The Role of banking sector and stock market development in economic growth evidence from Asian countries.

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Economic development.
Stock market development.
Financial intermediation.

The Role of Banking Sector Development and Stock Market Development in Economic Growth evidence from Asian Countries.

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The thesis is requirement for completion of degree of MS (Finance) which is submitted to the Faculty of Management Sciences, International Islamic University, Islamabad.

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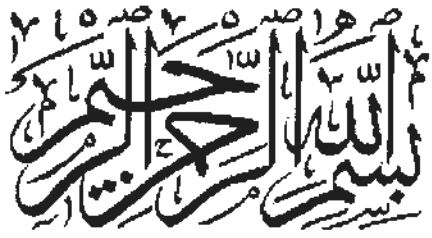

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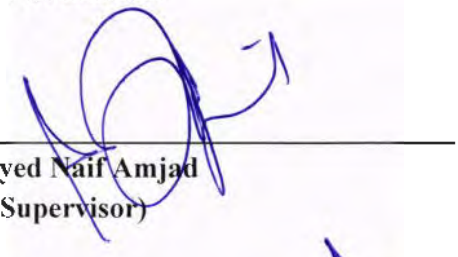

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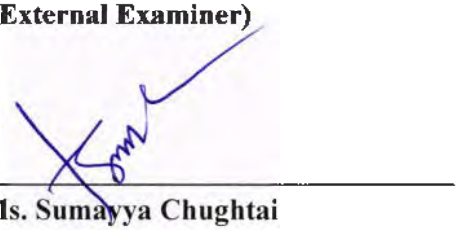

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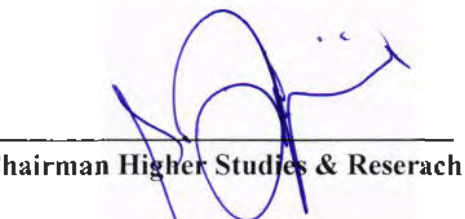

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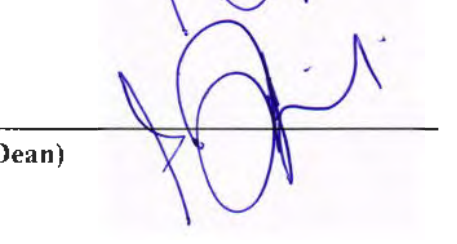

(Dean)

Date: 7th October, 2016

DEDICATION

To

My Mother

She taught me to trust in Allah, believe in hard working in any stage of life because no one can work without guidance and help of Allah. Allah Almighty bestows good health, pure thinking and senses to human beings for acquiring knowledge and spreading to the rest of world for purifying the soul in order to forever save in heaven. It means all the sources of acquiring and benefits of knowledge bestowed by Allah no one can claim his / her hardworking without using the sources in shape of senses, brain, soul and health hence all the creation is being controlled by Allah. My mother taught me these sentiments and thinking for building of trust / relying upon almighty Allah so this efforts is dedicated to my mother whose unflinching support enabled me to study in MS finance. This knowledge acquired through this degree / research work should be used for facilitation of human beings with utmost sincere effort.

My Supervisor

Syed Naif Amjad Assistant Professor / Faculty member of the Faculty of Management Sciences of International Islamic University, Islamabad encouraged and supported me to believe and unlock the abilities in myself.

His positive and soft attitude remains with me during the whole research work. Provision of guidance regarding material / data relevant to my thesis could not be ignored.

My programme coordinator

Mr Tahir Mahmood Rizvi, Assistant Professor / Coordinator of MS/Phd Programme of International Islamic University, Islamabad always supported me for selection of supervisor and topic of thesis. He guided me that which countries would be suitable for obtaining data and research work in perceptive of Asia region. He told me about the human capital index and relevant proxy for human capital for incorporating in data in order to appropriate analysis. He able me that how can I obtain relevant data for appropriate analysis.

My staff of programme office / college

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ABSTRACT

The role of banking sector development and stock market development in economic growth is a controversial issue. Empirical studies of developed and developing countries have produced mixed results. This study seeks to explore the role of banking sector development and stock market development in economic growth in eight Asian countries for the period 1990 to 2015. Panel data techniques comprising on fixed / random effects estimation and 2SLS model applied. Granger causality test also applied in order to see the direction of causality between economic growth and financial development. The study used most appropriate proxies of financial sector development and other macro-economic variables. The main findings of this study are as one percent change in banking sector development brings six percent change in GDP / economic growth and one percent change in stock market development brings two percent change in economic growth which is less than change brings by banking sector development but we may say collectively that both the sectors have significant impact on economic growth of the eight Asian economies. Thus therefore this study concluded that gross investment, market capitalization and credit to private sectors have positive impact on economic growth of eight selected Asian countries. Economic growth causes to stock market development and credit to private sectors causes to economic growth. Human capital and investment is most relevant area for economic growth in the region because these two indicators are serving as basis of growth in future. Unproductive government consumption is harmful to economic growth.

Keywords: Stock Market Development, Banking Sector Development, Financial Intermediation, Economic Growth.

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DECLARATION

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APPRECIATION AND GRATITUDE

I would like to offer special appreciation and thanks for Allah Almighty who bestows me learning capabilities and observations powers, insight / vision for acquiring knowledge throughout the life and during this academic session for doing research work.

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issues regarding selection of topic and digital libraries of the local and international universities and to answer my different quarries.

Mr. Ghulam Nabi

FORWARDING SHEET

The thesis entitled "The Impact of Banking Sector Development and Stock Market Development on Economic Growth evidence from Asian Countries" submitted by Mr. Ghulam Nabi as partial fulfillment of MS degree in Management Sciences with specialization in Finance, has completed under my guidance and supervision. The changes advised by the external and the internal examiners hava also been incorporated. I am satisfied with the quality of student's research work and allow him to submit this thesis for further process as per IIU rules & regulations.

Date:_____

Signature:_____

Name : _____

SYED NAIF AMJAD
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List of Abbreviations

BSD= Banking Sector Development

BCP= Domestic credit provided to the private sector by banks

CON=Government Consumption

ε= Error Term

GDPPC= Gross Domestic Product Per Capita Growth

I= Inflation on consumer price index

INV=Investment / gross fixed capital formation

MC= Market Capitalization

NLC= Number of listed companies

STR= Stock traded turnover ratio

SMD=Stock market development

PSE=Primary School Enrollment / Human Capital

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CHAPTER 1

1. INTORDUCTION

The study examined the role of banking sector and stock market development in economic growth in eight Asian countries i.e. Pakistan, China, India, Bangladesh, Srilanka, Malaysia, Indonesia and Thailand. This chapter gives background information of the study including gap analysis, problem statements, objectives of the study, research questions and significance of the study.

1.1 Background of the Study

The financial system consists of the stock market, banking institutions, financial markets, central bank and the Securities and Exchange Commission (James, 2007). The efficient financial system plays important role in mobilizing savings, generating capital resources and risk management. In addition, a sound financial system provides portfolios to investors for better investment return with protection of capital. Therefore, it improves economic activity and thus increases economic growth (Schumpeter, 1932; Beghot, 1962; Cameron et al., 1967; Goldsmith, 1969; Mckinnon, 1973). Financial system affects economic activities through monitoring of managers, mobilizing of savings and exertion of corporate control. Capital accumulation and technological innovation are the channels of economic growth. Production of capital goods generates per capita growth which influences the capital formation. It affects capital assets / resources by reallocating saving among different capital producing

technologies. Economic growth may alter by invention or new production process of goods. New production processes lead towards technological innovation (Levine, 1997).

The stock market development is a major indicator of economic progress (Pierece, 1984). The stock market is a key part of financial system and it promotes economic growth through improvement in economic activities. The stock market raises the capital for mega projects and mitigates the risk of investment through diversification of portfolio (Levine, 1991). The efficient stock market increases savings which enhances the capital formation and thus increases economic growth (Demirguc-Kunt & Levine, 1996). In addition, stock market provides a platform for domestic and foreign investors, thus enhances productive economic activities (Mckinnon & Shaw, 1973; Levine, 1991; Hou & Cheng, 2010). Stock market affects the economic growth through liquidity and price volatility.

Stock market provides opportunities to investors for altering the portfolio through quick and cheap selling in the market. It provides easy access to corporate sectors for raising capital by issuing of equity. Capital accumulation is very important channel for economic growth. More capital leads to catch up the investment opportunities which bring the technological advancement and improvement in research activities. Liquidity created by the stock market may distort the economic growth because more investment due to attractive return reduces the saving rates. Liquidity also creates uncertainty which may enhance the demand for precautionary savings (Demirguc-Kunt & Levine, 1996; Jensen & Murphy, 1990). Price volatility is another characteristic of stock market. High volatility in stock and share prices may influence the ability of efficient allocation of investment (Keynes, 1936).

Stock markets affect economic growth by providing economical trade activities of equities and rationalize the fear of investing in long term projects. Investors can easily quit from the investment made in equities traded in stock markets. More liquidity attracts the investors for choosing of investment opportunities among different projects with different returns which enhance productivity / economic growth (Levine, 1991). Internationally integrated stock markets provide opportunities of risk sharing which induces the investors for shifting of portfolio from low return project to high return projects thereby accelerating productivity growth. The liquidity and risk sharing affects savings rates. High return and better risk sharing lead towards low saving rates and economic growth. Liquidity makes easy to sell shares for investors. There was an argument that liquidity reduces the incentives of shareholders for recouping the cost of management (Levine & Zervous, 1998).

Increasing role of financial intermediation in growth and its economic importance cannot be overlooked. A financial intermediary exists due to information asymmetries, transaction cost and regulatory framework. They deal with the various financial instruments for facilitating of risk of investors. Risk sharing has become a major activity of financial intermediaries (Franklin & Anthony, 1998). Financial intermediaries affect economic growth through affecting of saving rate and channeling of savings to investment or on the social marginal productivity of investment (Bert & Dick, 2003). They affect economic growth by collection of savings from household and thereby transfer to investors / needy projects, allocation of resources in appropriate projects, sharing the risk through portfolios, diversification and volatility of rate of return of assets, alteration in saving rates affects the saving behavior, thus saving volume affects economic growth accordingly (King & Levine, 1993; Levine, 1997).

Individual country level studies are available in Asia but no collective study has been carried out on the role of banking sector development and stock market development in economic growth in Asia region. This research sheds lights on the role of banking sector and stock market development in economic growth of economies of eight Asian Countries.

1.2 Theoretical Foundation

Role of banking sector and stock market development in promoting economic growth is based on the theory of financial intermediation and economic growth. Financial intermediaries comprises on financial institutions such as commercial banks, investment banks, insurance companies, brokers, mutual funds and pension funds which perform activities between two parties for engaging in financial transactions. They also facilitate flow of funds from savers to borrowers. Economic growth means increase in real gross domestic product. Several factors contribute to economic growth so analysis of economic growth is a difficult situation. This includes investment ratios, human capital, research and development and trade openness, monetary and financial policies of the region etc.

