasi (2013) observes that "financialisation does not belong to a specific school of economic thought" which may also be one of the reason for generalised and limited exploratory effort.

Literature on financialisation has followed three strands (Pollard, 2010). These are the study of the spread of financial intermediaries; the amplification of risk, uncertainty and volatility of financial capitalism and finally the prevalence of finance upon the social, geographical and political spheres of the economy (Doucette & Seo, 2013). This segmentation complies with the causes and effects dynamics of financialisation.

In terms of definition and specification of financialisation, the ontological works of Epstein (2001), Krippner (2005), Palley (2007) and Stockhammer (2005, 2010 & 2011) are considered the base and core. The focus of their research has mainly been the study of financialisation in the US economy. Studies on the anatomy of financialisation take two approaches: 'Activity Centred' versus

'Accumulation Centred' (Leyshon et al, 2012). The Activity Centred Approach adopted by Epstein (2001), Palley (2007) and Stockhammer (2005) study financial practices, changes in behaviour of governance and institutional relations using empirical and descriptive analysis. The Accumulation Centred Approach, followed by Krippner (2005) studys' financialisation through profit accumulation patterns and the relative rise in service sector. It uses macro-level analysis to study "the social forces affecting the circulation of capital within the global economy" (Doucette & Seo, 2013).

Palley (2007) uses the framework of Finance, Real Estate and Insurance (FIRE) as a percentage of GDP to assess the level of financialisation in the developed economies. The study defines the channels of financialisation, its macro economic effects and the remedial policy options. He analyse debt and finds enhanced role of finance in both the financial and non-financial sectors as well as the households. Palley (2009) used the Kalecky model to study the macroeconomic results of changes in financial variables; compensation, financial engineering, asset market valuations, household and business borrowing to determine the behaviour of firm and changing patterns of dividend payout. He showed that in the early and middle stages, financialisation is long-running and expansionary (Palley, 2009). The 'stages of development' approach cites the expansionary character of financialisation as one of the political reasons for its growth. Financialisation in its later stages is marked by per capita income stagnation, real wage reduction and skewed income distribution.

Epstein et al (1998) characterise financialisation as a process of economic change concurrent with neoliberalism and globalisation, emerging and prospering in the last two decades of the 20^{th} century. Baud & Durand (2011) term globalisation and financialisation as twin processes. They observe that globalisation has shaped power relationships. It has transferred economic power transfer from labour to capital and onwards to financial capital that sequels in the

spread of financialisation nationally and internationally. Their perspective is largely politico-economic.

Mundt, Förster, Alfarano and Milaković (2013) study the relation between the real and financial sectors of the economy and find that returns across both the regimes are similar. However, real returns show greater stability compared to financial returns which shows higher volatility. Milberg (2008) study's the inter-relationship between internationalisation of sales operations and financial investments of NFC's of leading retailers in the 1990-2007 timeframe. He finds that these firms have become highly financialised as financial investments give them higher Return on Wealth (ROW) inspite of reduced sales.

Treek (2009) theoretically studied the macroeconomic perspective of financialisation, measuring profit differentials between increased financial operations and decreased physical investment. The study attempts to connect the two perspectives on financialisation; the firm and structuralist views. He investigates the potential role of financialisation in the macroeconomic instability and financial fragility of the US and German economies and finds that inspite of the 'convergence' of German financialisation to the Anglo-Saxon model its effects are remarkably different from the US.

Fujita and Sasaki (2011) have studied the income re-distribution effects of financialisation from workers to shareholders. They use Kalecky macroeconomic and Minsky financial models to determine the effects of change in retention-ratio and wage on capital accumulation, debt-equity ratio and the financial structure in the long run. They find that decrease in retention-ratio results in capital accumulation and fragility of the financial structure.

The US economy has been the major focus of financialisation studies. Palley (2011) finds increasing financialisation in the US economy in post 1984 period. Crotty (2005) finds that the main drivers of financialisation in the US

economy are the significant increase in the profitability of financial firms vis a vis Non-financial Corporations (NFC's), two fold increase in financial flows to financial companies from NFC's and corporate focus on increasing stock value. Orhangazi (2008) studying financial investment and financial profit opportunities for US firms in the 1973-2003 time period, finds significant negative relation between financialisation and real investment. Power, Epstein & Abrena (2003), Jayadev & Epstein (2007) consider increased rentier income motives as the signs of financialisation in the US and developed economies. Duménil & Lévy (2001) views interest rate increase in France as a sign of financialisation. Gonzalez & Sala (2013) estimate a dynamic, multi-equation, macro model of capital accumulation, labor demand, labor supply and wage setting. They find that capital accumulation has a contribution of approximately 2% in the total unemployment in the US. Tauss (2012) attributes the financial crisis of 2008 to the "emergence of a post-Fordist, neoliberal and finance driven accumulation regime that was pushed to the limits".

The developed and industrial economies are considered as the nucleus of financialisation. Vidal (2013) assesses the developed economies of USA, UK and Germany on the post-Fordist model and finds dysfunctional accumulation regime in all three but with different characters. Müller (2013) studies European economies for causality between GDP growth stagnation and financial expansion. Terming it 'financialised capitalism' he focuses on relating growth sluggishness and financial expansion due to debt-financed consumption and budget deficits.

Stockhammer (2009) studies the determinants of functional income in the Ghent system of unemployment insurance using the wage share equation of IMF (2007) and EC (2007). He uses the NAIRU model to investigate the effects of financialisation on functional income distribution and finds higher income re-distribution effect of financialisation compared to technological change.

Peetz & Genreith (2011) study German economy and find correlation between the growth profile of financial assets of banks and GDP portraying an underlying relation between the financial and real sectors. They find that capital though with its reliance on the real economy is a catalyst of economic growth. Stockhammer (2010) analyse the behavioural transformation of households, non-financial businesses and financial sectors as evidence of financialisation.

Kozongolu et al (2013) have used the five indicators of Foster (2010) to assess the pattern of financialisation in Turkish economy. He finds that although the financial sector has expanded and grown in Turkey but not as much as that of the developed economies. The indebtedness level of the economy has grown more than the real economy. With high dependence on foreign 'hot money' and lower level of industrialisation, Turkish economy remains vulnerable to international financial fluctuations. Tellalbasi & Kays (2013) carried out a micro-economic study of financialisation of Turkish industry using Generalised Method of Moments (GMM), for firms registered in Istanbul Stock Exchange. They find a negative relation between financial profits and investments, like the US corporate sector and a positive relation between the levels of profitability and indebtedness of the corporations with fixed investments and capital accumulation.

Lee (2012) cumulatively studied East Asian economies using corporate ownership and financial systems as indicators in 1997-2006 period. He finds greater role of stock markets in financing, alternate engagements of banks and institutional ownership. Carnegie (2009) claims that the neoliberal monetary policies of South African Central Bank under the influence of domestic and international financial institutions to lower inflation and raise interest rates have financialised the economy.

Araujo et al (2009) observes that financialisation existed in the Brazilian economy as financial accumulation under very specific macroeconomic and structural conditions, even before it was identified as a macro-process. The study

finds co-integration between inflation and financialisation but does not find any explanation for it. Boyer (1999) finds that some patterns of financialisation promote whereas some restrain growth. He observes that the US financial crisis was transmitted to Brazilian economy through the economic channel and not the financial channel. Argitis & Michopoulou (2013) in a comprehensive study find financialisation, neoliberalism and globalisation as major transformers of Greek capitalism destabilising its institutions. The Greek financial sector values at 28.9% of GDP, it is primarily bank based and has developed linkages with households and NFC's. The growth model has become highly leveraged, domestic consumption and demand-driven with negative implications for the real economy. The financial crisis of 2008-9 induced de-leveraging and negative demand growth precipitating into the sovereign debt crisis pushing Greece into the 'austerity trap'.

Doucette and Seo (2013) study the effects of financialisation on the export-oriented East Asian economies. A central point of the thesis is that due to "spatial variability and relational complexity, financial processes ant their uneven outcomes". Financial crisis needs geographically diverse solutions and not the one size fits all formula.

Literature on financialisation is event and time distributed. Scattered works on financialisation are found in the 1990's and 2000s'. Following the booms and bubbles of financial markets in the 2000's, acceleration in research was found in the beginning of first decade of the 21st century. Visible surge in financialisation literature is found post 2008, covering the anatomy, nature, behaviour and spread of financialisation.

Chapter 3
FINANCIALISATION

Financialisation has been viewed from various angles and defined diversely. As the name suggests its origins belongs to finance transforming into an industry than developed into an exclusive sector and finally evolves into a phenomena. On the basis of its existence, spread and diffusion into the entire spectrum of the economy, it can be considered as one of the most fluid phenomenon of the modern world. Fluidity and dimensions lend it to multiple definitions and diverse interpretations.

The simplest and most commonly referred definition of *financialisation* is conveyed by Epstein (2001),

> *"Financialisation refers to the increasing importance of financial markets, financial motives, financial institutions, and financial elites in the operation of the economy and its governing institutions, both at the national and international level (Epstein 2001, p.1)."*

In this sense, financialisation is perceived as a macro-economic phenomenon driven by financial factors. It identifies financialisation as the transformation of domestic and international economy by financial variables.

Palley (2007) and Stockhammer (2005, 2010) also follow this conception and regard financialisation "as a shift of macroeconomic regime to finance in relation to the real sector" (Stockhammer, 2010) encompassing national and international capital mobility. In accord with the same, Argitis & Michopoulou (2013) offer an effects based definition of financialisation as, "the increasing significance of financial markets in influencing income distribution, effective demand, capital accumulation and economic growth, as well as the economic policy of governments and independent central banks". Dore (2002) views financialisation as the increased control of financial industry on economic activity

and corporate decision making that is manifested by higher ratio of financial assets, stock market driven decisions and business cycle volatility.

As a process embedded in broader economic change Glyn (2005) and Harvey (2006) and many others consider financialisation as a shift to new 'neoliberalism' from accumulation based Fordism. Assessing on the stages of growth criteria Müller (2013) calls it 'Financially Dominated Capitalism'. He describes it as the eminence of money where firms and households both divert savings from capital formation to financial assets, dividends and interest.

On a wider perspective, it is regarded as a politico-economic and socio-economic phenomenon as "intense inter-capitalist and inter-state competition during transition" (Arrighi, 1994) skewing income and wealth distribution (Philips, 2002). This perception belongs to the Marxist school where the rentier classes control economic decision making and the erosion of bargaining power of unions.

Financialisation has also been regarded as an exclusive corporate business process. Peetz & Heribert (2011) consider it as the increase in corporate earnings and personal income from financial transactions relative to real economic growth. Arrighi (1994) similarly terms it as the use of financial channels to accumulate profit vis-à-vis trade and commodity production. "Activities of flow of liquid capital for expected interest, dividend or capital gains in future" (Krippner, 2005) resulting in increased financial innovations and flows constitute financialisation. Orhangazi (2008) identifys' it as the change in relationship between the NFCs' and financial markets while Gonzalez (2013) regards it as the, "disproportionate growth of financial sector".

Krippner (2005) summarise corporate financialisation as:

i. The objective of increase in share-holder value through financial means
(Fround et al, 2000. Lazonik, 2000, Sullivan 2000, Williams 2000)

ii. Dominance of capital markets on bank based financial systems
iii. Increasing political and economic power of the rentier class (Dumenil & Levy, 2002, Epstein & Jayadev,1998 & Greider, 1997)

Baud and Durand (2011) specify the same processes for NFC's:

i. Shareholder value maximisation yielding increased financial flows to financial sector
(Dumenil & Levy, 2000; Aglietta & Bretton, 2001; Orhangazi, 2008)
ii. Increased financial investments
(Dumenil & Levy, 2004; Stockhammer, 2004; Froud et al., 2005; Krippner 2005; Aglietta and Berrebi, 2007; Bauer, 2008)
iii. Operations for development of financial activities

The narrowest definition is given by Fines (2010) as the structural change in the economy by the flow of interest bearing capital across the boundaries of institutions (households, firms, governments).

Fujita & Sasaki (2011) review the entire gamut of financialisation as:

i. The appearance of new financial commodities
ii. Deregulation of financial markets
iii. Increase in financial transactions
iv. Financial investments by NFCs'
v. Credit-financed consumption by households
vi. Restructuring of corporate governance to favor shareholder value

These diverse views and assessments can be compiled to devise a three tired hierarchal formulation of financialisation.

In the basic / essential state, finance performs the role of supporting and sustaining the real sector. In this state it complements the real economy by horizontal and vertical transference of resources across segments and time.

The second state is a competitive financial structure where finance is a specialised sector making its own contribution to economic growth as an exclusive entity.

The third state is financialisation, where financial motives and control is the dominant power in the national and global economy. Finance expands to the non-financial sectors occupying space and encroaches upon the real activity.

For this thesis, the definition of Epstein (2001) will be taken as a benchmark of financialisation on two counts. Firstly, it identifies financialisation in simple and clearer terms and secondly, Pakistan economy being in an evolutionary state of financial advancement may not comply with the complex specifications of financialisation.

3.1 Conceptual Approaches to Financialisation

The multiplicity of definitions and specifications of financialisation have been based upon different conception of the phenomenon. On the basis of diversity of characteristics, financialisation has been studied as an economic phenomenon, as a corporate business process and also as a politico-economic concept.

3.1.1 Economic Concept

The ability of financial markets and instruments to incorporate future economic outcomes into prices, ex-ante allocate resources across future economic conditions and yield optimal risk-return portfolios, gives financialisation an economic character (Palley, 2007).

Financialisation is regarded as a post Fordist and post Neo-liberalist evolution of the economy by Stockhammer (2010) and as post-Industrialism economic evolution by Krippner (2005). As an economic process, the expansion

of the financial sector was a response to the profound stagnation within the productive sector (Epstein, 2006 & Butterwege, 1999). The high rate of growth of the financial sector overwhelms the economy as a macro-economic variable imposing financial behaviour on the economy in the form of wide oscillations (Guillan, 2013).

3.1.2 Corporate Business Process

As a business process, financialisation implies the change in corporate behaviour where business decisions are sensitive to financial objectives and corporate interests are aligned to financial markets rather than real output.

In the process of corporate financialisation:

- Securities based markets are predominant
- Management aims at maximisation of share holder value by 'downsize & distribute' rather than 'retain & reinvest' (Epstein,2005)
- Higher gains in the financial sector financialise profits
- Higher ratio of NFC's profits by financial means (Krippner, 2005)

3.1.3 Politico-Economic Concept

As a politico-economic concept, financialisation entails the rise of rentier motives in the society resulting in the accumulation of political and economic power in the hands of the rentier class (Krippner, 2005). Arrighi (2007) considers it as the failure of capitalism where income is redistributed to concentrate wealth and wages stagnate as they are dissociated from productivity and stagnate. A by-product is the erosion of unions and their bargaining power.

Palley (2009) views financialisation as "supporting the neo-liberal policy paradigm …. to counter the challenges faced by capital". The Marxist school considers it as the capitalist response to 'profit stagnation' of the 70's (Muller, 2013) supported by institutional actors and systems (Doucette & Seo, 2013).

3.2 The Process of Financialisation

Financialisation has evolved over prolong time period through different channels with positive affects during most of its lifetime (Palley, 2009).

Evidence traces its origin to the 1970's, thriving in the next 30 years to reach its peak in the proximity of 2008 US financial crisis. It expanded in parallel but opposite direction to the Fordist and Neoliberal growth regimes (Krippner, 2005; Stockhammer, 2010). The pace of its growth superseded the real sector resulting in substitution of the real economy with the financial (Crotty, 2005).

The process of financialisation nurtured both at the micro and macro levels. The micro levels imply the individual households and firms while the macro level constitutes the aggregates (Froud et al. 2002).

The process of household financialisation was initiated by wage stagnation and dissociation from productivity in neo-liberal growth regime. The consequent decline in consumption was supported by debt financing (Muller, 2013). Increase in housing mortgage in USA and other advanced economies and the use of housing as collateral to avail increased debt financed consumption (Aalbers, 2008; Bryan et al. 2009; Langley, 2008) increasing household financialisation manifolds.

Corporate financialisation occurred along two streams; the growth of financial sector and growth in financial activities of NFC's. Financial sector financialisation was driven by innovation and diversification of financial products that increased the complexity of the financial structures (Guillan, 2001). NFC financialisation was stimulated by reduction of profits in the real sector, weak propensity for fixed investment & higher return potential of financial investments (Krippner, 2005; Froud et al, 2006; Stockhammer, 2010; Gonzalez, 2013).

Public sector financialisation was driven by financial liberalisation and deregulation (Stockhammer, 2010). Increased availability of domestic and international financial resources enabled governments to run sustained current account deficits or surpluses. Combined with prolong debt financing of annual budgets, public sector financialised at a very high rate. The process replicated globally.

The routing of households and firms savings to financial assets augmented financialisation (Froud et al, 2002). This accelerated financial transactions, increased the stocks of financial assets and financial incomes (Muller, 2013). Global financial assets grew from US $ 12 trillion (119% of GDP) in 1980 to US $ 167 trillion (346% of GDP) by 2006 (McKinsey Institute; Muller, 2013) and later receding to 312% of GDP post 2008-financial crisis, (McKinsey Institute, 2013).

Chapter 4

MACROECONOMIC DYNAMICS OF FINANCIALISATION

Palley (2007) specify three discrete but mutually interacting channels of the effects of financialisation

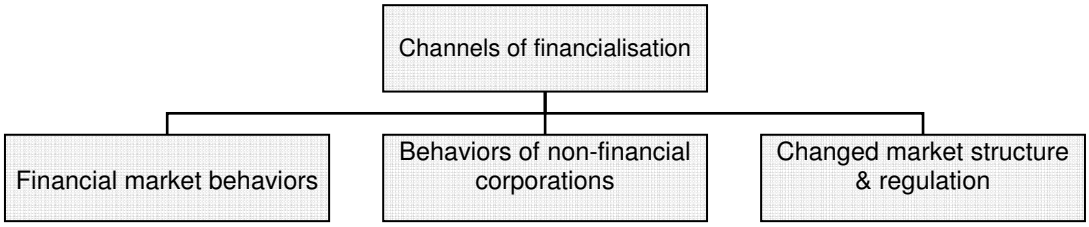


Fig 1

Source: Palley (2007)

The first channel studys' the effects of financialisation on firms and households by the nature and operation of financial markets. These effects are studied by the Balance Sheet Congestion or Financial Accelerator theories of Bernanke & Gertler (1996). The second channel studys' the effects of changes in the behaviour of NFC's due to changes in corporate policy, leverage and financing. The third channel studys' the effects of financialisation on changes in the economic policy affecting market structure and regulation.

Palley (2007) observes that financialisation and economic policy in the US yields a business cycle marked by a financial boom of inflated dollar value, increased corporate and household debt and high asset prices resulting in disinflation, trade-deficit, manufacturing job losses, skewed income distribution and wage detachment from productivity.

