DETERMINANTS OF STOCK MARKET DEVELOPMENT: EMPIRICAL EVIDENCE FROM SOUTH ASIAN MARKETS

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A thesis submitted in partial fulfillment of the requirements for the Degree of Master of Philosophy/Science in Managementwith specialization in Finance at
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In the name of Allah, the most merciful and beneficent

DEDICATION

I dedicate this thesis to my parents, without their prayers I couldn't have reached to the stage of higher education,I also dedicate it to my sisters, who always encouraged and supported me during my studies

(Acceptance by the Viva Voice Committee)

1- **Title of Thesis** "Determinants of Stock Market Development Empirical Evidence from South Asian Markets

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ABSTRACT

The purpose of this study is to investigate the determinants of stock market development in South Asian countries which includes Pakistan, India, Sri Lanka and Bangladesh The determinants which are examined in this study are stock market liquidity, income level, remittances, macroeconomic instability corruption and political stability The sample size is of 20 years from 1993 to 2012 where panel data technique is applied Descriptive statistics, OLS regression, Fixed and Random effect estimation and Hausman test is applied in this study to check the accuracy of results Regression analysis led to fixed and random effect estimation and the Hausman test validated the fixed effect model Results show a positive relationship between stock market development and several indicators like stock market liquidity, income level, remittances, macroeconomic instability and political stability

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DECLARATION

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APPRECIATION AND GRATITUDE

No words of gratitude will ever be sufficient for the Allah Almighty who made me capable of learning, blessed me with the knowledge & intellect and facilitated me with the finest of the mentors all through my academic years

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Mr Hassan Kiani

FORWARDING SHEET

The thesis entitled "Determinants of Stock Market Development Empirical Evidence from South Asian Markets" submitted by Hassan Kiani partial fulfillment of M S degree in Management Sciences with specialization in Finance has completed under my guidance and supervision I am satisfied with the quality of student s research work and allow him to submit this thesis for further process as per IIU rules & regulations

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Abbreviation	Description
SMD	Stock Market Development
SML	Stock Market Liquidity
IL	Income Level
R	Remittances
MI	Macroeconomic Instability
CO	Corruption
PS	Political Stability
Ut	Error Term
Eq	Equation

CHAPTER 1

1. INTRODUCTION

1.1 Background

Over the last two decades the world's stock markets have evolved and there has been a lot of development in the emerging economies The stock market depth is increasing rapidly specifically in case of emerging markets (Billmeier & Massa 2009) Stock markets play an important role in the economy as they aid in the economic growth and stability (McKinnon 1973, Levine & Zervos 1998) With the continuing liberalization and the globalization process the financial integration between the stock markets is increasing Stock markets helps the investors to spread the risk, monitor the behavior of firms which leads to efficient allocation of resources, lowers the cost of capital, attracts the foreign capital which reduces the shortage of funds in the domestic economy and promotes investment and growth (Dailami & Atkin, 1990) Trading activity between the markets is increasing rapidly the value of shares traded in emerging markets climbed from less than 3 percent of the $1 6 trillion world's total in 1985 to 17 percent of the $9 6 trillion shares traded in all world s exchanges in 1994, this has resulted in boom across the

equity markets (Demurgic-Kunt & Levine, 1996) Butsa (2008) claimed that stock markets help in the transition of economies Financial institutions, companies & fund managers all use the stock market in order to diversify their portfolios Because of stock markets the efficiency of financial intermediaries is also improved

Similarly in determining the monetary policy regarding the issuance and repurchase of government securities, it leads to liquidity and economic growth and a path towards the financial liberalization A well-functioning stock market not only promotes the economic growth through fast allocation of capital but it helps in effective and better resource allocation (Carporale et al., 2004) It also facilitates the corporate control process in the takeover and compensation of mangers in case of poorly managed firms (Jensen & Meckling, 1976, Stein, 1988) Stock market is mainly a private activity, but it has a key role in the progress of market's financial system The competition between different financial instruments can be achieved through it which will increase their efficiency and it will lead to increase in savings and low cost of borrowing (El Wassal 2013)

Critics of stock market claims that a market with weak institutional structure can dissuade the investors, and this process is more likely in the developing countries where there is lack of corporate governance, investor protection and more information asymmetry (La Porta et al., 1998, Hearn & Piesse, 2010, Kemboi & Tarus, 2012) Stock market development also leads to increase in market liquidity, but the increase in liquidity can create hindrance in economic growth, like the income and substitution effect can reduce the saving rate, then there could be uncertainty regarding the savings which may lead to investor myopia and it affects the corporate governance and hampers the growth (Demirguc-Kunt & Levine, 1996)

There has been some research work regarding the determinants of stock market development like Yartey (2008) for South Africa, Naceur, Ghazouani, and Omran, (2007) for the Middle Eastern and North African Region (MENA) region Carp (2012) for the Eastern European countries but there is lack of evidence regarding the South Asian Region According to Algribi (2010) stock market development is dependent upon three factors, which are market depth, market liquidity, and market activity

1.2 Gap Identification

The determinants of stock market development has been documented in literature for developed markets but still very little is known about the emerging markets (Naceur et al , 2007, Carp, 2012) noted the determinants of stock market development for Middle Eastern and North African (MENA) region and the Eastern European region respectively Their study included variables like GDP growth rate, total market capitalization to ratio of GDP, turnover ratio as percentage of GDP, saving rate, investment rate, credit to private sector, macroeconomic instability, inflation change, and banking sector development Similarly some studies have noted the stock market development by focusing on macroeconomic indicators like (Mohtadi & Aggarwal, 1999, Korzeak & Korzeak, 2013) They used variables as turnover ratio, FDI, and other socioeconomic indicators like secondary school enrollment, GDP per capita, gross domestic saving to GDP, capital accounts liberalization etc However there is lack of consensus about the impact of explanatory variables as Yartey (2008) argued that along with macroeconomic factors the institutional components are also important in stock market development and stock market liquidity banking sector development and institutional factor like political risk influence the stock market development in case of South African market, whereas

