NEAR EAST UNIVERSITY

GRADUATE SCHOOL OF SOCIAL SCIENCES

BANKING AND FINANCE

MASTER'S PROGRAMME

MASTER'S THESIS

THE RELATIONSHIP BETWEEN THE STOCK MARKET, DOMESTIC CREDIT, FDI AND ECONOMIC GROWTH: EVIDENCE OF CHINA

PESHRA W MAJID MUHAMAD

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Thesis Defence

The Relationship Between The Stock Market, Domestic Credit, FDI and Economic Growth: Evidence of China

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DECLARATION

I hereby declare that:

This master thesis is the final product of my own work and has not been submitted before for any degree, examination or any related qualifications at any university or institution and ALL the sources I have used or quoted , have received due acknowledgments as complete references.

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DEDICATION

This study is dedicated to my supportive mother, Mrs. Gulizar and late father Mr Majid. I would like also express my deepest appreciation to my caring wife Lana, brother Peshawa, and sisters Nasik and Fenk, and my brother in law Kurdin who have been a source of inspiration to me during my whole life. I would like to express my deep feelings of gratitude towards my siblings and to the rest of the family for ever supportive of my academic endeavors. This is a glimmer of gratefulness for everything every member of my family have done for me. My mother's prayers are powerful and I owe all love, appreciation and gratitude to her.

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All things are possible to those who believe

ABSTRACT

The thesis examined the relationship between stock markets, banks and economic growth in China. It is inarguably that China is one of the fastest growing economies with a growth rate that surpasses that of United States of America. Existing strategies have placed hinted on the relationship between stock market, banks and economic growth as prime factors for the astonishing economic performance in China. Empirical literature has shown ~trong support of the relationship between stock market, banks and economic growth. Consensus however lacked in prior studies. Time series data from the first quarter of 1999 to thefirst quarter of 2015 was used to estimate stock markets, banks and economic growth parameters which were measured by share price index, domestic credit to private sector, foreign direct investment and gross domestic product. The parameters were estimated using the Vector Error Correction Model (VECM). The results further showed no proof of a long run relationship that runs from stock markets to economic growth and GDP.

Key terms: *Stock market, banks and economic growth*

ÖZET

Bu tez, Çin'de sermaye piyasası, bankalar ve ekonomik büyüme arasındaki ilişkiyi irdelemektedir. Tartışmasız Çin hızlı büyüyen ekonomilerden bir tanesidir. Çin'deki ortaya çıkan bu yüksek oranda ekonomik performansın yaratılmasında öne çıkan birincil faktörün sermaye piyasası, bankalar ve ekonomik büyüme ilişkisi üzerinde duran mevcut stratejilerdir. Yapılmış ampirik çalışmalar sermaye piyasası, bankalar ve ekonomik büyüme arasındaki ilişkiyi güçlü deliler ile desteklemektedir. Fakat önceki çalışmalarda genel bir konsensüsün varlığından söz etmek zordur. 1999 yılının ilk çeyreğinden 2015 yılının ilk çeyreğine kadar olan zaman serileri, hisse senedi fiyat endeksi, özel sektöre verilen yerel krediler ve yabancı doğrudan sermaye ve GSYİH parametreleri kullanılarak sermaye piyasası, bankalar ve ekonomik büyüme hesaplanmıştır. Bu parametreler VECM kullanılarak ölçülmüştür. Yapılan analizler sonucunda ekonomik büyüme ile sermaye piyasası arasında uzun dönemli bir ilişki olduğu ortaya konmakta ve sermaye piyasasından ekonomik büyümeye doğru bir ilişki varlığı bulunmaktadır.

Anahtar kelimeler: Sermaye piyasası, bankalar ve ekonomik büüme

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

ADF: Augmented Dickey-Fuller

DCPS: Domestic credit to private sector

FDI: Foreign direct investment

FRBL: Federal Reserve Bank of St Louis

GDP: Gross domestic product

SP: Share price

VECM: Vector error correction model

CHAPTER ONE

1.0 Introduction

The significant drop in oil prices spiraled across many nations and the effects were tremendously felt in oil producing countries. According to a report produced by CNN Money analysis of fact set data analysis (CNN 2015), more than 200 billion United States dollars was lost during the oil peak in 2015 and this sent the world market into a spin. To a greater extent, the plummeting oil prices sparked a stock market crash in China. According to a publication by the Telegraph (18 October 2015) the plunging oil prices dragged the Shanghai Composite down in its biggest one day in 2015.

During the same month, the Telegraph (18 October 2015) further revealed that Chinese stock market, Shanghai Composite plunged by more than 8.5% with estimated hundreds of billions being lost in market capitalization and this raised fears for banking and property companies (Economist 2015). Despite the continued fall in the Chinese stock market, banks continued to post significant and robust profit margins. This incident greatly differs from the notion postulated by Taylor (2009). Who strongly contended that negative stock market movements negatively affect banking outcomes. Though the China entered its second bear market, economic growth in China remained on a steady path and economic forecasts showed that the 2014 China's GDP growth rate fell from 4.6% in 2014 to 4.3% in 2015. This is consistent with the study done by Stulz (2001). Which outlines that downward movements in the stock market have adverse effect on the growth of the economy.

On the other hand, China remains one of the fastest growing nations with growth rates surpassing 4% (Trading economics: 2015) and this is being owed to the sound financial market which is able to harness the desired liquidity needed to bolster economic growth (Trading economics, 2015). Others contend that it is capital accumulation or investment based growth that is causing such a growth in economic performance (Acemoglu et al, 2009).

Little has been done to study pertaining to the relationship of stock market and economic growth in China. 4Thus this study therefore adds to the available few sources of knowledge pertaining to China by attempting to identify the relationship between stock market and bank's influence on economic growth.

1.1 Problem statement

According to a study done by Rouseseau and Watchel (2000), a stock market crash is usually associated with a fall in performance in the banking sector. This is however contrary to economic analysis and facts for China which showed that after the stock market crash of 2009, banks continued to post increase in profits. This is supported by Levine and Zervos (1998) who outlined that when liquidity in the banking sector is high the effect of a stock market crash can be minimized and this will cause an insignificant effect on economic growth (Greenwood, 1990). While, argues that high liquidity in the banking sector further heightens the crash as speculators seek to profit from the crash. This is also in line with a study done by Gale (1999) which showed that a stock market crash negatively influences economic growth. There is no consensus as to how exactly the stock market influences economic growth. Of great importance is the banking system in China and how it is influencing economic growth. Scholars like Guinance (2002), explain that combined effect of the stock market and the banking sector that significantly influences economic growth. However, studies done by Levine (1991) and Stulz (2001) showed that the banking industry and the stock market do exert separate effect on economic growth. This research therefore seek to define the connection between the stock market and banks on economic growth.

1.2 Research objectives

The main objective of this study is to examine the link amongst the stock market, banks plus economic growth under the endogenous growth model. Other purposes are hereby given below as follows;

- To determine the effect of the stock market and banks on China's economic growth.
- To explore stock market practices and banking policies that can be used to positively influence China's economic growth.

1.3 Research questions

This study will therefore endeavor to answer the following questions;

- What is the link between the stock market, banks and China's economic growth?
- What is the effect of the stock market and banks on China's economic growth?
- How can stock market practices and banking policies be used to positively influence China's economic growth?

1.4 Hypothesis

The following hypothesis will be tested;

H_0: There is no significant relationship between the stock market and economic growth.

H_1: There is a significant relationship between the stock market and economic growth.

H_0: There is no significant relationship between banks and economic growth.

H_1: There is a significant relationship between banks and economic growth.

1.5 Methodology

A Vector Error Correction Model (VECM) approach will be used to provide answers to the research questions and test the given hypothesis. Thus secondary time series data for China collected from Federal Reserve Bank of St Louis (FRBL) Statistics will be used to aid in data analysis.

1.6 Importance of the study

This study is of significant importance because numerous studies have focused on oil manufacturing countries, Middle East and North Africa (MENA) section where stock market activities and banking developments have dramatically progressed. Such studies if applied to the Chinese economy, may fail to provide concrete explanations of the link between the stock market, banks and economic. Thus this thesis will be one of the few that adds to the available spheres of knowledge in the area of banking and finance and particular to the Chinese economy. In addition, stock market activities and banking developments are still evolving. This leaves a study gap and thus there is greater need to continually add to the few available banking and finance sources of knowledge that relate to the Chinese economy.

1.7 Organization of the study

This study is structured into six chapters. The first chapter one outlines the context of the problem. Theoretical concepts and empirical issues are addressed in chapter two. Chapter three deals with the general background of the Chinese economy and stock market; while chapter four outlines the methodological steps that were used to gather the necessary data, analyse and present it. On the other hand, chapter five is based on data analysis and discussion of the obtained results. Chapter six concludes this chapter by looking at recommendations, suggestions for future study and conclusion.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section seeks to look at both the theoretical and empirical frameworks that can be used to explain both the relationship and impacts of the stock market, banks and economic growth. The chapter will thus look at contrasting theories about financial improvement and economic growth, and stock market and economic growth in order develop deeper insights about the relationship between stock market, banks and economic growth in China.

2.2 Financial development and economic growth

Theories of economic growth and financial development are alternative suggestions to growth theories that focus on the link between technology and economic growth. Other growth theories such as the Solow growth model theory specifically point that in order to boost economic growth technology has to be used as the main tool. Thus neglecting the role that is played by the financial sector towards promoting economic growth. This idea is supported by Lucas (1988) who strongly contends that a sound economic performance can be achieved without a significant technological role. Thus theories of financial development and economic growth seek to analyze channels that the financial utilizes in effecting positive contributions towards economic growth. Therefore the best explanation of how financial institutions pose an effect on economic growth is best understood by examining the functions of financial institutions known as the functional approach.

2.2.1 The Functional approach

The functional approach is an analysis of the functions of financial institutions. The emergence of financial institutions takes its toll in the idea that transaction and information costs are the main drivers of the proliferation of financial institutions. Gerald Debreu (1964) outlined that information asymmetry propels individuals to search for information so as to be in apposition to make sound decisions. The idea behind the Gerard Debrou framework (1959) is that lack of information is associated with high risk and as a result, individuals and corporations will expend resources towards acquiring new information. This may involve product and market research, project analysis etc. Information asymmetry is thus associated with high transaction costs and financial institutions are one way of alleviating such costs. The difference between the types of financial institutions whether banks, finance houses or stock markets is as a result of the differences in financial agreements and scope of objectives of the institutions. The main function of financial institution is thus said to be amelioration of information and transaction costs.

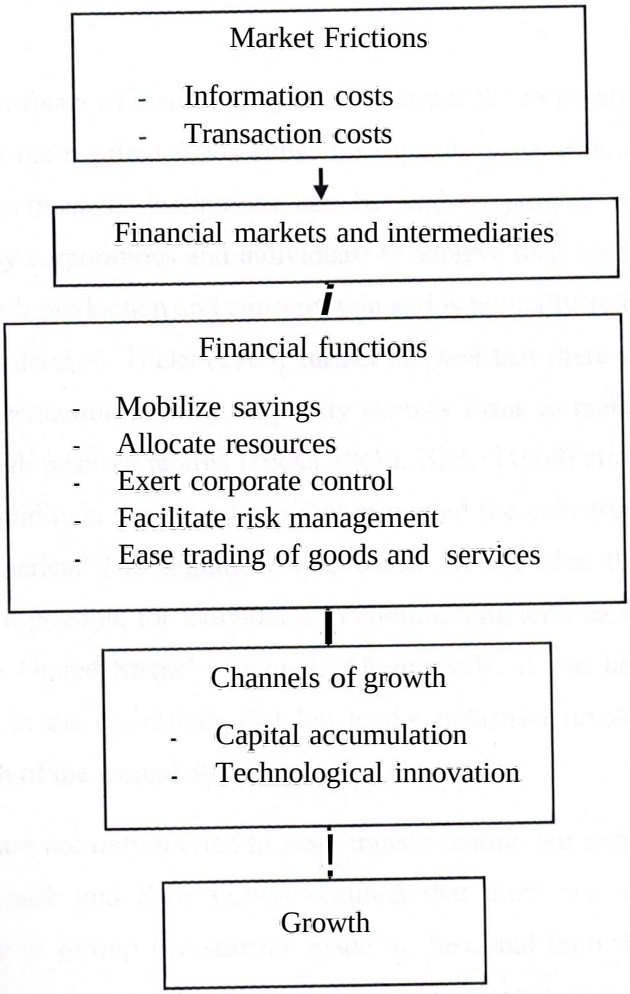
2.2.1.1 Amelioration of information and transaction costs

Merton and Bodie (1995) argued that financial institutions help in the allocation of an economy's resources by determining the most profitable use of the resources. In doing so, financial institutions are assumed to ameliorate both information and transaction costs thereby reducing uncertainty. Besides the allocation of resources, Merton and Bodie (1995) further outlined that financial institutions assist in pooling of risk, diversification, hedging, trading, interchange of services and goods and mobilize reserves. The channel of financial development and economic is indicated in figure 2.1.