1.2.1 Theory of Financial Intermediation

Schumpeter, (1911) introduced the theory of finance and growth. He argues that financial intermediation through the banking channel plays an important role in economic growth and development. He further stresses that well-functioning banks identifies entrepreneurs who successfully implement innovative products and production process which ultimately brings technological innovation. Mckinnon, (1973) presented another theory of financial development and economic growth in which he posits that financial development leads to growth in domestic savings which

further leads to increase in investments. The theory argued that investment relates positively to the real interest rate which leads to increase in savings. Increased savings lead to stimulation of investments. Banking sector development contributes to economic growth by raising efficiency of capital accumulation and saving rate which increases investment ratio. Financial markets of developed countries having high economic growth enhance their economic growth by increasing size of savings and improving efficiency of investments. An increase in investment enhances economic growth and the same view also supported by Shaw (Shaw, 1973).

Financial intermediaries lower the cost of obtaining information about the firms from the capital market as compared to the cost of acquiring information by individual investors (Douglas, 1984; John & Stephen, 1986). A model that links financial intermediaries and economic growth developed by Greenwood & Jovanovic (1990). According to their views financial intermediaries accelerate economic growth by providing efficient capital allocation and information about firms. King and Levine, (1993) incorporated financial development in to the simple model of growth. Financial development variables stimulate the usual production function. Endogenous growth theory explains the relationship between finance and economic growth (Loayza & Ranciere, 2006). Financial development brings innovation of technology and this factor affects growth.

Financial intermediaries increase investment return by eliminating liquidity risks which accelerates growth (Bencivenga & Smith, 1991). Earlier literature prefers bank based financial system rather than market based financial system. Theory presented by McKinnon and Shaw (1973) about the role of financial development in economic growth was based on credit market development not on stock market

development. Financial system based on banking sector development is better than the market based system because it leads to long term investment in an economy and thus to higher growth. Ndikumane (2003) suggests various ways through which banking sector development can spur investment. Banks encourage savings which are used for investment while on the other hand, they help in reducing liquidity risks through increased lending. A bank based financial system is considered to be more stable in the long run than a market based financial system. Stock market prices consider more sensitive due to volatility (Odhiambo, 2010).

1.2.2 Theory of Stock Market

Cho (1986) supported the Existence of theory of both stock market and banking sector. He argued that financial liberalization achieved through equity finance causes economic growth.

Many scholars have criticized the theory of financial liberalization and ignored the role of stock market in economic growth (Levine & Zervos, 1996; Singh, 1997). Stock markets play important role in domestic and external financial liberalization in developing countries. Singh argued that financial liberalization makes the financial system more fragile and having no role in long term economic growth particularly in developing countries. Levine and Zervos (1996) presented other views that a well-developed stock market offers different flexible financial services with liquidity in investment as compared to banking systems, therefore, encourage growth in investment and hence economic growth.

Financial markets and institutes provide rapid information to investors and easing in making heavy transaction cost. Provisions of information and transaction facilities are the incentives for financial intermediaries as argued by Levine (1997).

Financial system functions by allocation of resources, facilitating the trading, hedging, diversifying and pooling of risk, monitor managers and exert corporate control, mobilize savings, facilitate the exchange of goods and services.

He mentioned that capital accumulation and technological innovation affects economic growth. Financial institutes' offers different saving rate for households and investors / corporate sectors and reallocate saving among different capital producing technologies. Secondly financial system affects economic growth through creation of new production processes and goods.

Financial system performs various functions as provision of information, monitoring investment, exerting corporate governance, facilitate trading, diversification, risk management and pooling of savings. Theory of finance and growth deals with the above mentioned functions of financial system and focus that how all these functions impact on economic growth through resource allocations (Acemoglu & Zilibotti, 1997).

Financial development contributes to economic growth through transforming of savings to investments by increasing social marginal productivity of capital and influencing the private savings rates. Financial intermediaries play very important role for converting of savings to investments, increasing of productivity of capital and formation of saving rates (Bert & Dick, 2003). Robinson (1952) describes that economic development creates demand for financial arrangement and financial system automatically respond to the demand of economic development. Financial system contributes only for development in the real sector and has no role for economic development. Even noble award holder economist Merton Miller does not consider the role of finance in growth in his essays. Taylor (1980) argues that the

stock market development may not lead to the economic growth. In the developing countries, the stock market is not fully developed and liberalized due to which it may not contribute towards economic growth as consistent with the views of Espinnosa & Hunter, 1994.

There are mixed empirical evidences in previous researches. Some researchers were of the views that financial development is important for economic growth and some argue otherwise. There is argument that the under developed financial system decreases the economic growth and well developed financial system have a significant role in promoting economic growth and activities. Even some authors quote average rate of economic growth associated with the developed financial sector.

Sijn Van et al. (2006) found strongest effects of availability of equity financing in economic growth in Belgium. They found that Stock market development promotes economic growth rather than banking sector development however, banks play important role for development of stock exchanges. The result of another study showed that those countries which had better macroeconomic policies, good legal systems, higher growth opportunities, greater openness and developed local markets were related to the internationalization. Global market activities will be higher if better infrastructure with good legal system exists in the country. The author also found that countries with greater domestic stock market development had higher ratio of internationalization means domestic stock market development relates to the internationalization (Claessens et al., 2006). Stock market and banking sector development has significant improvement in economic growth after liberalization in the MENA region. Stock market liberalization leads towards positive impact on the development in the long run (Samy et al., 2008). Lilai, (2011) examined the

performance of stock market of china in respect of economic growth in the country. The result showed that Chinese Stock market was more important for economic development. Emergence of market based shares have proved as alternative to bank finance. China's stock market was playing vital role in financial development and political reforms in china. K.Smimou (2014) analyzed the Impact of equity market liquidity on Canadian economic growth and the relationship between consumer attitudes and macro liquidity. His findings revealed that the stock market liquidity had a significant influence on the Canadian macro economy in terms of industrial, unemployment and consumption growth. During period of high exchange rate Canadian dollar and US dollar volatility highly affected the economic growth by the stock market liquidity. Positive change in consumer behavior had positive effects on some macro-economic variables i.e personal consumption, consumer credit and consumer growth.

Pradhan et al. (2014) found in ASEAN countries that banking sector development, stock market development, economic growth and four macro-economic variables were co integrated. Banking sector development, stock market development as well as other macro-economic variables affected on economic growth.

The role of stock market development on economic growth in 36 African countries out of which 18 had stock market investigated by Ngare et al. (2014). Their finding shows that the countries with stock market tend to grow much faster than countries without stock market in Africa. Interaction dummy introduced the models which proved that the existence of stock market improved performance of economic growth. Highly developed countries were tending to grow at slow pace than the small countries with stock markets. Primary school enrollment and investment were key to

economic growth in the region. Inflation and government expenditure were found harmful to economic growth in Africa. Political stability and quality of institutions through control of corruption is a key to economic growth.

In contravention of the above some studies show that financial system does not play any role in economic growth. George et al. (2005) tested the hypothesis of impacts of stock market and banks on economic growth on the monthly data of Greece and the results of their study revealed that the interaction between financing and economic activity found limited. It was concluded that both the stock market and financing contribution to economic growth were limited.

Samy and Samir (2007) examined the Simultaneous effects of banks and financial system development on growth in 11 MENA countries. They found that financial development and economic growth have no relationship. The result of study conducted by Cooray, (2010) on the data of 35 developing countries revealed that stock market development has no role in economic growth in short run. His study documented the evidence that the Human capital was an important element for economic growth in the long term. The results showed positive impact of physical capital on economic growth.

Roel and Massimo (2012) studied the changing macroeconomic response to stock market volatility shocks on the data of United States of America for the period 1950 to 2011. Their findings indicated that Increase in stock market volatility of United States of America led to decrease in GDP growth rate. Reduction in consumption and investment growth contributes towards fall in GDP growth. Authors also examined the impact of only consumption growth to the stock market volatility shocks. The contribution of stock market volatility shocks found very small / not

considerable effect with the consumption pattern whereas the investment growth increased in the role of stock market volatility.

1.3 Gap Analysis

Role of banking sector and stock market development in promoting economic growth is still debatable in academia and consistently attracting the economists and policymakers. Existing literature provides mixed evidences as some reported positive effects of stock market development on economic growth and some reported negative results.

Financial intermediaries reduce the costs of acquiring information, enforcing contracts and exchanging goods and financial claims (Levine, 1997). Stock market is a part of financial market which also influences the acquisition and dissemination of information about firms. Developed stock markets acquire information about firms with low cost and stimulate the acquisition of information. Rapid information about firms may improve resource allocation which affect on economic growth (Merton, 1987). Schumpeter (1912) argued that financial system plays an important role in economic growth as it mobilizes societies for saving of resources and allocation thereof which ultimately contributes towards productivity and economic growth. Financial intermediaries bridge the gap between saver of funds and investors. They are facilitators of risk transfer and deal with the emerging financial instruments and markets (Franklin & Anthony, 1998). They affect the economic growth by allocation of capital, technological innovation, new production process and increases per capita growth by modifying the investment rate. They take decision about the appropriate allocation of funds among different high return projects thus enhances the capital

formation and effect steady state growth by altering the technological innovation (Levine, 1997).

Stock market provides risk sharing opportunities and easy access of individuals and companies to capital market which improves the allocation of capital. More savings and volume of investment increase the economic growth. Portfolios can be amended through easy and quick buying and selling in stock markets. Increase in liquidity may also increase in different economic activities (Levine, 1991). International risk may be reduced by establishing of international integrated stock markets and induce to investor for making high return investments which ultimately promotes economic growth (Obstfeld, 1994; Devereux & Smith, 1994).

Separate as well as combined studies about the role of banking sector development and stock market development in economic growth are available in the literature. There is mixed empirical evidences in previous researches. Various studies produced positive as well as negative results.

Stock market development was found better forecaster for economic growth rather than bank based development in Belgium. Availability of stock market financing has positive effects on economic growth. Banks play important role for development of stock exchanges (Van et al., 2006). Better infrastructure with good legal system creates opportunities for international trade which contributes to economic growth of the region. Countries with greater domestic stock market development had higher ratio of internationalization (Claessens et al., 2006).

Banking sector and stock market development have significant improvement in economic growth after liberalization in the MENA region which leads towards positive impact on the development (Samy et al., 2008). Performance of Chinese

stock market in relation to economic growth was examined by Lilai (2011). His finding revealed that emergence of market based shares had proved as alternative to bank finance. China's stock market was playing vital role in financial development and political reforms in china. According to K.Smimou (2014) stock market liquidity has effected highly to economic growth during period of exchange rate volatility in Canadian dollar and US dollar.

Stock market development and banking sector development, economic growth and other macroeconomic variables were found co integrated in ASEAN countries (Pradhan et al., 2014). Countries with stock market tend to grow much faster than countries without stock market and existence of stock market improved the economic activities in Africa (Ngare et al., 2014).