Cherif and Gazdar (2010) found the institutional variable to be insignificant for the Middle Eastern and North African (MENA) region Also another reason for taking this research is the ignorance of South Asian stock markets in the emerging market research like (Korzeak & Korzeak, 2013, Garcia & Liu, 1999, Algribi, 2010) The extant research will investigate the determinants of stock market development in the South Asian region by taking into account the relevant macroeconomic, fiscal and institutional factors variables like income level, macroeconomic instability, stock market liquidity, political stability, corruption and remittances

1.3 Problem Statement

The role of stock markets in the economic development of countries has been of critical importance over the years Levine (1996) argued that whether the stock markets are just burgeoning casinos or they provide some assistance in the economic development Many studies put forward different results on how stock market development affects economic growth (Garcia & Liu, 1999, Mohtadi & Aggarwal, 2004) studied the stock market development by focusing only on macroeconomic variables, whereas (Pagano, 1993 La Porta, 1997) focused on the institutional factors Billmeir and Massa (2009) argued that in case of developing countries remittances have a big part in increasing disposable income Also the remittances have increased faster than the private capital flows and official development assistance provided to developing economies since 1995-2004, as the worldwide remittances have grown to US$226 billion in 2004 (World Bank, 2004)

Naceur, Ghazouani, and Omran (2007) claimed that financial intermediation and stock markets complement each other in the Middle Eastern and North African (MENA) region Carp (2012) argued that the macroeconomic imbalances could create disturbances in the allocation of foreign capital inflows, which affects the economic performance of developing countries more

than that of developed countries Thus the adequate functioning of stock market is important for the evolution of financial sector and sustained economic growth

Developing countries of South Asia (Pakistan, Bangladesh, India and Sri Lanka) has large amount of population living below the poverty line their life depends on the country's economic performance With increasing budget deficit and inflation it is critical to understand the role of stock market development on economic growth in the developing economies of South Asia Regulatory institutions particularly in the developing economies should be aware of all the factors, which are important in the stock market development so that they can take effective measures in order to enhance economy's growth within the region

1.4 Significance of Study

Literature supports the relationship between stock market development and economic growth (Levine & Zervos, 1998, Garcia & Liu 1999) According to (Levine & Zervos 1998 Cherif & Gazdar, 2010) there is a causal relation between financial development and economic growth There is mixed evidence about the relationship between stock market development and economic growth over the years though majority of studies support a positive relation between the two as noted by (Levine & Zervos, 1998 Mohtadi & Aggarwal, 1999) On the other hand some studies have documented a negative relationship like (Garcia & Liu, 1999, Bhide, 1993, Stiglitz 1994)

It is suggested in the literature that cross-country comparison should be conducted in order to highlight the relevant determinants of stock market developments across the regions (Algribi, 2010) In developing countries like Pakistan Shahbaz et al . (2008), noted the relation of economic growth and stock market development relationship by focusing only on few

macroeconomic variables Since it is unclear that whether the economies in South Asian region respond similarly to the economic and political shock as like in the other emerging and developed markets Therefore this study will investigate the determinants of stock market development in both macroeconomic and institutional terms in the South Asian markets Countries as Pakistan, India, Srilanka and Bangladesh, the stock market capitalization is increasing at a rapid pace, so it is critical to understand stock market development's role in the economic growth Similarly this will help the governing authorities to make effective decisions in order to create a link between development of stock market and economic growth, as it will help to improve the living standards in the region This will also attract the international investors to invest in the concerned economy

1.5 Contribution

1.5.1 Theoretical Contribution

This study contributes to the literature in following ways The model, which is to be used in this empirical study, has not been tested in the selected South Asian markets It also takes into account the most relevant macroeconomic variables like (macroeconomic instability, income level and remittances) stock market liquidity and institutional factors as political stability, and corruption It will test the traditional finance theory and financial liberalization theory which says that development in financial system, capital markets and increase in access of foreign capital flow leads to economic growth and stock market development According to contingency theory the context is also important (Fiedler, 1964) Therefore the contextual contribution of the study is to examine whether the determinants of stock market development in the selected South Asian markets are same as that of developed countries

1.5.2 Practical Contribution

Stock market plays an important part in the economic development of the country Investors are attracted towards the emerging markets because of diversification benefits Therefore it is crucial for the managers and institutions to determine the efficiency of their portfolios in the emerging markets, it will also help them to know about factors which are critical in the stock market development across the region so that they will amend their policies in the concerned region The results of this study will help the industrial bodies and government regulators in order to lay down the future policies

1.6 Objectives of the Study

The overall aim of this study is to identify the determinants of stock market development in South Asian countries through a scientific investigation by using appropriate statistical techniques The specific objectives are as follows

1 To investigate the determinants of stock market development by using the macroeconomic variables which are income level and macroeconomic instability on stock market development in the South Asian economies
2 To investigate the impact of stock market liquidity on stock market development in the South Asian economies
3 To investigate the impact of remittances on stock market development in the South Asian economies
4 To investigate the impact of corruption on stock market development in the South Asian economies

5 To investigate the impact of political stability on stock market development in the South Asian economies

1.7 Research Questions

The specification of research questions is an extremely important part of a research work Research questions influence the strategy that is employed in order to either provide answers to the questions or verify/falsify hypotheses Research questions formulated for the current study on the basis of objectives of the study are mentioned below

- What is the effect of stock market liquidity on stock market development?
- What is the effect of income level on stock market development?
- What is the effect of remittances on stock market development?
- What is the effect of macroeconomic instability on stock market development?
- What is the effect of corruption on stock market development?
- What is the effect of political stability on stock market development?