At the macro level financialisation slows down economic growth due to crowding out of resources by the financial sector (Orhangazi, 2007). High corporate debts and lesser retained earnings also reduce capital formation

(Palley, 2007). Financialised macroeconomic policy targets inflation produced by high budget deficits, debts and interest payments.

Financialisation increases economic fragility. The fluctuations of financial variables generate frequent and severe macroeconomic shocks (Palley, 2007). This fragility is further increased by the erosion of household resilience caused by high level of indebtedness and its servicing (Stockhammer, 2010).

Finance is less employment intensive (Block, 1987) reducing employment expansion and eroding union bargaining power. The finance based "new economic configuration" (Palley, 2007) disconnects wage-productivity link, stagnates wages and skews income distribution. Compared to wages management salaries grow at a much higher rate (Mishel et al, 2005).

The financial sector as the base and a major driver of financialisation is subjected to multi-dimensional effects. The banking system has transformed into investment banking (Stockhammer, 2010). Increased demand and competition for financial services and products create a parallel financial system with lesser regulatory coverage. This shadow financial system consists of investment funds, money market funds, hedge funds, private equity funds and special purpose vehicles (D'Arista and Sclesinger, 1993),

Management becomes highly sensitive to financial stimulus, shifting the agency problem to financial markets. Investment and business decisions exhibit short-termism and herding (Palley, 1995). Financial innovation and engineering of financial solutions enhance the allocation capacity of finance giving finance greater ability to mitigate risk (Guillan, 2013).

Chapter 5

FINANCIALISATION IN PAKISTAN ECONOMY

Generally, finance and financial sector in Pakistan economy have grown in accord with international patterns and trends. It has fluctuated between highs and lows due to a blend of domestic factors and international drivers. It has evolved structurally and expanded quantitatively overtime.

Financial system in Pakistan made a major leap forward in the Decade of Development of the 1970's. Major commercial and development financial institutions were established. They prospered matching the pace of economic development. The follow up reforms of nationalisation of the 1980's besides changing the direction of the economy also changed the direction of financialisation in Pakistan. During this period the growth of financial sector retarded under the dominance and control of the public sector.

The adoption of Islamic finance and economics reforms of 1979 was yet another change. A new dimension was added to the financial sector. This introduced new investment products and schemes of financing. Although this class of system exhibited growth and expansion, however, the traditional interest based financial institutions remained dominant.

The last decade of the 20th century brought about huge transformation in the global economy. Liberalisation and deregulation increased international flows of capital and trade. Expansion and growth of finance also experienced the quantum leap. Pakistan had to follow suit for higher integration with the international financial system and the global economy. Financial horizon in Pakistan was restructured in line with international developments and demands. Deregulation and liberalisation of the financial system enhanced diversity and span of financialisation in Pakistan. Financial policies, practices and procedures prevalent in advanced economies were imported, replicated and adopted in Pakistan to support economic growth and development.

As a sector public sector finance in Pakistan has largely been in deficit. Financing had been supported by domestic and international borrowing. Both these channels of financing have, therefore, imposed their specific attributes of financialisation on the economy. Financial arrangements with IMF, World Bank and other multilateral and bilateral international financial institutions have kept external debt spiralling increasing its share in the annual outlay of national budget. Domestic borrowing for budgetary support crowded out finance from private and real sectors.

The changes incorporated in the last decade of the 20th century matured by the beginning of the present. Finance experienced boom and so did financialisation. Financial innovation and engineering reached its zenith and financialisation its peak. Based upon international experience Pakistan also introduced international financial practices and products especially in the banking system. FIRE grew at a faster pace due to leasing, insurance and real estate, in 2001- 2007 time frame, similar to that in the US and other advanced economies of the world.

The financial system of Pakistan has passed through various phases of reforms. While the reforms of the 1970's increased the depth and expanded the financial system, nationalisation reversed the trend and put the system under state control. The process of denationalisation and deregulation has followed since the 1990's with modernisation the prominent theme of the 21st century. The overall focus of reforms has been the enhancement of efficiency of savings and investment and transforming the financial system of Pakistan on the pattern of the developed world.

In this thesis the financialisation hypothesis will be analysed in this background with aims and objectives defined earlier.

Chapter 6
Data and Methodology

Frequently cited financialisation theorists, Palley, Stockhammer, Krippner and Orhangazi, all have used the framework of FIRE (Finance, Insurance and Real Estate) to gauge financialisation of economy. This thesis will use the same framework to study financialisation in Pakistan economy. The framework is expanded further by incorporating additional studies to devise a matrix of three major components; FIRE, NFC's and Public Finance. This formulation alongside capturing the tracks and measures of financialisation in the economy exactly specify the data, figures and stylisation of facts to be used.

6.1 Data

The data sample used for the thesis consists of annual data spanning the period 1974/75 – 2009/10. The sources of data used are the SBP Handbook of Data 2010, Pakistan Economic Survey and various publications of KSE. The range of variables used in the study is spans financial data in a wide area of the data. This necessitates the usage of a relatively high volume of data requiring sifting and extraction from other heads. At various points embedded data has been segregated from main headers. This includes the separation of Finance and Insurance and Ownership of Dwellings data from the share of Services sector in GDP. Also the separation of financial and non-financial sector data in stock market index and capitalisation have been performed. The data of finance and insurance is available in aggregated form and has been used in the same form as it meets the objective of the measurement.

6.2 Methodology

Palley (2009) recounts financialisation to be a nascent and relatively indeterminate process and for this reason the application of the usual tools of analysis to its study are limited. The application of standard time series is

inefficient due to repeated structural breaks and non-existence of future processes for prediction. Panel analysis is beset with the limitation of incomplete exploration of the process. Palley (2009) and Gonzalez (2013), therefore, propose the use of stylised facts, graphical presentations and various indicators to explore financialisation. Majority of the scholars of financialisation follow this approach. This thesis also follows the same methodology.

Based on the broader structure of financialisation in an economy, the matrix given in Table 6.1 will be the basic framework of analysis.

In this matrix the three components of financialisation: FIRE, NFC's and Public Finance have further been divided into sub-categories. FIRE, being the direct source of financialisation has multiple sub-categories. The data for the variables of these sub-categories have been separated from their main entities and grouped together into FIRE subcategories.

Each component is individually studied for values and annual change; net and percentage. Graphical analysis and descriptive statistics have been used to analyse the behaviour of the components.

6.2.1 Financial Architecture of Economy: Finance, Insurance and Real Estate (FIRE)

Crotty (2008) specify "the integration of modern day financial firms and markets with its associated regime of light government regulation …. a globally integrated system of giant bank conglomerates and the so-called 'shadow banking system' of investment banks, hedge funds and bank-created Special Investment Vehicles" as the *'New Financial Architecture (NFA)'*. This specification of Financial Architecture besides providing an abstraction of the financial segment of the modern economy outlines its constituents also.

Table 6.1

Structure Matrix: Financialisation of Economy

COMPONENTS				Variables
FIRE	Finance & Insurance	Financial Institutions	SBP	Advances
				Financial Investments
			Banks	Credit
				Investment: Shares/ Securities
			NBFIs	Advances
				Financial Investments
		Financial Market KSE	SBP Index of Share Prices	Banks
				Insurance and Finance
				General Index Number
			Ordinary Shares Market Capitalisation	Banks
				Finance and Insurance
				Non Financial
				Aggregate Market Capitalisation
				Average Capital Market
	Real Estate	Housing Finance		SBP
				Banks
		Share in GDP		Dwellings/ Housing
NFC's	Total fixed liabilities (=Preference shares + Debentures + Other Fixed Liabilities)			Fixed Liabilities
	Investments			Financial Investments
	Financial Expenses			Interest Expenses
	Gearing % (Fixed Liabilities /Capital)			Gearing
	Financial expenses / Net profit			Interest Expense/ Net Profit
	Retention / Dividend			Dividend/ Equity
	Self Financing= Retention/ Change in Capital			Self Financing
	Capitalisation NFC			SBP Index
Public Sector	Govt Borrowing			Planned Govt Borrowing
				Actual Govt Borrowing
	Budgetary Borrowing			Planned Budgetary Borrowing
				Actual Budgetary Borrowing
	Domestic Assets (Govt + Non Govt+ Other assets)			Planned Assets
				Actual
	Foreign Assistance			Loans
	Loan Repayment			Principal
				Interest
	Share in GDP			Finance and Insurance

6.2.2 Financialisation Economy: Sectors

a. **Finance**

i. **Financial Institutions** Financial institutions imply the structure that deals with the basic function of financial intermediation to channelise savings to investment. It is one of the vital pillars of an economy and the ensuing financial economy.

The financialisation of financial institutions has been measured by indicators used by Palley (2007), Ozcan (2011), Argitis & Michopoulou (2013), Stockhammer (2010) and Müller (2013). Advances and financial investments of financial institutions are considered the source of their financialisation. To find evidence for Crotty's (2005) premise that higher growth of financial instruments as compared to real sector results in financialisation, the growth profiles of financial instruments is compared to GDP growth.

ii. **Financial Markets** The objective of share holder value maximization has led to the financialisation of capital markets and NFC's. This thesis will use the measures of capital market financialisation used by Lee (2012), Argitis & Michopoulou (2013), Stockhammer (2010) and Müller (2013) have been used. Comparative index and capitalisation change between financial and non-financial firms on the stock market has been studied.

iii. **Insurance** Insurance has funded industrial finance in US, Japan and the advanced economies in the long term through industrial securities and real estate mortgages. Ozcan (2011) and Argitis & Michopoulou (2013) have used this variable as one of the measures of financialisation.

b. **Non-Financial Sector**

The financialisation of NFC's has been studied by Krippner (2005), Palley (2007) and many others. Two instruments of NFC's financialisation

have been used. The change in capital structure is used by Palley (2007) using gearing ratio (debt financing), dividends and interest charges. The measure of earnings change from financial channels using interest and dividend income has been used by Krippner (2005), Orhangazi (2008) and Tellabasi & Kaya (2013). This study follows Palley (2007).

c. **Public Sector**

A combination of supply and demand factors stimulated the process of public sector financialisation. Stockhammer (2010) counts financial liberalisation and deregulation as the underlying reasons easing access to finance by public sector. Increased availability of local and foreign financial resources stimulated government demand for sustained budgetary and capital account deficits. The practice was followed globally. The Euro area financial crisis of Greece, Spain, Ireland and Italy are cited as examples.

Palley (2007), Jullian (2010), Stockhammer (2010), Moglu (2011) and Ozcan (2011) have used various measures to study public sector financing. This thesis will study public sector financialisation in Pakistan by studying government financing, foreign assistance and loan repayments using SBP data.

d. Financial Charges

Debt financing of investment entails financialisation which is indicated by interest rates and interest charges (Gonzalez, 2013). Interest income and interest charges of NFCs' also indicate financialisation (Krippner, 2005). Interest rate has dual relation with financialisation. It is a driver as well as a measure of financialisation at both the corporate and economy levels. Stockhammer (2007) and Palley (2007) use this measure. In this study the interest income and charges of financial and non-financial sectors as well as the public sector have been included in the measurement of financialisation.

6.3 Financialisation of Economy: Measurements

Financialisation implies the vertical and horizontal proliferation of financial business in the economy as conceived by Epstien (2001). Using the specifications of Epstein (2001), Krippner (2005), Palley (2007) and Stockhammer (2007, 2010), this study has devised a Structural Matrix (Table 6.1) to assess financialisation in an economy. This is a compact matrix, devised according to the scope of the study and is aimed at finding the very fundamentals of financialisation.

The nature of financialisation in Pakistan economy will be studied through a variety of measures. These include determination of:

6.3.1 Financial Structure
6.3.2 Financial Development
6.3.3 Measures of financialisation
- a. Rate of financialisation
- b. Level of financialisation
- c. Financial Index

6.3.1 Financial Structure (FS)

Financial structure measures the type of financial system of an economy; bank based or market based. Allen et al (2005) finds that the financial needs of firms determine financial structure. Economies with mainly physical-asset-intensive firms or industrial sector tend to have bank-based financial system whereas knowledge and intangible-asset-intensive firms or services sector are market oriented. Bank based financial structure is prevalent in the German-Japanese system where as the market based system is prevalent in the Anglo-US model. The most widely used formula for Financial Structure is

FS = Private Credit / Market Capitalisation

The ratio is measured by unity. A FS ratio greater than unity implys that the financial system in bank based or market based if the ratio is less than one.

6.3.2 Financial Development (FD)

Financial development implys the functioning of financial intermediaries, markets and instruments to eliminate imperfect information, reduce transaction costs, allocate capital resources and facilitate exchange of goods and services (Čihák, 2013; Merton, 1992; Levine, 2005).

Čihák et al (2013) constructed a broader measure of Global Financial Development Database for financial systems in 205 economies to capture more characteristics of the financial system. They measure Financial Development by 4 X 2 framework using four characteristics of Depth, Access Efficiency and Stability over two pillars of the financial system: Financial Institutions & Financial Markets.

In this study FD will be measured by Financial Depth, a measure widely used in financial literature. The measure has been used by Čihák et al (2013) to calculate FDs' for Financial Intermediary and Financial Markets.

Financial Depth (Financial Intermediary) = Private Credit / GDP

Financial Depth (Financial Market) = Market Capitalisation / GDP

6.3.3 Measures of Financialisation

The Structural Matrix of financialisation of economy is given in Table 6.1. The table contains the components of financialisation and their further distribution. The variables used for measurements are given in last column. Using the data of these variables calculations have been made to measure the rate, level and index of financialisation of the economy.

The main components are than aggregated to find three measures of financialisation of the economy.

a. Rate of Financialisation

The rate of financialisation measures the annual percentage change in the variables over the time period of study from 1974/75-

2009/10. In the first step the average percentage growth rate of financialisation in the components – Financial Intermediaries, Financial Markets, Real Estate, NFC's and Public Sector – will be calculated. This will be averaged to find the National Financialisation Rate for Pakistan economy.

The Rate of Financialisation (RoF), as the measure of aggregate average annual percentage change is obtained by the mean of the constituents

$$RoF_{\varkappa} = \sum\{(V_{it} - V_{it-1}) \times 100 / V_{t-1}\} / n$$

$\varkappa$ takes the alphabets f, m, RE, c, p and N for financial intermediary, financial market, Real Estate, NFC's, public sector and National level.

V_i is the variable,

t is the year

n is the number of series averaged in a component.

For National Rate of Financialisation n=5

b. Level of Financialisation

Generally, measurements are compared against a standard for comparative evaluation. Financialisation of the economy will also be gauged against a standard for comparative evaluation. For this purpose the standard of GDP will be used which is available for all economies of the world.

The Level of Financialisation will provide a measure of comparison with respect to GDP. It is obtained by weighted mean of the components. GDP is used as the weight. The use of GDP as weight / comparative benchmark has been used by Krippner (2005), Palley (2007) and Stockhammer (2009). The variables used for the measurement has been extracted from the Structural Matrix of table 6.1 and given in Table 6.2

The level of financialisation (LoF) will be calculated through a step wise procedure.

$$LoF_{\chi} = \sum\{V_{it} \times 100/ GDP_t\}/ n$$

χ takes the alphabets f, m, RE, c, p and N for financial intermediary, financial market, Real Estate, NFC's, public sector and National level.

V_i is the variable and

t is the time period

n is the number of variables. For National Level n = 5

c. Financial Index

The final measure of financialisation, an innovation of this study, is the Financialisation Index. An index is the measure of comparative evaluation where the standard of comparison is a selected point/ level in a data series. The Index has been devised as a measure to standardise financialisation in an economy on the lines of Stock Market Index of Karachi and New York Stock Exchanges. The National Financial Index has been determined by using the components of financialisation calculated though widely used Laspeyres' Index formula.

The Financial Index will be a measure of the level of financialisation against time based benchmark.

Financial Index will be developed using a two step procedure:-

Step 1: Principal Component Analysis (PCA) will be used to calculate weighted values of the variables.

Weights for the variables will be computed using the formula

$$W_{\chi} = V_{it} / \sum_{i=1}^{n} V_n$$

where W_{χ} is the weight of the value of the variable and n is the total number of variables given in the table.

Table 6.2

Variables Matrix: Level of Financialisation

Components	Variables
Banks Financialisation	Advances
	Financial Investments
Capital Market	Banks
	Insurance and Finance
	Non Financial
	Aggregate Market Capitalisation
Real Estate	Housing Finance
	Ownership of Dwellings
Financialisation: NFC's	Total fixed liabilities
	Investments
	Financial Expenses
Public Finance	Pland Govt Borrowings
	Actual Govt Borrowings
	Pland Budgetary Borrowing
	Actual Budgetary Borrowing
	Pland Net Domestic Assets
	Domestic Assets
	Loans
	Principal
	Interest
	Finance and Insurance
National Financialisation Level: Pakistan	National Level: Pakistan

The weights are used to calculate the weighted values $V_{\varkappa}$ of the variables

$$V_{\varkappa} = (V_{it} \text{ X } W_{\varkappa})$$

The mean of sum of weighted values for each category have been calculated as

$$S_{\varkappa} = (\sum V_{\varkappa}) / n$$

here $\varkappa$ taking the alphabets f, m, RE, c, p and N for financial intermediary, financial market, Real Estate, NFC's and National level.

Step 2: The calculated mean weighted values will be used in the Laspeyres' Index formula to find the Financial Index for the components and finally National Financial Index for the economy of Pakistan.

Laspeyres' Index formula is given as

$$P_L = \sum (p_{c,\, t^n} \text{ x } q_{\,c,\, t^0}) / \sum (p_{c,\, t^0} \text{ x } q_{\,c,\, t^0})$$

where the subscripts "c" and "0" refer to the current and base years respectively.

National Financial Index Pakistan is calculated for two base years, 1975 which is the first year of the data used in this thesis and 2001 which is the base year used for the current CPI.

6.4 Macroeconomic Dynamics of Financialisation

Macro economic dynamics of financialisation imply the change in the macro variables brought about by the phenomenon. This consists of changes in the degree and direction of movement and the causality amongst the variables.

In a financial economy the movements of macro economic variables will show higher sensitivity to financial impulses than the real economy. The direction and quantum of the movement will be reliant upon the level of financialisation of the economy.

The relation between financial variables and real economy has been studied by multiple econometric techniques. Tellalbasi & Kays (2013) have used Generalised Method of Moments (GMM) to study financialisation in Turkish industry. Araujo et al (2009) use Granger causality analysis and Johansen co-integration tests to study the effect of American financialisation on financial aggregate value (AV) and inflation in the Brazilian industry, Olofin (2013) has used Vector Error Correction (VEC) to study financialisation in Nigeria where as Christopoulos and Tsionas (2004) have applied Panel Unit Root and co-integration technique to test the relation between financial development and economic growth. Christopoulos and Tsionas (2004) have applied Panel Unit Root and co-integration technique to test the relation between financial development and economic growth. Tahir (2008) has also used Granger causality and Johansen techniques to analyse exogeneity between financial development and economic development. Zaman, Ikram and Ahmed (2011) use similar technique to study the relation between financial development measured though financial depth and inflation. As a pioneering study, Khan and Aftab (1993) use OLS to study the effects of financial reforms in Pakistan.