In contravention of the above some studies found that financial development had no role in economic growth. Stock market and financing contribution in economic growth were observed limited in Greece (George et al., 2005). Financial development was found harmful for economic growth in 11 MENA countries (Samy & Samir, 2007). In another study on the data of 35 developing countries revealed that stock market had no role in promoting economic growth in short runs (Cooray, 2010). Stock market volatility in USA leads to decrease in GDP growth rate (Roel & Massimo, 2012). Stock markets in developing countries are not fully developed and liberalized due to which it may not contribute towards economic growth (Taylor, 1980)

This study may be a better attempt to highlight the gap of existing studies with the aim to consolidate more nuanced and sophisticated literature on the role of banking sector and stock market development in economic growth in Asia. After

covering the latest financial data, this study provides new insight on the impact of banking sector and stock market development on economic growth in Asia.

This study may contribute to examine the relationship of stock markets of Asian countries in order to check whether one country stock market have any impact on the stock market of other country as to see whether internationally integrated stock markets would be helpful to reduce international risk and to induce investors for making high return investments. In order to fill this gap, there is need of comprehensive study on the relationship of banking sector development, stock market development, and economic growth in Asia.

1.4 Problem Statement

Asia is being considered hub of economics in the World and has significant share in the world economy with big and flourishing markets of India and China. This is largest continent of the world comprising 4.427 billion populations approximately 60% of the world population. The economic future of the world depends on the future of Asia due to which the importance of this study is not negligible as it is the first attempt to undertake research in the said domain. The continent comprises of developed, emerging and developing economies. Governments of the above aforementioned countries putting a lot of efforts to sustain economies in order to pace with the rest of the world and to improve social welfare.

Some developing countries with lesser developed urban areas deprived of basic services due to social instability. Economies suffered in the past from internal political disputes, growing population rate, mixed foreign investments, widening of trade gap between imports and exports which effecting the reserve and deteriorating

GDP growth. Regimes of some countries like Pakistan, India, China and Bangladesh are striving now for liberalized economy through privatization of Government Corporations and attracting the foreign investments in order to decrease in budget deficit. China is the major economy of Asia possessing world fastest growing consumer market. It is the largest manufacturing and exporter of goods to the world.

Stock market is a key element of financial system which affects the economic growth in different ways. Stock markets are specialized in acquiring and dissemination of information, reducing of cost of mobilizing of savings and facilitating the investments. Stock market aligned the interests of managers and owners hence the managers striving for the maximization of the firm value which is the ultimate purpose of all stakeholders of the firms (Diamond & Verrecchia, 1982; Jensen & Murphy, 1990).

Stock market affects on economic growth by providing of liquidity and price volatility. Stock market provides opportunities to investors for buying / altering the portfolio through quick and cheap selling in the market. It provides easy access to corporate sectors for raising capital by issuing of equity. Capital formation / accumulation are very important channel for economic growth. More capital leads to catch up the investment opportunities which will bring the technological advancement and improve the research activities. Liquidity created by the stock market may distort the economic growth because more investment due to attractive return reduces the saving rates. Liquidity also creates uncertainty which may enhance the demand for precautionary savings (Demirguc-Kunt & Levine, 1996; Jensen & Murphy, 1990). Price volatility is another characteristic of stock market. High volatility in stock and

share prices may influence the ability of efficient allocation of investment (Keynes, 1936).

Diverse/controversial views and little consensus exist in the literature about the nexus between banking sector development, stock market development and growth. Some have views that financial development spurs economic growth (King and Levine, 1993). In contravention some have views that economic growth spurs financial development (Ang & Macibbin, 2007; Jang, 1986 ;). views are also exist that both the sectors spur growth and vice versa (Calderon & Liu, 2003; Demetriades & Hussein, 1996 ;).

This debate is also controversial in Asia as previous studies showed different direction of casualties between banking sector development, stock market development and economic growth. The role of financial intermediaries were well documented in developed economies of the World like USA, United Kingdom, Australia, China and India and empirical evidences were found mixed in Asia.

Therefore the study comes up with the problem statement as mentioned below:

"To what extent the banking sector and stock market development affects economic growth in Asia".

1.5 Objectives of the Study

The objectives of this study on the basis of above problem statement are as under:

- To examine the role of stock market development in economic growth in Asia.
- To examine the role of banking sector development in economic growth in Asia.
- To analyze whether the stock market development causes the economic growth or economic growth causes stock market development.
- To determine whether the banking sector development causes the economic growth or economic growth causes banking sector development.

1.6 Research Questions

On the basis of above mentioned problem statement, this study aims to answer the following research questions:

i. What is the role of stock market development in economic growth in Asia?

ii. What is the role of banking sector development in economic growth in Asia?

iii. What is the direction of causality between stock market development and economic growth?

iv. What is the direction of causality between banking sector development and economic growth?

1.7 Significance of the Study

Role of stock market and banking sector development in economic growth cannot be overlooked due to its economic importance which is higher than ever. Efficient financial system contributes economic growth through facilitating the exchange of goods and services, mobilizing of savings; exertion of corporate control,

resource allocation and technological innovation. Technological innovation and launching of new production process of goods may alter economic growth (Levine, 1997).

Stock market is a part of financial system and promotes economic growth through improvement in economic activities. The efficient stock market increases savings which enhances the capital formation and thus increases economic growth (Demirguc-Kunt & Levine, 1996). Stock market affects economic growth by providing of liquidity, price volatility, less expensive trade activities of equities. More liquidity facilitates investment in long term and high return projects which enhance productivity / economic growth (Levine, 1991). Internationally integrated stock markets provides opportunities of risk sharing which induces the investors for shifting of portfolio from low return project to high return projects thereby enhance productivity / growth.

Effectiveness of financial sector in promoting economic growth depends on the structure and level of development of the economy, thus the literature exists with mixed results regarding relationship between stock market development, banking sector development and economic growth. Kletzer & Pardhan, (1987) and Beck et.al. (2002) argued that financial sector development promotes economic growth in more industrialized economy as compared to agriculture economies. Countries in the early stages of development can take more benefit from financial development (Mackinnion & Shaw, 1973). Performance of economies of the countries which have well developed infrastructure with good legal system and institutional quality are high than the under developed countries holding weak regulatory system. Individual country level study are available but no collective study on the role of banking sector and

stock market development in economic growth of Asian countries available. Its economic importance has drawn the attention of researchers, policy makers and financial managers.

Asia comprises developing and emerging economies with different stages of development. Asia is big continent as per population because 60% of the world population residing in Asia. Fastest growing economies and largest continental economy by GDP in the world are situated in Asia. Different levels of development exist in Asian economies due to its multiple ranges of cultures, environments, historical ties and Government systems. China and India are undergoing in rapid growth, industrialization and the fastest growing economies of the world especially in manufacturing sector, services sectors and consumer products. Asia has accumulated more than half of the world's foreign exchange reserves. Set of countries comprising on the industrialized, manufacturing and agriculture oriented economies are situated in Asia.

1.7.1 Theoretical significance

This study examined the relationship of banking sector development, stock market development and economic growth in the context of eight Asian countries as there is no existing study collectively available on Pakistan, China, India, Bangladesh, Srilanka, Malaysia, Indonesia and Thailand. Financial sector and stock markets of one country may affect on the economy of the other country being similar region / economic environment. Co integration test will be applied in order to see whether stock market of one country has any effect on the stock market of other country in Asia region.

1.7.2 Practical significance

The practical aspect of this study is to judge the behavior of Asian economies after analyzing the role of banking sector and stock market development in economic growth. Furthermore, it aims to indentify whether the policy makers need to strengthen the financial system for stimulating the economic growth or not. This may be an endeavor effort to fill this gap / unattended area.

In case of finding a negative relationship between banking sector development, stock market development and economic growth after analyzing them in the study, it may draw the attention of the policy makers. The results of the study, if found any negative aspect, may be alarming and bound to revise/frame the policy for economic growth. Rules and regulations may be liberalized for financial system development.

The findings may partially consistent with the previous literature hence the study may attract to the economists and financial managers for future research. Results of the study may be useful for international financial managers, policymakers, economists and governing authorities for bringing improvement in infrastructure, legal system, institutional quality and financial system. This might open new arena for researchers of developed and big economies of the World. It may be very helpful for understanding the saving, investing and managing of risk behavior in Asia. Asian states may take a benefit from the findings of this study in shape of framing of economic policies.

CHAPTER 2

2. LITERATURE REVIEW

The chapter overviews the existing literature on various aspects of impact of banking sector and stock market development in economic growth. It also reviews the relevant literature of the selected countries for the study. It also gives account of literature in detail regarding the role of stock market development in economic growth in Asian eight countries i.e. Pakistan, China, India, Bangladesh, Srilanka, Malaysia, Indonesia and Thailand.

2.1 Financial Intermediation

The researchers, policymakers, academicians and economists focused on the area of financial development and economic growth in the recent years due to its importance. Financial system which comprises of financial institutions plays pivotal role for brining improvement in economic growth after reinstating the trust of investors which enhances the savings rates and investment rates in the country. Well-developed financial markets facilitate the allocation of capital to the corporate sectors and enable firms for raising capital by enhancing resource allocation which positively effects economic growth (Beck et al., 2000; Wurgler, 2000; Levine, 1997; King & Levine, 1993).

Financial development contributes to economic growth through transforming of savings to investments, by increasing social marginal productivity of capital and

influencing the private savings rates. Financial intermediaries play important role for converting of savings to investments, increasing of productivity of capital and formation of saving rates. Financial intermediaries can effectively contribute to economic growth of any country or region through the following functions.

2.1.1 Funneling Savings to Firms

In process of transforming of savings to firms the financial intermediaries absorb resources as the difference between the savings of individual / household and generation of worth of investment. This difference in the shape of charges of services provides by the financial intermediaries, commission, fee and charges of the agents. Financial intermediaries have to bear transaction taxes and reserve requirements of the regulatory bodies etc. Developed financial system reduces the difference of savings and generation of worth of investment and utilizes this tax revenue and difference of resources for better private and public consumption which will cause to enhance economic growth (Roubini, 1991; Martin, 1992).

2.1.2 Improving the Allocation of Capital.

It is another important function of financial intermediaries that to allocate resources in more needy and high return projects which creates economic activities. For allocation of resources in appropriate projects, the financial intermediaries play role through collection of information and to induce the individual for investment of productive projects by providing risk sharing portfolio. Informational role of financial intermediation has strong relationship with the productivity and growth (Greenwood & Jovanovic, 1990). Financial intermediaries hold more and accurate information about the investment opportunities and risk rather than individuals. These institutes share the risk through portfolios and diversification. Allocation of resources in

appropriate projects leads towards capital growth which accelerates the economic growth. They also share the liquidity risk, idiosyncratic risk and diversifiable risk of volatility of assets return. Financial intermediaries allocate the funds to high yield projects in order to avoid the investment waste which occurs due to short liquidity and converting of funds. Banks / Financial institutes obtain the funds from the savers and then invest in long run projects which increase the economic growth. Security markets are also helpful to share the risk by diversification of investment / making portfolios.

2.1.3 Affecting the Saving Rates

Funds from the households / savers are easily available as compared to the firms. There is difference between interest rate paid to the householders and received from the firms which is the reason of altering the saving rates. Alteration in saving rates affects the saving behavior which may reduce savings and thereby growth and vice versa.