1.8 Organization of Study

This study is divided into five chapters Following this introductory chapter Chapter 2 contains the literature review Chapter 3 discusses the research methodology of study Chapter 4 presents results and discussion Chapter 5 draws conclusions, followed by recommendations, future research and limitations

CHAPTER 2

2. LITERATURE REVIEW

The literature review consists of brief discussion on some theoretical models and other materials, so that it would be helpful to reach the relevant and important explanatory variables about the determinants of stock market development Similarly various models frameworks and other theoretical background, would be beneficial to analyze determinants of stock market development, the literature review in this study includes

2.1 Goldsmith Model

Goldsmith (1969) noted that financial development and economic growth has a causal relationship using different macroeconomic indicators for 35 countries from the period 1863 to 1960 and noted that the role of financial intermediation increases there is development in the economy However because of limited data on the equity market the study has several limitations like the direction of causality between financial system size and economic growth and the role of financial markets and financial institutions in the economic growth

2.2 Calderon-Rossell Model

Rossell (1991) gave a comprehensive model to understand the theory of stock market development and to measure the stock market growth The model is named as partial equilibrium model This model considers economic growth and stock market liquidity as the main determinants of stock market development This model is limited as it does not capture the institutional and governmental factors

2.3 The Macroeconomic Model

This model by Demirguc-Kunt and Levine (1996a) claims that the stock market development is dependent upon the market size, stock market liquidity, volatility and integration with the world markets According to this model developed stock markets are more liquid, less volatile and integrated with each other as compare to the less developed markets

2.4 Modified Calderon- Russell Model

Yartey (2008) in order to study the macroeconomic and institutional factors relative to the stock market development modified the Calderon-Russell model This model takes into account the role of banking sector development, political risk and private capital flows in addition with the macroeconomic factors as well

This section of literature includes conceptual framework which shows the theoretical link of variables and empirical evidence from developed and emerging markets on the determinants of stock market development The hypothesis for determination of stock market development can be developed on the basis of conceptual framework and empirical literature on stock market development

2.5 Conceptual Framework

This section of literature includes conceptual framework which shows the theoretical link of variables and empirical evidence from developed and emerging markets on the determinants of stock market development The hypothesis for determination of stock market development can be developed on the basis of conceptual framework and empirical literature on stock market development

X- Efficiency Theory

Leibenstein (1966) presented X-efficiency theory According to it an economic system contains a set of rules driven by a number of agents who are connected with each other and the rules With a new rule entering the system, economic evolution takes place, which leads to new agent adoption and new connections Also the output of these agents depends on the psychological factors called "X" which are driven by the level of rationality This level of rationality can suffer from the behavioral inertia By this process the economic systems evolve Assessing the efficiency of firms is a powerful tool to check the economic development Stock market development leads to competition in the market where managers are motivated to produce as much as possible, among the managers and firms in order to be successful, firms will look to achieve the x-efficiency This X efficiency occurs when the output of firms is greatest, from a given minimum amount of input

Liquidity and Standard Asset Pricing Theory

This theory lays the assumption that markets which are (perfectly liquid) frictionless can trade every security at no cost all the time and the agents' takes prices as given Since transaction cost is low so the investors who collect the required information are rewarded through superior investment performance (Amihud et al , 2006) According to Levine and Zervos (1996) increase

in stock market liquidity encourages the economic growth, as these frictionless stock markets (liquid markets) process the flow of information and helps in providing capital to the economy which leads to economic development

Financial Liberalization Theory

McKinnnon and Shaw (1973) noted that alleviating the financial restrictions in countries allows the markets to determine interest rate which leads to a direct effect on growth rates as the interest rate rises towards market equilibrium, this will also encourage the savings as the saving rate becomes attractive Also the financial repression not only depresses savings but also leads to inefficient allocation of resources and therefore, financial sector reforms have been advocated Gemech and Struthers (2003) claimed that the financial liberalization process provides increased access to domestic and international capital markets and therefore enhances the efficiency of capital allocation The proponents of liberalization argues that it lowers the cost of capital because of readily available international capital, provides leverage for risk diversification and leads to investments which offer high returns This free mobility of capital leads to increase in remittances which impact the economic growth (Tswamuno, 2007) Similarly it increases the transparency and liquidity in financial markets (Stulz, 1999, Mishkin, 2001) Yartey (2008) argued that for emerging markets financial liberalization is a basic source of foreign capital flow which plays an important part in the development of stock markets

Macroeconomic Theory/Fischer Separation Theorem

According to macroeconomic theory high inflation leads to variation in prices, this creates uncertainty regarding the investment opportunities This decline in investment projects affects the economic growth With the macroeconomic stability there are benefits for managers and firms to participate in the stock markets but the volatility in prices leads to changes in economic

policies which also affects the stock markets and creates macroeconomic instability The fisher effect states that stock markets offers a cover against inflation and that the nominal equity returns should be positively related to inflation (Fisher, 1930, Yartey, 2008)

Standard International Trade Theory

According to Bernstein and Weinstein (1998) standard international trade theory says that the countries with similar geographic size may have economic specialization and that their income levels are parallel Similarly stock of firm in large countries is more synchronous than small countries as they rely on mostly one industry or one economic activity like agricultural crops The increase in income level leads to economic growth as the GDP per capita increase which has a strong association with the stock market development (Levine & Zervos, 1998)

Market MicrostructureTheory

According to O'hara (1995) market microstructure deals with a specific set of rules for exchange of assets and how the trading mechanism affects the overall market structure The market microstructure allows the investors to execute their orders quickly which increases the liquidity in stock markets This increase in liquidity reduces transaction costs and frictions in the stock market Similarly it helps in achieving operational efficiency which creates liquid markets this process encourages the competition and leads to development in stock markets (Biais et al , 2005)

Economic Theory of Corruption

Ackerman (1996) noted that corruption can be a sign of progress in an emerging economy as the citizens recognize that there are norms of fair dealing and competent administration which can be violated Also the effects of economic liberalization cannot be achieved without state

reforms However corruption can have a short term efficiency effect on economy as the resource allocated may be utilized efficiently but in long run this expectation of bribery will affect the number and kinds of contracts used for bidding, the process for awarding these contracts and the mechanism with which public officials do their work in the absence of bribes It will also create obstacles in reforming the macroeconomic policy Similarly, the benefits of this corruption might not be equally distributed (accessible only to certain firms and public officials (World Bank, 1997, Kaufmann, 2004)

Economic growth cuts off the bribes taken by government officials from the firm's revenue Corruption is more prevalent in poor countries than rich countries, because the problem of corruption is more in poor countries (Blais, et al , 2014) Increase in corruption level leads to a significant impact on stock market development which affects a country's progress due to the spread of abuse in the markets (Ayaydın & Baltacı, 2013)