As shown in figure 2.1 that the relationship between financial institutions and economic growth stems from market frictions which give rises to the emergence financial institutions which step in on the market by undertaking several functions that address market frictions. As a result, financial institutions facilitate capital accumulation and technological innovation.

Aghion and Howitt (1992) postulate that it is financial functions that pose an influence on economic growth. The notion being that financial institutions affect both capital accumulation and technological innovation. The ability of financial institutions to mobilize savings which are needed by firms to expand their operations and meet customer demand. Thus by accessing those savings in the form of loans or investments, firms can acquire new technology and innovate their production process. Thus more capital is accumulated and this cause the economy to move to a higher steady of the Solow growth model. Financial institutions also help customers to purchases produced products and therefore making economic growth self-sustaining.

Figure 2.1 Channels of financial development and economic growth



Source: Levine (1997)

It can be observed from the above analyses that risk amelioration also incorporates idiosyncratic and liquidity risk. It can be established that for an economy to be able to respond to changes in economic activity, it must be swift and easy for both domestic firms and their government to convert their assets into a means of payment or purchasing power. Thus liquidity risk can be a major hindrance to economic response to economic activity and events such as shocks. Liquidity is often used to show economic growth. Levine (1997) findings indicated that there is a positive association between liquidity and economic growth. This was reinforced by results from the study in which Levine (1997) showed that the Nigerian Stock Market was less liquid compared to the United States' Stock Market. Liquidity was discovered to be negatively related to uncertainty and hence the ability of the asset to serve as a medium of exchange is diminished.

Levine (1997) asserts that financial institutions make it cheaper for corporations to trade and hence they can raise the required funds either for capacity expansion or venturing into new markets. Thus financial institutions can be said to provide the financial leverage that is needed by corporations and individuals to achieve their objectives. This has positive effects on both production and consumption and is normally associated with an increase in aggregate demand. Hicks (1969) further showed that there is a positive link amid liquidity and economic activity. Liquidity enables firms to make long term investments that yield high positive returns (Hicks 1969). Hicks (1969) strongly argues that improvements in liquidity is the main force that promoted the industrial revolution in United States of America. The argument was based on the idea that financial institution greatly made it possible for individuals to commit long term capital and was hugely injected into the United States' economy. Alternatively, it can be stated that liquidity transformation is the key factor that led to the industrial revolution which spurred economic growth of the United States' economy.

The effects of liquidity are not only limited to asset transformation but rather extend to production decisions. Smith and Starr (1995) outlined that there are technological processes that take time to recoup investments made in them and individuals do not normally prefer to hold investments whose returns have a long gestation period. This is

witnessed by significant changes in ownership of securities on the secondary market. Smith and Starr (1995) posit that the more difficult it is to change ownership, the higher the costs of trading on the secondary market and that it negatively affects production decisions. In this case, individuals will be reluctant to undertake long term investments which are costly and time consuming to convert into purchasing power. Therefore firms will have challenges in investing in technology whose returns are huge. Thus their production decisions are affected and this also poses severe negative impact on long term growth.

Diamond and Dybvig (1983) formulated a model that showed that economic growth and savings are completely associated to liquidity risk. Other studies have shown that liquidity possibility is positively associated with investment (Levhari and Srinivasan 1969). Levhari and Srinivasan (1969) posit that the level of national savings is moves along with the rate of return as both the substitution and income effect set in. Substitution and income effects tend to influence economic activity and economic growth responds to changes in both the substitution and income effects.

2.2.1.2 Allocation of resources and providing information about investments

Carosso (1970) expressed that economic activity revolves around the ability to acquire information at a relatively low cost. Carosso (1970) suggested that it is time consuming for savers to acquire information and investors do not invest in activities that are surrounded by uncertainty. Consequently, savers and investors must bear fixed costs of acquiring information and the ability to save and invest hinges on their willingness to bear the fixed cost of acquiring information. This has implications on capital flows. Greenwood and Jovanic (1990) adage that financial institutions result in an efficient allocation of financial resources to more productive individuals and sectors. King and Levine (1993) contend that financial institutions can evaluate the investments that have potential to result in high output, returns and new products. By providing information about market related activities, stock markets and banks resultantly lead to an improvement in resource allocation which has positive implications on economic growth.

2.2.1.3 Mobilizing savings

Scale problems can set when the required funds are not accessed and this restricts production. Sirri and Tufano (1995) established that financial institutions can create instruments of different sizes that meet individual financial needs of different amounts. Notable effects can be witnessed when funds are raised on the stock markets especially for startups. Stock markets can facilitate expansion inn capacity and the starting up of new entities. Employment levels in the economy will rise along with the amounts of funds raised on the stock market especially when the purpose of the issue is capacity expansion and setting up a new entity. This idea was supported by Sirri and Tufano (1995) who exhibited results that showed a positive association between stock market traded value and employment levels. The increase in employment levels will cause an outward shift of the economy's production possibility curve, denoting economic growth. It can thus be established using the above logic that the improvement of commercial institutions is positively related to economic growth. The other channel through which mobilizing savings can effect a change on economic growth is through capital accumulation. Thus new and advanced technology can be acquired and thereby further boosting economic capacity to produce more output.

2.2.1.4 Facilitating exchange

It is of significant importance that financial institutions facilitate exchange of goods and services within an economy. The notion is based on the concept that financial institutions provide the necessary purchasing power that enables both individuals and corporations to acquire produced products. Levine and Zervos (1998) strongly asserted that financial institutions represent a mechanism that allows firms to produce output which is need for consumption both in the domestic and international markets. As that output is produced, financial institutions provide a means of acquiring the purchased output. They also provide a mechanism by which the produced products can be transported to the international market (Sirri and Tufano, 1995). In addition, it can be established that by enabling trade of goods and services, financial institutions allows individuals, firms and economies to specialize in the manufacture of those products and

services in which they have a comparative advantage. This will cause innovation and investments which result in mass production as more and more specialization is undertaken at higher and improved levels.

2.3 Other theories of finance and economic growth

It is apparent that there are no theories that can provide a concrete evidence of the correlation between economic growth and financial development. The reasons being that markets, financial contracts and structures are different and change as one moves from one country to another. La Porta (1996) argued that different countries have different resource endowments which are being utilized at different rates of efficiency. Thus it can be difficult to deduce the exact relationship between financial development and economic growth. On the contrary, arguments put forward suggest thatn that financial development does not Granger cause economic growth. Possible suggestions economic growth is the one that stirs financial development (Engerman and Sokoloff, 1996). Other reasons suggest that entering into a financial market is associated with relatively high costs and that financial markets are difficult to penetrate (Greenwood and Jovanovic 1990). Cross country studies were undertaken to provide insights about the relationship that exist between financial development and economic growth. For instance, Goldsmith (1969) examined 35 countries using times series data that ranged from the period 1860-1963. Granger causality tests were applied to determine the nature and direction of causality. It was discovered that high economic growth was associated with a high rates of financial development.

Other panel studies were conducted citing weaknesses in Goldsmith's (1969) study. Of notable change is a study by King and Levine (1993) which examined a cross section of 80 countries and cited methodological limitations in Goldsmith's (1969) study. King and Levine (1993) strongly argued that the study by Goldsmith's (1969) does not incorporate the essential determinants of economic growth. Proceeding studies went on to include market capitalization, domestic credit to private sector, financial strength. Stock traded value and stock traded turnover as independent variables (Easterly 1993, Pagano 1993 and Roubini and Martin, 1992).

2.4 Stock market and economic growth

Ideas concerning the association between stock markets and economic growth always diverge. For instance, Mayer (1989) and Stiglitz (1989) viewed that stock markets have no significant relationship with economic activity. These studies among other refute that a positive association exist between stock markets and economic growth. Foremost, they refute the concept of diversification. The basic idea is that stock markets enable investors to diversify and if not so, investors are unwilling to undertake risky investments. Arguments are that stock markets may not promote economic growth because securities may be overpriced and thus their issuing becomes conditional to pricing. When equity is overpriced, investors usually shun overpriced equities and this may deter production decisions which negatively affects economic growth (Haris and Raviv, 1991).

It is also contended that the ability of investors to diversify is determined by the availability of efficient capital markets. Haris and Raviv (1991) argued that capital markets are not always efficient and that they are surrounded by a lot of complexities and rigidities.

It also strongly argued that stock markets have inherent problems of moral hazard and thus managers may act in a way that maximizes their gains especially when they hold a stake in the fırın. These limitations are said to hinder the efficiency of stock markets. It can be concluded that stock markets are able to effect positive effects on economic growth when they are.efficient. The efficiency of stock markets is determined by their ability to reflect all the available information.

2.5 Empirical literature

Levine and Zervos (1998) considered the practical relationship between stock market developments, investment developments and economic growth. Their study findings indicated that bank development and stock market liquidity are significantly and definitely related to long run economic growth. The results further revealed that there is a difference between the type of financial services that are provided by banks and those that are provided by stock markets.

Diamond (1984) and Williamson (1986) established models were agents and financial intermediaries would lower information costs about firms. King and Levine (1993) applied these models and found that by lowering information costs, financial institutions can promote an efficient allocation of resources thereby enhancing technological innovation and long run growth.

Rioja and Valev (2009) undertook a study on how stock markets and banks are affected by economic growth and generation of capital. They used the GMM model to analyze country panel statistics from the period 1976 to 2004. The results revealed that banks had an effect on capital growth while stock markets had an effect on productivity. Their study further revealed that in countries with minimum income, credit in banks is the main source of economic growth and that stock markets do not significantly influence either productivity growth or capital accumulation. The results however showed that in high income countries, stock markets and banks do independently effect capital development while productivity was positively related to stock market financing.

Naceur and Ghazouni (2006) examined the correlation of stock markets, banks, and economic growth in the MENA region. GMM estimators were used to estimate the panel's model. The findings showed no significant correlation between stock markets, banks and economic growth. When controlled for stock market development, the results further showed that there is an inverse association amongst economic growth and bank development.

Levine and Zervos (1998)~ further analyzed the relationship between stock markets, banks and economic growth suing Granger Causality and cointegration. The study showed that bank development and stock market liquidity had a positive impact on both capital accumulation, productivity improvements and growth. Their results confirmed the idea that financial markets provide essential services that foster growth that the size of stock markets, their instability and worldwide incorporation are not significantly linked to growth.

Aretis et al (2001) carried out a research on five developed economies and assessed the relationship amid stock market development and economic growth utilizing Granger

Causality and cointegration techniques. Their research used quarterly time series data and controlled the effects of market volatility and banking system. For Germany, the results showed that there is a negative correlation between economic growth and banking development. Meanwhile, the results for Japan also showed a negative association between economic growth, banking development and stock market. The study further exhibited that together banking development and stock market contribute to economic growth, banking development had a significant contribution to real GDP compared to the stock market.

In another research paper by Capasso (2006), the author examined twenty four innovative OECD countries and used a VEC model to investigate the connection between stock market development and economic growth. Findings showed a significant positive relationship between stock market developments and economic growth. It was also deduced from their study that the size of the economy and the amount of capital accumulation have an important bearing on the emerging and improvement of stock market.

Dritsaki and Melina (2005) employed a trivariate VAR model to analyse the relationship between stock and credit market; and economic growth in Greece. Using monthly time series data, their study produced results supporting a positive causality between stock market and economic development, and negative causality between banking improvement and economic growth.

Handa and Khan (2008) used time series statistics of thirteen countries to determine the connection between financial expansion and economic growth. They used the Johansen and VEC model and established that there is no causality that existed between financial development and economic growth in one of the countries while the rest showed a positive causality between fiscal development and economic growth.