2.1.4 Risk Sharing

Financial intermediaries share both endowment risk and risk due to volatility of rate of return of assets. First kind of risk shared through insurance companies and other by the security markets by diversifying the investment in portfolio (Devereux & smity, 1991). Financial intermediaries increase their income by reducing the rate of interest of savers due to risk sharing responsibility and same funds invested in profit oriented projects. Risk sharing actually enhances the savings which will contribute towards economic growth.

2.1.5 Household Borrowing

Capital markets receive funds from those household who save and flow these to the consumer in the shape of consumer credit or mortgage loans. Keeping in view the demands of the consumers, financial intermediaries increase the saving rates for saver of funds. Increased saving rates translate to economic growth (Jappelli & Pagano, 1992). If more funds or consumer credit available then the saving rate will be decrease, consequently, it will reduce the economic growth.

2.1.6 Interest Rate Affects

Due to financial repression the financial intermediaries offer low interest rates to the households / individual / firms and widen their gap which will reduce savings and affects the economic growth. This is an important way of affecting the economic growth through financial repression (Mackinnon & Shaw, 1973). Hence, alteration of interest rates has impact on volume of savings.

Banking system is alternate of stock markets for providing of corporate finance to the firm for issuing of equity. Banking system is in better position to provide the finance to the corporate sectors at the time of issuing of equity (Diamond, 1984; Stiglitz, 1985). Some evidences were noted from the literature that the corporate investment does not finance through issues of equity hence there is weak relationship between stock market development and economic growth (Mayer, 1988; Fry, 1997; Corbett & Jenkinson, 1994). Increase of stock market volume associated with the business of banks because investment banks may provide underwriting services at the time of issuing of equity. Stock market activities are associated with the banking system and vice versa. Stock market development increases the business of banks so both are go alongside.

Banking sector raises the efficiency of capital accumulation and then enhances marginal productivity of capital and saving rates. Increase in saving rates leads towards increase in investment rates (Goldsmith, 1969; Mackinnon & Shaw, 1973). High economic growth in any region or country demands high banking sector services. Growth in the banking sector services brings positive change in economic growth. As boom in economic condition requires heavy banking services (Kar et al., 2011; Odhiambo, 2010; Panopoulou, 2009; Ang & Mckibbin, 2007; Liang & Teng, 2006). An efficient banking system with well-developed financial system and stock markets provide better financial services which enables an economy to increase its growth rate (Bencivenga, 1995; King & Levine, 1993 and Esso, 2010). Greenwood and Jovanovic (1990) and Bencivenga and Smith (1991) presented another model of financial development in which they stressed that the financial development was a key factor contributes towards economic growth. Financial development covers both banking sector development and stock market development. Banking sector development and Stock market development is very important for economic growth across the countries as envisaged in the literature (Beck & Levine, 2004; Levine & Zervos, 1998). Literature provides studies on both aspect of financial development. Separate and combined studies on both the aspects are available in the literature. The connection between financial development and economic growth has attained attention of theoretical and empirical researchers since the work of Schumpeter (1911) and Mackinnon and Shaw (1973). There are numerous works are available in the literature on the relationship of financial development and economic growth because of its implications of development policy. Most of empirical evidences have sought out positive relationship between financial development and economic growth. Many studies suggest that well developed financial system contributes towards

economic growth hence more finance leads to more growth (Law & Singh, 2014). Government restrictions / interventions on banking system affects the process of financial development and economic growth negatively (King & Levine,1993). On the other hand the economists / researchers divert their interest because they find weak or negative relationship between financial development and economic growth. Number of studies exists in both developed and developing countries with the result of casual and negative relationship between financial development and economic growth. Thought of Mckinnon & Shaw and endogenous growth literature concluded that services provided by the financial intermediaries had considerable role in economic growth and suggested that financial intermediation had a positive effect on steady –state growth (Bencivenga & Smith, 1991; Greenwood & Jovanovic, 1990). Empirical studies supporting the views of positive impact of financial development on economic growth exists in the literature such as (Gelb, 1989; Law & Singh, 2014; King & Levine, 1993). Numbers of studies which found unidirectional / positive relationship between financial development and economic growth made by (Menyah et al.,2014; Pradhan, Norman & Nishigaki,2014, Hsueh et al.,2013, Bojanic,2012, Cheng,2010, Naceur & Ghanzouani ,2007 ; Bencivenga & Smith,1991). According to their views banking sector development contributes to economic growth through two channels: by increasing capital formation and raising of saving and investment rate. This may be called as supply leading views. Other views exist as financial development does not contribute to economic growth but financial development follows the economic growth is demand following view. When economic activities increase then the demand of financial services also increases (Robinson, 1952). Empirical evidences in favor of demand following views are available as Kar et al., (2011); Odhiambo, (2010); Demetriades & Luintel (1996); Ireland (1994). They argue

as the economy creates, more demand for banking services which leads towards growth of these services whereas the some researchers recommend that the direction of relationship finance and growth needs more analysis with sophisticated statistical techniques to unearth the exact direction of relationship between financial development and economic growth (Rufael, 2009; Chang, 2009; Ahmed & Ansari, 1998; Al-Yousaf, 2002; Demetriades & Luintel, 1996).

Financial development covers the banking sector development and stock market development. Second part of the financial system is stock / financial market. Many studies on direction of causality between stock market development and economic growth also exists in the literature. An analysis on the role of stock market in economic growth is done by Cho (1986) who stresses that banking sector cannot work efficiently without stock markets. Role of stock market in economic growth investigated more recently by (Adenuga, 2010; Boubakari & Jin, 2010; Carp, 2012; Kolapo & Adaramola, 2012; Ngare et al., 2014). They support the views that the causality between stock market development and economic growth exists. As stock market development has positive effect on economic growth. Countries with stock market tend to grow faster as compared to countries without stock markets. Developed countries with developed stock markets tend to grow less fast than to developing countries stock markets (Ngare et al., 2014). Other studies on the unidirectional causality from economic growth to stock market development have presented (Kar et al., 2011; Panopoulou, 2009, Odhiambo, 2008; Liang & Teng, 2006). In which they support that the economic growth attracts to the investors for better and short span of investment opportunities. Due to mixed results of the various studies literature demonstrates that there is need of more research in the area of

relationship between stock market development and economic growth as the existing literature does not provide the definitive answer (Rashid, 2008; Cheng, 2012).

This study examines the nexus between banking sector development; stock market development and economic growth in eight Asian economies such as Pakistan, Bangladesh, China, India, Indonesia, Malaysia, Sri Lanka, and Thailand. This study defines financial development as both banking sector and stock market development and studies their impact on economic growth along with other macroeconomic variables.

2.2 Stock Market Development

Stock market development defines as the process of improvement in quantity, quality and efficiency of services. Many activities involved in the process of providing of stock market services. It can be measured through Market Capitalization and Stock traded turnover ratio. Sound institutional framework and infrastructure development contributes towards the development of stock market (Chinns & Ito, 2006). Investment and capital flows are the determinants of the development of stock market (Levine & Zervos, 1998).

Stock markets are specialized in acquiring and dissemination of information, reducing of cost of mobilizing of savings and facilitating the investments (Greenwood & Smith, 1997; Williamson, 1986; Diamond, 1984). It aligned the interests of corporate sector management and owners, hence the managers striving for maximization of the firm value which is the ultimate purpose of all stakeholders of the firms (Diamond & Verrecchia, 1982; Jensen & Murphy, 1990). Liquidity and price volatility are the main characteristics of stock market for allocation of investment and influencing the economic growth.

2.2.1 Liquidity

Stock market provides opportunities to investors for buying / altering the portfolio through quick and cheap selling in market. It provides easy access to corporate sectors for raising capital by issuing of equity. Capital formation / accumulation are very important channel for economic growth. Liquidity and Volatility are the determinants of Stock markets for influencing the economic growth. More capital leads to catch up the investment opportunities which will bring the technological advancement and improve the research activities. Liquidity created by the stock market may distort the economic growth because more investment due to attractive return reduces the saving rates. Liquidity also creates uncertainty which may enhance the demand for precautionary savings (Demirguc-Kunt & Levine, 1996; Jensen & Murphy, 1990).

2.2.2 Volatility

Price volatility is another characteristic of stock market. High volatility in stock and share prices may influence the ability of efficient allocation of investment (Keynes, 1936). Speculators through speculation activities create bubbles in the prices of the stock of an organization. Up to some degree level, the price volatility is desirable in the stock market which brings flow of information but excessive level of volatility may harm the economic growth because it reflects the excess price of stock than its original / underlying asset (Shiller, 1989). Price volatility brings inefficient allocation of resources, pressure on interest rates due to uncertainty, effects on the investments which decreases the economic growth (Federer, 1993; Delong et al., 1989). Excessive trading also creates barriers for efficient resource allocation (Delong et al., 1989). Stock market development represents through proxies of Market

Capitalization to GDP ratio, the total value of shares traded to GDP ratio and turnover ratio.

Market capitalization to GDP ratio and Stock traded turnover ratio represent stock market development. Market capitalization is the share price times the number of shares outstanding and stock traded turnover ratio is the total value of shares traded divided by the average market capitalization. Hypothesis of this variable is as under:

Ho SMD has no effect on economic growth.

H1 SMD has positive effect on economic growth.

2.3 Banking Sector Development

Improvement in quantity, quality and efficiency of banking services defines as banking sector development. (Badar & Qarn, 2008; Sauviat et at., 2011; Beck & Levine, 2004; Levine & Zervos, 1998). Many activities involved in the process of banking sector development which cannot be measured by single indicator. It may represent most widely used proxy as Domestic credit provided to the private sectors by banks.

How the banking sector development contributes towards economic growth. There are two aspects of contribution towards economic growth. Banking sector raises the efficiency of capital allocation and then enhances productivity accordingly. Banking sector rises saving rates. Increase in saving rates leads towards increase in investment rates automatically (Goldsmith, 1969; Mackinnon & Shaw, 1973).

High economic growth in any region or country demands high banking sector services. Growth in the banking sector services brings positive change in economic growth. As boom in economic condition requires heavy banking services (Liang &

Teng, 2006; Ang & Mckibbin, 2007; Panopoulou, 2009; Odhiambo, 2010; Kar et al., 2011).

In this study, banking sector development (BSD) variable represents either the ratio of M2 to GDP or domestic credit provided to the private sectors by banks % of GDP. It has assumed that the banking sector development is positively relates with the economic growth.

Ho BSD has no effect on economic growth.

H2 BSD has positive effect on economic growth.

2.4 Trade Openness / Liberalization

Openness means a free trade where trade system eliminates all trade distortions. Trade openness is the free exchange of goods and services between countries / nations for promoting of trade. This is for easing of trade between nations by removing the tariff and non-tariff barriers i.e. duties, surcharges, licensing rules, quotas etc.

Trade to GDP ratio is often called trade openness. This ratio also shows that a country up to which level integrate to the countries of the rest of the world. Through this, the international transaction level can be measured with the relative level of domestic transactions. Total value of trade is aggregation of exports and imports of goods and services of a country. It is simple average of total value of trade relative to the gross domestic product is called the trade openness. The value of trade of goods and services of a country indicated the integration level of the economy with the international economy. It is worthwhile to note that the size of the volume of trade not only indicates the level of integration but all other factors like geography , history ,

trade policy, structure of the economy are to be focused in order to see the level of integration. Small countries are attached with the other countries with regard to the imports from them for satisfying the need of the country rather than big countries. The ratio of the small countries may be higher than the larger countries as they have link with the world due to their needs of imports.