Theory of Political Economy

Caporaso (1992) argued that economy in the system is separable from politics and family life and the market is treated as a self-regulatory system and not a subsidiary organ of the state However over the years there has been the use of power and politics and the market is government regulated Therefore when political agenda is exerted on the economy it affects the stock markets and for investors to actively participate in the market and to attract investments political stability is required, which is the extent to which a government can be overthrown or destabilized by some unconstitutional means (Kaufman, 2010) For the development of stock market, political stability is an important factor According to Olson's theory, political stability is dependent upon absence of violence, tenure of govt , the presence of a constitutionally

legitimate regime, absence of structural change and a multifaceted social attribute (Goldsmith, 1987)

Stock Market Development

Stock market development helps to mobilize the capital and leads to diversification of risk in the market Naceur et al , (2007), Mohtadi and Aggarwal (1999) noted a positive effect of stock market on the overall economy Development of stock market is measured by the market capitalization to ratio of GDP as used by (Yartey, 2008)

The impact of stock market liquidity on stock market development.

The process through which investor can buy and sell their stocks conveniently is liquidity Liquidity in stock markets help in the allocation and mobility of capital, which ensure profitable investments and long term growth (Yartey, 2008) Stock markets, which are liquid help investors in the efficiency of their portfolios and facilitate them in investment decisions, which are less risky (Levine, 1991) Naceur et al , (2007) measured liquidity by two ways, by using stock value traded which is the ratio of total value traded to GDP and the turnover ratio which is ratio of total value traded to stock market capitalization The former captures the total value of stock transactions with respect to the size of the economy while the latter helps to measure the value of stock traded as compare to the size of stock exchange According to Yartey (2008) the second measure is more comprehensive as it measures the liquidity of stock market relative the total size of economy Stock market liquidity is measured by the ratio of total value traded to the percentage of GDP

H1 There is significant relation between stock market liquidity and stock market development

The impact of income level on stock market development

Income level is proxied by log GDP per capita as measured by (Mohtadi & Aggarwal, 2004, Yartey, 2008) As per the demand driven hypothesis the increasing income level will create more demand in the economy, which will result in developed financial structure, and demand for products and services, which also leads to stock market development Durham (2004) noted that stock market development varies with respect to the income level of countries and that there is a direct relation between high income level and stock market development

H2 There is a significant relation between income level and stock market development

The impact of remittances on stock market development.

The financial instruments and goods transferred by immigrants working abroad to the residents of their home country are remittances The concept of remittances is linked with the theory of migration, as monetary and non-monetary items transferred to the home country (Tiwolde, 2005) Remittances is an important factor for the developing economies of South Asia, they are a big source of external financing for countries like Pakistan, India and Bangladesh According to World Bank (2007) formal remittances flow in 2007 were estimated at US$ 318 00 billion up from US$ 268, billion in 2006 and out of this US$199 0 billion were transferred to developing countries and US$47 0 billion to the low income countries respectively Remittances help in many ways to improve the economic situation as they reduce poverty promote entrepreneurship, which will lead to stock market development Similar to the banking sector they provide the deposits and increase the disposable income as well According to Billmeier and Massa(2009) remittances have a significant impact of the stock market capitalization The proxy for remittances is the net amount of worker's remittances as percentage of GDP as used by (Billmeier & Massa, 2009)

H3 There is significant relationship between remittances and stock market development

The impact of macroeconomic instability on stock market development.

The more the macroeconomic stability investors will be encouraged to participate in the market, but if there is volatility in the stock prices then the investors will be uncertain, but the markets become attractive for the speculators which might create large deviation in stock prices Similarly in developing countries the high inflation rate is also an obstacle to attract the investors (Garcia & Liu, 1999) Because of macroeconomic instability the managers are hesitant to put their money in equity markets The proxy for macroeconomic instability is the inflation change as noted by (Naceur et al , 2007)

H4 There is significant relationship of macroeconomic instability and stock market development

The impact of corruption on stock market development.

Bolgorian (2011) claims that the misuse of public office in order to get some private benefit is corruption In developing countries corruption is considered an endemic and pervasive problem, which is a big hindrance in the economic growth According to World Bank corruption is "the single greatest obstacle in the economic and social development"

Although some studies have measured the corruption with International Country Risk Guide (ICRG) but due to constraints in availability of data an alternative measure of corruption Corruption perception index (CPI) published by the transparency international for all the countries is used Bolgorian (2011) used the Corruption perception index (CPI), which is an annual value Initially it ranged from 0-100 with 0 meaning high level of corruption and 100 meaning no corruption, but from 2012 the methodology was modified and the scale now ranges from 0-10 with zero meaning high level of corruption and 10 meaning no corruption

H5 There is significant relationship between corruption and stock market development

The impact of political stability on stock market development

Political stability refers to the extent to which a government can be overthrown or destabilized by some unconstitutional means (Kauffman 2010) Roe and Siegel (2011) noted that political instability impedes in financial development, La Porta (1998) noted that weak institutional systems and regulatory mechanisms are an obstacle in the stock market development Butsa (2008) argued when political instability decreases the right of properties and investors commitment increase which result in more allocation of capital to stock markets Aisen and Veiga (2011) noted that political instability leads to decrease in GDP growth and hampers the long-term economic benefits

Perotti (2001) noted that political risk and stability is an important factor in stock market development and that it has a positive relationship that leads to high returns Political stability is measured by the worldwide governance indicators developed by Kaufmann et al , (1999) which comprises of other institutional factors as well This index has a range of 0-100, with 0 meaning low political stability and the score close to 100 meaning high political stability According to Yartey (2008) this index of political stability developed by Kaufmann et al (1999) is very similar to the institutional quality measures developed by International Country Risk Guide (ICRG)

H6 There is significant relation between political stability and stock market development