Zang and Kim (2007) used panel information to analyze the nature of connection between financial development and economic growth. Their study also used Sims-Geweke test to test for causality and the results reveal that financial growth emanates from economic growth. In their study they undertook a sensitivity analysis to regulate

the soundness of their results and the results still showed that economic growth leads to financial development and were unlike the one proposed by Levine et al. (2000).

King and Levine (1993) examined 18 countries using time series information from the 1986-1992. They used market capitalization, number of stock listed, stock value traded and stock turnover as variables. The study used correlation rank to rank the variables according to economic growth and development measure. A similar study was conducted by Dermiguc-Kunt and Levine (1993) and also used 18 countries and the correlation rank technique. Findings indicated that a progressive correlation exists between stock market developments and economic growth.

Hasan et al. (2007) examined the linkage between financial development and economic growth in Islamic countries. The study covered the period 1980-2005 and used VAR method to examine the linkage between financial development and economic growth. The results showed that there is a positive association between economic growth and financial growth. Granger causality test showed that the linkage spans from economic development to financial growth.

Calderon and Liu (2002) used a standard regression method to study the relationship concerning stock market and economic growth. One hundred and nine countries were used and it included developed and developing countries. The results showed proof of a bidirectional effect between stock market and economic growth. A similar study was done by Luintel and Khan (1999) but took a different twist and used a sample of 10 countries. Finding indicated a strong support of the study by Calderon and Liu (2002) and concluded by establishing that bidirectional causality exists concerning stock market and economic growth.

Hannson and Jonung (1997) used co-integration analyses to inspect the stock market developments and economic advancement in Sweden from the period 1830-1990. The study used total investment per capita, domestic credit to private sector. Study findings showed that the relationship is affected by the number of variables used in the model but a significant impact was observed during the period 1890 to 1939.

Rousseau and Wachtel (1998) undertook a study based on USA, Canada, UK, Sweden and Norway using period series figures from the period 1871 to 1929. A combination of VEC model and Granger causality test was employed in the analysis. The variables used are GDP, ratio of corporate stocks to corporate bonds and size of the financial institutions. The results showed confirmation of a positive association between economic development and financial growth.

Andres, Hernando and L6pez-Salino (1999) analysed the relationship between stock market, banks and economic growth in 21 OECD countries from the period 1961-1993 using Unrestricted VAR models. The variables included market capitalization, stock traded, stock traded turnover and domestic credit to private sector. The results showed support that market capitalization has significant impact on economic growth.

Beck, Levine and Loayza (2000) undertook a cross sectional study of 63 countries from the period 1960-1995 and used dynamic panel and cross-country regression estimator. A positive and significant impact was observed for banks while the impact of capital accumulation and savings is not significant. Similar studies were conducted by Singh, Singh and Weisse (2000) and the estimation method involved cross country regression estimation. The results are in support of the results by Beck, Levine and Loayza (2000).

Other studies adopted VEC model to analyze the linkage between stock markets, banks and economic development. For instance, Bassanini, Scarpetta and Hemmings (2001) analysed 21 OECD from the periods 1971-1998. Local credit to private sector, marketplace capitalization and liquid liabilities were adopted as variables. It was observed from the results that all the variables were positively and significantly related to economic growth. This is supported by the results by Leahey, Schich et al. (2001) who analyzed 19 OECD countries using the same context from the period 1970-1997. The results showed strong support of the results by Bassanini, Scarpetta and Hemmings (2001) and concluded that stock markets and banks have a significant impact on economic growth. This is contrary to the study by Shan, Morris and Sun (2001). Shan, Morris and Sun (2001) used time series data to analyze the linkage amongst stock

markets, banks and economic growth in 9 OECD countries and the results showed that a adverse correlation between stock markets, banks and economic growth.

2.6 Chapter summary

This chapter has looked at the both the theoretical and empirical background behind stock markets, banks and economic growth. The functional approach was used to analyse both the relationship and impacts of stock markets and banks on economic growth. The functional approach asserts that the relationship stock market, banks and economic growth stems from the functions that are undertaken by financial institutions. Despite its strengths, this model was found to be having shortcomings and these included moral hazard, absence of complexities and rigidities, over pricing of securities. Empirical studies have provided insights about the association between stock markets, banks and economic growth. A substantial number of research have shown that there is a positive relationship between stock markets, banks and economic growth but a few have shown negative results. These studies have however differed about the causality of these factors such as does stock market granger cause financial development or does financial development granger cause stock market or does stock market granger origin economic growth or vice versa. This study therefore seeks to further ascertain the relationship and impacts of these indicators with regards to China.

Table 2.2: Summary of empirical studies

STUDY	METHODOLOGY	VARIABLES	RESULTS	COUNTRY
Rioja and Valev (2009)	GMM	economic growth, stock and banks	Banks and stock market variables have independent effects on capital accumulation. A unilateral association between productivity and stock market	country panel
Naceur and Ghazouni (2006)	GMM	Economic growth, stock markets and banks	Bilateral association exist between economic growth and bank development	MENA region
Levine and Zervos (1998)	Granger Causality and cointegration	economic growth, stock markets and banks	Bilateral association exist between capital accumulation, bank development and growth.	USA
Aretis et al (2001)	Granger Causality and cointegration	economic growth and stock market development	Banking development positively impacts growth.	5 developed economies
Capasso (2006)	VEC model	stock market developments and GDP	There is a positive linkage between GDP and stock market developments.	24 advanced OECD countries
Dritsaki and Melina (2005)	trivariate VAR model	stock and credit market; and economic	GDP and stock market positively	Greece.

		growth	influence development while and a negative relationship exists between GDP and banking development.	
Handa and Khan (2008)	the Johansen and VEC model	financial development and GDP	financial development and economic growth are positively related	Panel of 13 countries
Zang and Kim (2007)	Sims-Geweke test	financial development and GDP	economic growth causes financial development	Panel
King and Levine (1993)	correlation rank technique	stock turnover, stock value traded and market capitalization and number of stock listed	economic growth causes financial development	cross sectional examination of18 countries
Dermiguc-Kunt and Levine (1993)	Correlation rank technique.	Stock turnover, stock value traded, capitalization and number of stock listed.	economic growth causes financial development	Panel of Islamic countries.
Hasan et al. (2007)	VAR method	financial development and GDP	economic growth causes financial development	Developed and developing countries
Calderon and Liu (2002)	Standard OLS	stock markets and GDP	There is a negative relationship between stock market and economic growth.	Developed and developing countries
Luintel and Khan (1999)	Standard OLS	stock markets and GDP	There is a negative relationship	Developed and developing

			between stock market and economic growth.	countries
Hannson and Jonung (1997)	Co-integration Analysis	Investment per capita, GDP per capita and total Total lending bynonbank public per capita,	The variables have a joint effect on economic growth and the period 1890-1939 had significant impacts.	Sweden 1830-1990
Rousseau and Wachtel (1998)	VAR	Real per capita output growth, ratio of sum of financial institution assets, corporate bonds to total financial assets, ratio of financial institution assets to output, corporate stocks	Unidirectional causality from finance to growth	Countries (USA, CND, UK, SWE, NOR) 1871-1929
Andres, Hernando and López-Salino (1999)	cross-country growth regression and VAR	Inflation, real per capita output growth, Liquid liabilities and credit to non-financial sector of the banking sector, stock market capitalization in relation to GDP	Market capitalisation Significant impact on growth	Panel analysis covering the periods 1961-1993 of 21 countries.
Beck, Levine and Loayza (2000)	Cross-country regression and dynamic panel Estimator.	Legal origin indicators as instrument to extract	Banks have a significant Positive impact on real	63 countries, 1960-1995

	Expenditure	exogenous component of financial intermediation, Real output growth, TFP growth, saving ratio, physical capital accumulation,	GDP.	
Singh, Singh and Weisse (2000)	Cross-country Regression	Stock market capitalization, turnover, ICT indicators: mobile phones, PCs, internet hosts, high-tech exports number of listed companies	No robust relation of stock markets with ICT developments when controlled for number of scientists and researchers.	63 developed and developing countries in 1990s
Bass anini, Scarpetta and Hemmings (2001)	pooled mean group estimators and VECM	liquid liabilities, private credit from deposit banks, stock market capitalization,	all financial variables are significant for pooled mean group estimator,	21 OECD countries 1971-1998
Leahey, Schich et al. (2001)	Error correction panel Regression	liquid liabilities, private credit from deposit banks, stock market capitalization,	all financial variables significant for pooled mean group estimator,	19 OECD countries 1970-1997 for bank variables, 16 OECD
Shan, Morris and Sun (2001	Granger no-causality test in VAR model.	Bank credit to GDP,	bidirectional causality that runs from growth to finance for 3 countries, no causality for	90ECD countries

			the remaining 2 countries.	
Rousseau and Wachtel (2001)	Cross country Regression	Total credit to GDP, M3, M3-Ml	Financial variables have high significant positive but becomes insignificant as inflation increases	84 countries, 1960-1995
Rousseau and Sylla (2001)	Cross country Regression	Broad money and GDP	Financial development is essential for Development.	17 countries, 1850-1997

CHAPTER THREE

GENERAL OVERVIEW OF THE CHINESE ECONOMY

3.1 Background to financial development

The term financial development refers to an interplay of factors and policy initiatives in an economy so as to influence a change on financial intermediation and the performance of financial markets. Various reasons are thrust into the limelight about the core importance of financial development in an economy. For instance, Adna (2008) unveiled that financial development is critical for the availability and accessibility of funds in an economy. Adna (2008) argued that a sound financial system results in an efficient allocation of capital and great maneuvers towards risk diversification. Consequently, the level of financial development is synonymous with the ability to mobilize savings and allocate funds towards projects with a significant capacity generate high returns. It is inevitable that financial systems are an important element of an economy. This can be evidenced by growing concerns around the world about the increasing complications that are being experienced in the financial sector. Of notable effect is the stock market crash that wreaked havoc towards the end of the year 2015. Levine (1993) reckoned with the idea to place emphasis on the importance of financial development contending that the resultant outcome towards economic growth is significantly positive and substantial.

There are numerous indicators that can be used to ration the level of financial improvement. These pointers include soundness, access, size and depth of the financial system. Financial development indicators also extend to incorporate activities and performance of banks, financial institutions, and bond markets. Thus, it can be deduced that the availability of financial services moves a parallel direction with the level of financial development

Benefits attributed to financial development are not limited to high returns for less risk but also aid in eliminating market frictions that are posed information asymmetry. This is essential because information asymmetry tends to hinder the level of financial development (Antzoulatos, 2008)

3.2. **Determinants of Financial Development**

The factors of financial development can be broadly classified into two distinct groups in which the first group includes size, access, and depth of the financial systems. On the other hand, the second group comprises of political, social and legal frameworks of the associated economy. The two groups are herein discussed below.

3.2.1 Institutional Environment

The institutional environment determines the stability and performance of the financial system. The term institutional environment refers to the supervision, laws and regulations that is directed upon a financial system by an economy's monetary authorities. Such frameworks are essential so as to curb of a prevalence of dysfunctional institutions.

Dysfunctional institutions can impose severe restrictions in a financial system (Herger et al., 2007). It is contended that economies that have attained institutional stability in the operating environment are in a better position to safeguard an investors returns and this tend to promote increased levels of financial improvement (La Porta et al, 1997).

According to Barth et al. (2007), institutional stability can be attained by constantly monitoring the trends and performance of the financial system. This can be achieved through the use of certified international auditors. It is suggested that in order to attain high levels of financial development. Other measures may include the adoption of newly instituted Basel standards. Monetary authorities can also engage in contract enforcement initiatives so as to safeguard the interests of both parties. Some studies are advocate for capital account liberalization, (De la Torre et al 2008). Others do place emphasis on domestic financial liberalization and capital account openness so as to extend the financial depth of the system. (Financial depth refers to the availability to money in any form, i.e. cash or assets, mutual funds, bonds, etc). Benefits of expanding financial depth

take manifestation in the form of increased financial mobilization and intermediation among savers and investors (Fitzgerad 2007).

3.2.2 Business Environment

The business environment offers both opportunities and challenges to financial institutions. As such, will come in the form of business costs, infrastructure and technological advances, and skilled workers. It can be noted that skilled workers are necessary for quality improvements in the financial sector (Outreville, 1999). This is reinforced by study results by Outreville, (1999) which have established that there is a positive linkage between financial development and the human development index.