Diverse views of scholars exist whether the trade openness is associated with the economic growth positively or negatively. Some views support the positive relationship between trade openness and economic growth. Rodrik, (1999) stated that the earlier studies are documented the advantages of import substitutions policies are overstated. Mixed views reveal that the trade restrictions may increase or decrease the economic growth. (Romer, 1990; Grossman & Helpman, 1990; Matsumyama, 1992). It depends upon the trading partner. If economic structure, policies, regulations and infrastructure of trading partner are different then the desired results of economic growth may not achieved. Trade openness may affect the country's growth by enhancing physical and capital accumulation and productivity. International trade brings heavy flow of capital which affects the capital, physical accumulation and growth through technological advancement. Some evidences found by the researchers that the capital accumulation is not the primary source of economic growth but the trade openness more relevant with the growth (Klenow & Rodirguez, 1997; Frankel & Romer, 1999). Romer, 1990 describe that the productivity can be enhanced through international trade because it brings the variety of products. Product variety activates the Research and Development department of any country for coping the requirements of shaping and design of product. Latest technology is necessary for manufacturing new products and rules & regulations are also required for patent holders. All these activities affect the per capita growth. It is worthwhile to note that

some studies examined the relationship between volume of trade and economic growth. Although the trade volume have impact on economic growth but the relationship between trade policies / openness is very important and having profound effect on economic growth.

Researchers examined trade openness with different measures as they used index of tariff and non-tariff barriers. Trade (aggregate of exports and imports) shares in GDP, (Harrison, 1996). Some measures the affect of trade on income (Frankel & Romer, 1999).Anderson and Neary, (1992) have developed a restrictiveness index after incorporating all tariff and non-tariff barriers. This study used trade openness as macroeconomic variable (control variable). It has assumed in view of literature that the trade openness has positive relationship with the economic growth.

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Ho Trade openness has no effect on economic growth.

H3 Trade openness has positive effect on economic growth.

domain of economic growth. Eggoh and Khan (2014) studied the relationship of inflation and economic growth. The results of their study show the different threshold level of inflation as per high, middle and low income countries.

Thanh (2015) examined the effects of inflation on growth in the ASEAN-5 countries by using panel data for the period 1980-2011. He found that the relationship between inflation and growth was nonlinear. Estimated threshold of inflation rate for 5 ASEAN countries is 7.84% which is higher than the value of 5.43% as examined earlier by Vinayagathasan, 2013. This threshold level of inflation is lower than the findings of other studies done on developing countries. The reason of low level of threshold is that the ASEAN countries economy has stable and high economic growth and has adopted policy for keeping the inflation rate low and stable. He further found that the central bank could improve economic growth by reducing inflation rate when it was above than 7.84%. Government should coordinate in the region the monetary, fiscal and exchange rate policies. In this study, it had assumed in view of literature that the inflation has negative relation with the economic growth.

Ho Inflation has no effect on economic growth.

H4 Inflation has negative effect on economic growth.

2.6 Government Consumption

Use of national accounts income for purchase of goods and services in order to satisfy the individual is needed and for collective member of the society. It refers to the goods and services produced in the economy and consumption of these for fulfilling the needs of education, health and defense. Government provides goods and services to the public for education, health and infrastructure and for improvement of regulatory framework are important factors for economic growth. There are mixed

arguments supported with empirical results found in the literature as some view that the government expenditure positively affects economic growth and some reported negative effects on economic growth. Hansson and Henrekson, 1994 studied the effects of government consumption on growth. The result shows that government transfers, consumption, total outlays and educational expenditure have positive effects on economic growth whereas investment has no effects on growth. Barroo, 1990 stated that unproductive government expenditure negatively related with the growth of GDP but the productive government expenditure relation with the growth are spurious because it depends upon the behavior of the government and ratio of the expenditure. Government expenditure on infrastructure has positive effects on economic growth and negative effects on growth observed if government makes expenditure only for consumption of goods and services (Lindh & Ohlsson, 1997). Study of Helicioughu, 2003 found no causal relationship between government expenditure and growth / GDP per capita. A recent study conducted by Shin et al., in the year 2010 applied a granger causality test on the sample of 182 countries. Findings of the study revealed that government spending and economic growth caused each other. Role of government in economic growth cannot be overlooked. They found that developing / less developed countries generally had weak institutional framework which led towards destructive economic growth. This study hypothesize that government consumption has negative effects on economic growth.

Ho Government Consumption has no effect on economic growth.

H5 Government Consumption has negative effect on economic growth.

2.7 Primary School Enrollment / Human Capital

Individuals with skill, knowledge and different abilities which acquire throughout their life denotes as human capital (Laroche and Merette, 1999). The improvement in schooling plays central role of Development strategies of different countries. Developing countries, data show that they are increasing growth after attaining the improvement in schooling. International organizations also gained the various development objectives through schooling. As this becomes policy for growth and development hence the various researchers felt need to investigate the role of human capital in economic growth and development. Policy and research literature show the measurement of human capital through attainment of schooling. Mixed evidence available in the literature whether the human capital increases or decreases the economic growth and some evidence found that the cognitive skills influenced the role of human capital on economic growth. Impacts of human capital become strong when school quality is under consideration. Skills of individuals also refer to the economics of war and of immigration (Petty, 1676). Specialization in labor dominated the ideas of human capital (Smith, 1979). In this study the secondary school enrolment has been taken as proxy for human capital formation. This study hypothesize that secondary school enrollment rate has positive relation with the economic growth.

Ho PSE / Human capital has no effect on economic growth.

H6 PSE / Human capital has positive effect on economic growth.

2.8 Gross Fixed Capital Formation /Investment

Investment` refers to net capital accumulation during annual national accounting period. Gross fixed capital formation known as gross domestic investment comprising of land improvement, purchase of plant & machinery and equipments, construction of roads, railways, schools, offices, commercial & industrial buildings. It is source of creation of resources that is being used to produce other goods.

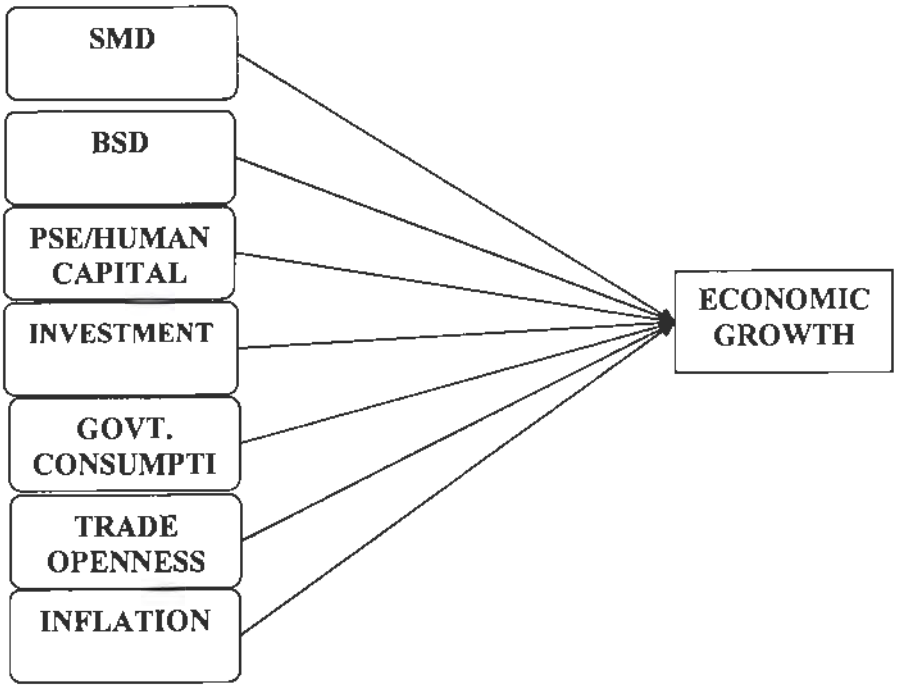
It is generally accepted that the capital formation / investment is interconnected with economic growth / GDP. GDP growth is higher for those countries which have relatively higher investment World Bank (1989). Barro (1991) discusses various dimensions of the investment with reference to economic growth as investment in infrastructure is important for less developed countries. Infrastructure directly influences the productive activities of the economy as it provides the opportunities for the producers to use modern technology. Investment in education and training produces more skillful human capital. Investment in agriculture extension and research improves the scientific research method. Investment in human capital raises efficiency and productivity which in turn increases the economic growth. Investment is key determinant for economic development and growth (Chrinko, 1993; Caballero, 1999). It can be found from the literature about both positive and negative impact of investment on growth. Blejer and Khan, 1984 argued that public capital has significant impact for contributing economic growth. This study hypothesized that the Gross fixed capital formation / Investment has positive impact on economic growth and vice versa.

Ho Investment has negative effect on economic growth.

H7 Investment has positive effect on economic growth

2.9 Conceptual Framework /Model

Figure1:



CHAPTER 3

3. DATA AND METHODOLOGY

This chapter provides the detail of variables used in this study and the methodology applied to analyze the data. In this study secondary data used which was collected from data base of World Bank. Secondary data analysis provides cost effective way of answering aforementioned research questions. EVIEW Software package and STATA has been used for analysis of long period panel data.

3.1 Population

Population pertains to the Secondary data of 8 Asian economies comprising of Pakistan, Bangladesh, China, India, Indonesia, Malaysia, Sri Lanka, and Thailand.

3.2 Data

Annual data covering the period from 1990 to 2015 of eight Asian Countries i.e Pakistan, Bangladesh, China, India, Indonesia, Malaysia, Sri Lanka, Thailand has been used for exploring the impact of banking sector and stock market development on economic growth. Data source is the World Development Indicator database of World Bank.

3.3 Variables

The variables used in this study are banking sector development (BSD), stock market development (SMD), economic growth annual% (GDP per capita) and set of five other macroeconomic variables namely Gross fixed capital formation / investment to GDP ratio, Primary school enrolment rate / human capital formation, trade openness, Government consumption/expenditure to GDP and inflation on consumer price index. Most relevant and appropriate proxies of variables namely Real GDP per capita annual growth, domestic credit provided to the private sectors by banks % of GDP and this variable represent the banking sector development (BSD), Market capitalization of domestic listed companies % of GDP and this variable represents the stock market development (SMD), Gross fixed capital formation / investment % of GDP, Primary school enrolment rate/ human capital formation, trade openness, Government consumption to GDP and inflation have been used in the study.

Real GDP per capita is the proxy of level of development / growth, Inflation of consumer price index rate shows macro-economic instability and expected to relate with economic growth negatively. Gross primary school enrolment measures the human capital formation. Gross fixed capital formation / investment to GDP ratio is a measure of the share of investment in GDP. Government consumption to GDP measures the crowding out in respect of government expenditure. Trade openness measures the extent to which a country is integrated in respect of trade activities with the rest of the world. Domestic credit provided to the private sectors by banks as % of GDP is a proxy of banking sector development. Market capitalization to GDP represents the Stock Market Development (SMD).