According to the above literature it is observed that there is an association between the dependent variable stock market development and the independent variables stock market liquidity, income level, macroeconomic instability, remittances, corruption and political stability which gives empirical support to our hypotheses Also it is found in literature that these relevant

variables have not been tested in a single model especially in the developing countries of South Asia Therefore while reviewing the literature it is noted that there is a relationship between the above mentioned variables

The theoretical link of variables with respect to the concerned theories is shown in table 1 The market microstructure theory and standard asset pricing theory highlights the role of stock liquidity and how it affects the stock markets The role of income level is explained by the standard international trade theory while financial liberalization theory shows the importance of remittances and its role in economy Macroeconomic theory discusses the role of inflation Economic theory of corruption highlights how corruption impacts on economic activities while theory of political economy and Olson theory gives the perspective of political stability

Table 1 Theoretical link of variables

Variables	**Theoretical Link**
Stock Market Liquidity	Market microstructure theory Standard asset pricing theory
Income Level	Standard International trade theory
Remittances	Financial Liberalization theory
Macroeconomic Instability	Macroeconomic theory Fischer Hypothesis
Corruption	Economic Theory of Corruption
Political Stability	Theory of Political Economy Olson's theory

The table 2, shows expected sign of relationship of independent variables with dependent variables with respect to the literature review

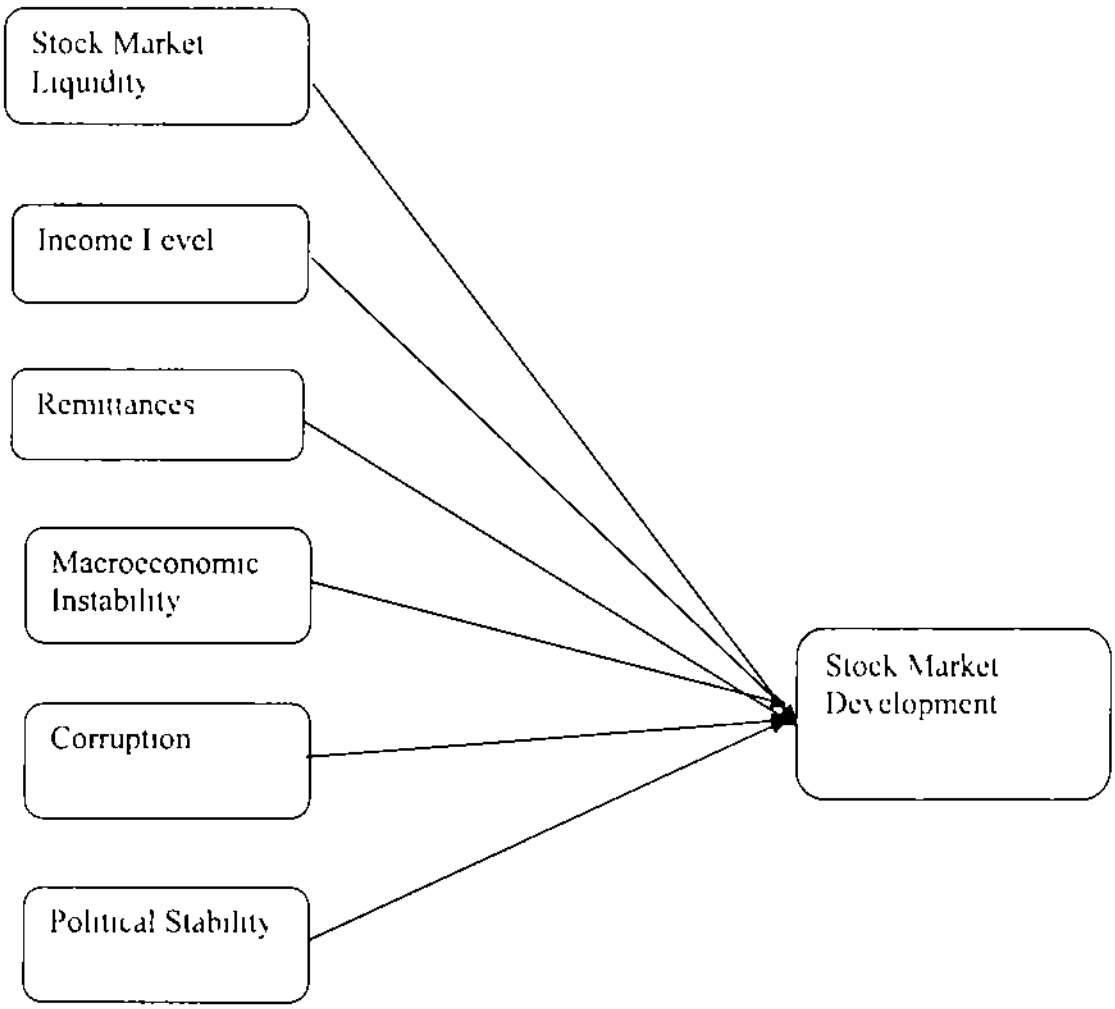
Table 2: Expected directions of the explanatory variables on the basis of theoretical frame work and empirical literature

Variables	**Sign**
Stock Market Liquidity	Positive
Income level	Positive
Remittances	Positive
Macroeconomic Instability	Negative
Corruption	Negative
Political Stability	Positive

2.6 Model

The model of this study is shown in figure 1

Fig: 1



2.7 Evolution of Stock Market Development in selected South Asian Countries

The evolution of stock markets in the South Asian countries (Pakistan, India Sri Lanka and Bangladesh) is highlighted by the overall percentage change in the variables during the sample period from 1993 to 2012. The following table shows overall percentage in the variables

Table 3 Percentage Change in the Variables during the sample period

Country	Pakistan			India			Sri Lanka			Bangladesh		
Year	1993	2012	Change	1993	2012	Change	1993	2012	Change	1993	2012	Change
SMD	22 53	19 46	-13 6	34 48	67 96	97 1	24 2	28 7	18 68	1 36	13 1	859 6
SML	3 58	5 33	48 9	7 66	33 48	336	3 72	2 819	-24 2	0 045	9 41	20706
IL	427 7	1252	192 8	308 5	1503	387	585	2921	398 6	288 6	862	198 6
R	1 45E+09	1 4L+10	868 4	3 52E+09	6 88E+10	1853 5	6 32E+08	6L+09	848 7	1 01E+09	1 42E+10	1313
MI	9 973	9 685	-2 893	6 362	9 312	46 31	11 746	7 542	-35 787	3 014	6 218	106 25
CO	-	2 7	2 7	0	3 6	3 6	0	4	4	0	2 6	2 6
PS	-	8	8	0	9	9	0	8	8	0	8	8