The ease of doing business in an economy can be ascertained by costs of doing business. High costs of doing business mean that the strength of doing business is very weak (Beck 2006).

3.2.3 Financial Stability

Though financial stability is highly preferred in any economy, studies have shown that it represents a tradeoff between returns and risks. However, the soundness and stability of a financial system is crucial for gauging financial development. This can, therefore, call for financial regulation of the financial system are a key element in this regard. Financial regulation strives to shield customers from systemic risks which can cause a series of effects that can result in the collapse of the entire financial system. Moreover, financial regulations guard customers against unscrupulous dealings by financial institutions. Lastly, it helps to intensify the efficiency of the financial system but must not be excessive if so may curb financial development initiatives (Herring 2000).

3.2.4 Banks and Non-Banks

A stable financial institution is said to be composed of a mixture of banks and non-banks financial institutions. On the other hand, banks are an important tool for financial development. Solely banks cannot guarantee astonishing financial and economic performance and hence emphasis must also be placed towards financial markets.

3.3 **Measures of Financial Development**

There are several criteria that can be used to measure financial development. A studies by Huang (2005) exhibited that financial development can be measured in three distinct ways. Measures by Huang (2005) include banks overhead costs, net interest margins and liquid liabilities. Antzoulatos et al (2008) examined four classes that can be used to establish financial growth keys and these are financial institutions, stock market and banks. The types of measures tend to vary with the scope of the study and the availability of data but they are not restricted in numbers and types (Antzoulatos et al., (2008).

3.4 Background of the Chinese economy

Due to the economic modifications established in 1978, China has become one of the leading economies in the world. It is has a very large manufacturing base that includes industry as well as construction. The sectors contribute the highest to the country's GDP. However, globalization has allowed as shift resulting in the tertiary sector contributing a lot to the country's GDP. This is seen in the year 2013 when tertiary sector attributed 46.1 % as compared to the secondary sector 45%.

During the financial crisis in 2008, China managed to stand on her feet to withstand the situation. A number of strategies were implemented, one of them being the stimulus package of USD585 billion that would protect the country from an economic meltdown. This prompted economic growth by inducing more than foreseen investment projects. The results were outstanding because the country managed to escape the financial crisis. Benefits experienced from this strategy were low inflation rate, stable fiscal policy and an increase in GDP by 9%. The table below the key statistics and indicators of Chinese economy

Table 3.1: China's Key Statistics and Indicators

Country	GD Pa (PPP)b 2000$bn	Share of World total (%)	GDP (current prices) 2000 $bu	Share of World total (%)	Difference in share (PPP-current)	Population	GDP per capita (current market price)
China	5,230	12,59	1,080	3,59	9,00	1,266.80	852
aGDP represents gross domestic product bPPP represents purchasing power parity							

Source: South African Institute of Internal Affairs (2013)

From the table above it can be noted that China has very good economic indicators with GDP per capita of $5,230bn and $2.104bn respectively. China's influence in terms of economic contribution has been a force to reckon on. Figures above highlight that Chinas economy is stable and growing.

Despite economic setbacks that have experienced on the world market, Chinas economy continued stay on the positive end unlike other countries. This can be evidenced by substantial increases in both global and market share GDP. China was classified as the second greatest economy in the world. This is expressed below;

Table 3.2: China's GDP-share to the world economy

Country	Rank in world	GDP (PPP bn)	GDP($ bn)		Share in world GDP (%)		Per capita GDP($)	
			1990	**2010**	**1990**	**2010**	**1990**	**2010**
China	2	10,086	390	5,878	3,9	13,6	341	4,382

Source: South African Institute of Internal Affairs (2013)

The table above it can be seen that China's GDP has been on an upward trend rising from $390bn in $5 878bn in 2010 while its share in world GDP rose from 3.9% to 13.6% during the same period.

3.5 The Chinese banking sector and financial development

The Chinese banking sector has been going through a series of changes with the most notable change being the level of financial liberalization that is now being viewed to be a close reflection of Western economies (Business Review, 2015). It is reported that during the period 1950, all independent financial corporations were nationalized to form the Central Bank of China, the People's Bank of China (PBoC). Despite the establishment of four major commercial banks that were under the Chinese state control, the PBoC remained a major player in the Chinese economies. Monetary policy implementation was duly conducted by the PBoC.

The most significant feature of the Chinese banking sector is that it is heavily regulated and remains under government control. As a result, city commercial banks, subsequent tier commercial banks, the Big Four and the Central Bank are the major figures of the Chinese banking sector. It is in this regard that China joined the World Trade Organization (WTO) with an emphasis to promote the growth of domestic business. The affiliation of the Chinese economy into the WTO saw foreign owned financial corporations being given the green light to disburse financial resources denominated in the Chinese Yaun. This also extend to the whole Chinese economy and thus foreign institutions were no longer limited in scope of provision of their services. This consequently resulted in major banking changes being introduced. For instance, the number of public listings began to soar and International accounting standards were adopted by domestic banks. Initial public offerings by both foreign owned banks, government owned banks and commercial banks were allowed to be done at free will so as to boost confidence in the sector and attract more players.

Meanwhile, the Central Bank of China is accountable for monetary policy related objectives, and regulating the foreign exchange market. It is estimated that the PBoC holds the largest reserves in the world with reserves amounting to $US3201 trillion

(Business Review, 2015). With a series of financial misconducts that rocked the Chinese financial sector, the china's Banking Regulatory Commission was thrusted with a mandate of overseeing banking activities. This was done so as to curb acts of misconduct, fraudulent and imprudent financial behaviours.

Fiscal policy initiatives have remained in the hand of the Ministry of Finance and the Ministry of Finance oversees all national investment projects and has a stake in a significant number of financial institutions.

The Chines banking sector is hugely dominated by what are known as the Big Four Banks. These Big Four Banks comprise of China Construction Bank, the Agriculture Bank of China, Industrial and Commercial Bank of China and the Bank of China. The dominance of these big four banks extends to both banking assets and loans with ownership of 80% and an estimated total of 67% respectively. The Chinese banking sector has also what are known as second tier commercial banks and these are either partially or wholly owned by the government.

3.5.1 New policy paradigm

In 2014, PBOC introduced a list of monetary policy changes indicating a shift by the central bank towards liquidity management. This was followed by another recent shift towards an informal banking model. This has seen relaxation of market control instruments thereby allowing more access to finance and capital markets. However, internalization efforts have grown since the period 2012 and the Chinese government now advocating for establishment of an RMB offshore liquidity so as to improve transparency in offshore liquidity activities (PWC, 2015). Such initiatives are viewed as a new stance towards policy making and ever since, money supply is no longer being regulated in response to export promotion capital inflows. China can thus be said to be in search of a model that will guarantee economic stability and sustainability (PWC, 2015).

3.5.2 Rising risk profiles

During 2014, credit assets issued in China have significantly deteriorated (PWC, 2015). It is estimated that total non-performing loans (NPLs) registered a total of USD 123.9bn (RMB 766.9bn) in 2014. Policy makers in China are said to have failed to curb the

soaring non-performing loans. Thus established liquidity management efforts are contended to induce restrictive measures towards limiting NPLs. However, bad debts continued to rise despite the instituted policies to curb them. A significant number of banks China are pessimistic about the bad debt situation but have thrust their trust in top-tier borrowers for counter measures. Confidence remained so high that the Chinese government will continue to institute policy measures that will result in improvements in risk profiles (PWC, 2015).

3.5.3 Interest rate liberalization

A number of new challenges are said to be rocking China's sector and financial institutions are now encountering new difficulties that are being posed by variation in innovation of technology and financial products. With internet powerhouses like Tencent and Alibaba enlarging their dominance in the Chinese market, banks in China are losing in terms of deposit fees to internet firms and this is affecting China's banking sector (PWC, 2015). Thus the growth in internet financing is said to be an opportunity to those that are reaping huge rewards and a challenge to banks that have not positioned themselves to incorporate such developments.

3.5.4 Deteriorating credit quality

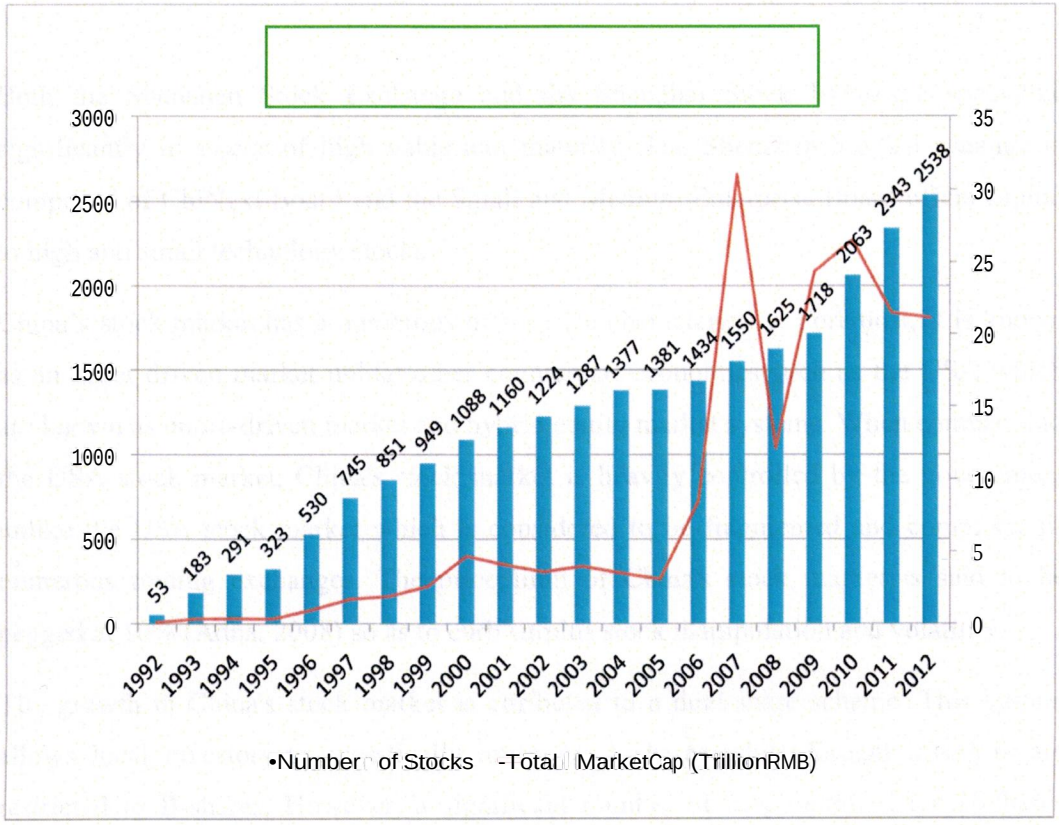
The quality of bank assets owned by Chinese banks has declined in quality in response to the economic events that transpired since the period 2015 in which a ravaging stock market crash rose into prominence. NPL.s are said to have reached an all-time peak of 766.9bn RMB in the third quarter of 2015. Such a decline in the quality of assets is a reflection of economic events that are transpiring in the Chinese economy (PWC, 2015).

3.6 The Chinese Stock Market

The market of China has enjoyed an operational lifespan of 23 years. The period 1991 saw the establishment of the Shenzhen and Shanghai Stock exchanges. This development improved China's financial capacity to execute transactions. Using trading volume and market capitalization, it can be established that China's stock Exchange is ranked second and third respectively after Japan and USA. The Shenzhen Stock

Exchange is the second largest stock exchange with a market capitalization of $3.7 trillion in 2013. Such trends can be analysed using figure 3. 1.

Figure 3.1. China's Stock Market 1992-2012



Source: PWC (2015)

It is evidenced that since the period 1992, China's stock market has been witnessing increases in performance. This can be evidenced by the increase in the number of stocks traded rising from 53 trillion RMB to 2 538 trillion in 2012. Market capitalization has however shown inconsistent performance trends with a peak value being recorded in 2007 and the lowest in 1992.

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Both the Shenzhen Stock Exchange and the Shanghai Stock Exchange specialize significantly in stocks of high value and maturity. The Shenzhen Stock Exchange is composed of ChiNext Board and the Small and Medium Enterprise Board offers capital to high and small technology stocks.