3.3.1 Variable Description Table

Variable symbol	Description of Symbol	Source
GDPPC Ygit	Real GDP per Capita represents growth rate.	World Bank, WDI
Ygit-1	Lagged of real GDP per capital / growth rate.	World Bank, WDI
I	Inflation of consumer price index rate is an indicator of macroeconomic instability and expected to relate with the growth negatively.	World Bank, WDI
PSE	Gross Primary school enrolment rate used as proxy of human capital formation.	World Bank, WDI
INV	Investment to GDP ratio is a proxy of gross fixed capital formation.	World Bank, WDI
GCN	Government consumption to GDP which measures the increase in government spending and reduction of private investment.	World Bank, WDI

TO	Trade openness which measures the extent to which a country is integrated in respect of trade activities with the rest of the world.	World Bank, WDI
BCP	Banking sector development variable represents by domestic credit provided by the banks to private sector % of GDP	World Bank, WDI
MC	Market capitalization of domestic listed companies' % of GDP is the indicator of Stock Market Development (SMD).	World Bank, WDI
ε	error term	

3.4 Methodology

The following techniques / methodology have been used in order to see the impact of banking sector development, stock market development on economic growth in Asia:

Panel data analysis techniques used for arriving the results and supporting the theory /literature. Panel data is a combination of time series and cross sectional data. It considers better than other approaches / techniques of data. It eliminates the problem of estimation bias, generate more precise and accurate predictions, providing information on appropriate level of aggregation, simplifying inferential procedures of cross section and time series data. It is more realistic model for finance and economic variables

Descriptive statistics

Correlation analysis

Stationary / Unit Root Test

Panel Regression / Growth Model

Fixed effects estimation / model

Random Effects estimation / model

Hausman test.

Two stage least square model (2SLS) regression analysis

Granger Causality Test

3.4.1 Descriptive Statisties

Descriptive statistics test applied in E.Views software on annual data of all variables of pooled eight countries collectively i.e Pakistan, China, India, Bangladesh, Srilanka, Malaysia, Indonesia and Thailand. This analysis shows data in summarize form, more meaningful way and simplify the interpretation of data. It measures data in central tendency, variability or dispersion form. Descriptive statistics is necessary because it is very hard to make analysis on raw data. Descriptive statistics has described in panel form of all variables and countries and each country separately for making prudent analysis.

3.4.2 Correlation Analysis

Correlation analysis shows that how strongly variables are related with one another. Correlation can tell the variation among the variables of all the sample countries in panel. The result of the correlation is called the correlation coefficient and

we denote as "r". it ranges from -1 to +1. If correlation coefficient is close to zero "0" it means there is no relationship between the variables. If correlation coefficient "r" is positive it shows similar direction of variables positively means one variable gets increasing and other also increasing. If r is negative it means there is inverse relationship between variables. One is going on larger side and the other is on smaller side. The result of the correlation normally squared for easy understanding. When we squared, it gives result in percentage. It simply indicates relationship among the variables not causal relation of the variables.

3.4.3 Panel Unit Root Test

Non stationary variables make the result of regression spurious. There should be stationary in variable and standard assumptions for the model. For checking of series whether these are stationary or non-stationary, unit root test applied. In this study Levin–Lin–Chu and Im–Pesaran–Shin (2003) test has been applied for checking of unit root.

3.4.4 Panel Regression / Growth Model

This study followed panel regression / standard growth model which has already been used by the Baroo (1990, 1991). In panel data regression model, the time and space combined together. If all the variables observed in each time / year is called balanced panel. If the numbers of observations are different across all cross sectional units and the observation may not take in all years is called unbalanced panel. In this study balance panel has been used because the time series observations are same of all the countries. Equation form is as under:

$$Y_{it} = \beta_1 + \beta_2 X_{it} + \cdots + \beta_n X_{nit} + \mu_{it}$$

In the above panel equation Y is the dependent variable and X is the independent variable. β represents the change in variable and i represents the cross sections and t denotes to the time period. Financial development and macroeconomics variables have filled in the panel regression equation / standard growth model as below:

$$GDPPC_{it} = \alpha + \beta_1 Y_{it-1} + \beta_2 I_{it} + \beta_3 PSE_{it} + \beta_4 INV_{it} + \beta_5 CON_{it} + \beta_6 TO_{it} + \beta_7 MC_{it} + \beta_8 BCP_{it} + \varepsilon_{it}$$

Fixed effects and random effects model applied to analyze this type of panel data on the basis of growth model.

3.4.5 Fixed effect model / estimation

Fixed effect model / estimation controls all time invariant differences between individual so the coefficient estimated under this model are not biased due to omitted time invariant (constant or not vary) characteristics. The purpose of this model is to study the reason of changes entity. Time invariant characters do not change within a person / entity. Change in dependent variable occurs due to influences / factors other than these fixed characteristics in model.

This model equation can be presented as under:

$$Y_{it=\alpha+\beta X_{it}+U_{it}}$$

α is the intercept

Yit is the dependent variable with the time and entity effects

βxit change of independent variable

Uit is the error term

3.4.6 Random effects estimation / model

Random effects model / estimation differs with fixed effects model as variation to be random across the entities and uncorrelated with the independent variables included in the model. If there is chance of differences across entities have influence on dependent variables then one should choose random effects model. Error term of entity not correlated with the independent variable and let allow the time invariant to play as independent variables. In this model you have to specify those characteristics which may or may not affect the independent variables. There may be omitted variable bias in the model due to non-availability of some variables. The equation of random effects model as under:

$$Y_{it=\alpha+\beta X_{it}+\cup_{it}+\varepsilon_{it}}$$

Uit is the between entity error

$\in_{it}$ Within entity error

3.4.7 Two Stage Least Squares (2SLS) Regression Analysis

This is statistical technique which is extension of the OLS method. It is used when the dependent variable's error terms are correlated with the independent variables. It may be used when there are loops in the model and gives spurious result. This approach / model based on the various assumptions as the error term should be normally distributed, outlier (s) is removed from the data, observations should be independent of each other and the error variance of all the variables should be equal. Under this model a problematic causal variable is replaced with the new / substitute variable in the first stage of analysis. An instrument variable (Z) is used to create new variable by replacing the problematic variable. After creating a new variable then this

new variable should be fitted in the existing OLS / Fixed effects / Random effects for response of interest. An instrumental variable is uncorrelated with the disturbance term / error term but is correlated with the X which is problematic variable. In equation form of a single instrument as under:

$$Yi = \beta_0 + \beta_1 X_i + \varepsilon_i$$

2SLS has two stages / two regressions first isolate the part of X that is uncorrelated with the error term. Regress X on Z (Instrumental Variable)

$$X_i = \emptyset_0 + \emptyset_1 Z_i + V_I$$

Then compute the predicted values of Xi as X^i

Replace the Xi as X^i this will your newly created variable which will be used in your regression of interest.

$$Y_i = \beta_0 + \beta_1 \hat{X} + \varepsilon_i$$

3.4.8 Granger Causality Test

Granger causality test is a statistical concept of causality. Under this test the direction of causality can be checked between variables. If one variable cause to another variable means history of one variable can explain variation in another variable. In another ways we can say the past values of the X variable can predict the variation in Y variable. In this study, it has to be checked whether the past history of economic growth is able to explain the stock market development or the past history of stock market development is able to explain the variation in economic growth. Similarly the past history of banking sector development may explain the variation in economic growth or past history of economic growth may explain the variation in banking sector development. In this study it has to be analyzed whether the stock

market development causes the economic growth or economic growth causes stock market development and whether the banking sector development causes the economic growth or economic growth causes banking sector development. This may state as in equation form:

$$Yg_{i,t} = \beta_2 \sum_{T-1}^{T} Yg_{i,t} + \alpha_i \sum_{T-1}^{T} BCP_{i,t} + v_{i,t}$$

$$BCP_{i,t} = \beta_2 \sum_{T-1}^{T} Yg_{i,t} + \alpha_i \sum_{T-1}^{T} BCP_{i,t} + v_{i,t}$$

$$Yg_{i,t} = \beta_2 \sum_{T-1}^{T} Yg_{i,t} + \alpha_i \sum_{T-1}^{T} MC_{it} + v_{i,t}$$

$$MC_{i,t} = \beta_2 \sum_{T-1}^{T} Yg_{i,t} + \alpha_i \sum_{T-1}^{T} MC_{it} + v_{i,t}$$

Where Yg is the growth of real GDP per Capital BCP is the proxy of Domestic credit provided to the private sector by banks as % of GDP and MC is the proxy of Market Capitalization which denotes to the stock market development.

CHAPTER NO.4

4. RESULTS AND DISCUSSION

This chapter provides results after following the research questions set for the study and by applying the various techniques / methodology as enlisted in the previous chapter. Results and discussions of all these tests are given as under:

4.1 Descriptive Statistics

This test applied through E views on annual observations / data of GDP per capita, Domestic credit to private sector by banks (% of GDP), Market capitalization of domestic listed companies (% of GDP), Trade (% of GDP), Gross fixed capital formation (% of GDP), Gross Primary School enrollment rate, General government final consumption / expenditure (% of GDP) and Inflation as consumer price index (annual %) of eight Asian economies as Pakistan, Bangladesh, China, India, Indonesia, Malaysia, Sri Lanka, Thailand. Descriptive statistics analysis done in two ways as firstly for sample economies of all variables in combined / panel form and then country wide. Results thereof are given below in Table 1 & 2 respectively:

Table: 1 Descriptive statistics of all variables of pooled countries.

	GDPPC*	BCP	GCN	INFCP**	INV	MC	PSE	TO
Mean	4.33	60.31	10.78	6.39	26.68	48.25	99.56	69.96
Median	4.46	40.01	11.02	5.86	25.28	29.82	99.91	49.70
Maximum	13.60	166.50	17.61	24.23	45.75	320.99	129.70	220.40
Minimum	-14.35	8.79	4.05	-1.40	12.52	0.21	58.65	15.23
Std. Dev.	3.40	42.49	3.20	4.44	7.67	52.01	11.75	50.29
Skewness	-1.15	0.66	-0.30	1.13	0.616	2.310	-1.05	1.390
Kurtosis	8.77	1.984	2.41	5.013	2.890	9.794	4.87	3.95
Jarque-Bera	335.42	24.41	6.09	79.75	13.27	585.23	69.25	
Probability	0.000	0.00	0.04	0.000	0.00	0.000	0.00	74.86
Sum	901.67	12544.69	2243.46	1330.44	5551.04	10036.17	20709.49	0.00
Sum Sq. Dev.	2396.21	373762.9	2124.10	4090.80	12201.7	560145.5	28598.79	
Observations	208	208	208	208	208	208	208	14553.5

*GDPPC is a annual % growth of GDP per capita it is not GDP

** INFCP inflation is consumer price index rate annual %

Result shows highest mean value of market capitalization, domestic credit provided to the private sectors by banks, investment and trade activities of the region. It shows high trade activities along with development of financial sectors in Asian region.