This study will analyse the dynamics of financialisation by modelling relations between the variables of GDP, rate of financialisation, capital formation (investment) and inflation. The analysis is aimed to determine exogeneity and cointegration between the variables. The procedure and methodology follows the common trend modeled upon Christopoulos (2004), Gharmay (2004) and used by Tahir (2008) and Zaman et al (2011).

The first step of the study involves testing for co-integration between the variables. For this Johansen's Multivariate Co-integration test will be used. In the follow up second step, the direction of causality and exogeneity will be studied by using Vector Error Correction model (VECM). Trace and Eigen statistics will be used to specify the co-integration space for the number of vectors.

The notation of Johansen and Juslelius (1990) is used to specify the Vector Auto-Regressive (VAR) model

$$Y_t = \mu + \pi_1 y_{t-1} + \ldots\ldots\ldots\ldots + \pi_k y_{t-k} + \varphi X_t + \varepsilon_t$$

The variables are specified as

Y_t is an N X N vector of the left hand side variables.

In this study Y_t is a 4 X 4 vector of

	Log of GDP	(Lgdp)
	Rate of Financialisation (National)	(RoF)
	Inflation	(inf)
	Capital formation	(cf)
and	Real Interest rate	(RiR)

X_t is a vector of right hand side variables,

π & φ are coefficient matrix vectors

ε_t Error term, independently & identically distributed (iid)

t = 1,2,……..t

As the data is time-series and likely to be non-stationary, the specification is transformed into the Vector Error Correction (VECM) model.

$$\Delta y_t = r_1 \Delta y_{t-1} + \ldots\ldots\ldots + r_{k-1} \Delta y_{t-k+1} + \pi y_{t-k} + \varphi X_{t+\mu} + \varepsilon_t$$

where r is a matrix of short-run coefficients

= - (I-π1…….π1)

π is also a matrix of long-run coefficients

= - (I-π1-π2…πk)

and I is an identity matrix

Due to the likelihood of existence of non-stationarity in time series data, the series are tested for stationarity.

Johansen's approach is multi-step technique.

Step 1: **Order of vector integration**. The rank of π is tested to find the number of linearly independent columns in the matrix.

The order of integration is tested by using the rank of π. There can be three possibilities:

(i) If Rank (π) = 0 - π is a null matrix, then 1st difference VAR is used.

(ii) if Rank (π) = P - π is a full rank matrix, level VAR is used.

(iii) if Rank (π) = r < P - π is not a full rank matrix, then the coefficient can be written as π = αβ, where α and β are both P X r matrices.

Step 2: **Lag length of variables.** To achieve Gaussian error terms appropriate lag lengths are selected by running level VAR for different lag lengths. The model with the least values of AIC and SBC is selected as it will expectedly have no autocorrelation, hetero-skedasticity and ARCH effects.

Step 3: **Model selection for deterministic (trend and intercept) terms.** The model with deterministic terms can take five different forms. Starting with the most restrictive form, the trace static is compared with the critical value. The model where the null hypothesis of no cointegration is not rejected is selected.

Step 4: **Cointegrating vectors.** The number of cointegrating vectors is determined by using two test statistics.

In the first method the characteristics root (Eigen value) is used to test the null hypothesis Rank (π) = r is tested against the alternative r+1. The test statistic is based on the maximum Eigen value statistic called λ_{max}.

$$\lambda_{max}(r, r+1) = -T \ln(1-\lambda_{r+1}).$$

In the second method based on the likelihood ratio, the trace statistic $\lambda_{trace}r$ is used. The null hypothesis is tested for whether the number of cointegrating vectors is less than or equal to r.

$$\lambda_{trace}(r) = T \sum_{i=r+1}^{n} \ln(1-\lambda_i).$$

Step 5: **Testing for weak exogeneity.** Weak exogeneity test is conducted to remove a variable from the left hand side for being endogenous. Weak exogeneity is tested by the joint test that a particular row of α is zero.

Step 6: **Testing for linear restrictions.** The co-efficients of α and β are tested for linear restrictions, specifically for matrix β, that contains the long run relationship.

This procedure of Johansen tests is as per the specification of Asteriou and Hall (2011).

Chapter 7
RESULTS AND ANALYSIS

7.1 Financial Architecture of Pakistan Economy: Fire

7.1.1 Finance

a. Financial Institutions

The architecture and distribution of financial institutions in Pakistan is given in Table 7.1.1.a. There are a total of 180 financial institutions grouped in 10 sub-classes. Major share in the financial architecture by numbers belongs to banks, insurance companies and modarba companies having with 20, 24 and 13% shares respectively.

b. Financial Markets

The structure of financial market given in Table 7.1.1.b consists of three Stock Exchanges – Karachi, Lahore and Islamabad. The number of listed companies has varied from a max of 1424 in 2006 to the lowest of 1224 in 2012, new listing ranged from 42 in 2003 to none in 2012, funds mobilization ranged from Rs 256 billion in 2009 to Rs 9.9 bil in 2003 and shares turnover peaking to 118.3 billion in 2003 to 29.14 in 2010.

Inspite of decreasing number of registration of firms' in Karachi Stock Exchange market capitalisation and Index have been constantly increasing indicating the existence of market financialisation.

c. Insurance

The insurance sector consisting of 51 companies is classified into three categories of Life Insurance, Non Life Insurance and Takaful with 7, 39 and 5 companies respectively. Cumulative growth figures of major variables are given in Table 7.1.1.c. Insurance companies constitute 4.5% (29 / 637) of the KSE registered companies with stocks share 1.41%.

Table 7.1.1.a
Financial Sector

Financial companies / sectors		**180 /10**	
Sectors		Number	% Share
1	Banks	38	20.11
2	DFI's	7	3.70
3	Investment Banks	7	3.70
4	Leasing Companies	10	5.29
5	Modarba companies	26	13.76
6	Housing Finance	15	7.94
7	Mutual funds	15	7.94
8	Insurance	46	24.34
9	Exchange Companies	24	12.70
10	Venture capital	1	0.53

Source: *Financial Sector Analysis, SBP 2012-13*

Table 7.1.1.b
Capital Market
Stock Exchanges: (KSE+LSE+ISE)

Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Listed Companies	1414	1423	1406	1371	1267	1224
New Companies Listed	16	32	35	10	6	
Funds Mobilized (Rs bil)	117.2	102.5	256	66.9	141.2	21.5
Shares Turnover (Rs bil)	70.4	31.3	46.63	29.14	38.93	35.32

Source: *Pakistan Economic Survey, 2012-13*

Table 7.1.1.c
Insurance: Annual Change %

Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Equity	143.61	17.47	6.34	2.81	3.05	6.54
Liabilities	22.88	13.17	13.96	18.93	15.59	21.24
Assets	38.04	14.09	12.33	15.66	12.89	18.82
Advances to policy holders & employees	25.67	16.08	20.47	-96.57	31.46	1.17
Investments in securities & properties	40.60	5.71	17.00	-58.42	202.98	20.29
Investment income	104.34	-75.71	156.69	-9.83	16.48	25.58
Profit/(loss) after taxation	175.82	-108.78	-292.15	-10.85	37.13	54.39

Source: *Financial Sector Analysis, SBP 2012-13*

d. Real Estate (RE)

Generally, real estate constitute about half to three quarters of national wealth which in the US and UK is 70% and 57% respectively (Niazi, 2010). The Economist estimates real estate assets to be $ 62 trillion out of the total assets of $ 115 trillion in developed economies. For Pakistan BMA capital estimates real estate to be $ 300 billion out of total asset market of $ 700 billion (BMA Capital) (Elahi,)

In Pakistan, real estate and housing finance has been carried out by House Building Finance Corporation (HBFC), Scheduled banks and SBP. In the financial market, only one real estate company, Pace (Pak) Ltd is registered at KSE. FSA figures as reported by SBP are given in Table 7.1.1.d.

7.1.2 FIRE Employment Share

The share of FIRE in employment is 0.73% (Fin & Ins 0.48% + RE 0.25%) whereas its industrial share is 1.31%. It is ranked 13/21 on the basis of employment share and 2/21 on the basis of monthly remuneration in the industry. The share of employment of finance and RE in the informal sector is 0.03% and 0.58% respectively.

Occupational distribution of FIRE is given in Table 7.1.2.

Table 7.1.1.d
Real Estate: Annual Change %

Year	2007	2008	2009	2010	2011	2012
Equity	-8.58	1867.67	-20.41	5.97	5.47	-14.17
Liabilities	-16.83	65723.61	2.02	6.02	-0.08	5.02
Assets	-9.81	11550.50	-1.13	5.90	1.75	2.76
Lease finance	-100.00	0	0	-100	0	0
Long term finance	-99.07	-100.00	0	0	64.70	-100
Housing finance	7.86	-17.21	48.26	102.03	-3.58	-100
Profit/ Loss account	-264.51	-3272.60	-71.89	-196.19	12.66	-260.63

Source: SBP FSA publication, 2012-13

Table 7.1.2
Employment Share - 2013: Industry

Major Industrial Group	Employees	Avg payment/ month
Total	100	12118.08
Agriculture, Forestry & Fishing	12.85	6221.41
Mining and Quarrying	0.34	15508.84
Manufacturing	23.17	11022.51
Electricity/ Gas etc	1.37	24818.95
Water supply/ Sewerage	0.53	16865.29
Construction	17.68	9614.84
Wholesale & Retail	8.46	8656.22
Transport/ Storage	7.05	12469.84
Accom & Food services	1.59	10022.14
Information & Communication	1.12	22113.98
Finance & Insurance	**1.24**	**29720.15**
Real Estate	**0.07**	**9844.08**
Professional, Scientific & Tec	0.7	21018.44
Administrative and Support	0.74	13952.4
Public Admin & Defence	6.76	21549.1
Compulsory Social security & Edu	9	18703.73
Human Health and Social Work	2.5	17412.97
Art, entertainment, recreation	0.22	8434.65
Other services activities	2.25	8196.79
Household and allied	2.37	6517.51
Extraterritorial	0.02	45981.6

Source: *Pakistan Economic Survey, 2012-13*

Table 7.1.2 (b)
Occupational Distribution

	Industry	Fin & Ins	RE
Total	100	**0.48**	**0.25**
Managers	2.39	**0.17**	**0.01**
Professionals	4.22	**0.03**	
Clerical Support Workers	3.03	**0.06**	**0.22**
Service and Sales Workers	1.37	**0.1**	
Skilled Agricultural, Forestry & Fishery Workers	15.55	**0.06**	
Elementary Occupations	4.77	**0.01**	
Others	16.32	**0.05**	**0.01**

Source: *Pakistan Economic Survey, 2012-13*

7.2 Sectoral Share in GDP

Contribution to GDP by the five main sectors is shown in Figs 7.2 & 7.2 (a) and Table 7.2. The share of all sectors in GDP has generally remained unchanged. Agriculture, industry and services have the highest contributions with services showing the highest variability amongst top three contributors. The economy is predominantly real sector is the predominant sector of the economy with a lower contributing share by the financial sector.

The mean share of finance & insurance in GDP has varied between 2-6% around a mean of 3.34%. This is the lowest contributing share amongst all the sectors of GDP. However, during this period the growth of finance and insurance has been the highest at 14.6% oscillating between the lowest figures of -13% in 2001 to the highest in 35% in 2006.

Housing and dwellings, another component of financialisation also exhibits near identical profile with a mean contribution of 3.85% and varying between the limits of 2 and 5%. The pattern is similar to the profile of the aggregate growth rate (Fig 7.2 (b) and (c) and Table 7.2 (c))

Fig 7.2 Sectoral Share in GDP

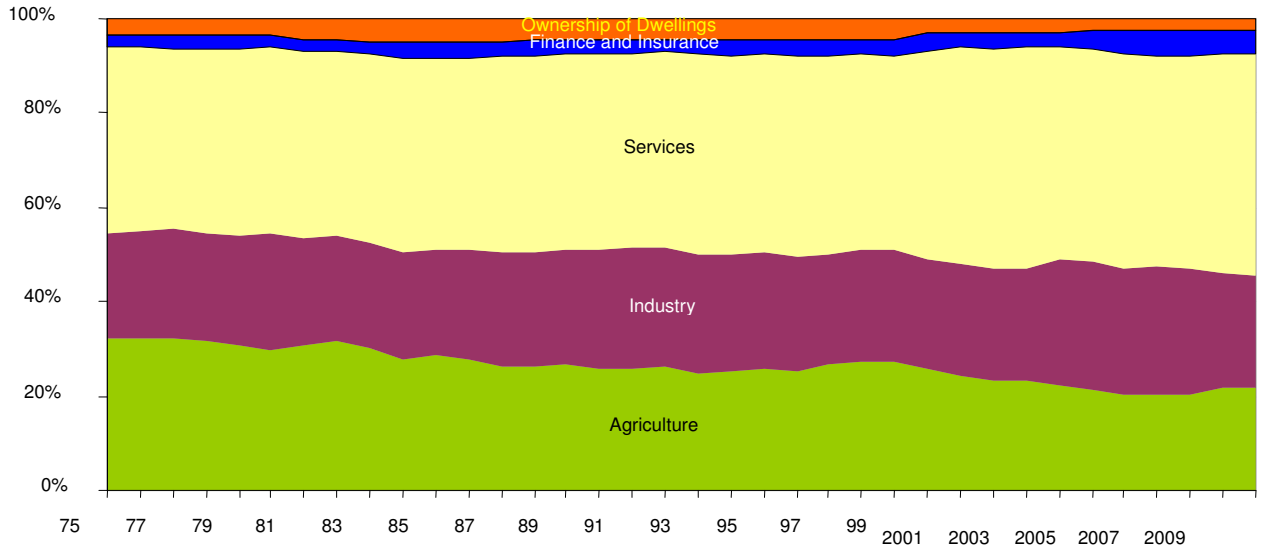


Table 7.2 Mean Sectoral Contribution: % of GDP

	Agriculture	Industry	Services	Fin & Ins	Housing & Dwell
Mean	**26.39**	**24.19**	**42.27**	**3.34**	**3.85**
SE	0.60	0.24	0.41	0.14	0.14
SD	3.60	1.46	2.47	0.85	0.86
Variance	12.93	2.12	6.10	0.73	0.74
Range	12.05	5.03	8.81	3.37	2.66
Minimum	20.33	22.07	38.46	2.24	2.41
Maximum	32.38	27.10	47.27	5.61	5.07

Fig 7.2 (a) Mean Sectoral Contribution (%)

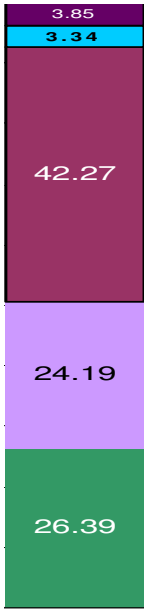


Fig 7.2 (b)

Sectoral Growth Profile: GDP

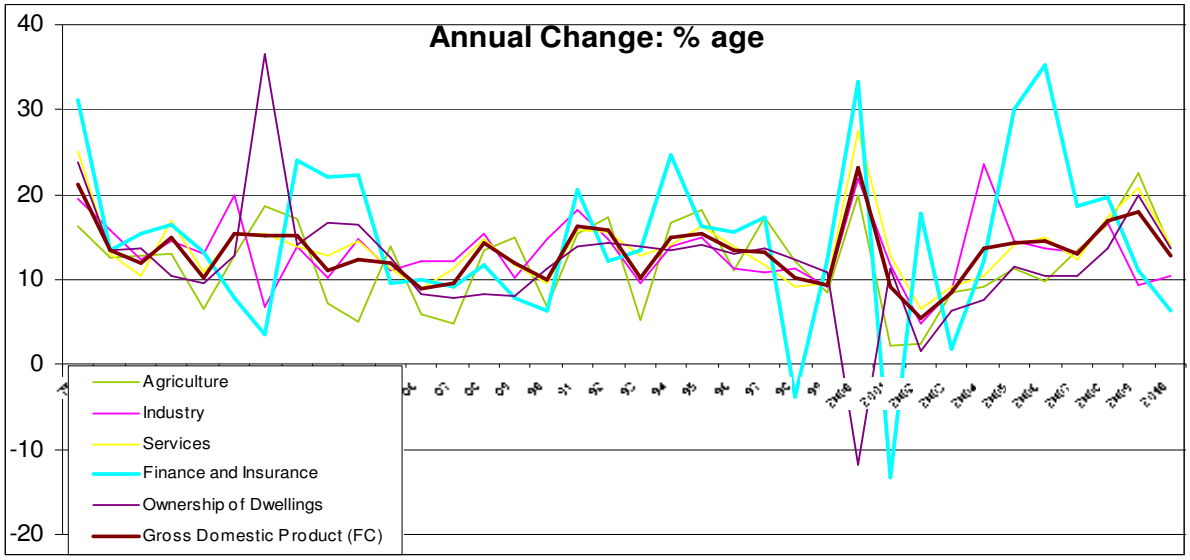


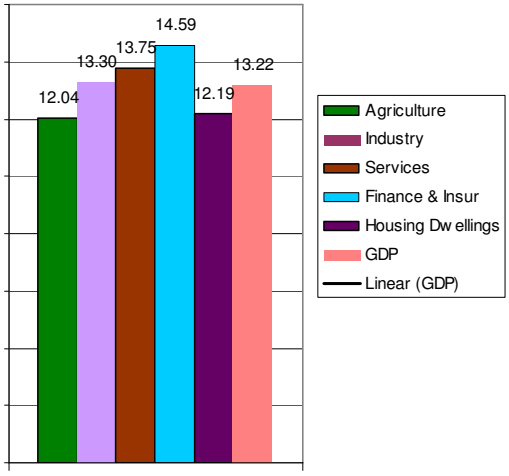
Table 7.2 (b)

Sectoral Growth Share

	Agriculture	Industry	Services	Fin & Ins	Housing Dwel	GDP
Mean	12.04	13.30	13.75	**14.59**	12.19	13.22
SE	0.86	0.66	0.70	1.65	1.16	0.59
SD	5.14	3.98	4.22	9.92	6.94	3.53
Variance	26.43	15.80	17.79	**98.32**	48.18	12.49
Range	20.24	18.75	20.92	**48.36**	48.33	17.81
Minimum	2.29	4.76	6.53	**-13.21**	-11.84	5.38
Maximum	22.53	23.51	27.45	**35.15**	36.49	23.19

Fig 7.2 (c)

Mean Sectoral Growth (%)



7.3 Sectoral Financialisation

7.3.1 Finance, Insurance and Real Estate (FIRE)

a. Financial Institutions

Growth of the phenomenon of financialisation in the financial institutions is studied by the analysis of advances and financial investments. Fig 7.3.1 shows the historical profile of advances and financial investments. The slopes of the two series start distinct upwards progress from 1983 till 2003 from where on they have much steeper profiles. Advances have been higher than financial investments with mean value of Rs 911694.94 mil compared to financial investments of Rs 534126.30 mil.