China's stock market has a numerous of separate characteristics. Foremost, it is known as an order driven market unlike other counterpart economies such as the USA which are known as quote-driven market and hybrid equity market systems. When compared to the USA stock market, China's stock market is heavily controlled by the government unlike the USA stock market which is considered to be fragmented and comprises of numerous trading exchanges. The price limit of China's stock market is said to be pegged at 10% (Adna, 2008) so as to curb surplus stock manipulation and volatility.

The growth in China's stock market is attributed to a dual-share scheme. This system allows local investors to specifically invest in A-shares while foreign investors are restricted to B-shares. However, a significant number of corporations have H-shares which can be exchanged on the Hong Kong Stock Exchange. They share types vary in terms of price.

Vast initiatives have been introduced in China's stock market and they include the establishment of the Qualified Foreign Institutional Investors (QFII) program in 2002 which loosened cross trading limitations. This has however negatively impacted the issuing of B-shares. The share structure followed suite in 2002 but did not incorporate small capital stocks. Overall, China's stock market is strongly contended to be easily influenced by speculative activities despite increased government intervention.

3.7 **China's economic policy**

An increase in the economic growth has been experienced in China due to the country's involvement in the world economy. New reforms in fomı of social welfare, fiscal system, and new farmer's property rights were some of the strategies that the government wants to change in the country.

A closer look at the fiscal policy shows that there have been considerable changes in the country. A centralized fiscal system was in use before 1978, this was not as effective as the government anticipated it would be, therefore during 1994, a fiscal reform was established in order to boost the country's GDP. A new taxation system was also implemented in the country. Results showed quite a significant improvement in revenues, indicated by a 10.8 % of the total GDP in 1994, while in the year 2013 an increase of 22.7 % was indicated. However, the disadvantages of the new taxation system meant that the government had few sources from where to obtain funds from. The 2010 audit reported that there was more than 10.7 trillion in national debt caused by shadow banking. Notwithstanding the fact that this can cause a drop in the economy, China is managing the situation well. Strategies have been put in place to protect the economy from debt crises by holding up cash savings of 6% of the total GDP.

Chinas monetary policy ensures that the exchange rate is stable, enables the increase of economic growth and controls the inflation rate. A one year lending rate was issued by the company in order to promote a rise in GDP. Other strategies were done through money supply, credit growth and the consumer price index. In order to influence liquidity and lending the Central bank of china utilizes the reserve requirement ratio, short term liquidity and short term loans.

The country's exchange rate was at 8.28 CNY per one USD during the 1995 to 2005. However due to the global financial crisis the country experienced a decline in the exchange rate indicated by 6.82 from the 8.28 CNY per dollar in 2010. The goal is to enhance the exchange rate in the country through a global reserve currency. Expansions of offshore market trading are currently underway to boost the currency.

3.8 **China's development policies**

China is the most active and dominant economy and it is second to the USA in terms of economic development and performance. China's economic growth has revolved within the band of 8-12% for a period of 11 years since the period 2003 (Walz, 2011). Much of the returns to the Chinese economy come from investments that are made and are being made around the world especially in Africa. China is the largest investor in Africa. Economic development policies are centered on the service and manufacturing sectors. A significant investment in the Chinese economy is towards economic infrastructure with an estimated total of 61% a year followed by energy and resources development raking a total of 9% (Lum, 2009).

Table 3.3: **Trends in Chinese trade(%) from 2009-2011**

	Export (% of total exports)			**Import (% of total imports)**		
COUNTRY	**2009**	**2010**	**2011**	**2009**	**2010**	**2011**
China	5.71	6.70	7.09	7.16	7.15	8.50

Source: ITC Trade Map, http://www.tradeınap.org/se1ectionmenu.aspx. (Computed by author based on the ITC Trade map

Generally it can be observed that trade has grown in China and possible reasons suggest increased cooperation between the nations. 55% of the exports are made up of electronics and machinery while garments and building material make up 13% and 7% respectively. The trends in trade are favourable in China and this is because China is part of the World trade organisation since 2001. China's imports mainly come from Asian countries, North America and Europe. Imports had a decline in 2009 due to the global crisis however it soon recovered from 2010 to 2013.

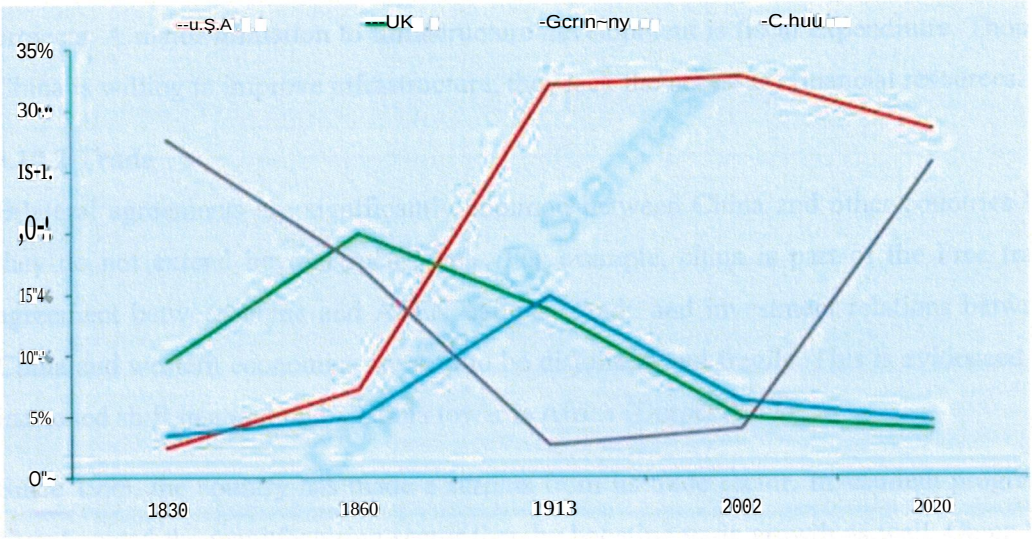
3.9 **Impact of China on world development**

China is one of the dominant players in the world economy particular because of its ever rising economic growth. The economic growth of china has contributed immensely as seen in the statistics recorded in various articles. Since 1999 the country has had a 1%

share of the world economy, it began to rise steadily and recorded a 6.5 % in 2005, and 24% in 2011 contribution to the world economy. China happens to be one of the best trading economies in the world and is ranked the second trading partner to the United States. Their products are exported to many countries all over the world. Because of its competitive edge, china has affected both developing and developed nations.

World economic development has improved since china became a member. The demand for raw material in china has prompted other countries to export as much as they can to china in hopes of increasing their exports their increasing their revenues as well. The figure below shows Chinas contribution to the global economy

Figure 3.2: China's contribution to global economy since year 1830 and forecast to 2020



Source: (Starmass International, 2015)

3.10 Challenges to the Chinese economy

China has been prone to economic calamities and of significant effect is the financial and economic crisis. This has seen the economic powerhouse, China succumbing to a stock market crisis. This saw Chinese stock s falling and with most investors selling stocks to avoid major losses. Prevalent problems that surrounded the inability to attain

desired economic standards and performance has been attributed to the following challenges;

3.10.1 Industrial and infrastructure development

China has been bewildered by the problem of infrastructure deficiency. Such infrastructure is a core factor and driver of economic growth and development especially for those economies that are still emerging as developed. Infrastructure limitations can hinder the Chinese economy from playing a part in global value chains (Goldman and Sachs International 2006). Key infrastructure that can catapult economic performance and contribution lies in rail and road transport, telecommunications and energy. China and India are asserted to be lacking investments in areas of transport and water related projects. A major limitation to infrastructure development is fiscal expenditure. Though China is willing to improve infrastructure, they lack the necessary financial resources.

3.10.2 Trade

Bilateral agreements are significantly common between China and other countries but they do not extend beyond such levels. For example, china is part of the Free trade agreement between china and ASEN nations. Trade and investment relations between China and western economies are said to be disjointed and fragile. This is evidenced by increased shift in attention by China towards Africa (Draper 2012).

Since 1993, the country has made a surplus from its trade sector. Investment programs have boosted the manufacturing sector thereby boosting trade growth as well. China has been part of the World Trade Organization since 2001.

3.10.3 Research and development

Research and development is a problem that cross cuts throughout the entire Chinese economy. The exchange of information between China and other economies is relatively low. As result, emphasis must be placed ensuring that there is a smooth exchange of innovation and technology. China must improve in terms of research and development especially in the area of nanotechnology, efficient energy production and uses, medicine, biotechnology and general research.

3.10.4 Tourism and other cultural exchanges

Tourism and other cultural exchanges problems have been hampered by food habits, living styles and culture. This is because most bilateral agreements do not usually encompass tourism and other cultural exchange initiatives. Thus much focus must be drawn to ensure that tourism and cultural roles are recognized to be part of economic co-operation and development. Therefore China must collaborate with other economies in tourism and cultural exchange spheres.

3.10 Global competitiveness

China has engaged on a series of policy initiatives that are targeted at improving global competitiveness. Such policy initiatives were coupled with an ease in the movement of people and doing business. Reference can be made to India which adopted policies to promote investments by allowing international investors to benefits from economic opportunities available in India, scrapped off additional transaction costs and allowed strong participation of local Indians residing in foreign countries to participate in economic development projects. These also saw business license costs being lowered.

Table 3.4: China's-ease of doing business

COUNTRY	2009	2010	2011	2012
China	86	89	79	91

Source: World Bank, Ease of Doing Business 2012,

It can be observed that China did not improve in terms of openness to conducting business in 2012 when compared to 2009 estimates. This shows that a lot of ground still remains to be covered by China in terms of the ease of doing business if they are to continue to progress and witness major changes in both economic and social frontiers.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Vector Error Correction Model (VECM) specification

An error correction model (ECM) is a dynamical system with the characteristics that the deviation of the current state from its long-run relationship will be fed into its short-run dynamics. It must be noted that an ECM does rectify errors in another model. Error Correction Models (ECMs) are a combination of time series models that directly estimate the speed at which a dependent variable returns to equilibrium after a change in an independent variable. ECMs are a theoretically-driven approach useful for estimating both short-term and long-term effects of one time series on another. ECMs are useful models when dealing with co-integrated data, but can also be used with stationary data.

The VEC has cointegration associations organized into the stipulation which can limits the long-term response of independent variables to focalize to their cointergration relations while enabling for short-run change dynamics. The cointegration term is synonymously referred to as the ECT because changes from long-run stability are adjusted sequentially through a sequence of incomplete short term changes. VECM is based on the following expressions;

Xt = aXt-1 + bYt-1 + μt…….. (1)

Yt = cXt-1 + dYt-1 + μt…….. (2)

Using the Granger representation theorem, the above can be expressed as follows;

AXt=al(Yt-ı-PXt-ı) +ut …….. (3)

AYt=a2(Yt-ı-PXt-ı) + vt…….. (4)

Where Yt-ı-PXt-ı-1(0) is the cointergrating relationship. The magnitude of the difference towards the long run relationship is estimated by (Yt-ı-flXt-ı) while the direction and speed of adjustment or correction is determined by a_1. Cointergration can thus be defined as a long run state of equilibrium that exists from the relationship between the variables.

The advantages of using VECM are that it enables in the presentation of an error correction model and it aids in forecasting. VECM is however affected by arbitrage, that is, statistically wise it is difficult to deten:nine which variable is to be used as a dependent variable especially when the data is stationary. In addition, it requires that there be a unit root otherwise no behavior will be witnessed in respect of the error correction.