From the table it is clear that stock market development, income level, stock market liquidity and remittances have increased during this time period The only exception is the value for stock market capitalization as percentage of GDP which shows that stock market development in Pakistan has decreased by 13 6% The reason for this decrease is the political instability in the country during the year 2007, when the KSE index crashed completely due to the assassination of Benazir Bhutto This assassination caused KSE a great damage and it suffered a big market crash (Kansaro, et al , 2011) However in case of Bangladesh, stock market capitalization as percent of GDP has increased manifolds as there is a 859 6% increase which shows that stock market in Bangladesh has evolved significantly The value for stock traded as percentage of GDP which is stock market liquidity has increased in Pakistan, India and Bangladesh with a positive change of 48 9%, 336% and 20706 % respectively But for Sri Lanka there is a -24 2% change, this is due to the lack of growth and less liquidity in 'SP20" as noted by Bandara (2013) which shows that stock market liquidity in Sri Lanka has decreased over the time period The value for income level show that income level in the selected South Asian countries has increased gradually with Pakistan, India, Sri Lanka and Bangladesh all having a 192 8%, 387%, 398 6% and 198 6% change respectively This increasing income level is in line with the standard international trade theory that countries in a similar geographical region have a parallel income level as noted by (Bernstein & Weinstein 1998)

The value for remittances show a marked increase for all the countries, as for Pakistan the amount of remittances has increased 868 4% in 2012 as compared to 1993, in case of India and Sri Lanka it is 1853 5% and 848 7% while for Bangladesh there is 1313% increase Since Pakistan India Sri Lanka and Bangladesh are low income countries and according to World Bank (2007) out of US$199 Billion remittances transferred to developing countries US$47

billion is transferred to the low income countries Also the number of immigrants working abroad from South Asia is ever increasing as according to United Nations economic department (2013) there are 232 million international migrants as compare to 154 million in 1990 The individuals from South Asia migrate in huge numbers for better job opportunities (Billmeier & Massa, 2009) The data for macroeconomic instability show a negative percent change for Pakistan and Sri Lanka while for India and Bangladesh it is positive which means that macroeconomic instability in Pakistan and Sri Lanka has decreased relatively to India and Bangladesh over the time period This could be because inflation in Bangladesh & India has increased from 6 36 and 3 01% respectively to 9 31 and 6 21% and stock market capitalization in these countries has also increased to 97 1% and 859 6% as compared to Pakistan and Sri Lanka s -13 6% and 18 7% respectively The values for political stability and corruption show over the time period the level of corruption has decreased gradually while India is the most politically stable country in the selected sample

CHAPTER 3

3. RESEARCH METHODOLOGY

3.1 Measurement of Variables and Data Sources

The equation of relationship between stock market development and macroeconomic and institutional factors will be according to (Billmeier & Massa, 2009)

$$SMD_{it} = \alpha_i - \beta\ SML_{it} + \beta\ IL_{it} + \beta\ R_{it} + \beta_4 MI_{it} + \beta_5 CO_{it} - \beta_6 PS_{it} + u_{it} \qquad \text{Eq (1)}$$

Where SMD is the dependent variable (stock market development), α is the individual coefficients, β is y-intercept, whereas SML is independent variable (stock market liquidity), IL (income level), R (remittances) MI (macroeconomic instability), C (corruption) and PS (political stability), while i is no of cross-sections at time period t and u is error term The table below presents the measurement and source of variables

Table 4 Measurement of Variables

Variables	Measurement	Data Source
Dependent Variable		
SMD: Stock Market Development	Market Capitalization to ratio of GDP	World Bank
Independent variables		
SML: Stock Market Liquidity	Ratio of total value traded to percentage of GDP	World Bank

IL: Income level	Log GDP per capita	World bank
R Remittances	Net amount of worker's remittances as percentage of GDP	World Bank
MI: Macroeconomic Instability	Inflation change per year	World Bank
CO Corruption	Corruption level index range 1-100	Transparency International
PS Political Stability	Weighted Individual Country Score Range1-100	Worldwide governance Index (WGI)
Ut : Error Term	What is remained unexplained by independent variables	

3.2 Data and Methodology

This study empirically investigates the determinants of stock market development in the South Asian Economies, which include Pakistan, India, Sri Lanka and Bangladesh Since the KSE was liberalized in 1991, therefore the selected time frame takes into account the liberalization effects on Pakistan's economy Because of lack of availability of data for the years 2013 and 2014 Data is collected for the time period from 1993 to 2012, which is 20 years Data sources are World Bank, Transparency International& Worldwide Governance Index Model consist with the study of (Naceur et al , 2007. Billmeier & Massa, 2009) is used for the determinants of stock market development with relevant variables

3.3 Statistical Analysis

3.3.1 Regression Analysis

Regression analysis is widely used for prediction and forecasting or we can say it is used to investigate causal relationships Regression analysis is applied to find out the nature of

relationship between which independent variables along with the dependent variable In restricted circumstances, it explains behavior of dependent variables, which is determined by independent variables Regression analysis investigates deterministic relationship of relevant macroeconomic and institutional variables with stock market development Regression analysis has been used in many previous studies to investigate determinants of stock market development (Naceur et al , 2007)

3.3.2 Fixed effect and Random effects

Since the dataset is of panel nature, therefore the panel data techniques are used for the four countries in the South Asian Region, thus the fixed effect as well as the random effects model is used The fixed effect and random effect helps to deal with the cross sectional effects, as the fixed effects takes into account the individuality of data while the random effect ensure that individual estimate are uncorrelated with the explanatory variable Similarly in order to choose between the fixed and random effects, Hausman test is applied If the value of χ^2 is equal to 0 05 then random effect is considered and if it is equal to 0 00 then fixed effect is used As the null hypothesis is rejected, it will take the difference across the individual countries Fixed and random effect is used in previous studies as (Naceur, et al , 2007, Cherif & Gazdar, 2010)