Fig 7.3.1 (a) shows the comparative % age growth profile of advances and financial investments by financial intermediaries that include SBP, scheduled banks and the DFIs'. Financial investments have the highest mean growth of 18.68%, followed by advances with 16.13% and GDP with 13.22% (Table 7.3.1 (a)). Palley (2007) attributes financialisation primarily to credit market debt, increasing from 140% of GDP to 328.6% from 1973 to 2005 in the US economy.

The changing and unstable growth profile of advances indicates the existence of financialisation in the banking system as this type of character is similar to financialisation. The rising historical profile also shows compliance with Palleys' (2005) findings about the inception and growth of financialisation.

Insurance companies in Pakistan, invest mainly in government bonds (Hussain, 2011) where their growth has been very slow (Saeed, 2008). Malik (2011) studys the profitability of insurance sector in Pakistan and finds it significantly related with size and volume of capital.

b. Financial Markets

Fig 7.3.1.b shows the comparative graphs of indices of General Share Prices and Finance & Insurance of companies in KSE. The finance and insurance index is higher than the Gen Share Price Index, has more number of inflexion points and has wider fluctuations. This oscillating behaviour is similar to the basic nature of financialisation. The mean change in the index of finance is 708.83 points compared to the General Price Index of 202.96.

The annual percentage change in capitalisation of finance and insurance is also higher than the market and NFC's (Fig 7.3.1.b (a) & table 7.3.1 (a)). This profile of capitalisation is also similar to the financialisation behaviour of the financial market. Data of higher frequency on market index, capitalisation and volume is expected to manifest clearer and greater financialisation behaviour. The US stock market capitalisation increased from 58% in 1988 to 163% of GDP in 1999, while turnover increased from 33% in 1988 to 338% in 2008 showing the ascendancy of financial markets (Stockhammer, 2010).

Bond Markets

Bonds provides alternative mode of financing. They are financial and economic stabilizers and have exhibited significant growth in the age of financialisation (Nozue, 2007). In Pakistan bonds and money market initiated in the post 1990s' reform period but have grown at a rate of 1% of GDP (Hameed, 2006). The first long term bonds were issued in 1992, Term Finance Certificates (TFCs') in 1995 and Pakistan Investment Bonds (PIBs') in 2000.

Derivatives

According to the 2008 report of Bank of International Settlements (BIS) the total value of derivatives, hedge funds and credit default swaps was US $ 596, 1.9 and 58 trillion respectively (Moglu, 2011).

Derivatives market was setup in Pakistan in 2003 with future trading of futures contracts. Various products including FX options, Interest Rate Swaps (IRS), cross currency swaps (CCS), Forward Rate Agreements (FRAs') and Cash Settled Stock Futures Contracts are used. In 2007 the volume of IRSs' was Rs 162 billion and that of CCSs' was Rs 101 billion (Nachane, 2010).

Fig 7.3.1
Fin Institutions: Advances & Fin Investments

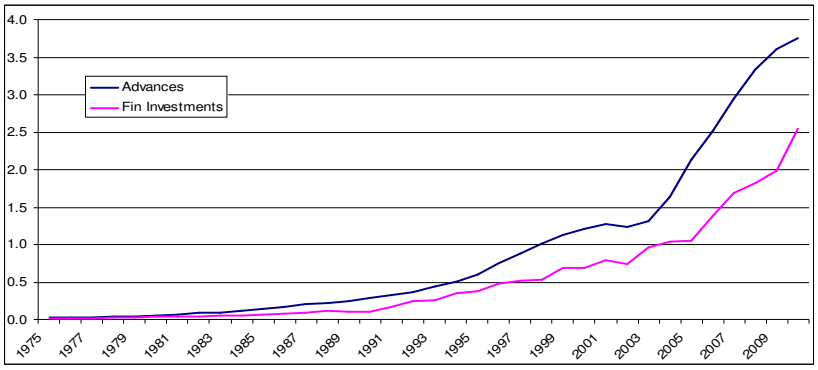


Table 7.3.1
Fin Institutions: Mean Values

	Advances	Fin investments
Mean	911694.94	534126.30
SE	182503.14	108254.32
Median	401423.1	258268.85
SD	1095018.88	649525.92
Variance	1.19907E+12	4.21884E+11
Range	3731050.6	2538397.9
Minimum	22465.8	9336.7
Maximum	3753516.4	2547734.6

Fig 7.3.1 (a)
Fin Institutions: Mean Values

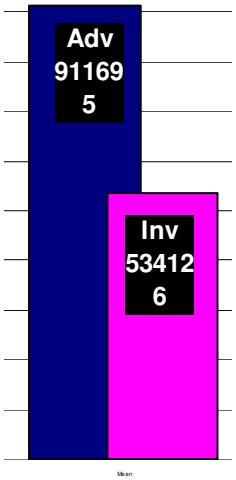


Fig 7.3.1 (b)

Financial Institutions: Annual Change (%)

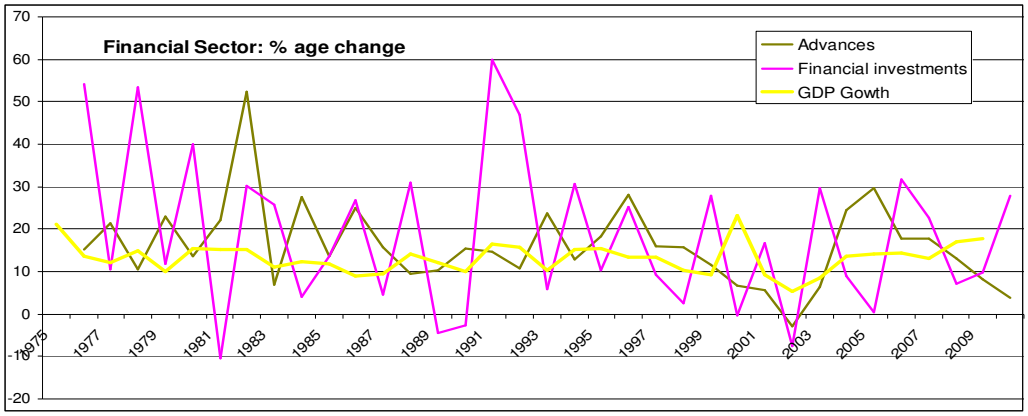


Table 7.3.1 (b)

Financial Institutions: Mean Growth Rate (%)

	Advances	Fin investments	GDP
Mean	16.13	18.68	13.22
Standard Error	1.66	3.07	0.59
Median	15.10	13.58	13.34
SD	9.79	18.14	3.53
Variance	95.92	328.98	12.49
Range	55.52	70.51	17.81
Minimum	-3.03	-10.53	5.38
Maximum	52.48	59.99	23.19

Fig 7.3.1 (b)

Financial Institutions: Mean Growth Rate (%)

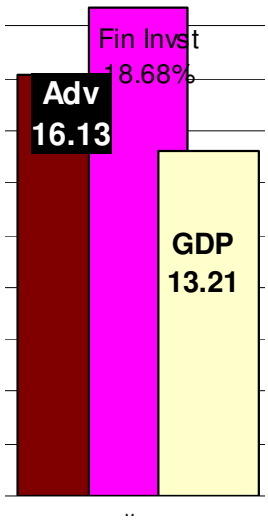


Fig 7.3.1.b

Financial Market Index

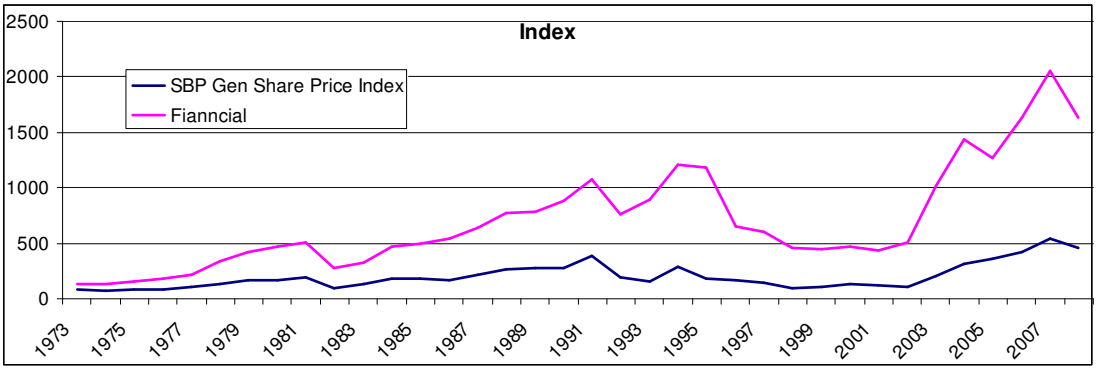


Fig 7.3.1.b

Financial Market Index

Values	*Index*	
	Gen Index	Fin/ Ins
Mean	202.96	708.83
SE	19.24	78.16
SD	115.46	468.96
Range	478.92	1923.93
Minimum	68.55	134.16
Maximum	547.47	2058.09

Fig 7.3.1.b

Financial Market Index

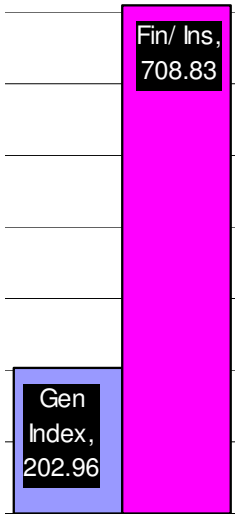


Fig 7.3.1.b (a)
Financial Market Capitalisation

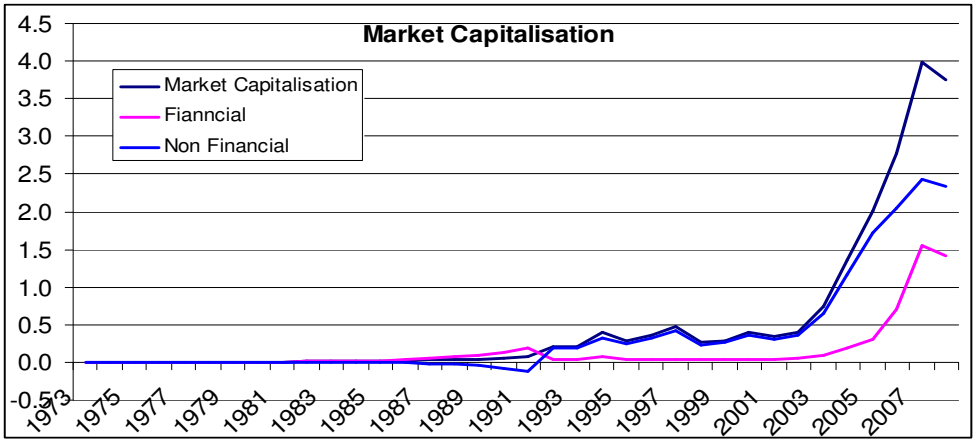


Table 7.3.1.b (a)
Financial Market Capitalisation

Values	*Capitalisation*		
	Mkt Capital	Fin/ Ins	Non Fin
Mean	517525.19	148948.11	368577.08
SE	168150.41	58689.31	114075.35
SD	1008902.43	352135.86	684452.07
Range	3977237.30	1552867.30	2539041.07
Minimum	3546.10	617.30	-111742.27
Maximum	3980783.40	1553484.60	2427298.80

Fig 7.3.1.b (a)
Financial Market Capitalisation

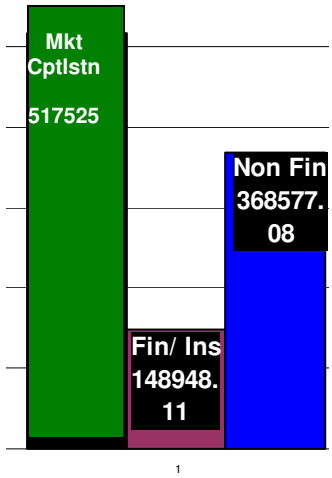


Fig 7.3.1.b.a
Index Change (%)

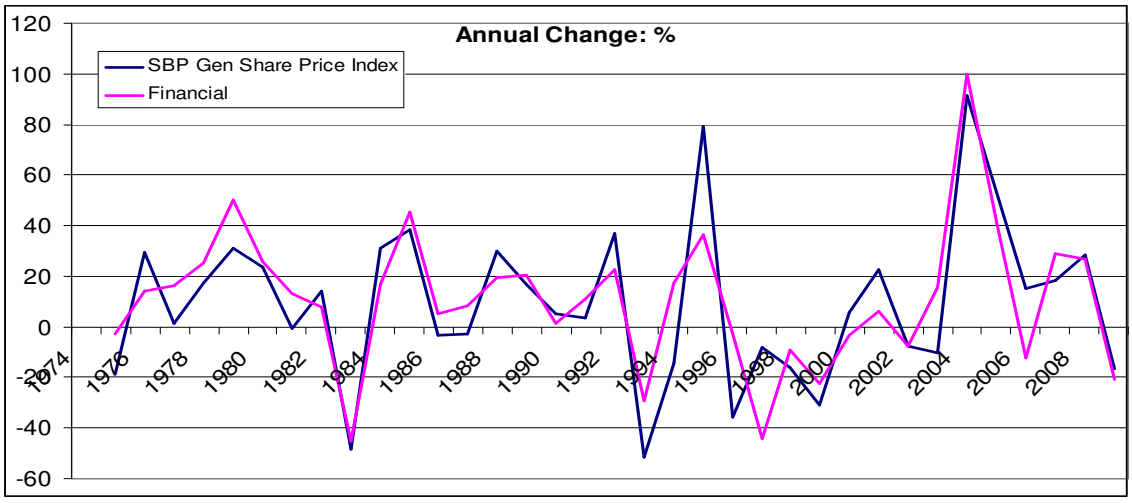


Table 7.3.1.b.a (a)
Mean Index Change (%)

	Index	
	Index	Fin/ Ins index
Mean	9.37	10.70
SE	5.25	4.64
SD	31.05	27.45
Range	142.59	145.30
Minimum	-51.38	-45.28
Maximum	91.21	100.03

Fig 7.3.1.b.b (a)
Mean Index Change (%)

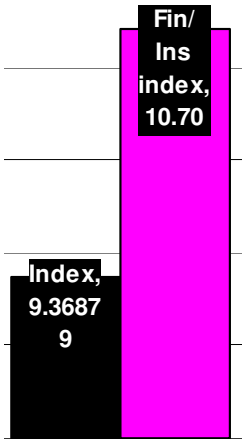


Fig 7.3.1.b.b
Capitalisation Change(%)

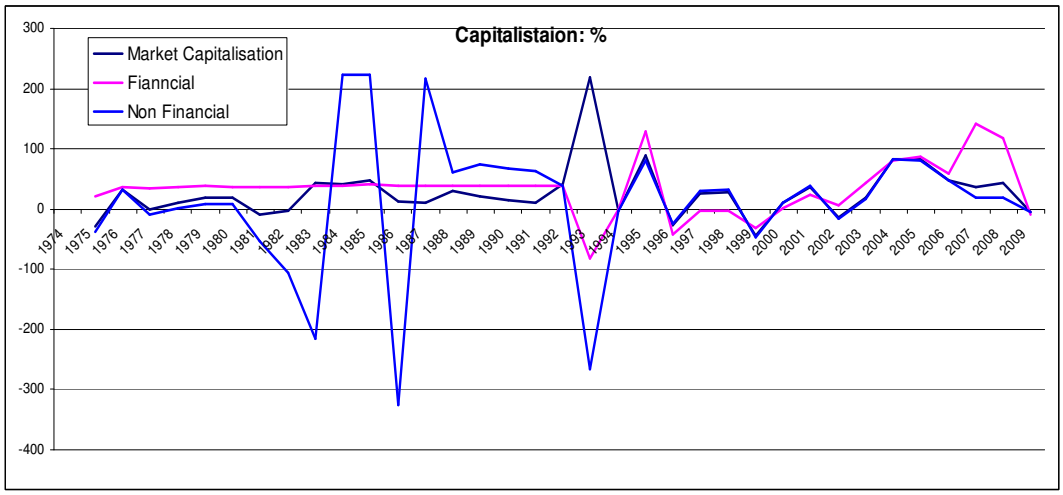
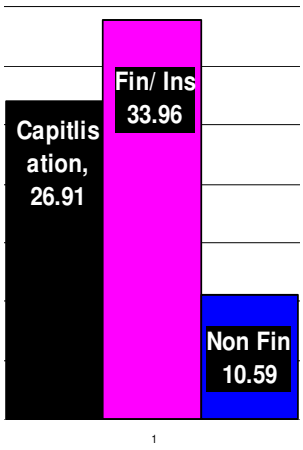


Table 7.3.1.b.b (a)
Mean Change Capitalisation (%)

	Capitalisation	Fin/ Ins index	Non Fin
Mean	26.91	33.96	10.59
SE	7.58	7.37	19.03
SD	44.85	43.60	112.61
Range	263.84	223.13	548.19
Minimum	-44.79	-81.56	-324.31
Maximum	219.05	141.57	223.88

Fig 7.3.1.b.b (a)
Mean Capitalisation Change (%)



7.3.2 Non-Financial Sector

The financial variables of NFC's are shown in Fig 7.3.2 and Tables 7.3.2. They have been studied both as values and as ratios.

The Rs value of all variables show increasing trend (Fig 7.3.2(a)) with equity and fixed capital showing the highest level of rise. Financial investment shows steady levels till the year 2001 from where it has risen sharply peaking in 2007 similar to the financial sector and international trends. Financial expenses have remained steady with sharp dip in 2001 – 2003 time periods possibly due to compatible dip in real interest rates. The annual percentage growth rate, however, shows the highest variation in the two financial variables of financial investment and financial charges. They show the highest level of variability and the highest peaks and troughs. The other two variables; fixed capital and equity show steady growth. Financial investment also has the highest mean growth of 23% compared to the remaining three variables that range from 14 -16% (Table 7.3.2 (a)). The growth of all variables show sharp rise and falls that are the attributes of financialisation and are different from the lesser oscillating real sector variables. From this profile it may be inferred that the variables exhibit financialisation behaviour. Comparison of kinks in Fig 7.3.2 (b) with Fig 7.3.2 (b.a) of CPI and Interest Rates also show similarity.

The objective of stock holder value maximisation through divide & distribute is said to have financialised NFCs'. This proposition is tested by the comparative study of retained earnings and dividends. Fig 7.3.2 (c) shows retained earnings ranging between 50-80% of dividends with a mean value of 50%. The hypothesis is further reinforced by the Self Financing ratio that has remained low with a mean value of approx 20% with skewed contribution by the spike between the years 2000-2003. Gearing has remained steady above 40% level of total capital and financial expense/ profit has remained between 200-400% with a mean above 200% (Fig 7.3.2 (d)). Fluctuability of the variables and highest growth trends of finance related variables are signs of financialisation of NFCs' at KSE.