4.2 Definition and justification of variables

4.2.1 Share price index (Sp)

Share price index refers to an index that measures changes in value of selected stocks on the stock market. A stock market index is of significant importance to investors who utilize it to determine the performance of stocks and as well as determining the value and or returns of stocks. Share price index represents the dependent variable that will be used in the model estimation process. Data for the variable share price index (Sp) was retrieved from FRBL and was in percentage changes of the Shanghai Stock Exchange index. Capasso (2006) contends that high economic growth rates are positively associated with high stock prices. The relationship between stock markets and banks has not been addressed sufficiently. Thus there is a divergence of consensus. In this regard a positive association is expected. The inclusion of share price in the analysis is justified by the manifestation of the recent financial crisis that whooped into thin air billions of dollars' worth of investment in China (The Economist, 2015)

4.2.2 Foreign direct investment (FDI)

Refers to annual percentage inflows of foreign investments made by foreign individuals and corporations expressed as a percentage of GDP. Capasso (2006) asserts that stock

markets are positively related to foreign direct investments. This is because the more efficient and diversified the stock markets are, the easy and less risky it becomes for foreign investors to make investments into that country. Moreover, a highly developed stock market also entail that it is swift to convert assets into a means of purchasing power. Thus stock markets can be said to promote investments as they provide a market for primary securities. Despite the ongoing financial crisis, FDI inflows in China grew and assertions were made the decline in stock prices should be accompanied by heavy inflow of FDI as investors anticipate to make gains when the prices of the securities rebound in future (The Economist, 2015). This study therefore sought to examine the linkage that exists between the decline in share prices and the increase in FDI levels.

4.2.3 Domestic credit to private sector (DCPS)

DCPS refers to credit provided by banks to the private sector. DCPS is an indicator of financial development. According to the study by Rioja and Valeo (2004), DCPS is negatively related to stock market activities. Possible reasons point to the idea that income and substitution effect will cause individuals to switch to banks when the costs, risk and time associated with using the stock markets are high. Thus a negative linkage between stock market and DCPS is expected in this study. The banking sector in China however did experience significant repercussions went the stock market went into a turmoil but domestic credit in China remained on a steady part (Economy Horizons, 2014). Further insights by Economy Horizons (2015) indicated that a high DCPS is a strong sign of economic growth. This study therefore is determined to assess the validity of such an assertion.

4.2.4 Gross domestic product (GDP)

The idea of GDP being taken as an independent variable is derived from the idea by Naceur and Ghazouni (2006) who contend that there is a unidirectional association that spans from economic growth to stock market development. The idea was supported by Granger causality results which showed that stock market Granger causes economic growth. Thus this study expects results that are synonymous to the study by Naceur and Ghazouni (2006). The third quarter of the period 2015 saw the plummeting of China's stock exchange and yet China's economy continued to grow despite the major setbacks

that were being witnessed in the financial sector. This defied the notion that a decline in performance of the stock market is associated with a decline in economic performance (Aretis, et al (2001). This study therefore sought to examine the validity of the assertion made by Aretis, et al (2001).

4.3 Data sources

Model estimation data was retrieved from the Federal Reserve Bank of St Louis. The data period spanned from the I" quarter of 1999 to the l" quarter of 2015. The main focus of this study was drawn towards China. Model data description is shown in Table 4.1.

Table 4.1 Model data description

Country	Data period	Source
China	Ql:1999- Ql:2015	FRBL

4.4 Stationary tests

This refers to, when a mean, variance and autocorrelation of the time data remains the same despite of the points of measurements. Cuthbertson et al. (1995) describes that the time series mean will return to its mean (mean reversion) and fluctuate around it (measured by the variance). Therefore this test allows the study of behavior of the variables at any given time period. Stationarity test will be conducted the ADF Fisher and Fisher-Perron tests. Unit root tests are helpful in that they assist in identifying the presence of the roots in the time series data. Non-stationary data can be if not lead to spurious results.

4.5 Granger causality test

The Granger causality test is a statistical hypothesis test for determining whether one time series is useful in forecasting another. Ordinarily, regressions reflect "mere"

correlations, but Clive Granger argued that causality in economics could be tested for by measuring the ability to predict the future values of a time series using prior values of another time series. Since the question of "true causality" is deeply philosophical, and because of the post hoc ergo propter hoc fallacy of assuming that one thing preceding another can be used as a proof of causation, econometricians assert that the Granger test finds only "predictive causality".

A time series X is said to Granger-cause Y if it can be shown, usually through a series of t-tests and F-tests on lagged values of X (and with lagged values of Y also included), that those X values provide statistically significant information about future values of Y.

4.6 Cointegration tests

Cointegration can be defined as a long term state of equilibrium that exist between variables. The state of equilibrium or the stable condition does not change in the long run irrespective of the nature of events that may transpire. The occurrence of shocks will not have a significant effect on the stability of the relationship between the variables. Standard regression techniques, such as ordinary least squares (OLS), require that the variables be covariance stationary. A variable is covariance stationary if its mean and all its autocovariances are finite and do not change over time. Cointergration analysis provides a framework for estimation, inference, and interpretation when the variables are not covariance stationary. Instead of being covariance stationary, many economic time series appear to be "first-difference stationary". This means that the level of a time series is not stationary but its first difference is. First difference stationary processes are also known as integrated processes of order **1,** or 1(1) processes. Covariance-stationary processes are 1(0). In general, a process whose dth difference is stationary is an integrated process of order d, or I(d). The canonical example of a first-difference stationary process is the random walk.

The (Johansen and Juselius, 1992) test avoids bias which can be resulted from applying Engle and Granger separately on the selected variables. The procedure can be shown as in the following Vector Auto Regressive (VAR) model:

xt = C + **Ilkxt-1** + ,... **Ilxt-k** + Et ……..……..1

Where:

Xt Xt-1. .. Xt -K represent vectors of lagged and current values of n variables respectively which are **1(1)** in the model, 111, ... ,ITK are known as matrices of coefficients with (n X n) dimensions, C is an intercept vector and ***Et*** is a vector of random errors (Katircioglu, 2007). The number of lag selection is found in such a way that residual is not auto correlated. The rank of IT shows the number of cointegrating relationships (i.e. r) which is determined by testing whether its Eigen values (Ai) are different from zero. Johansen test uses both the trace test and the maximum eigenvalue test for Cointegration. According to Johansen trace test is more robust than maximum Eigenvalue and also gives better result for Cointegration. (Johansen, 1988) suggests that using the Eigen values of IT ordered from the largest to the smallest is for computation of trace statistics. The trace (A trace) is computed by the following formula:

A **trace= -T ▌ Ln(l - Aİ), i = r + 1 … n - 1**……..……..**2**

And the hypotheses are:

HO:r=OH1:r2:1

HO: r :S 1 Hl: r 2: 2

HO: r :S 2 Hl: r 2: 3

4.7 Chapter summary

The chapter outlined the methodological basis of this study. R-squared and F-statistics will be adopted so as to ascertain the goodness of fit and the overall validity of the model. Other tests that will be used are the ARCH LM test, multicollinearity, Durbin Watson, stationarity and autocorrelation. This is important because the variance of standard errors will be minimum. Causality tests will be used in support the latter, so as to determine if changes in one variable such as X can be used to forecast changes in the other explanatory variables.

CHAPTER FIVE

DATA ANALYSIS, INTERPRETATION AND PRESENTATION

5.1 Introduction

This chapter looks at the obtained data for empirical analysis to determine the relationship between stock market, banks and economic development in China. The relationship between the variables was estimated using the VECM and was subject to Granger Causality test.

5.2 Stationarity tests (Unit Root test)

Stationarity test were employed to determine if the used data had a unit root. The presence of a unit root signifies non-stationarity. Co-integration requires that the data be non-stationary at levels but stationary at first difference. Non-stationary data results in spurious regression results. Stationarity tests were conducted using the Augmented Dickey Fuller test and the Phillips-Perron test. Table 5.1 and Table 5.2 provide detailed results of the estimated values.

Table 5.1: Fisher-ADP Test

Fisher-ADF Test@Level						
Variables	**Intercept no trend**			**Intercept and trend**		
	Critical Value	**Test Statistic**	**Prob***	**Critical Value**	**Test Statistic**	**Prob***
LSP	-3.538362	-2.287001	0.1793	-4.110440	-2.968880	0.1491
LGDP	-3.538362	-1.597318	0.4780	-4.110440	-1.458323	0.8334
LFDI	-3.538362	-1.595508	0.4790	-4.110440	-0.325695	0.9882
LDCPS	-3.538362	-0.266768	0.9233	-4.110440	-3.169764	0.0999
	ADF Test@ I" Difference					
Variable	**Intercept no trend**			**Intercept and trend**		

	Critical Value	Test Statistic	Prob*	Critical Value	Test Statistic	Prob*
LSP	-3.538362	-4.663173	0.0003*	-4.110440	-4.621507	0.0022 *
LGDP	-3.538362 -	-13.02356	0.0000*	-4.110440	-13.03764	0.0000 *
LFDI	-3.538362	-6.296705	0.0000*	-4.110440	-6.438826	0.0000 *
LDCPS	-3.538362	-7.102709	0.0000*	-4.110440	-7.004810	0.0000 *
* *Rejection of null hypothesis of unit root at 1 % level of significance.*						

Source: Computed by Author (E-Views 8.0 iterations Results) Test of Stationarity

The Augmented Dickey Fuller test results in Table 5.1 indicates that all the variables are not stationary at level but become stationary when subjected to first difference. Phillips-Perron test results displayed in Table 5.2 reinforce the obtained results of the Augmented Dickey Fuller test. Thus it can be concluded that all the variables are have a unit root at level but become stationary at first difference. As result co-integration will be estimated.

Table 5.2: Phillips-Perron Test

Phillips-Perron Test@ Level						
Variables	**Intercept no trend**			**Intercept and trend**		
	Critical Value	**Test Statistic**	**Prob***	**Critical Value**	**Test Statistic**	**Prob***
LSP	-3.536587	-2.331363	0.1655	**-4.107947**	-2.424773	0.3637
LGDP	-3.536587	-2.234491	0.1964	-4.107947	-2.657672	0.2573
LFDI	-3.536587	-1.343109	0.6044	-4.107947	-0.779498	0.9619
LDCPS	-3.536587	-0.906375	0.7801	-4.107947	-2.867318	0.1799
	Phillips-Perron Test@ I" Difference					

Variable	Intercept no trend			Intercept and trend		
	Critical Value	Test Statistic	Prob*	Critical Value	Test Statistic	Prob*
LSP	-3.538362	-4.663173	0.0003*	-4.110440	-4.621507	0.0022*
LGDP	-3.538362	-13.75906	0.0000*	-4.110440	-15.07530	0.0000*
LFD	-3.538362	-6.370979	0.0000*	-4.110440	-6.499326	0.0000*
LDCPS	-3.538362	-7.117110	0.0000*	-4.110440	-7.023531	0.0000*

* *Rejection of null hypothesis of unit root at 1 % Level of significance.*

5.3 Lag selection

The Log L, Sequential modified LR test, Final Prediction Error method, the Akaike Information criterion, and the Hannan Quinn indicate that 2 lags are optimum for conducting co-integration. Hence 2 Lags will be utilised to conduct the Johansen cointegration test. Lag selection are results are displayed in table 5.3

Table 5.3: Lag selection criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-14.95080	NA	2.19e-05	0.621338	0.759756	0.675585
1	307.1383	591.3767	9.60e-10	-9.414370	-8.722281*	-9.143134
2	336.6779*	50.36268*	6.20e-10*	-9.858293*	-8.612532	-9.370068*
3	351.0964	22.69135	6.65e-10	-9.806440	-8.007006	-9.101225
4	368.5902	25.23694	6.65e-l 0	-9.855416	-7.502311	-8.933212

"*" *Represents the optimal lag order chosen by the lag criterion under the unrestricted VAR Lag selection Criteria. Source: Computed by Author*

LR: Represents sequential modified LR test statistics (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criteria
SC: Schwartz information criteria
HQ: Hannan- Quinn criteria

5.4 Johansen Co-integration test results

The obtained number of lags was used to conduct co-integration and both Trace and Max-eigenvalue results show that there is 1 co-integrating equation at 5%. Maximum Eigenvalues are based on the assertion that the rank of the matrix is Oand hence the null

hypothesis postulates that the rank of the matrix is 1. As a result the Maximum Eigenvalues is regarded as likelihood test ratio. The trace test inherently possesses statistic's asymptotic distribution in its matrix (Johansen, 1995). The trace statistic subjects to testing the null hypothesis that there are at most *r* cointergrating relations against the alternative of m cointergrating relations. The presence of cointergrating equation signifies that the variables have a long run association. Thus it can therefore be concluded that there is an elongated run stable association that exists between the stock market, banks and economic growth in China.