CHAPTER 4

4. RESULTS

This chapter shows the results and the discussion of empirical findings The table of descriptive statistics for individual countries is shown below The mean value and S D for all the variables of individual countries is shown in table 5

4.1 Descriptive Statistics

Table 5: Descriptive Statistics Individual countries

Country	Pakistan		India		Sri Lanka		Bangladesh	
Variable	Mean	S D	Mean	S D	Mean	S D	Mean	S D
SMD	2 892	0 502	3 857	0 522	2 798	0 502	1 611	0 686
SML	2 997	1 126	3 744	0 740	0 914	0 653	0 833	1 186
IL	6 465	0 382	6 502	0 504	7 090	0 490	6 172	0 400
R	21 887	0 871	23 718	0 789	21 262	0 647	22 013	0 873
MI	2 260	0 570	1 778	0 384	2 200	0 342	1 630	0 584
CO	1 962	0 917	2 855	0 756	1 962	1 714	1 459	0 246
PS	4 2	3 088	5 105	3 446	4 421	2 949	4 473	3 006

The mean value of stock market development and stock market liquidity which is 3 857 and 3 744 for India is higher than that of other economies, which indicates the development in Indian economy as compare to other selected South Asian countries in the sample The mean value of income level for Sri Lanka which is 7 090 is higher than that of other selected South Asian

countries, this higher income level could be because of high literacy rate in Sri Lanka which means that better education leads to better job opportunities which leads to high income level The mean value of remittances for all the South Asian is very high this is due to the large number of immigrants from South Asia are working abroad and remittances are big source of external financing for these countries (Tiwolde, 2005) The mean value of macroeconomic instability for Pakistan, 2 260 is higher than that of other selected countries, this macroeconomic instability is due to the political unrest and economic turmoil in the country, as from 2001 to 2006 the inflation level in Pakistan increased from 4 4% to 7 9% The geopolitical location of Pakistan at the crossroads of South Asia made it a pivotal state which paved way for US to force its interest through Pakistan after the 9/11 incident (Rabbi, 2012) According to Zaiby (2008) Pakistan suffered more than US$35 billion in terms of economic loss due to war on terrorism

The mean value of political stability for Pakistan is 4 2 which is less than that of India, Sri Lanka and Bangladesh, this indicates lack of political stability as compare other countries as according to Kaufmann (1999) the lower the value, the lower is political stability This is evident due to the political situation of country over the time period as Pakistan is being engaged in war against terrorism The mean value of corruption in India is 2 855 this value is greater than the mean value for overall sample size which is 2 688, this shows the level of corruption is high in India as compare to other selected South Asian countries, but the menace of corruption is rife in subcontinent as noted by (Blais et al , 2014)

4.2 OLS Regression

Table 6: Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2 709	0 868	-3 120	0 002
SML	0 384	0 050	7 612	0 000
IL	0 657	0 142	4 609	0 000
R	1 63E-11	5 52E-12	2 957	0 004
MI	0 258	0 099	2 605	0 011
CO	0 042	0 070	0 598	0 551
PS	0 080	0 028	-2 792	0 006
R-squared	0 739	F-statistic	34 531	
Adjusted R-squared	0 718	Prob(1 -statistic)	0 000000	

OLS regression analysis is used to check the deterministic relationship of all variables with the dependent variable which is stock market development The results of OLS Regression are shown in the table 6 The regression analysis shows that the value of R-square is 74 percent, while adjusted R-square is 72 percent R^2 determines how the data fits a statistical model whereas adjusted R^2 takes into account the model does not give spurious results, The value of F-stat which is 34 53 shows that over all model is fit (Draper & Smith, 1998) The table shows that the variables stock market liquidity, income level, remittances, macroeconomic instability and political stability have positive and significant relationship with stock market development

4.3 Fixed & Random Effect Estimation

OLS regression analysis was used which led to the fixed and random effects. In order to deal with the individual effects and cross sectional effects, fixed and random effects are applied on the data. This estimation technique is widely used in previous studies like (Garcia & Liu, 1999, Naceur, et al., 2007, Cherif & Gazdar, 2010)

Table 7: Fixed Effect Estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3 253	2 351	4 969	0 000
SML	0 250	0 055	4 524	0 000
IL	0 376	0 171	2 202	0 031
R	7 68E-10	1 46E-10	5 258	0 000
MI	0 184	0 087	2 107	0 038
CO	-0 032	0 056	-0 569	0 570
PS	1 906	0 551	3 454	0 000
R-squared	0 848	F-statistic	43 548	
Adjusted R-squared	0 828	Prob(F-statistic)	0 000	

Table 8: Random Effect Estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3 590	6 226	1 820	0 072
SML	0 265	0 0548	4 837	0 000
IL	0 382	0 167	2 279	0 025
R	7 89E-10	1 44E-10	5 499	0 000
MI	0 187	0 087	2 146	0 035
CO	-0 027	0 057	-0 478	0 634
PS	1 851	0 550	3 364	0 001
R-squared	0 527	F-statistic	13 581	
Adjusted R-squared	0 488	Prob(F-statistic)	0 000	

Table 9: Comparison of Fixed effect and Random Effect

Variable	Fixed Effects	Random Effects	Var. (diff)	Prob.
SML	0 250	0 265	0 000	0 000
IL	0 376	0 382	0 001	0 046
R	0 000	0 000	0 000	0 000
MI	0 184	0 187	-0 000015	0 023
CO	-0 032	-0 027	-0 000054	0 623
PS	0 017	0 010	0 000002	0 000
χ^2 (6df),27 863	Prob > x^2 = 0 0001			