Fig 7.3.2 (a)
NFC Financial (Rs)

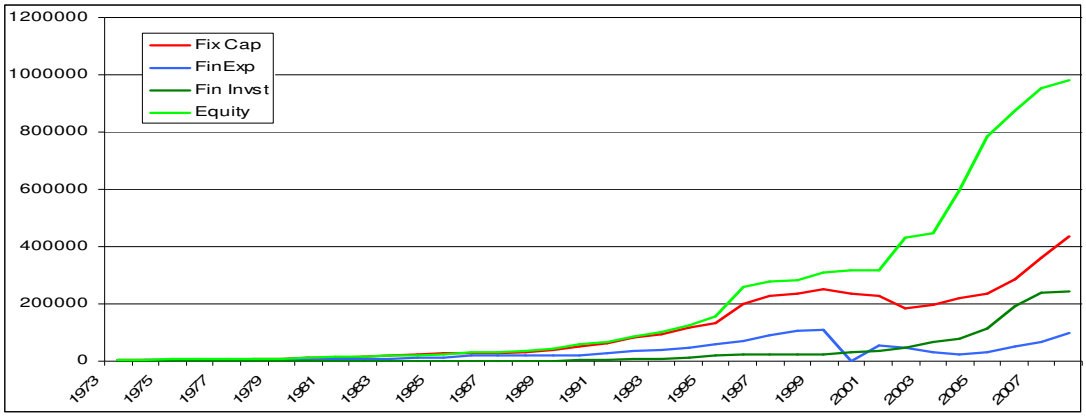


Fig 7.3.2 (b)
NFC Financial: Annual Change %

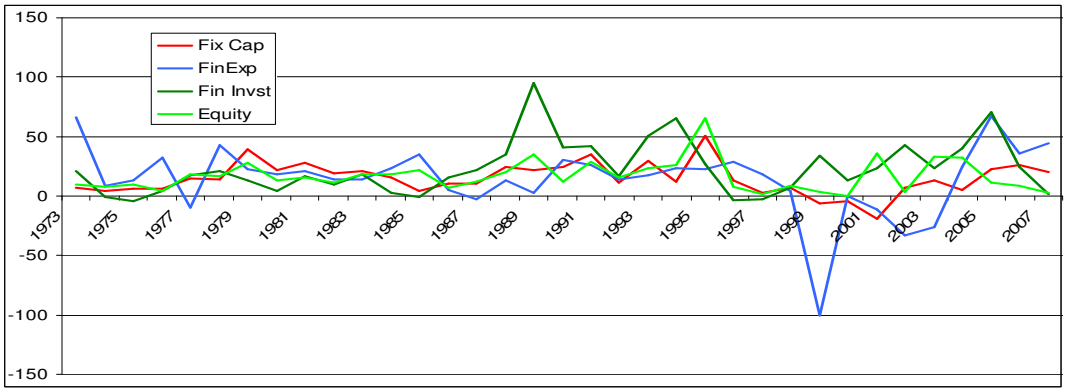


Fig 7.3.2 (b.a)

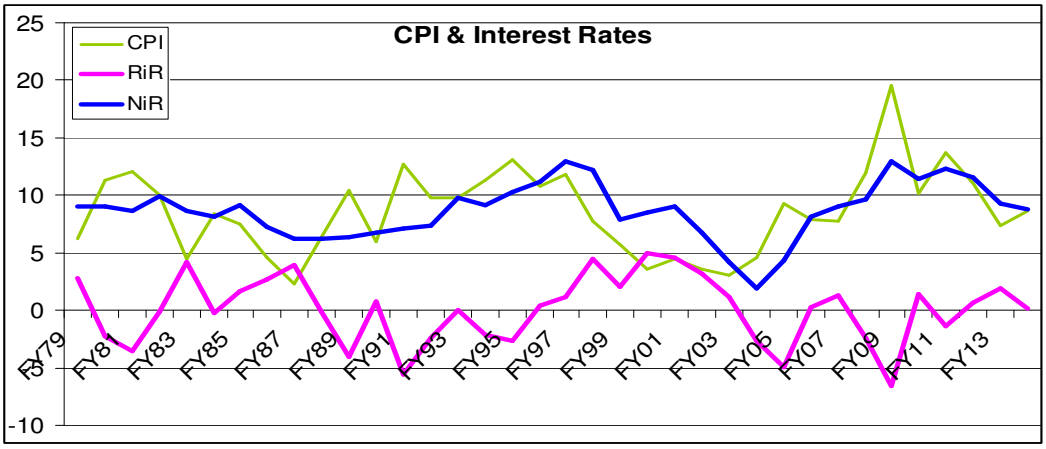


Table 7.3.2 (b)

Mean Change (%)

	Fixed Cap	Fin Exp	Equity	Invst
Mean	14.79	14.41	16.77	23.01
Standard Error	2.26	4.90	2.21	3.81
Standard Deviation	13.35	28.98	13.05	22.52
Range	69.63	167.25	65.20	98.97
Minimum	-19.11	-100.00	0.15	-4.33
Maximum	50.51	67.25	65.34	94.64

Fig 7.3.2 (b.a)

Mean Change %

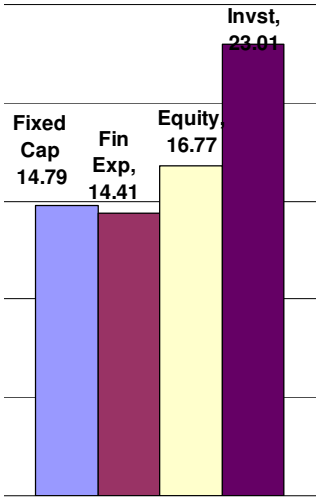


Fig 7.3.2 (c)

Ratios

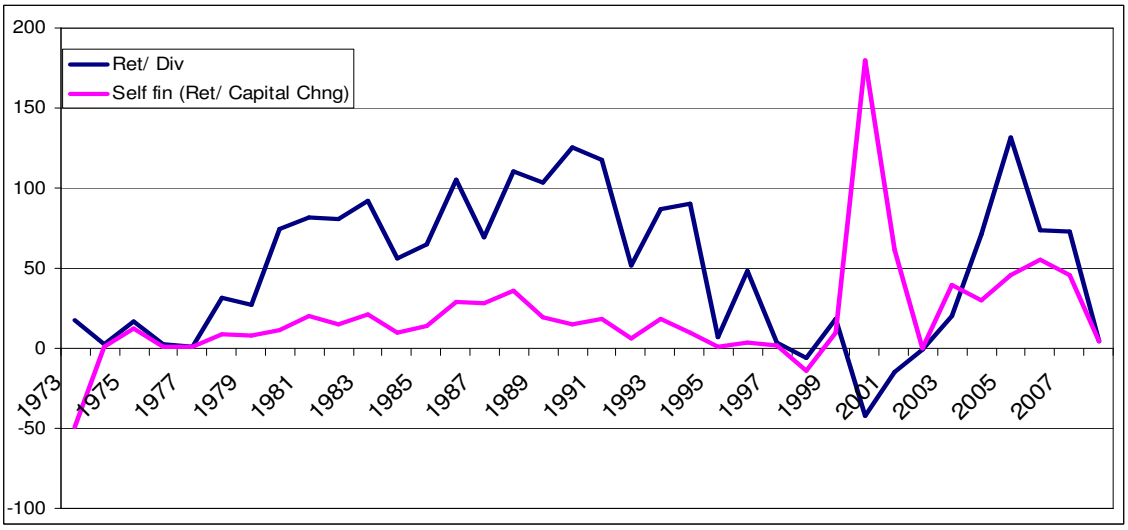


Fig 7.3.2 (d)
Ratio

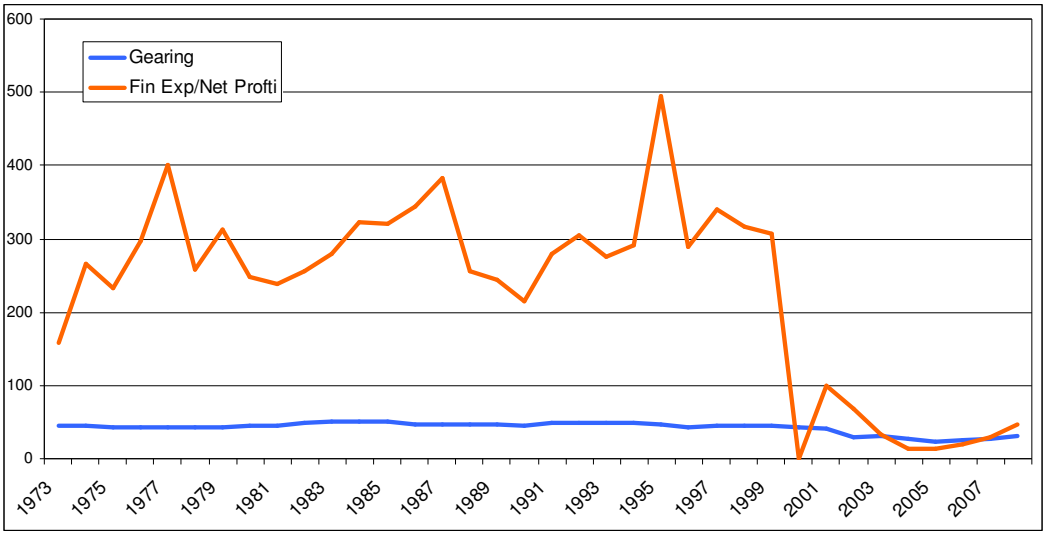
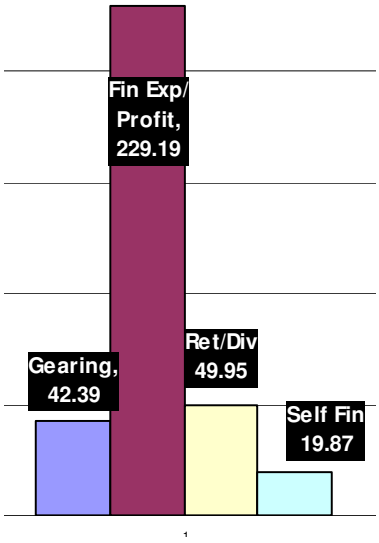


Table 7.3.2 (c, d)
Mean %

	Gearing	Fin Exp/ Profit	Ret / Div	Self Fin
Mean	42.39	229.19	49.95	19.87
SE	1.30	21.16	7.57	5.66
SD	7.80	126.97	45.40	33.99
Range	27.88	493.89	173.95	229.50
Minimum	22.92	0.00	-42.17	-49.50
Maximum	50.80	493.89	131.77	180.00

Fig 7.3.2 (c.d)
Mean %



7.3.3 Public Sector

Fig and Tables 7.3.3 show public sector financial profile

The profiles of annual planned and actual financing reveal that government financing consists almost entirely of budgetary financing as there is minor difference between the two. Actual amounts have always superseded the planned amount except for the 2001-03 time period. The rising trend of financing is discernable from 1990's onwards, the period of privatisation in Pakistan and international financial liberalisation. Distinctive rise from 1993 onwards, wider fluctuations in 1999-2003 time frame and spike 2006 onwards is the feature of the set. Domestic financial assets consisting of government and non-government sectors also have identical paths but with higher levels for planned and actual assets both. Mean values in table and fig 7.3.3 (a) summarise the comparison.

Loans and payments are yet another source of financialisation of public sector. Fig 7.3.3 (b) & (c) and Tables 7.3.3 (b) & (c) show the historical state of foreign assistance and debt repayment. Foreign assistance has been received in the form of loans and grants. Fig 7.3.3 (b) shows that foreign financial assistance has always been substantially higher than repayments except for 2004-6 time-frame. Interest payments show a steady rising stream. The mean values of the variables show the same hierarchy. Growth rates of the variables shows mean annual change in foreign assistance and principal of 9.22% and 10.9% respectively with interest payments growing at 4.5%.

Fig 7.3.3

Borrowings & Assets (Planned and Acual)

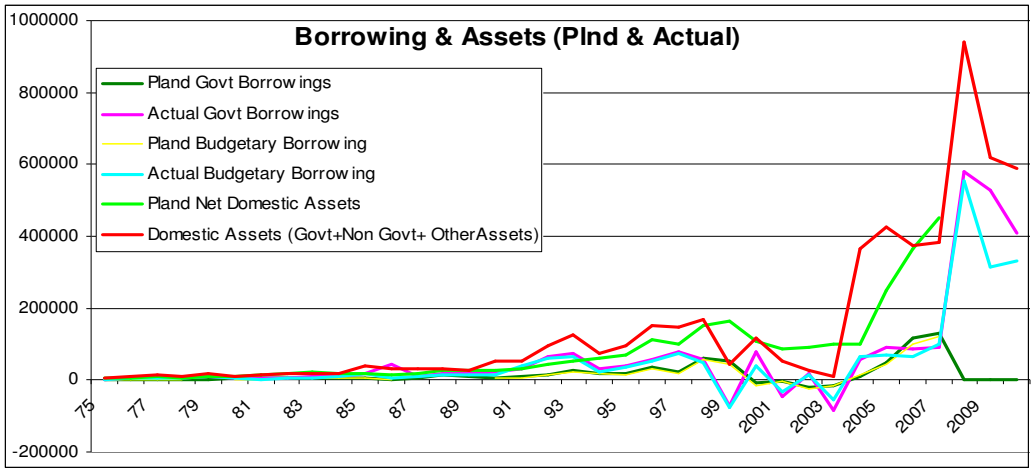


Table 7.3.3 (a)

Descriptive Statistics

	Govt Borrowing		*Bdgtry Borrowing*		*Domestic Assets*	
	Planned	Actual	Planned	Actual	Planned	Actual
Mean	16814.61	66052.73	16592.13	53420.75	78649.06	144623.13
SE	5278.18	23626.50	5608.11	19367.11	17775.55	35752.38
SD	31669.08	141758.98	30716.88	116202.68	102112.74	214514.31
Range	151100.00	663970.00	146100.00	629745.00	443787.00	937585.00
Minimum	-21000.00	-82547.00	-26000.00	-75194.00	6313.00	3784.00
Maximum	130100.00	581423.00	120100.00	554551.00	450100.00	941369.00

Fig 7.3.3 (a)

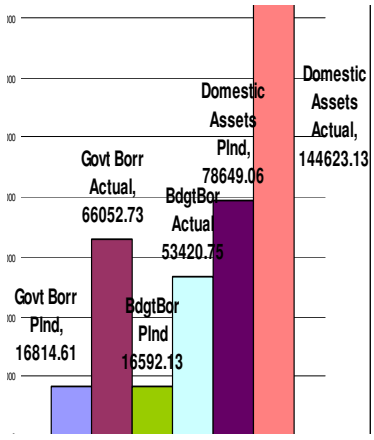


Fig 7.3.3 (b)

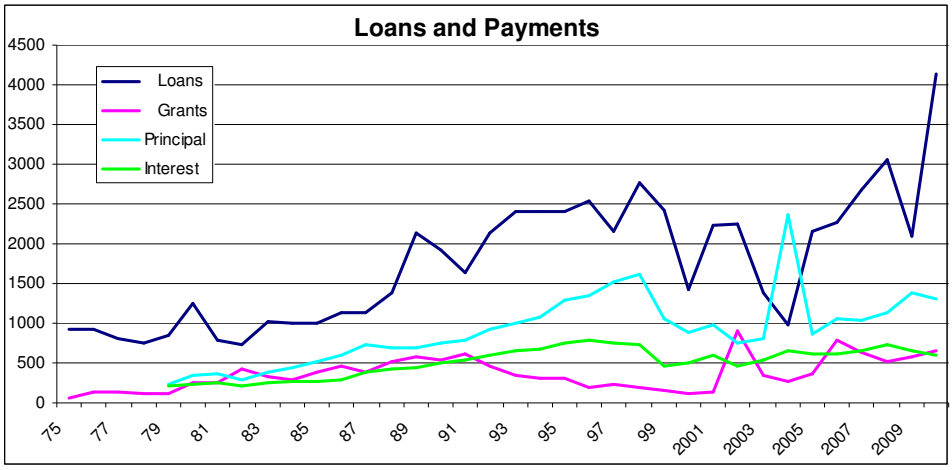


Fig 7.3.3 (b)

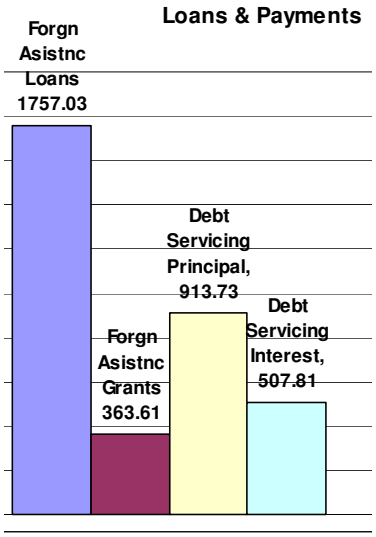


Fig 7.3.3 (c)

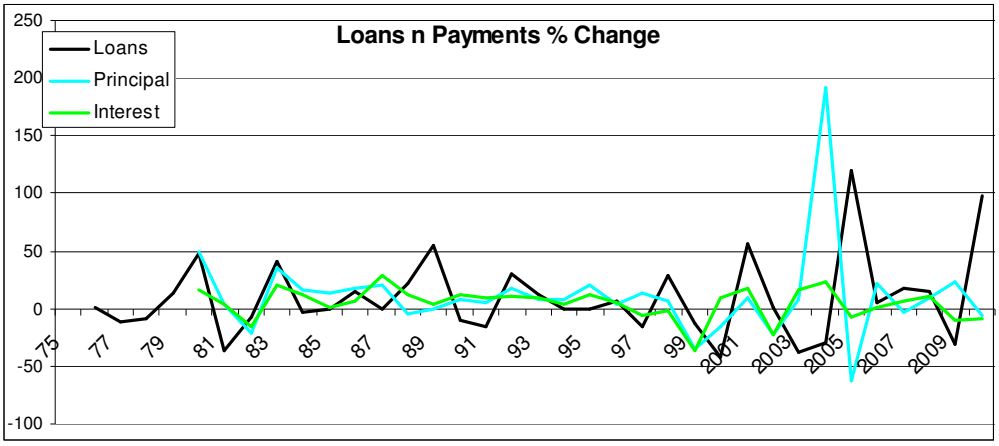
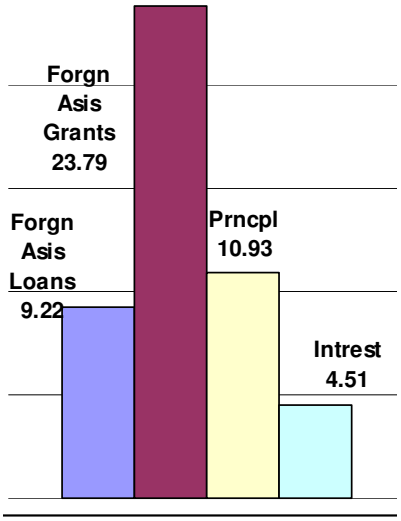


Table 7.3.3 (c)

	Foreign Assistance		*Payments*	
	Loans	Grants	Principal	Interest
Mean	9.22	23.80	10.94	4.51
SE	5.93	17.35	7.09	2.45
SD	35.10	102.66	39.46	13.62
Range	161.75	625.32	254.72	65.58
Min	-41.52	-61.35	-63.14	-36.38
Max	120.22	563.97	191.58	29.20

Fig 7.3.3 (c)



Although there can be a plethora of underlying economic reasons for the changes in the variables, the compliance and responsiveness of variables to international financial changes and trends can also be possible reasons. The trend lines of all the variables are rising steadily in the 90's similar to the take-off run of international financialisation whereas the higher fluctuations of the later period match the peak period of financialisation. Hence, financialisation may also be one of the inherent characters of public sector predominantly under the influence of foreign assistance.