Table 5.4: Johansen Cointegration test results

Unrestricted Co-integration Rank Test (Trace test)			
Hypothesized No of CE(s)	Trace statistics	Sig level 0.05 Critical value	Prob**
None*	51.71605	47.85613	0.0208*
At most 1	22.98403	29.79707	0.2468
At most 2	6.162182	15.49471	0.6764
At most 3	2.010853	3.841466	0.1562
Trace test indicate 1 Co-integration at the 0.05 level *Denotes rejection of the hypothesis at the 0.05 ** Mackinnon-Haug-Michelis (1999) p-values			
Unrestricted Co-integration Rank Test (Max-Eigenvalue)			
Hypothesized No of CE(s)	Max-Eigen Value Statistics	Sig level 0.05 Critical Value	Prob**
None*	28.73201	27.58434	0.0355*
At most 1	16.82185	21.13162	0.1806
At most 2	4.151330	14.26460	0.8431
At most 3	2.010853	3.841466	0.1562
Trace statistics and Max-Eigenvalue indicates the hypothesis of no Co-intergration at 0.05 level *denotes rejection of the hypothesis at the 0.05 ** Mackinnon-Haug-Michelis (1999) p-values			

The long run Normalized cointegrating equation can be written as such: LSP = 24.19294 + 0.022247LGDP + 1.9701LFD1- 3.4807LDCPS

It can thus be deduced that a 1% change in gross domestic product causes an increase in share prices by 2.22%. It can also be observed that a 1 unit change in foreign direct investment causes an increase in share prices by 1.9701 units. This is in support of the study by Naceur and Ghazouni (2006) which established that there is appositive linkage that exist amid economic growth and stock markets. Domestic credit to private sector however exhibits a negative relationship with share prices with a coefficient that translates to a decline in share prices by -3.480. This is also in support of the study by Rioja and Valeo (2004) which asserts that a negative link between stock market and banks exists.

5.5 VECM results

A Vector Error Correction model (VECM) provides information about the error correction which indicates the speed of adjustment of the variables. The VECM was utilized to determine the existence of a long run relationship between stock markets, banks and economic growth in China. The error correction term shows no evidence of the existence of a long run causality that runs from banks and economic growth to stock markets. The results presented in table 5.5.

Table 5.5 VECM estimation results (Long run results)

Independent Variables	Coefficient	Standard Error	T-Statistics
Constant	24.1924	-	-
LGDP	0.02224	0.1967	-0.1130
LFDI	1.9701	0.5933	-3.3202
LDCPS	- 3.4807	1.1056	3.1480*

The long run relationships between stock market, banks and economic growth however shows that GDP and FDI tend to be unilaterally related with stock market movements. This is evidenced by respective coefficients of 0.224 and 1.9701. The relationship

between stock market and domestic credit to private sector becomes negative in the long term.

Table 5.6 VECM Estimation results (Short run results)- Dependent Variable: LSP

Independent Variables (Lagged Variables)	Coefficient	Standard Error	T-Statistics
Constant	-0.002677	0.02680	-0.0998
~LSP1(-1)	0.4829	0.1152	4.1919***
~LSP1(-2)	-0.0381	0.1176	-0.3238
~LGDP1(-1)	-0.0342	0.0452	-0.7584
~LGDP1(-2)	-0.0888	0.0448	-1.9818*
~LFDI1(-1)	0.0117	0.6195	0.0190
~LFDI1(-2)	-0.0976	0.6310	-0.1547
~LDCPS1(-1)	0.6117	0.41998	1.4564
~LDCPS1(-2)	0.8731	0.3878	2.2509***
ECM1-1	-0.1344	0.0382	-3.5150***
R^2	0.50	F-Statistics	5.9138***
DW	1.917	S.E of regression	0.1010

Note: *, *** represents the significance level at 1% and 10% respectively.

It can be observed that in the short run GDP has a substantial negative effect on share price with a coefficient of -0.0888 and this is after adjusting for 2 lags. Domestic credit to private sector has a significant positive impact on share price of 0.8731 at lag 2. Thus it can be concluded that in the short run joint contribution or effects of GDP and FDI on share price are negative while that of DCPS are positive.

The observed error correction is -0.1344 and this means that the speed of adjustment of GDP and FDI and domestic credit to private sector variables in the short run is 13.44% and is significant at 10%.

5.6 **Significance of the cointergration equation - C(l) ***

It is of significant importance that the validity of the model be determined so that the obtained results can be a solid foundation upon which policy initiatives and recommendations can be based. The following were used to determine the validity of the model;

5.6.1 Significance of the error term and the F-statistic

The obtained prob. value of the error correction term is less than 10% and thus it is significant. The estimated model can be said to be valid because the obtained F-statistic has a significant value of 5.9138 at 10%. We therefore conclude that the estimated model is valid to clarify the effect of relationship between stock market, banks and economic growth.

Table 5.7. Diagnostic Tests

Diagnostic Test	X^2_{SC}	X^2_{w}	X^2_{N}	X^2_{AR}
	0.0202 (0.9799)	58.8619 (0.3021)	0.8733 (0.6462)	0.0643 (0.8006)

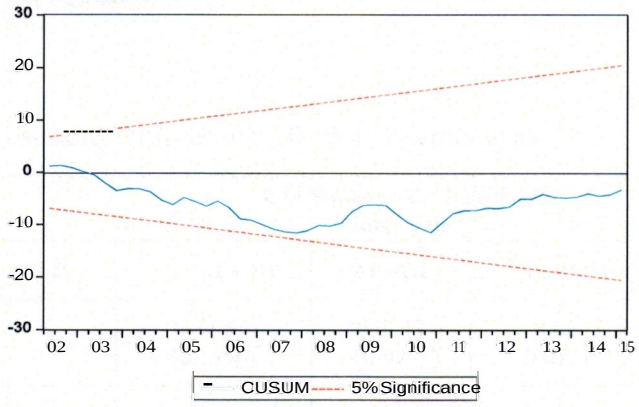
NOTE: X^2_{SC}, X^2_{IV}, X^2_{N} and X^2_{AR} are the langrage multiplier for serial correlation, white test for heteroscedasticity, normality, and Arch test for heteroscedasticity at lag 1. The value in the parenthesis are the corresponding P Value.

Both null hypothesis of serial autocorrelation and heteroscedasticity are rejected at 5% and it can be concluded that the model does not suffer from the problem of serial autocorrelation and is homoscedastic. The Langrange multiplier for normality (0.6462) shows evidence that the utilized data is relatively normal.

5.6.2 Model stability test

It is of paramount importance to determine the stability of the estimated mode. Model stability provides understanding of the applicability of the model in policy making. Stability tests are conducted for both the model and the residuals.

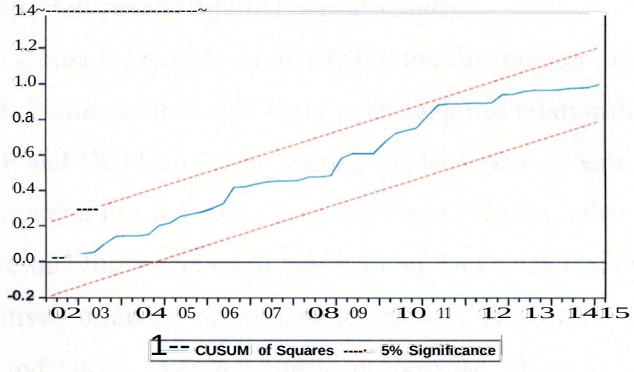
Figure 5.1 Model stability test



Source: Computed by Author (E-Views 8.0 iterations Results)

Figure 5.1 and figure 5.2 model and residual stability tests indicate that both the model and the residuals are stable. This implies that the estimated model is stable and can be used for policy and other decision making processes.

Figure 5.2 Residuals stability test



Source: Computed by Author (E-Views 8.0 iterations Results)

5.7 Granger causality

Using table 5.8 it can be accepted that domestic credit to private sector does granger cause share price. The direction of causality is however bidirectional as share price granger causes domestic credit to private sector. It can also be observed that there is a

unidirectional connection that results from share price to GDP and from GDP to FDI. Both relationships are significant.

Table 5.8 Granger causality Test results (Block Exogenity test)

Dependent Variable	Chi Square (Probability) long-run				
	ALSP	ALGDP	ALFDI	ALDCPS	EC_{t-1} (*t*-statistics)
ALSP		3.9965 (0.1356)	0.0243 (0.9879)	8.0547 (0.017)***	-0.13 [-3.5150]***
ALGDP	6.3187 (0.0425)**		2.030 (0.3624)	0.2282 (0.8921)	-0.00025 [-0.0973]
ALFDI	4.3168 (0.1155)	6.4867 (0.0390)***		0.9866 (0.6106)	0.0525 [3.2908]***
ALDCPS	5.4534 (0.0654)*	0.7866 (0.6748)	4.6943 (0.0956)*		-0.0768 [-1.8662]***

Note: *,**, *** represents the significance level at 1%, 5% and 10% respectively.

5.8 Summary of expected results against actual results

Time series data for China for the period of 1999 to the first quarter of 2015 was used to estimate the VECM. Findings show that there is no long run relationship between share price and FDI, GDP and DCPS in China. Strong evidence has revealed that there is no short run causality running to stock price from GDP and FDI but rather runs from DCPS to GDP. Obtained results further revealed that banking and stock market indicators have no significant positive influence on economic growth. However, stock market and economic growth indicators have a significant positive effect on FDI. Moreover, economic growth and stock markets were established to have negative impact on domestic credit to private sector. The summary of the expected results against the obtained results is given in tabular form.

CHAPTER SIX

CONCLUSIONS, POLICY IMPLICATIONS AND SUGGESTIONS FOR FUTURE STUDIES

6.1 Introduction

This study has examined the relationship between stock markets, banks and economic growth. The other objective of the study was to explore stock market practices and banking policies that can be used to positively influence economic growth. Financial development theories have been used to establish the relationship and effects of stock markets and banks on economic growth. Financial development theories strongly assert that the association between of stock markets and banks on economic growth stems from the functions of financial markets. These functions were identified to be of eliminating market frictions posed by transaction costs and lack of information. Despite their strengths, these models were found to be having shortcomings and these included assumptions problems, scope issues, different tests results and nature of the models. Empirical studies have provided insights about the affiliation amid stock markets, banks and economic growth. A substantial number of researches have shown that there is a positive relationship between stock markets, banks and economic growth but a few have shown negative results. These studies have however differed about the causality of these factors such as does stock market granger cause financial development or does financial development granger cause stock market or does stock market granger cause economic growth or vice versa. Results from this study have shown that there is no long run relationship that runs from stock markets to banks and economic growth. It was further revealed that stock market developments and economic growth have positive impacts on foreign direct investment.

6.2 **Policy Implications**

Using the obtained results, it can therefore be advocated that there is need to engage in policy initiatives that results in expansion in economic growth. Such policies include expenditure in capital goods which results in increased capital accumulation.

Policy initiatives can be undertaken to further improve the level of financial development in China. Insights provided in this study revealed that China's financial sector is to a large extent regulated by the government. Such regulatory mechanisms imply that there is not much room for financial institutions to maneuver in response to changes in the economic environment. Therefore the government of China must allow some level of flexibility through deregulation of the financial institution. Moreover, the Central Bank of China must play an active role of stabilizing, regulating and developing its financial institution. Failure to institute effective stabilizing, regulating and developing has severe repercussions on financial development. This can be reinforced by stem ravaging problems that manifested as a result of the recent financial crisis that wiped out billions of dollars' worth of investments.

The results also exhibited that DCPS is negatively related to stock market development. Possible reasons have suggested an increase in DCPS is either attributed to lower rates of interests that are being levied on credit and hence causing a high intake of credit by the private sector. In addition, apart from cost effective, such high intake can be attributed to feasibility and accessibility. These factors tend to restrict the usage of the stock market as a source of funding and hence causing a decline in importance of the stock market ceteris paribus. Moreover, it can be attributed to lucrative investments that are being introduced in the banking sectors causing people to shun the stock market. Thus it can therefore be recommended that flexibility be enhanced in the operations of stock markets so that so as to promote innovative introduction of new security instruments such as derivatives and securities that have a high return earning capacity.