GDP: Gross Domestic Product per capita growth (annual %)

BCP: Domestic credit to private sector by banks (% of GDP)

GCN: General government final consumption expenditure (% of GDP)

INF: Inflation, Consumer Price Index (annual %)

INV: Gross fixed capital formation (% of GDP)

MC: Market capitalization of domestic listed companies (% of GDP)

PSE: Gross Primary School Enrollment (% gross)

TO: Trade (% of GDP)

Country wise result of descriptive statistics pertains to banking sector development and stock market development along with all other economic variables are given in table 2

Table: 2 Countrywide Descriptive Statistics

Variables	Pakistan	China	India	Srilanka	Malaysia	Indonesia	Bangladesh	Thailand
	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
GDPPC	1.778254	8.868898	4.771757	4.547423	3.756743	3.643488	3.602570	3.710676
BCP	23.06468	110.7289	35.47648	27.81211	115.2965	34.30576	27.66910	108.1347
GCN	10.77861	14.27346	11.35051	10.95020	12.29918	8.224199	4.975745	13.43525
INFCP	8.836250	4.361683	7.862164	9.669099	2.785829	8.111450	6.182684	3.361721
INV	15.91124	37.84216	27.16985	24.90711	28.39108	26.61779	23.60995	29.05255
MC	20.09052	35.93061	51.54366	19.02330	156.9072	30.03193	11.28307	61.19618
TO	33.80231	44.04148	34.27191	68.88004	177.8203	55.91886	32.57524	112.4403
PSE	80.33391	111.5861	100.9628	103.8193	99.29558	108.9645	93.77587	97.78082

While examining the result of descriptive statistics, it indicates the mean value of gross domestic product of china is the highest as 8.86. Mean value of GDP of India and srilanka stood 4.77 and 4.55. GDP is major indicator of growth of economy of each country. It shows increase in total production, expenditure of the country. GDP of Pakistan is 1.77 which is very lowest indicates the less production, expenditure and low economic activities as compared to the other economies of sample.

Domestic credit provided by the banks to the private sector is proxy of banking /financial sector development. Easy access to the financial resources of any country is indicator of economic development / activities. Descriptive statistics showed highest mean value i.e 110,115,108 of china, Malaysia and Thailand.

Total government expenditure / government consumption indicated more economic activates and projects executed by the governments. If this expenditure could not enhance total production, infrastructure and standards of livings / lifestyles leads to inappropriate usage of funds in the country. Mean value of the government consumption stood highest of Malaysia, Thailand, china and India.

Mean value of inflation of china and Thailand remained 4.36 and 3.36 respectively which is lower than other countries during the period. China is big economy among the eight countries but inflation at controlled level show positive economic activities. Mean value of investment / gross capital formation remained highest in China, Malaysia and Thailand. Mean values of trade activities of Malaysia, Thailand and Srilanka are 178,112 and 69 which are highest among the panel countries. Trade activities show that up to which level the country associated with the trade of other countries of the world. Market capitalization of listed companies' percentage of GDP of Malaysia, Thailand and India indicate highest value among the pooled countries. It reflects more stock market business / activities in these countries as compared to the other sample countries in Asia.

4.2 Correlation analysis

Correlation analysis of all variables used in the study for eight sample Asian economies reported in table 3:

Table 3: Correlation Analysis

	GDP	BCP	INV	GCN	INFCP	MC	PSE	TO
GDP	1.00	0.20	0.57	0.22	-0.07	0.11	0.39	-0.10
BCP	0.20	1.00	0.60	0.55	-0.51	0.58	0.27	0.64
INV	0.57	0.60	1.00	0.26	-0.24	0.33	0.49	0.13
GCN	0.22	0.55	0.26	1.00	-0.18	0.31	0.11	0.34
INFCP	-0.07	-0.51	-0.24	-0.18	1.00	-0.36	-0.06	-0.35
MC	0.11	0.58	0.33	0.31	-0.36	1.00	0.10	0.75
PSE	0.39	0.27	0.49	0.11	-0.06	0.10	1.00	0.09
TO	-0.10	0.64	0.13	0.34	-0.35	0.75	0.09	1.00

The table 3 depicts that there is both positive and negative correlations exist among variables as the result ranges from -1 to +1. Maximum value of r is found 0.75

between trade and market capitalization and 0.64 between trade and domestic credit to private sectors by banks. 0.60 between investment and credit to private sector. The result also shows that there is no linear relationship between explanatory variables.

4.3 Panel Unit Root Test

The Levin–Lin–Chu and Im–Pesaran–Shin (2003) tests have been applied for checking of stationary of the data. Both the test applied on all the variables one by one and the result thereof presented in the below mentioned table 4. Both test applied on each variable one by one for checking unit root. T statistics and probability value are presented in the above table. In the result, the p value found less than 0.05 which indicates the rejection of null hypothesis. Null hypothesis is that there is unit root in the series which is rejected and alternate hypothesis accepted as there is no unit root in series of most of the variables at first difference. Hence, the series of all variables found stationary at first difference.

Panel Unit Root Test Result

Table 4: Levin, Lin & Chu

Name of variable	LEVEL		IST DIFFERENCE	
	Statistic	Prob.**	Statistic	Prob.**
GDP per capita growth (annual %)	-6.245	0.000	-14.025	0.000
Domestic credit to private sector by banks (% of GDP)	1.155	0.876	-7.240	0.000
General government final consumption expenditure (% of GDP)	-1.434	0.075	-9.517	0.000
Gross fixed capital formation (% of GDP)	-2.552	0.005	8.684	0.000
Market capitalization of domestic listed companies listed companies (% of GDP)	-5.430	0.000	-14.725	0.000
Primary School enrollment (% gross)	1.16354	0.877	-8.612	0.000
Trade (% of GDP)	-0.999	0.158	-13.427	0.000
Inflation, consumer price index (annual %)	-5.698	0.000		0.000

Prob** Pvalue <0.05

Table 5: Im, Pesaran and Shin

Name of variable	LEVEL		IST DIFFERENCE	
	Statistic	Prob.**	Statistic	Prob.**
GDP per capita growth (annual %)	-5.935	0.000	-13.936	0.000
Domestic credit to private sector by banks (% of GDP)	1.653	0.950	-6.876	0.000
General government final consumption expenditure (% of GDP)	-1.537	0.062	-9.302	0.000
Gross fixed capital formation (% of GDP)	-0.871	0.191	-7.353	0.000
Market capitalization of domestic listed companies listed companies (% of GDP)	-3.869	0.000	-14.550	0.000
Primary School enrollment (% gross)	1.94278	0.974	-13.961	0.000
Trade (% of GDP)	0.32543	0.627	-11.614	0.000
Inflation, consumer price index (annual %)	-5.90594	0.000	-14.432	0.000

Prob** Pvalue <0.05

4.4 Fixed effect model / estimation

At first the fixed effects model has been applied. It has been tested in the situation that cross sections or entity is fixed effects, time fixed effects by combining both the situation. The fixed effects estimation result on full sample variables are reported in table 6.

Table 6: Fixed Effects Estimation

Variables	Coefficients	Std. Error	t-statistics	Prob.
C	-4.029760	3.174787	-1.269301	0.2059
BCP	-0.073685	0.013339	-5.524214	0.0000
GCN	0.114787	0.114818	0.999733	0.3187
INFCP	-0.001625	0.046925	-0.034637	0.9724
INV	0.251416	0.043081	5.835834	0.0000
MC	0.016732	0.007189	2.327507	0.0210
PSE	0.048764	0.023679	2.059413	0.0408
TO	-0.011308	0.012023	-0.940500	0.3481
Adjusted R-squared	0.484202			
F-statistic	14.88001			
Prob(F-statistic)	0.000000			

BCP= Domestic credit provided to the private sector by banks, GCN= Government consumption / expenditure,INFCP=Inflation on consumer price index,INV= Gross capital formation as percentage of GDP,MC= Market Capitalization of domestic listed companies, PSE=Primary School Enrollment (Gross) %, TO= Trade openness % of GDP

As per result of Table 6, estimated coefficients of the investment, Market Capitalization of domestic listed companies and Gross Primary School Enrollment of both the sexes found positive and significant at 5% level because the probability is less than 0.05. Thus, it suggests that gross investment, market capitalization and primary school enrollment represents the human capital have positive impact on economic growth of Asian countries. Above table shows significant impact with negative sign of coefficient of BCP which represents the Domestic credit provided to private sectors by banks. It indicates credit supply / loaning to the private sectors negatively relates to the economic growth. Inflation on consumer price index (INFCP) and Trade openness (TO) having negative sign of coefficient but not significant. This

study already assumed that the inflation is harmful for economic growth however the result not found significant. Trade openness (TO) also negatively relate to economic growth. Scrutiny of the data revealed that most of the sample countries imports are more than the exports.

4.5 Random effects estimation / model

Table 7 presents the results of random effects estimation.

Table 7: Random Effects Estimation

Variables	Coefficients	Std. Error	t-statistics	Prob.
C	-7.950425	2.536162	-3.134826	0.0020
BCP	-0.046721	0.011355	-4.114512	0.0001
GCN	0.255641	0.094648	2.700962	0.0075
INFCP	-0.020124	0.047801	-0.420991	0.6742
INV	0.262327	0.041385	6.338677	0.0000
MC	0.013923	0.006738	2.066271	0.0401
PSE	0.054171	0.021495	2.520163	0.0125
TO	-0.008455	0.009342	-0.905049	0.3665
R-squared	0.297748			
Adjusted R-squared	0.273169			
F-statistic	17.06710			
Prob(F-statistic)	0.000000			

BCP= Domestic credit provided to the private sector by banks, GCN= Government consumption / expenditure,INFCP=Inflation on consumer price index,INV= Gross capital formation as percentage of GDP,MC= Market Capitalization of domestic listed companies, PSE=Primary School Enrollment (Gross) %, TO= Trade openness % of GDP.

The result of random effects model is reported in table 7 which is similar as in fixed effects estimation result with slight differences of probability / significance level but overall impact of variables on economic growth as same in fixed effects model so Hausman test applied for selection of model which result reported in below table

Correlated Random Effects - Hausman Test

Table 8: Period random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
BCP	-0.073685	-0.046721	0.000049	0.0001
GCN	0.114787	0.255641	0.004225	0.0302
INFCP	-0.001625	-0.020124	-0.000083	NA
INV	0.251416	0.262327	0.000143	0.3620
MC	0.016732	0.013923	0.000006	0.2621
PSE	0.048764	0.054171	0.000099	0.5862
TO	-0.011308	-0.008455	0.000057	0.7062
Chi-Sq. Statistic	7			
Prob.	1.0000			

BCP= Domestic credit provided to the private sector by banks, GCN= Government consumption / expenditure,INFCP=Inflation on consumer price index,INV= Gross capital formation as percentage of GDP,MC= Market Capitalization of domestic listed companies, PSE=Primary School Enrollment (Gross) %, TO= Trade openness % of GDP.