7.4 Financialisation of Economy: Measurements

7.4.1 Financial Structure

The financial structure ratio for Pakistan economy has been calculated using SBP data. Fig 7.4.1 shows private credit and KSE capitalisation data indicating crossover point in the year 2006. The mean of financial structure ratio has been 4.23 transforming at rate of 0.46% (Table 7.4.1) from intermediary to market. The FS of Pakistan was bank based till 2006 where the ratio falls below unity showing transformation to market based financial system (Fig 7.4.1(a)). A possible cause may be inflow of foreign portfolio investment in stock markets.

7.4.2. Financial Development

Tahir (2008) finds long run unidirectional causality from economic development to financial development in Pakistan. He has used the Financial Depth ratio of financial intermediaries as a measure of financial development.

The FD ratios for intermediaries (banks) and market (KSE) are shown in Fig 7.4.1 (b). FD of banks has remained on a steady path whereas that of KSE has a comparatively steeper and spiking rise post 1991. A much steeper rise is observed in 2001 – 2007 time period similar to international financial boom. This may be an indicator of higher sensitivity of financial market to international changes compared to financial intermediaries.

Fig 7.4.1

Private Credit and Market Capitalisation

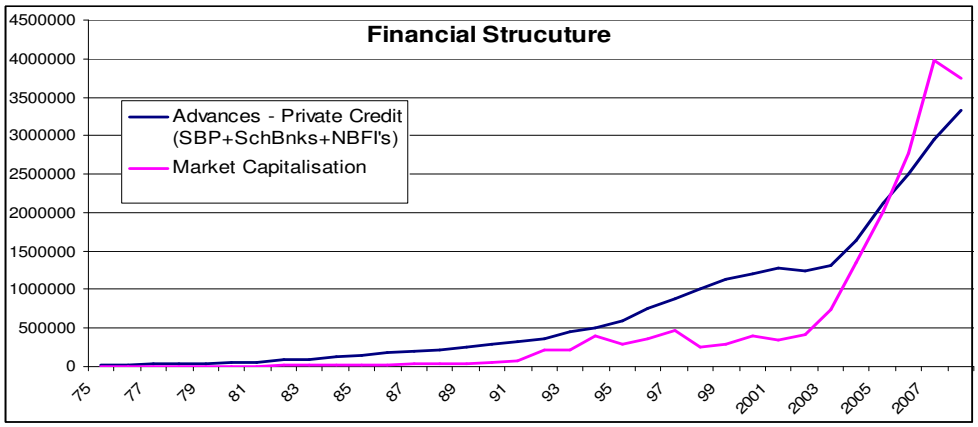


Fig 7.4.1 (a)

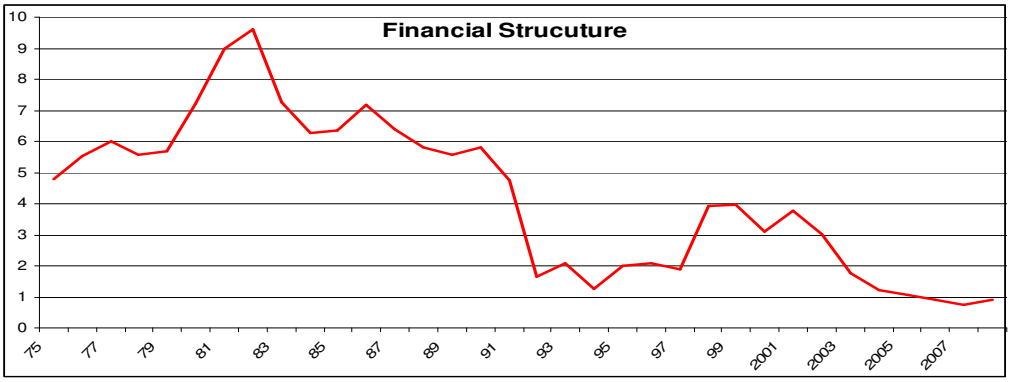


Fig 7.4.1 (b)

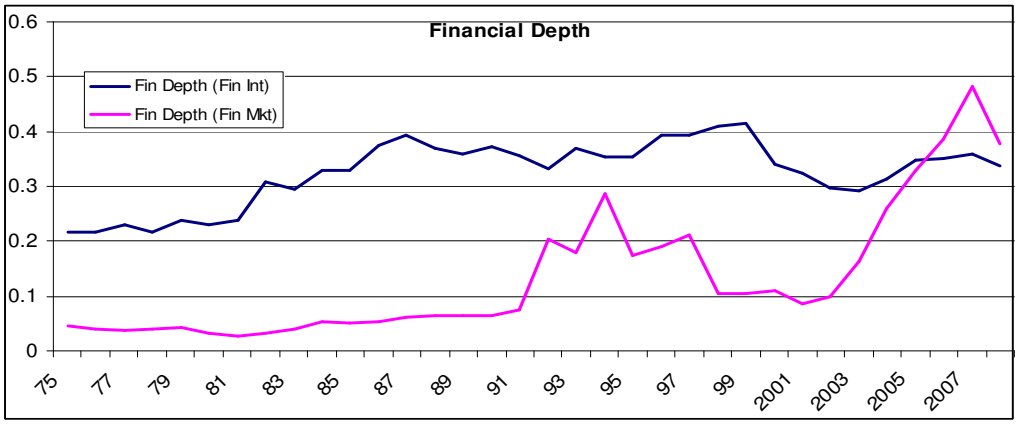


Fig 7.4.1 (c)

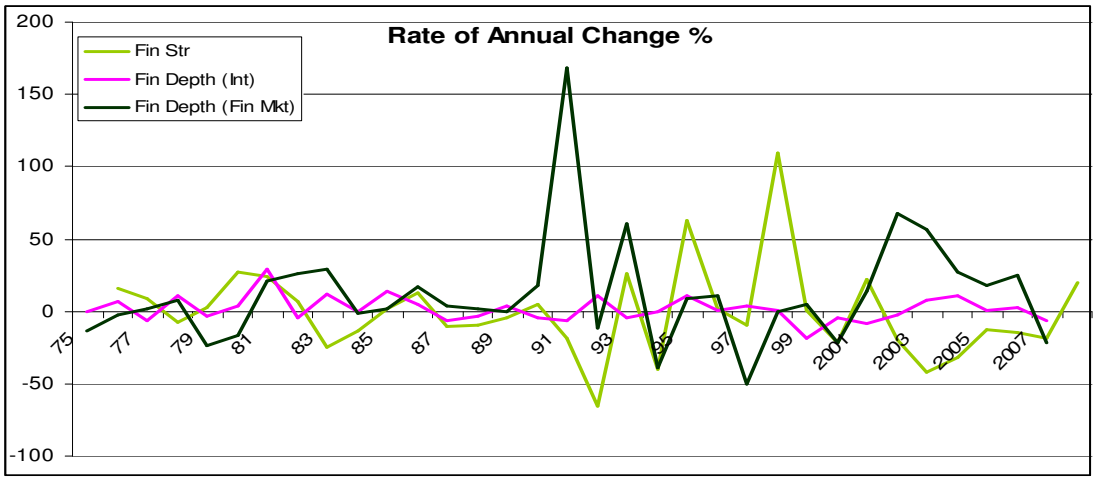


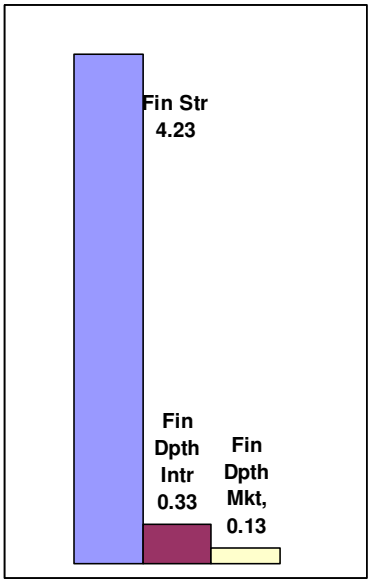
Table 7.4.1 (c))

Descriptive Statistics- Financial Structure & Depth

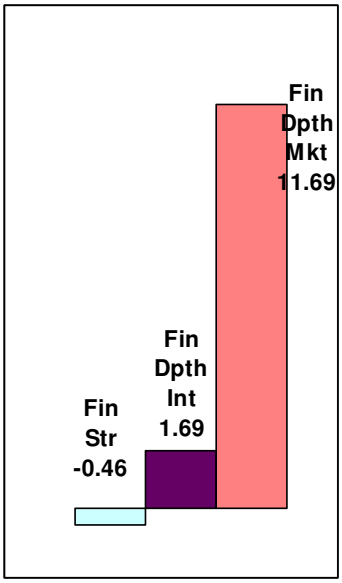
	Value			*Change*		
	Fin Str	Fin D Int	Fin D Mkt	Fin Str	Fin D Int	Fin D Mkt
Mean	4.23	0.33	0.13	-0.46	1.69	11.69
Standard Error	0.43	0.01	0.02	5.43	1.51	6.63
Std Deviation	2.50	0.06	0.12	31.17	8.69	38.07
Range	8.87	0.20	0.46	174.88	47.49	219.31
Minimum	0.74	0.22	0.03	-65.25	-18.14	-50.45
Maximum	9.61	0.41	0.48	109.64	29.35	168.86

Fig 7.4.1 (c)

Fig Mean Value



Mean Change (%)



The highest annual percentage change (Fig and Table 7.4.1 (c)) of Financial Markets Depth manifests shifts of the economy towards financial side though at a slower pace as also found by Tahir (2008). This is caused by economic development in Pakistan economy. The ratios of financial structure and financial depth indicate financial transformation of the financial system towards market based structure.

7.4.3 Measures of Financialisation

a. Rate of Financialisation

The rate of financialisation calculated by using the variables is graphed in Fig 7.4.3 and the mean values are given in Table 7.4.3 & Fig 7.4.3 (a). The rate of change shows that the highest level of financialisation is shown by public sector and the capital market. The major constituents of high public sector borrowings are budgetary borrowing and foreign loans as in Fig 7.3.3 (b) while those of capital market are finance and insurance in terms of index and non-financial corporations in terms of capitalisation. These two components also show the highest level of variability in terms of standard deviation and range between the highest and lowest values. The public sector mean financial growth is highly skewed due to wide range as shown in the graph by the frequent high variability and maximum spikes. Real estate and NFCs' show similar rate of growth of financialisation with approx mean values of 14 and 12 % respectively.

As shown by the FS ratio, the financial system of Pakistan has been financial intermediary (bank) based, similar result is shown by the rate of financialisation. The Covariance Matrix in Table 7.4.3 (b) also confirms the closer covariance between the rates financialisation of financial institutions and National Rate of Financialisation. Importantly, this rate of growth of financialisation in Pakistan is markedly different from the growth rate of other macro variables – inflation, interest rate and GDP.

Fig 7.4.3.a

Rate of Financialisation

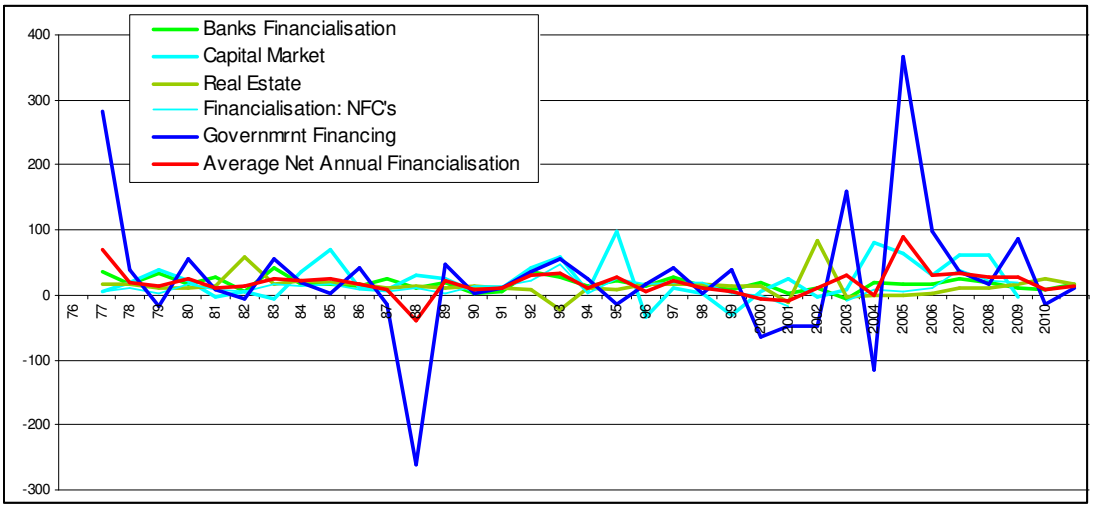


Fig 7.4.3.a

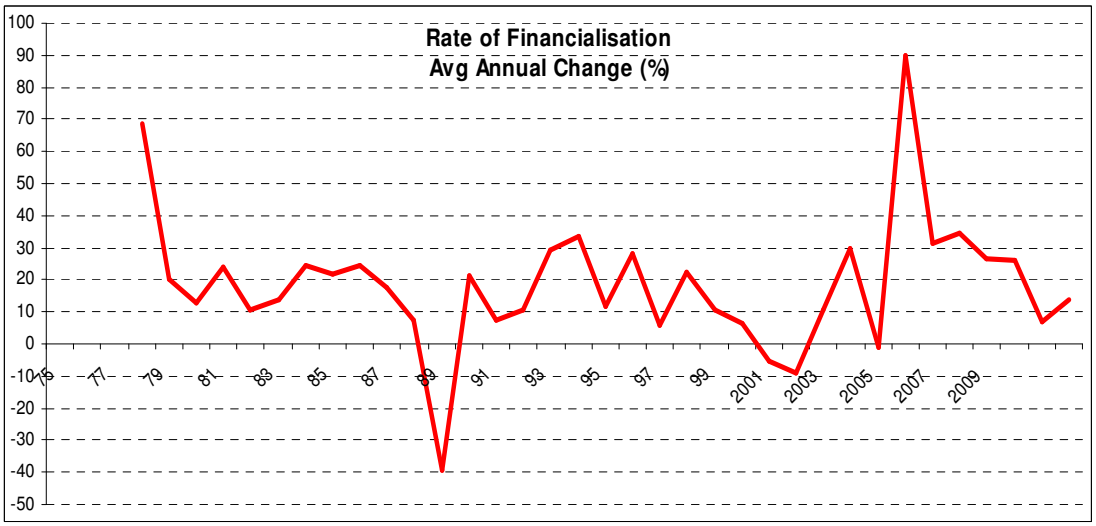


Table 7.4.3.a (a)

Descriptive Statistics

	Fin Inst	Capital Mkt	RE	NFC's	Public Sctr	National
Mean	17.41	22.97	13.96	11.85	27.14	18.50
Std Error	1.72	5.32	2.88	2.13	17.00	3.55
Std Dev	10.15	30.55	17.03	12.06	100.59	21.00
Range	46.72	131.07	105.62	62.64	627.50	129.40
Min	-5.36	-32.77	-22.35	-16.24	-260.36	-39.34
Max	41.35	98.30	83.28	46.40	367.15	90.06

Fig 7.4.3.a (a)

Mean Financialisation (%)

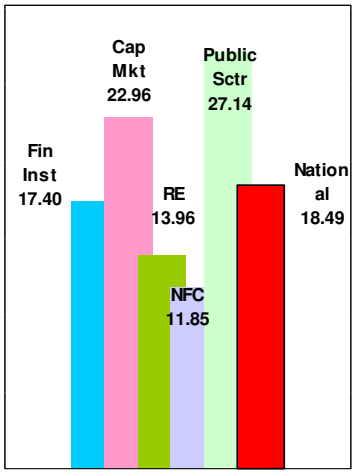


Table 7.4.3.a (b)

Covariance

	Fin Inst	*Fin Mkt*	*RE*	*NFC*	*Public Sector*
Fin Mkt	63.62	904.97			
RE	-22.53	-176.01	281.72		
NFC	49.34	129.82	-9.87	140.92	
Public Sector	149.18	-90.81	-324.11	-46.80	9829.52
National	67.49	165.76	-49.92	52.68	1911.44

b. Level of Financialisation

The level of financialisation (LoF) has been determined using GDP as a benchmark. Graphs of components and the aggregate LoF are given in Fig 7.4.3.b with mean levels in Table 7.4.3.b.

The highest level of financialisation is shown by financial institutions. Starting from the minimum level of 30%, it rises to the peak level of 66% with a mean of 50%. Since the financial structure of Pakistan has been bank based for most of the time financial institutions have been the highest contributors to financialisation level.

Financial level of the capital market has two local peaks in 1994 and 2008. It remains below the National level till 1993, thereafter, rising above the national level with steep rise after 2002. This period is also the boom period of global stock markets and both times precipitating into financial crises; 1997 and 2007. The domino effect of this may be the reason for matching following by Pakistan capital markets. With a mean level of approx 27% of GDP, the capital market is the second highest contributor to National LoF. Public sector with a variation range of 31% and mean value of 20% is the third major contributor.

The National Level of Financialisation computed as the mean of the five components initiates at the lowest level of 13% rises to reach the highest level of 37% of GDP in 2008 and then declines under the effect of the sharp descent of the capital market, financial institutions and public sector. The mean national LoF of 22% may be a lower level of financialisation of the economy. Referring to Palleys' (2007) view that financialisation has been beneficial for most of its lifetime this lower level of financialisation is expected to be beneficial to the economy. Also it may be argued that this is the level where financialisation is at the take off level as an exclusive sector of the sector of the economy which may be regarded as the 2nd level of financialisation of the economy.