There is also a need to improve the ease of doing business in China. This facilitates FDI inflows. Moreover, policies should be conducive for foreign investments. This includes lower taxes on investments projects and other incentives that may lower costs of doing

business and investing in the China. Taxes must also be lowered as they negatively impact FDI. This is supported by studies by Hartman (1994) and Grubbert and Mutti (1991) who established that taxes to be negatively related to FDI. It can be noted that macroeconomic and political stability are an essential element in any investor's decision-making process. Macroeconomic and political stability are associated with risk and thus the higher the level of macroeconomic and political instability the riskier it become into invest in that nation. A significant number of studies established that political instability poses serious negative effects on FDI inflows (Schneider and Fray 1985, and Root and Ahmed 1979).

Thus, China must promote macroeconomic and political stability within their individual nations and must be coupled with good quality institutions. Studies have it that nations with governance practices are in a better position to significantly attract FDI. In addition, poor institutional quality tends to promote corruption which has negative impact on profitability as it heightens investment costs.

6.3 **Suggestions for future studies**

This study is a country analysis and hence provides an overall description of the Chinese economy. Future studies may employ different analytical methods depending on circumstances so as to address underlying issues.

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APPENDIX

Appendix I: VAR Lag Order Selection Criteria

VAR Lag Order Selection Criteria
Endogenous variables: LSP LGDP LFDI LDCPS
Exogenous variables: C
Date: 01/28/16 Time: 13:02
Sample: 1999Q1 2015Q1
Included observations: 61

HQ	SC	AIC	FPE	LR	LogL	Lag
0.675585	0.759756	0.621338	2.19e-05	NA	-14.95080	0
-9.143134	-8.722281*	-9.414370	9.60e-10	591.3767	307.1383	1
-9.370068*	-8.612532	-9.858293*	6.20e-10*	50.36268*	336.6779	2
-9.101225	-8.007006	-9.806440	6.65e-10	22.69135	351.0964	3
-8.933212	-7.502311	-9.855416	6.55e-10	25.23694	368.5902	4

* indicates lag order selected by the criterion

Appendix II: Co-integration test

Date: 01/28/16 Time: 13:02
Sample (adjusted): 199904 201501
Included observations: 62 after adjustments
Trend assumption: Linear deterministic trend
Series: LSP LGDP LFDI LDCPS
Lags interval (in first differences): 1 to 2

Unrestricted Cointegration Rank Test (Trace)

Prob.**	0.05 Critical Value	Trace Statistic	Eigenvalue	Hypothesized No. of CE(s)
0.0208	47.85613	51.71605	0.370871	None*
0.2468	29.79707	22.98403	0.237628	At most 1
0.6764	15.49471	6.162182	0.064765	At most 2
0.1562	3.841466	2.010853	0.031913	At most 3

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Prob.**	0.05 Critical Value	Max-Eigen Statistic	Eigenvalue	Hypothesized No. of CE(s)
0.0355	27.58434	28.73201	0.370871	None*
0.1806	21.13162	16.82185	0.237628	At most 1
0.8431	14.26460	4.151330	0.064765	At most 2
0.1562	3.841466	2.010853	0.031913	At most 3

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Appendix III: Vector Error Correction estimates

Vector Error Correction Estimates
Date: 01/28/16 Time: 13:04
Sample (adjusted): 199904 201501
Included observations: 62 after adjustments
Standard errors in ( ) & t-statistics in [ ]

CointEq1	Cointegrating Eq:
1.000000	LSP(-1)
-0.022247 (0.19677) [-0.11306]	LGDP(-1)
-1.970109 (0.59335) [-3.32029]	LFDI(-1)
3.480705 (1.10568) [3.14803]	LDCPS(-1)
-24.19294	C

D(LDCPS)	D(LFDI)	D(LGDP)	D(LSP)	Error Correction:
-0.022064 (0.01182) [-1.86622]	-0.026697 (0.00811) [-3.29082]	0.011277 (0.11582) [0.09737]	-0.134431 (0.03824) [-3.51508]	CointEq1
0.081165 (0.03562) [2.27880]	-0.032088 (0.02444) [-1.31300]	-0.876923 (0.34891) [-2.51329]	0.482965 (0.11521) [4.19197]	D(LSP(-1))
-0.020433 (0.03638) [-0.56168]	0.050602 (0.02496) [2.02727]	0.415040 (0.35636) [1.16467]	-0.038107 (0.11767) [-0.32384]	D(LSP(-2))
0.007311 (0.01398) [0.52302]	-0.019135 (0.00959) [-1.99516]	-0.506377 (0.13693) [-3.69817]	-0.034290 (0.04521) [-0.75841]	D(LGDP(-1))
-0.005005 (0.01386) [-0.36114]	-0.022498 (0.00951) [-2.36588]	-0.034483 (0.13577) [-0.25399]	-0.088847 (0.04483) [-1.98185]	D(LGDP(-2))
-0.304082 (0.19153) [-1.58763]	0.018319 (0.13142) [0.13940]	2.277877 (1.87627) [1.21405]	0.011779 (0.61955) [0.01901]	D(LFDI(-1))
-0.289603 (0.19509) [-1.48448]	0.007069 (0.13386) [0.05281]	1.440207 (1.91110) [0.75360]	-0.097645 (0.63104) [-0.15474]	D(LFDI(-2))

0.296841	-8.32E-05	0.495082	0.611706	D(LDCPS(-1))
(0.12984)	(0.08909)	(1.27191)	(0.41998)	
[2.28624]	[-0.00093]	[0.38924]	[1.45650]	
-0.161563	-0.081172	-0376135	0.873116	D(LDCPS(-2))
(0.11991)	(0.08228)	(1.17469)	(0.38788)	
[-1.34733]	[-0.98654]	[-0.32020]	[2.25097]	
0.027394	0.027964	-0.072286	-0.002677	C
(0.00829)	(0.00569)	(0.08119)	(0.02681)	
[3.30527]	[4.91728]	[-0.89032]	(-0.09984]	
0.231217	0.367080	0.321604	0.505821	R-squared
0.098159	0.257536	0.204189	0.420290	Adj. R-squared
0.050767	0.023901	4.871805	0.531185	Sum sq. resids
0.031246	0.021439	0.306086	0.101070	S.E. equation
1.737713	3.350981	2.739040	5.913891	F-statistic
132.3629	155.7155	-9.120422	59.57897	Log likelihood
-3.947189	-4.700500	0.616788	-1.599322	Akaike AIC
-3.604103	-4.357414	0.959874	-1.256235	Schwarz SC
0.013478	0.027257	0.016604	0.019829	Mean dependent
0.032902	0.024881	0.343114	0.132744	S.D. dependent

4.09E-10	Determinant resid covariance (dof adj.)
2.03E-10	Determinant resid covariance
340.0280	Log likelihood
-9.549289	Akaike information criterion
-8.03971 0	

Appendix IV: Speed of Error Correction

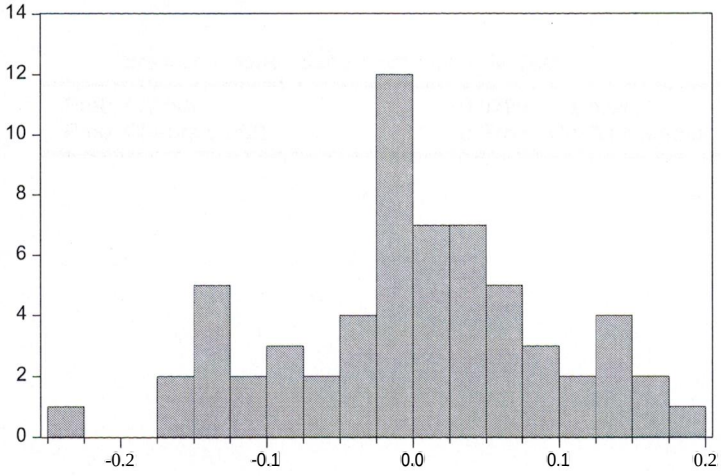
Dependent Variable: D(LSP)
Method: Least Squares
Date: 01/28/16 Time: 13:05
Sample (adjusted): 1999Q4 2015Q1
Included observations: 62 after adjustments

D(LSP) = C(1)*(LSP(-1) - 0.0222472351806*LGDP(-1) - 1.970108882 *LFDI(-1) + 3.48070472735*LDCPS(-1) - 24.1929401196) + C(2) *D(LSP(-1)) + C(3)*D(LSP(-2)) + C(4)*D(LGDP(-1)) + C(5)*D(LGDP(-2)) + C(6)*D(LFDI(-1)) + C(7)*D(LFDI(-2)) + C(8)*D(LDCPS(-1)) + C(9) *D(LDCPS(-2)) + C(10)

Prob.	t-Statistic	Std. Error	Coefficient	
0.0009	-3.515076	0.038244	-0.134431	C(1)
0.0001	4.191971	0.115212	0.482965	C(2)
0.7474	-0.323842	0.117670	-0.038107	C(3)
0.4516	-0.758414	0.045213	-0.034290	C(4)
0.0528	-1.981847	0.044830	-0.088847	C(5)
0.9849	0.019013	0.619546	0.011779	C(6)
0.8776	-0.154736	0.631045	-0.097645	C(7)
0.1513	1.456496	0.419985	0.611706	C(8)
0.0286	2.250972	0.387884	0.873116	C(9)
0.9209	-0.099835	0.026809	-0.002677	C(10)

0.019829	Mean dependent var	0.505821	R-squared
0.132744	S.D. dependent var	0.420290	Adjusted R-squared
-1.599322	Akaike info criterion	0.101070	S.E. of regression
-1.256235	Schwarz criterion	0.531185	Sum squared resid
-1.464617	Hannan-Quinn criter.	59.57897	Log likelihood
1.917580	Durbin-Watson stat	5.913891	F-statistic
		0.000012	Prob(F-statistic)

Appendix V: Normality test



Series: Residuals	
Sample 199904 201501	
Observations 62	
Mean	1.37e-17
Median	0.002583
Maximum	0.181887
Minimum	-0.248830
Std. Dev.	0.093316
Skewness	-0.274060
Kurtosis	2.806046
Jarque-Bera	0.873303
Probability	0.646197

Appendix VI: Breusch-Godfrey Serial Correlation LM Test:

Breusch-Godfrey Serial Correlation LM Test:

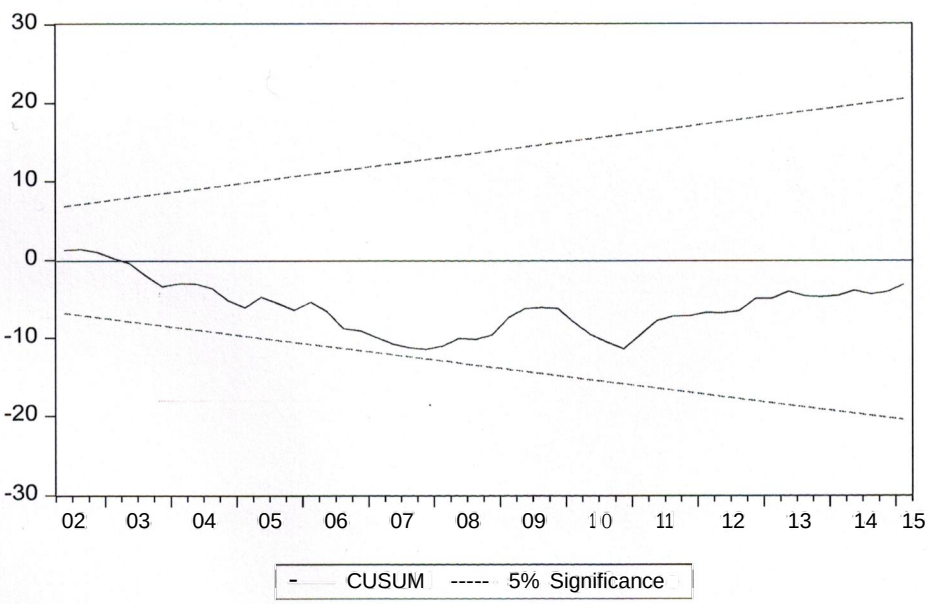
Prob. F(2,50)	0.9799	F-statistic	0.020294
Prob. Chi-Square(2)	0.9752	Obs*R-squared	0.050289

Appendix VII: Heteroskedasticity Test: ARCH

Heteroskedasticity Test: ARCH

Prob. F(1,59)	0.8006	F-statistic	0.064385
Prob. Chi-Square(1)	0.7965	Obs*R-squared	0.066495

Appendix VIII: Model stability test



Appendix VIV: Residual stability test