Hausman test has been made for comparison of fixed effects and random effects model. In above table: 8 results indicate that P-value of the Hausman test is 1.0000 which is not significant. Thus, the null hypothesis accepted as random effect is appropriate and alternate hypothesis rejected as "fixed effect model is appropriate".

4.6 Two Stage Least Square Model/ Regression Analysis

Domestic credit provided to private sector by banks (BCP) shows negative coefficient in the result of fixed effects / random effects estimation which means supply of credit to private sector not positively impact to economic growth which is contrary to the theory / literature. In the above section it has been mentioned that 2SLS approach is used when the dependent variable's error terms are correlated with the independent variables. Where at least one of the explanatory variable is endogenous or jointly determined with the dependent variables. This endogenity factors due to omission or error in variables do affects / cause econometric analysis and simple OLS is not capable to capture these endogenity factors. Keeping in view the situation the 2SLS approach used in order to cover the endogenity of one explanatory variable i.e BCP which result was found suspicious in fixed / random effects estimation. For this purpose another explanatory variable of Investment (INV) used as instrumental

variable of BCP for creation of new variable. As the literature exist that the cash flow is very important for the investment decision and the past study analysis reveals that the banks willingness to lend is the key driver of fluctuation in corporate investment (B, J & Carrington, 2012). So credit to private sector may be good / principal factor behind fluctuations in investments and accordingly investment activities indicate level of cash flow which is being improved through provision of credit to private sectors. The relationship between investment and credit to private sectors cannot be ignored. For isolation of the part of BCP (X) that is uncorrelated with error term is explained in equation form as under:

$$BCP = C + INV + \epsilon$$

$$\hat{BCP} = BCP - \cup t$$

The model applied through STATA software on the data of eight Asian countries for the period 1990 to 2015 which gives better result than random / fixed estimation after covering of endogenity factor and the result thereof is presented in below table:

2SLS Regression results

Table:9

gdppc is dependent variable

Name of Variables	Coefficient	STd.Err	Z	P>|z|	[95% Conf. Interval]	
BCP	0.0727216	0.0125597	S.79	0.000***	0.04810S	0.0973381
INFCP	0.168556	0.065492	2.57	0.010***	0.040194	0.296918
MC	0.0164852	0.0067976	2.43	0.015**	0.0031621	0.0298083
PSE	0.0596287	0.0210929	2.83	0.005**	0.0182875	0.10097
TO	-0.054969	0.0079673	-6.90	0.000***	-0.070585	-0.039353
CONS	-4.015279	1.996288	-2.01	0.044**	-7.927932	-0.102625

Instrumented: bcp

***p<0.01,**p<0.05,*p<0.1

GDPPC– Gross Domestic Product Per Capita Growth Annual %, BCP= Domestic credit provided to the private sector by banks, GCN= Government consumption / expenditure,INFCP=Inflation on consumer price index,INV= Gross capital formation as percentage of GDP,MC– Market Capitalization of domestic listed companies, PSE–Primary School Enrollment (Gross) %, TO–Trade openness % of GDP.

Results of 2SLS depicts domestic credit to private sectors by banks (BCP), Market Capitalization of domestic listed companies (MC), Gross primary School Enrollment of both sexes (PSE) are highly significant with positive coefficient. Main / interest variables of this study is BCP which represents the banking sector development and MC represents the stock market development both have positive impact on economic growth in consistent with the theory / literature and our hypothesis.

Whereas the trade openness found significant with negative coefficient which indicates negative impact on economic growth. The reason of this is that all the sample countries of Asia comprising on middle income level and the net trade in goods and services found negative except China and Malaysia. Volume of Imports is excess than exports of sample countries except China and Malaysia.

4.7 Granger Causality Test

In order to see whether the stock market development causes the economic growth or economic growth causes stock market development as envisaged in third objective of the study, the pairwise granger causality test applied in Eview software which result is as under:

Null Hypothesis:	Obs	F-Statistic	Prob.
MC does not Granger Cause GDP	160	7.90524	2.E-07
GDP does not Granger Cause MC		3.80849	0.0015

GDP= Gross Domestic Product Per Capita Growth Annual %, BCP= Domestic credit provided to the private sector by banks

As per above result the probability value less than 0.05 of second hypothesis due to which the null hypothesis as "GDP does not granger cause MC" rejected and the alternate hypothesis as GDP does granger cause MC accepted. It reflects that in

sample Asian countries economic growth causes to stock market development whereas the stock market development does not cause economic growth.

Similarly for fulfilling of fourth objective of the study as to determine whether the banking sector development causes the economic growth or economic growth causes banking sector development. The result of causality test is reported as under:

Null Hypothesis:	Obs	F-Statistic	Prob.
BCP does not Granger Cause GDP	144	2.79511	0.0070
GDP does not Granger Cause BCP		5.72079	3.E-06

GDP= Gross Domestic Product Per Capita Growth Annual %, BCP= Domestic credit provided to the private sector by banks

On the basis of above result, the first hypothesis rejected being significance and alternate hypothesis accepted as the domestic credit to private sectors provided by the banks (BCP) does cause economic growth. The study finds that the history of supply of credit to private sectors explains the variation in economic growth positively in the sample Asian countries.

CHAPTER 5

5. CONCLUSION AND RECOMMENDATIONS

This study explores the impact of Banking sector and Stock Market development on economic growth in 8 Asian economies comprising of Pakistan, Bangladesh, China, India, Indonesia, Malaysia, Sri Lanka, Thailand. This chapter provides conclusion of the thesis after analyzing the economic data for the period 1990 to 2015.

5.1 Conclusion

The role of banking sector and stock market development in economic growth has been empirically investigated. To test this relationship, a sample of eight Asian economies of Pakistan, Bangladesh, China, India, Indonesia, Malaysia, Sri Lanka, Thailand have been selected. Panel data techniques comprising on fixed / random effects estimation and 2SLS model applied. Granger causality test also applied in order to see the direction of causality between economic growth and financial development. Annual data includes eight cross sections covering period from 1990 to 2015 obtained from data source of world development bank. Before performing the investigation this study applied correlation analysis in order to know the existence of relationship between variables. Result of correlation analysis show positive relationship between stock market development and trade openness among Asian countries economy.

Appropriate / most relevant indicators of financial development have been used each measuring one specific service provided by the financial intermediaries in respect of finance nexus growth relationship. These indicators cover financial development proxies which widely used by other studies in the literature. Fixed / random effects estimation and two stage least square regression analysis used to examine the relationship between banking sector, stock market development and economic growth.

The results indicate that investment, Market Capitalization of domestic listed companies and Gross Primary School Enrollment have significant positive impact on economic growth of sample Asian countries. Our main or interest variables are BCP and MC which represents the banking sector development and Stock Market Development. Out of these two one is Domestic credit provided to private sectors by banks indicates credit supply / loaning to the private sectors negatively relates to the economic growth in contravention of the theory /literature. Inflation on consumer price index (INFCP) and Trade openness (TO) having negative sign of coefficient but not significant. This study assumed that the inflation may or may not affect the economic growth however the result not found significant. Trade openness (TO) also negatively relate to economic growth but the result is insignificant.

In order to address the endogenity or data outlier's problem the further analysis was conducted by using two stage least square methods. Explanatory variable of Investment (INV) used as instrumental variable of BCP for creation of new variable because the past study analysis reveals that the banks willingness to lend is the key driver of fluctuation in corporate investment (B, J & Carrington, 2012).

Results of 2SLS depicts domestic credit to private sectors by banks (BCP), Market Capitalization of domestic listed companies (MC), Gross primary School Enrollment as proxy of human capital (PSE) are highly significant with positive coefficient. Whereas the trade openness found significant with negative coefficient which indicates negative impact on economic growth. The reason of this is that all the sample countries of Asia comprising on middle income level and the net trade in goods and services found negative except China and Malaysia. Volume of Imports is excess than exports of sample countries. Government consumption holds significant with negative coefficient estimates which adversely affects the economic growth.

The main findings of this study are as one percent change in banking sector development brings six percent change in GDP / economic growth and one percent change in stock market development brings two percent change in economic growth which is less than change brings by banking sector development but we may say collectively that the financial sector development have significant impact on economic growth of the eight Asian economies. Human capital accumulation and investment are the driving factors to economic growth in the region and government consumption is harmful to economic growth.

Thus therefore this study suggests that gross investment, market capitalization and credit to private sectors have positive impact on economic growth of eight selected Asian countries. The main findings of the study on the basis of the results are that banking sector and stock market development contribute towards economic growth of Asian economies. Economic growth causes to stock market development and credit to private sectors causes to economic growth. Human capital and investment is most relevant area for economic growth in the region because these two

indicators are serving as basis of growth in future. Results of this study are similar to earlier studies such as Levine and Zervos (1998) and Rousseau and Wachtel (2000) and Ngare and Misati (2014) who examined stock market development nexus economic growth and found positive impact of stock market development on economic growth. The results of the study are also consistent with the result of the latest study of Pardhan et al., 2014 who examined impact of both banking sector development and stock market development on economic growth. Although mixed results exist in the literature; however, this study finds that banking sector development and stock market development as well as other macroeconomic variables have significant role for boosting of economic growth of the region.

5.2 Recommendations

In view of the above results / findings it is recommended that the governments of Asian economies should focus further development / systemize of stock markets in their economies for gaining the trust of investors and additional economic growth. However, policy makers should be vigilant / and rationalize the government expenditure / consumption with the long term projects which creates more economic activities along with technological advancement in the region. Mobilization of savings with proper incentive to savers may serve as basis for productivity.

As the relationship between banking sector development, stock market development and economic growth in the Asian countries is positive. Governments of Asian countries should devise policies toward strengthening and developing the financial sector in the region. Some measures may also be taken such as systemization of the regulatory authorities for framing reliable regulation and supervision of the financial system. Strengthening of financial sector will be helpful for promoting

faster economic growth especially in developing countries of Asia. There is need for efficient allocation of financial resources and sound financial regulations of the banking system. Hence, the economies may be able to gain confidence of funds providers and these resources can be used for increase productivity in the economies. People should engage in banking and financial transactions by providing access to banking activities.

Well-developed stock markets being a part of financial development are necessary for economic growth in Asian countries. Reliable stock market system is indispensable to ensure the smooth functioning of the financial system and to increase the productivity of the economy as it is consistent with the views of Levine (1991) and Ngare (2014).

Government consumption and gross investment in productive / long run projects are also related macroeconomic development in these Asian countries. Attracting of foreign direct investment may facilitate for raising of capital in order to support the financing in stock market and banking sector which will lead to more economic activities.

5.3 Future Research Direction

In the light of above results, there is need to more studies / research in this valuable field towards the exact mechanism by which it influences economic growth. Proxies / indicators of financial development used in the literature may be changed in further studies keeping in view the educational level whether the masses of countries prefer to use the finance in informal ways or using services of financial intermediaries. Future studies that seek to compare Asia with other continent countries may be made where possible after including data of financial sector.

The countries of Asia may be increased with combination of developed and developing economies in order to analyze whether financial development impacts economic growth or economic growth impacts financial development keeping in view the comparisons of the financial system of the countries for assessing the overall economic condition of the whole Asian region being big contributor towards the world economics.

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