Fig 7.4.3.b

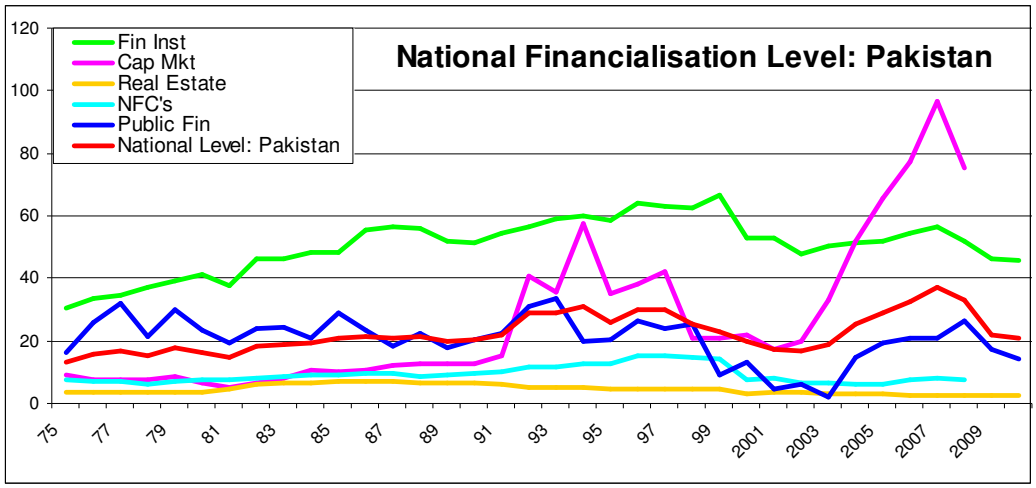


Fig 7.4.3.b (a)

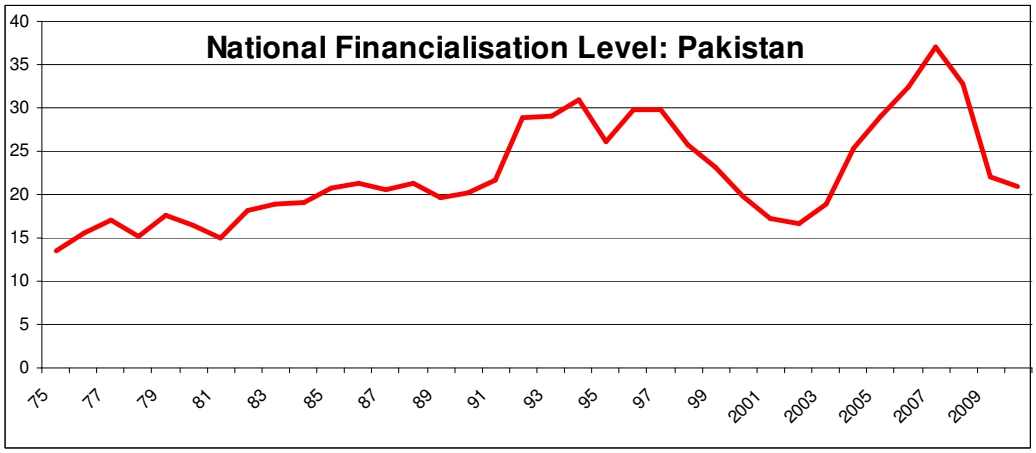
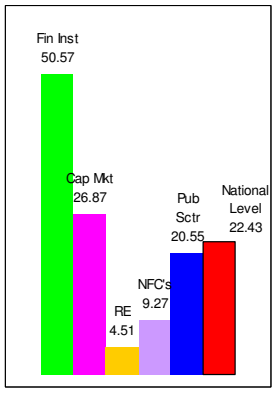


Table 7.4.3.b (a)

	Fin Inst	Cap Mkt	RE	NFC's	Pub Sctr	National Level
Mean	50.57	26.87	4.51	9.27	20.55	22.43
SE	1.48	4.11	0.25	0.47	1.22	0.99
SD	8.88	23.97	1.49	2.72	7.32	5.94
Range	35.81	91.37	4.42	9.30	31.86	23.51
Min	30.71	5.31	2.52	6.13	1.87	13.46
Max	66.52	96.68	6.94	15.43	33.73	36.98



c. Financial Index

Financial Index is one of the innovations of this study. It has been calculated for two base years of 1975 and 2001. The base year of 2001 has been selected for the purpose of matching the CPI index currently uses 2001 as the base year. Financial indices calculated for the components and the National level are given in Fig 7.4.3.c

The financial indices calculated for the components are given in (Fig 7.4.3c (a)). In the 1975 index the stock market shows the highest level of indexation whereas in the 2001 index the public sector shows the highest index. Another prominent feature of the two base years indices is the sharp contrast in the 2008 time period where, the 2001 based indices rise and fall sharply. This behaviour may be considered as the view of the activity from a closer angle and hence with higher precision compared to the view from a farther angle of 1975 base.

National Financial Index for both bases has identical profiles except for the numerical values. The 1975 based index has the highest level at 24400 points where as that of 2001 based is 350 points.

Like other indices, Stock Index, Gini Index, HD Index, this measure of Financial Index or alternatively the National Economic Financial Index may also used as one of the indicators reflecting the state of the economy.

Fig 7.4.3c (a)

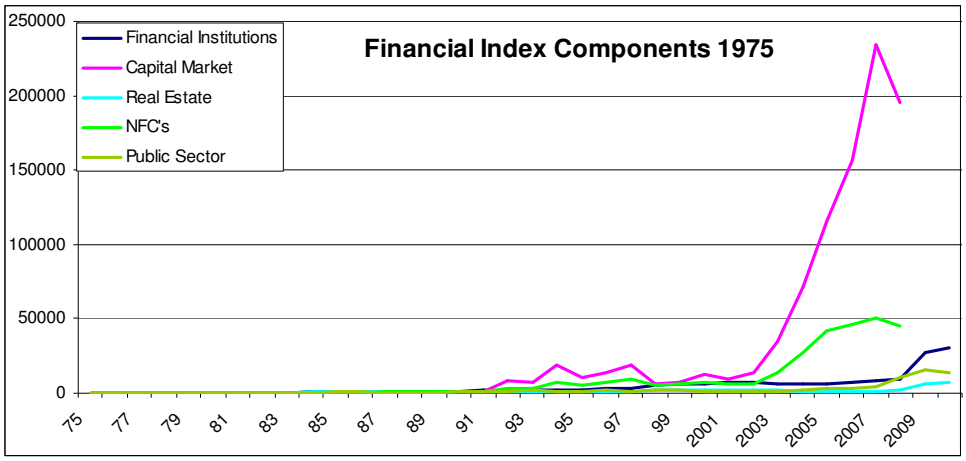


Fig 7.4.3.c (b)

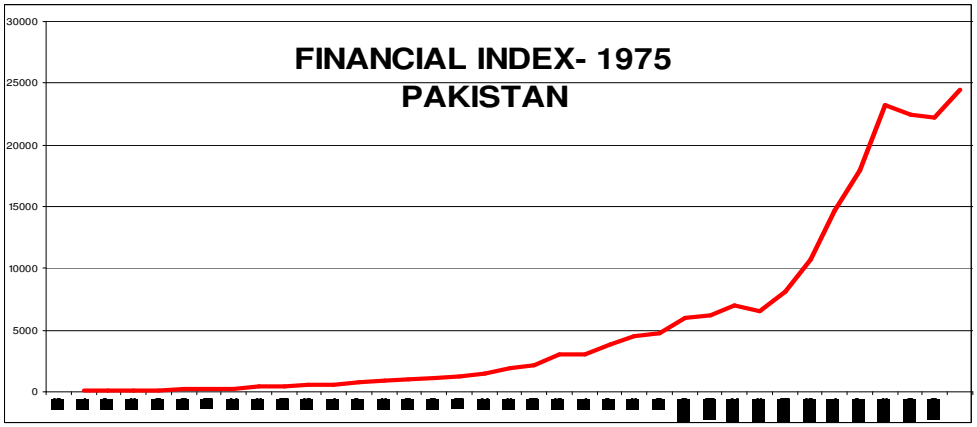


Table 7.4.3.c (a)

Fin Index 1975

	Fin Inst	Fin Mkt	RE	NFC	Public Sector	**National**
Mean	4431.74	27661.99	1281.07	8750.81	2086.23	**5632.36**
Std Error	1099.60	10021.50	244.38	2543.24	601.25	**1250.36**
Std Dev	6597.59	58434.91	1466.26	14829.51	3607.52	**7502.16**
Range	29904.38	233696.14	7181.59	50667.75	15597.74	**24346.28**
Minimum	100.00	75.21	100.00	82.21	100.00	**100.00**
Maximum	30004.38	233771.35	7281.59	50749.95	15697.74	**24446.28**

Fig 7.4.3.c (c)

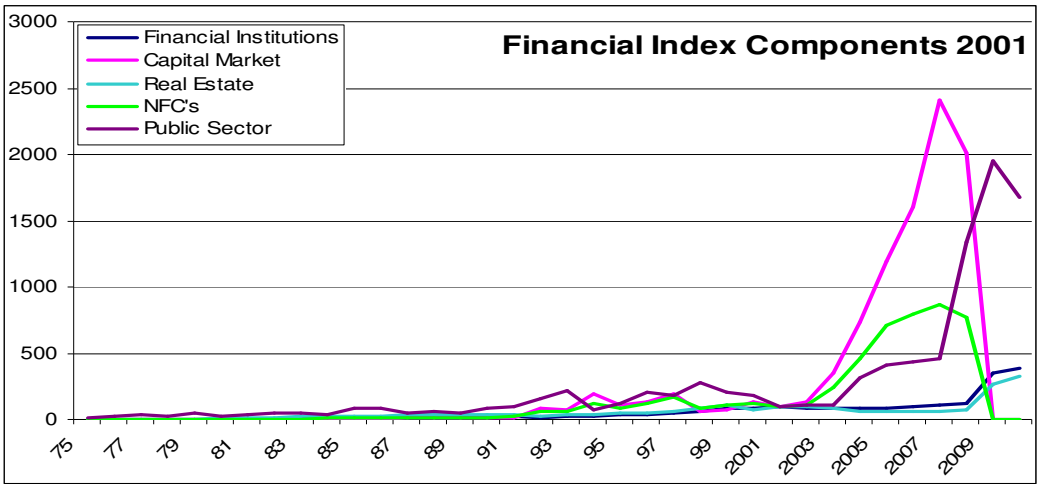


Fig 7.4.3.c (d)

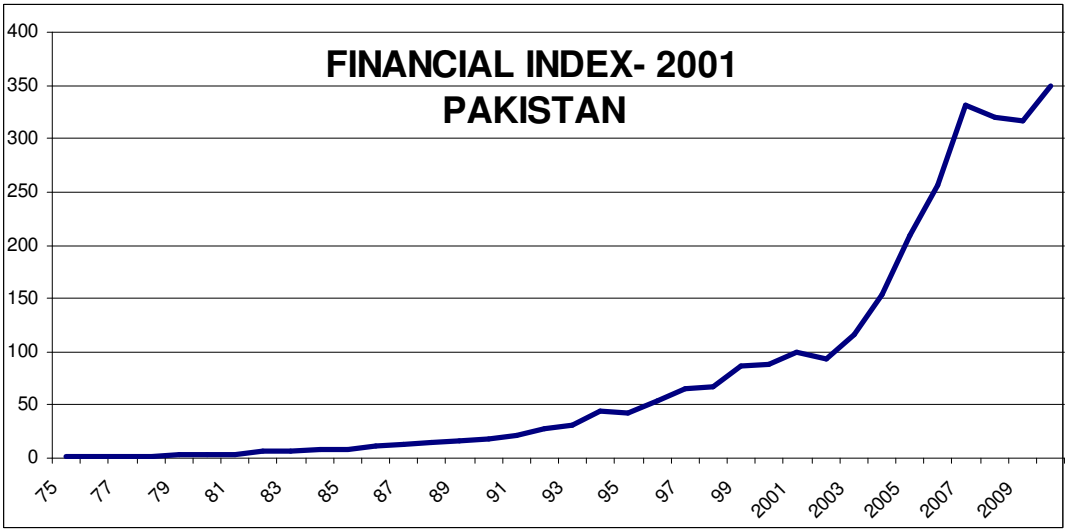


Table 7.4.3.c (d)

Fin Index 2001

	Fin Inst	Fin Mkt	RE	NFC	Public Sector	**National**
Mean	57.20	269.02	57.05	141.88	260.14	**80.35**
Std Error	14.19	98.00	10.88	41.61	74.97	**17.84**
Std Dev	85.15	588.00	65.30	249.65	449.83	**107.03**
Range	385.97	2407.18	319.81	871.25	1944.94	**347.33**
Minimum	1.29	0.00	4.45	0.00	12.47	**1.43**
Maximum	387.26	2407.18	324.27	871.25	1957.41	**348.76**

7.5 Macroeconomic Dynamics of Financialisation

7.5.1 Stationarity Tests

Time series data has the characteristic of unit root that violates the normality assumptions of OLS technique. It is, therefore, necessary to test the series for unit root. For this purpose Augmented Dicky Fuller (ADF) test has been used. The test statistics for the series are given in Table 7.5.1. The results show that all the variables are non-stationary at levels but stationary at first difference as indicated by the p-values below 0.05.

Lag lengths have been selected on the basis of AIC (Akaike Information Criteria) and SC (Schwarz Criteria). The values for lag lengths are given in Table 7.5.1a. The defined criteria selects the lag length of one time period, which in this case is 1 year as the study is using annual data. A possible explanation for the selection of 1 time period may be the reason that financial processes have higher speed of adjustment and shorter response time.

The order of cointegration of VAR is determined by the trace and Eigen value statistics given in Table 7.5.1b & c providing λ_{trace} and λ_{max} statistics at 95% critical values. The critical values of λ_{trace} and λ_{max} both show two cointegrating vectors.

Relation between the variables is expressed as a Vector Error Correction Model (VECM). Since the variables are stationary on first difference and are integrated of order I (1), they are estimated as per the difference specification. The co-efficients of this specification express the long-run response of the variables.

The VECM model is selected on the basis of estimation of three different specifications. The two specifications of intercept with no trend and intercept with linear trend are not consistent with economic theory on the basis of signs of the variables. The model complying with economic theory on the basis of signs of the variables was the one with intercept and linear trend.

Table 7.5.1: Unit Root Test: ADF-Values

Variable	Critical Values			Test Statistic: Level		Test Statistic:1st Diff	
	1%	5%	10%	Crit Value	P-Value	**Crit Value**	**P-Value**
Log GDP	-3.65	-2.95	-2.61	0.43	0.98	**-5.33***	**0.0001**
RoF_N	-2.63	-1.95	-1.61	-1.78	0.07	**-10.87***	**0.0000**
Inflation	-2.63	-1.95	-1.61	-1.12	0.23	**-6.80***	**0.0000**
Interest Rate	-2.63	-1.95	-1.61	-0.51	0.48	**-4.69***	**0.0000**
Cap Form	-3.65	-2.95	-2.61	-0.32	0.91	**-4.48***	**0.0012**

Mackinnon (1996) critical values *Indicates significance at 1%

Table 7.5.1a Lag Length

Lag Length	AIC	SC	Diff
1	**39.11**	**40.47**	**1.36**
2	38.61	41.13	2.51
3	36.13	39.83	3.70
4	33.99	38.90	4.90

Akaike Information Criteria (AIC) and Schwarz Criterion (SC)

Table 7.5.1b Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.765758	122.2075	88.80380	0.0000
At most 1 *	0.673468	75.76267	63.87610	0.0036
At most 2 *	0.474447	39.94738	42.91525	0.0960
At most 3 *	0.375522	19.36165	25.87211	0.2599
At most 4	0.125596	4.294803	12.51798	0.6992

Trace test indicates 2 cointegrating eqn (s) at the 0.05 level

Table 7.5.1c
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.765758	46.44481	38.33101	0.0048
At most 1 *	0.673468	35.81528	32.11832	0.0168
At most 2 *	0.474447	20.58574	25.82321	0.2113
At most 3	0.375522	15.06684	19.38704	0.1900
At most 4	0.125596	4.294803	12.51798	0.6992

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

The normalized cointegrating equation for the VECM specification is given below:

$$LGDP = 5.106233 + 0.059229t + 0.000811\ RoF + 0.0000227\ Inv + 0.005482\ RiR - 0.005465\ infr$$

(111.37) (3.98) (2.13010) (4.80) (- 5.18)

Log likelihood ratio 584.2725

t- values in parenthesis

where	LGDP	Log of GDP
	t	trend variable
	RoF	Rate of financialisation
	Inv	Investment
	RiR	Real Interest Rate
	infr	Inflation rate

The results indicate that the rate of financialisation, investment and real interest rate have significant and positive relation with GDP while inflation has significant relation with GDP but with negative sign.

The estimated VECM results are given in Table 7.5.1d. The result of Cointeg Eq1 shows that GDP has a negative value significant at the 1% level. The results show that change in GDP “corrects” about 26% of disequilibrium annually. EC estimates indicate unidirectional long-term causality from lagged values of rate of financialisation, capital formation and inflation rate to capital formation. Signs indicate negative relation between lagged rate of financialisation and real interest rate while positive relation with previous period investment and rate of inflation.

The EC vector of real interest rate also shows significant causal relations. Real interest rate has significant relation with GDP, rate of financialisation and capital formation. However, GDP has negative causal unidirectional relation with real interest rate.

Table 7.5.1d

Vector Error Correction Estimates

Error Correction:	D(LGDP)	D(ROF)	D(INV)	D(RIR)	D(INFR)
CointEq1	**-0.26**	44.03	-2534742	84.13	-59.45
	[-1.91]	[0.22]	[-5.90]	[3.56]	[-2.30]
D(LGDP(-1))	0.23	40.16	951642.4	**-126.93**	32.40
	[0.93]	[0.11]	[1.24046]	**[-3.00]**	[0.70]
D(ROF(-1))	-0.000167	-0.50	**-1528.41**	**0.077**	0.011
	[-1.11]	[-2.41]	**[-3.32]**	**[3.07]**	[0.40]
D(INV(-1))	-1.45E-08	-1.50E-05	**0.36**	**2.01E-05**	2.25E-06
	[-0.36]	[-0.27]	**[3.01]**	**[3.02]**	[0.30]
D(RIR(-1))	0.000313	1.92	**-9114.70**	0.08	-0.03
	[0.28]	[1.26]	**[-2.70]**	[0.45]	[-0.17]
D(INFR(-1))	0.001	-0.45	**6628.17**	-0.19	-0.21
	[1.09]	[-0.32]	**[2.16]**	[-1.13]	[-1.19]
C	**0.046**	-1.65	-16732.81	**6.60**	-1.92
	[3.29]	[-0.08]	[-0.38]	**[2.77]**	[-0.73]
R-squared	0.23	0.40	0.81	0.44	0.39
Adj. R-squared	0.046	0.25	0.766	0.31	0.25
Sum sq. resids	0.007	13636.80	6.69E+10	202.50	242.68
S.E. equation	0.016	23.35	51742.66	2.84	3.11
F-statistic	1.252	2.79	17.92	3.39	2.76
Log likelihood	88.98	-142.28	-388.78	-74.92	-77.82
Akaike AIC	-5.12	9.33	24.73	5.12	5.30
Schwarz SC	-4.80	9.65	25.05	5.44	5.62

Standard errors are given brackets
Significant relations are given in bold and cells with outlines

The main features of these results are two relations; the causal relation of rate of financialisation and the mutual relation between capital formation and real interest rates. The rate of financialisation has significant relation with two variables. The lagged values of the rate of financialisation have negative relation with capital formation and positive relation with the real interest rate. The other relation of importance is the mutual relation between capital formation and real interest rate. The lagged value of real interest rate has negative relation with capital formation whereas the lagged value of capital formation has positive relation with real interest rate.

An important aspect of VEC models is the analysis of impulse response and variance decomposition functions. The responses of the variable of interest; the rate of financialisation to the impulses of other variables are shown in Fig 7.5.1a. The graphs show that the rate of financialisation respond positively to one standard deviation impulse of GDP, real interest rates and inflation rate. The response is prominently steep and high in the first period and reduces to a lower level but remains positive. Response to capital formation is negative and stepped.

The panel in Fig 7.5.1b shows the variance of rate of financialisation to GDP, capital formation and inflation rate is similar moving parallel along the horizontal axis. However, the variance due to the interest rate shows increasing quadratic pattern.

The panel of graphs in Fig 7.5.1c shows the response of the other variables to an impulse of the rate of financialisation. The response of GDP to rate of financialisation is almost similar to the response of financialisation to GDP. However, this response is in single step with lower amplitude. Real interest rate responds negatively with wide oscillation in the initial three time periods and then stabilise at a negative level. Capital formation and inflation rate both respond positively, with inflation showing more wavy response tapering in later periods.

Fig 7.5.1a Impulse Response

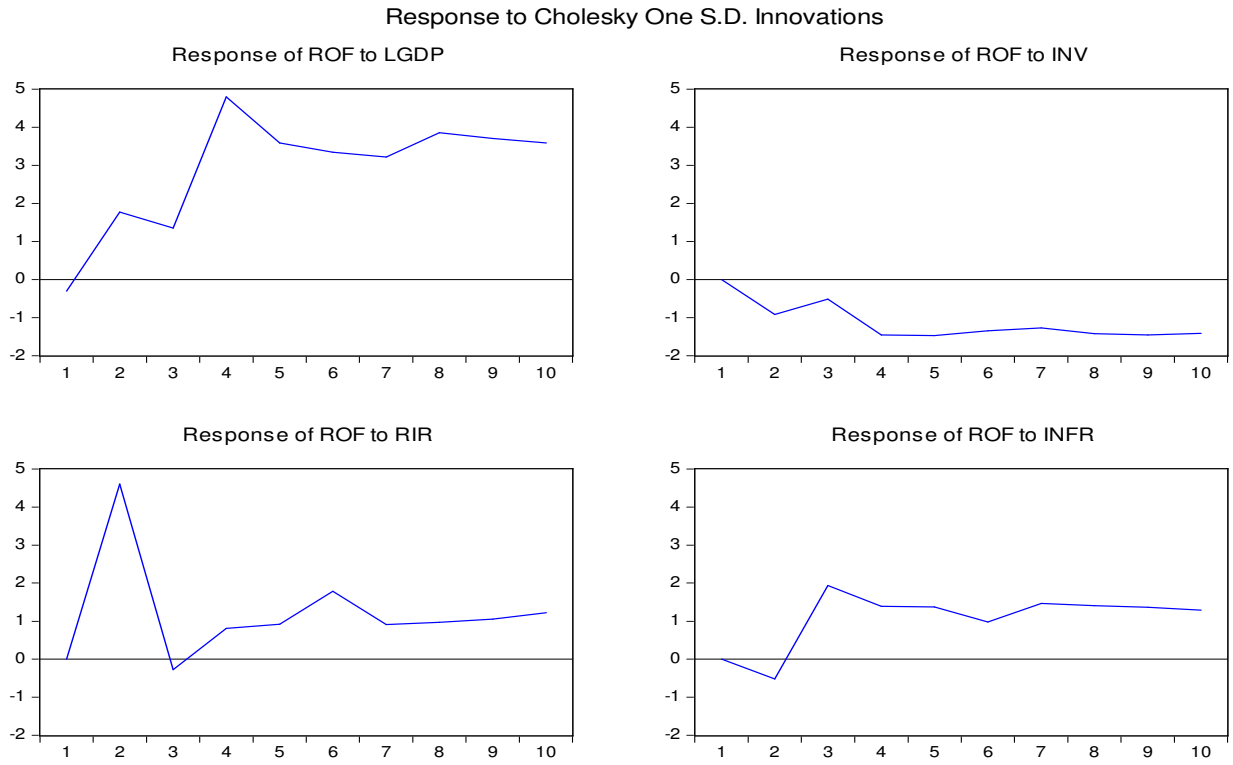
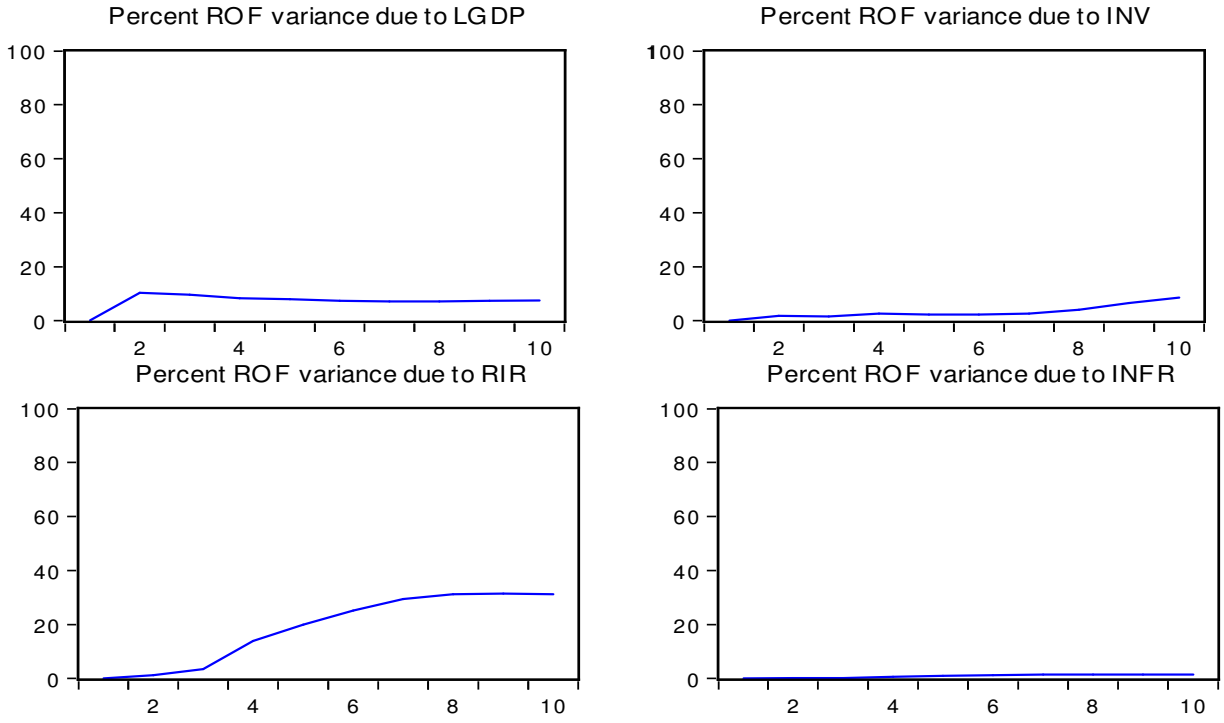


Fig 7.5.1b Variance Decomposition



The panel of graphs in fig 7.5.1d shows the variance of the other variables to the rate of financialisation. Financialisation produces uniform variance in GDP and real interest rate. The variance in investment is an increasing function of financialisation whereas that of inflation rate is a decreasing function of financialisation.

7.6 Economic Significance of Empirical Results

In this section we will analyse the economic significance of the empirical results. The normalised equation of cointegrating vector shows significant and positive relation between GDP, rate of financialisation, capital formation, real interest rate and negative relation with inflation rate. The consistency of the causal relation is also supported by the impulse response where both have mutually positive and significant response to each others impulses. The sign and relation of the rate of financialisation to GDP is consistent with Palleys' (2007) view that financialisation has been beneficial for most of its life time. In Pakistan the mean level of financialisation as a percent of GDP calculated in this study is approximately 22%. This level of financialisation is likely to contribute positively to GDP. Mankiw (2012) argues that loans taken by the government for building infrastructure generate economic growth. All components of financialisation have vital contribution to economic growth.

The results also show significant relation of financialisation with the two variables of capital formation (investment) and real interest rate. The negative relation of the lagged value of financialisation to investment may be the result of lower level of capital in the economy. A possible explanation for this relation can be the diversion of capital by the banking sector and NFC's to the financial sector investment in stocks and securities from the real sector. This diversion of capital and resources is cited by Palley (2007) as one of the features of financialisation. The study of impulse response and variance decomposition graphs show positive response by investment to financialisation impulse and has a higher variance due to financialisation.

Fig 7.5.1c

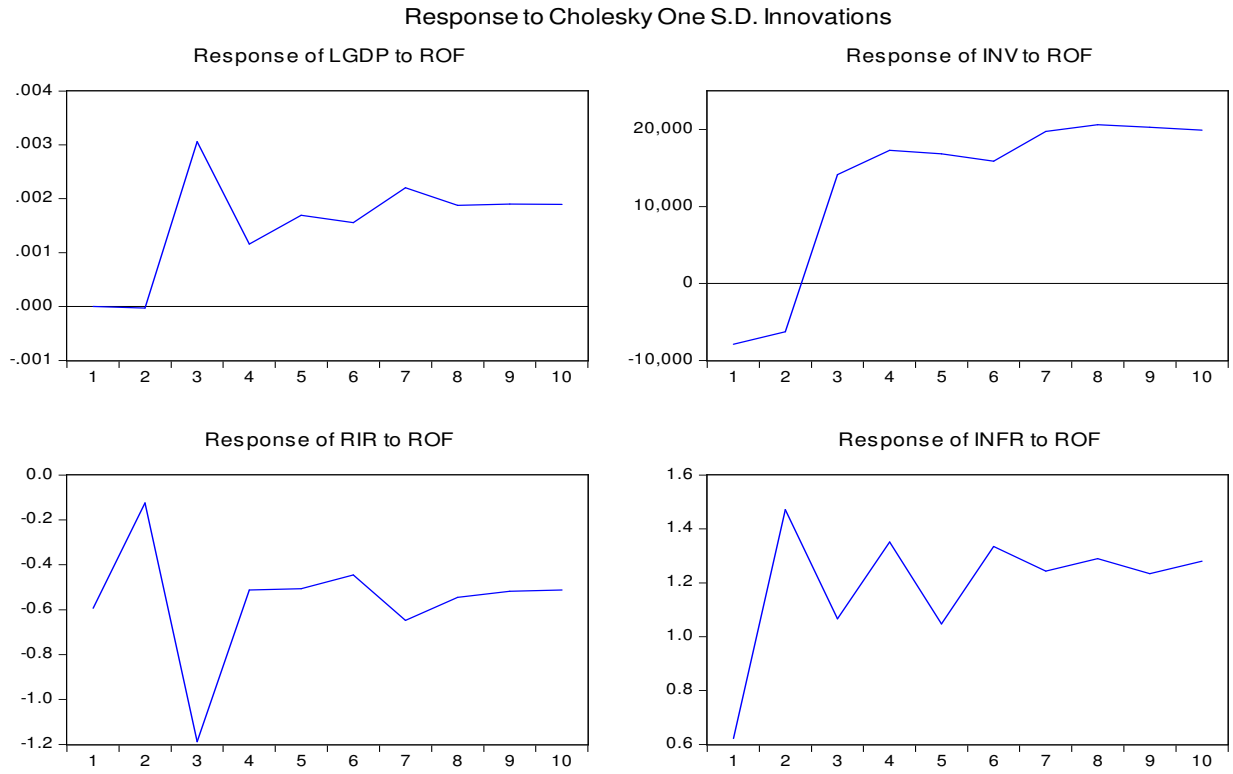
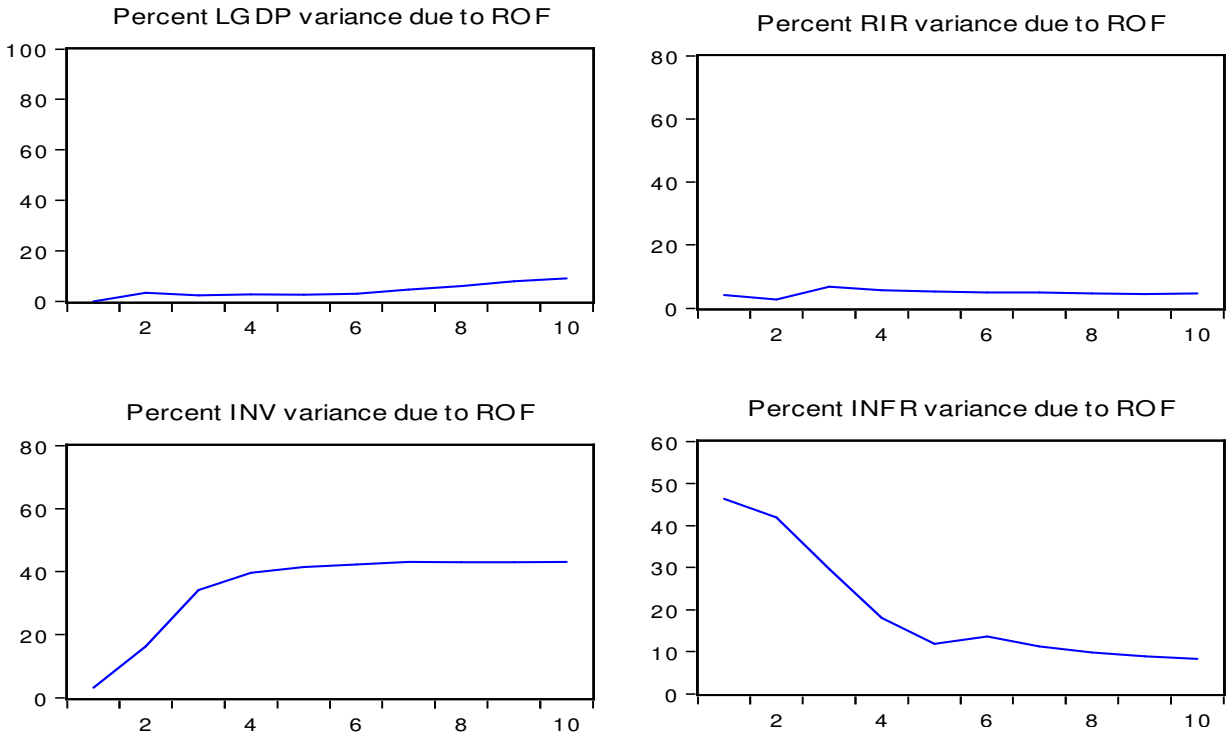


Fig Variance Decomposition



However, the opposite case of direction from investment to financialisation, in all three cases of EC, impulse response and variance decomposition, the relation is not significant.

The other important relation involving financialisation is the real interest rate. The EC vector shows significant and positive causal relation from financialisation to real interest rate. This relation is significant according to economic theory also. Interest rate is regarded both as one of the drivers and one of the effects of financialisation. Increased interest charges of government, interest income of banks and NFC's is considered as one of the yardsticks of financialisation as argued by Gonzalez (2013), Krippner (2005), Stockhammer (2007) and Palley (2007). The results show that real interest rate has negative response to financialisation, which may be explained as increased financial investments lowering interest rates due to higher supply of financial resources. In the opposite case of response of financialisation to interest rate impulse, the underlying reason may be higher interest rate inducing higher financial investments for higher return. Variance decomposition graph also has identical profile.

Chapter 8
CONCLUSION

Financialisation emerged as a macroeconomic phenomenon in the 1980's, accelerated during the last decade of the 20th century and reached its zenith in the first decade of the current century. One perspective regards it as the stage of economic development following the industrial stage. The reasons of its rise are the elimination of profits in the real sector by increased competition and the exploitation of technology. It has both micro and macro implications for the society. The US financial crisis of 2007 and the retrospective study of the earlier financial crashes brought it under focus of research and studies.

Financialisation has been studied from a variety of perspectives and angles. However, its exact contours remain fluid and undefined. Also is it not owned by any specialised field of study. Because of this reason there is no specific line of literature and research methodology available as a yard stick for its measurement and study.

This research is aimed to study the phenomenon of financialisation in Pakistan. An attempt has been made to collect the relevant, common and main subject matter on the subject and apply it to the economy of Pakistan. The research work that forms the base of this study is Palley (2007), Krippner (2005), Stockhammer (2007, 2010 and 2012).

The study first delineates the financial architecture of Pakistan economy, then develops and constructs the components of financialisation. This work then develops three measures of financialisation which include the National Rate of Financialisation, the National Level of Financialisation and finally the Financial Index as an indicator of the economy. These measures of financialisation indicate that the phenomenon of financialisation has its roots and traces in the economy of Pakistan. The components of financialisation have grown at diverse

rates with the public sector and capital market showing the highest levels of 27 and 23% rates of growth respectively. The National Rate of Financialisation exhibits a mean growth rate of 18% and has a Level of approximately 22% with respect to the GDP.

A very important feature of the financialisation profile in all its measures and by all its components is its compliance with the international trend; rising with the deregulation and liberalisation of the 1990's and then moving with the international trends of innovative financial instruments.

The dynamics of financialisation are assessed by using the econometric technique of VECM and Johansen Cointegration techniques. The technique was applied to the study of relation between rate of financialisation and the macroeconomic variables of GDP, capital formation (investment), real interest rates and inflation rate. All these variables have theoretical economic relation with financialisation through a variety of channels. The results show significant relation of financialisation with capital formation, interest rates and also with GDP. Economic theory also supports the findings.

As a pioneering study on the subject, the research involved collection and processing a high volume of data. Relevant data about the components was separated from different headers and aggregated to form the sum total base for the study.

The innovation of the study National Financialisation level and Financial Index (or National Economic Financial Index) may be used as one of the indicators of the state of the economy. Further studies may be undertaken to refine the components and constituents of the phenomenon of financialisation in Pakistan and its regional and international comparison. Other outgrowths of the study can be a research for an optimal financial structure for an economy and a macroeconomic model with the financial sector.

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