In order to choose between fixed effect and random effects estimation, Hausman test is applied The value of adjusted R^2 is 0 82 for fixed effect estimation, which is higher than that of random effect model For the Hausman test the null hypothesis is that random effect model is appropriate while the alternate hypothesis is fixed effect model is appropriate The results of fixed effect and random effect are shown in table 7 and 8 respectively This test is asymptotically χ^2 distributed with 27 863 (6 df) The results for the Hausman test indicates that p-value is significant The table 9 shows that our null hypothesis is rejected and alternate hypothesis is accepted, which means that fixed effect estimation is better

The relationship of all the independent variables like stock market liquidity, income level, remittances, macroeconomic instability and political stability is significant, whereas corruption has an insignificant relationship with stock market development for the South Asian countries used in this study

The variable stock market liquidity has positive relationship with stock market development with a t-value of 4 52 and it is also significant at level of 1% The relationship of stock market liquidity is line with the studies of (Naceur, et al , 2007 Yartey, 2008) Similarly

income level also has a strong positive relationship with stock market development as the t-value is 2.20 and it is also significant at 5%level. The t-value for remittances is 5.24 and it is significant at 1 percent level. Therefore remittances have a direct relation with the stock market development. Macroeconomic instability has a positive relationship with stock market development the t-value for this variable is 2.10 while it is significant at 5 percent level. The results for the variable corruption gives a t-value of -0.569 and it is insignificant with a p-value of 0.567, which indicates an insignificant relationship between corruption and stock market development. Finally, political stability has a significant positive relationship with stock market development at level of 1 percent with t value of 3.45.

This positive relationship of independent variables with the dependent variable stock market development for the South Asian countries of India, Pakistan, Sri Lanka and Bangladesh is line with the study of Nacuer et al., (2007) and Billmeier and Massa (2009) who noted the same trend for the MENA region and Middle Eastern and Central Asian region respectively.

4.5 Results Discussion

Stock Market Liquidity

The table 6 shows that stock market liquidity has positive relationship with stock market development with a t-value of 4.52 and it is also significant at level of 1%. This positive relationship indicates that the increase in liquidity helps to allocate the resources and allows the free mobility of capital which leads to increase in growth and investments (Levine, 1991). Also the emerging markets of South Asia are attractive to international investors due to which there is increase in stock market liquidity which also helps leads to stock market development as the market capitalization of these countries over the years has increased significantly. This direct

relation of stock market liquidity with market capitalization will lead to increase in stock market synchronicity which also attracts the investors (Morck, et al , 2000) Similarly according to standard international trade theory which states that in small countries the stock markets is less synchronous, however the increase in liquidity will create synchronicity in prices and will help in stock market development (Bernstein & Weinstein, 1998) Kansaro et al , (2009) noted that stock market liquidity particularly of KSE from the period of 2002 onwards has shown a sharp increase because the market was unpredictable in forecasting of its liquidity This has played an important role in the development of stock market development The relationship of stock market liquidity is line with the studies of (Naceur, et al , 2007, Yartey, 2008) Similarly stock of firm in large countries is more synchronous than small countries as they rely on mostly one industry or one economic activity

According to O'hara (1995) market microstructure deals with exchanging assets under a specific set of rules and how the trading mechanism affects the overall market structure The market microstructure allows the investors to execute their orders quickly which increases the liquidity in stock markets This increase in liquidity reduces transaction costs and frictions in the stock market Similarly it helps in achieving operational efficiency which creates liquid markets this process encourages the competition and leads to development in stock markets (Biais, et al , 2005)

Income Level

The variable income level has a positive relation with the stock market development When the income level in an economy increases it leads to more investment which results in increasing market capitalization This result supports the standard international trade theory according to which countries in a similar geographical region have same income level (Bernstein

& Weinstein, 1998) Similarly it is also in line with the demand driven hypothesis that when the per capita GDP increases, the economy expands and it provides opportunity for financial services This increasing demand will to betterment and competition in financial services which has a positive effect on stock market development Similarly income level allows investors to save money which also increases disposable income This result is in line with the studies of (Garcia & Liu, 1999 Naceur, et al , 2007, Yartey, 2008)

Remittances

The amount of remittances for the South Asian over the sample period has increased gradually this has not only helped to improve the living condition of these countries, but has also provided a channel for saving which leads to investment in stock markets, which ultimately results in high market capitalization and stock market development The positive and significant relation of remittances with stock market development is in line with work of (Billmeier & Massa, 2009) Similarly the positive relation also supports the financial liberalization theory that free mobility of capital is a source of foreign capital Also the increase in remittances leads to economic growth and high liquidity and market capitalization (Tswanumo, 2007, Stulz, 1999, Mishkin, 2001)

Macroeconomic Instability

Macroeconomic instability has a positive relation with stock market development and it is fairly significant at 5% level Literature has documented a mixed evidence regarding the impact of macroeconomic instability on stock market development, with majority of studies reporting an insignificant impact of macroeconomic instability on stock market development (Yartey, 2008, Garcia & Liu, 1999, Kemboi & Tarus, 2012) The reason for positive relationship of inflation with stock market capitalization could be that if stock market is interpreted as

another form of real investment and not only cash holdings, then high inflation will lead to high market capitalization as noted by (Boyd, et al , 2001, Billmeier & Massa, 2009) According to Fischer s hypothesis stocks provide a hedge against inflation and that nominal equity returns should be positively related with inflation This might be the case in South Asian countries where there has been a rapid increase in inflation and stock market capitalization over this sample period This positive relation is consistent with the work of (Levine & Zervos, 1996, Cherif & Gazdar 2010) who also noted a positive impact of macroeconomic instability when measured with inflation change, however this results contradicts the findings of Naceur, et al (2007) which claims that higher the volatility in stock markets the less the investors will be inclined to put their money in these markets

Corruption

The variable corruption has a insignificant relation with stock market development As per World Bank (2006) the problem of corruption is chronic in the South Asian countries Bolgorian (2011) noted a statistically significant relation of corruption with market capitalization by using the power law dependence

Political Stability

The relationship between political stability and stock market development is positive and significant This result is in line with the previous studies of (Roe &Seigel, 2009, Alesina & Vega, 2011) Similarly it also supports that worldwide governance index (WGI) that political stability is an important determinant of stock market development (Revia, 2014) Because a stable political environment helps in the allocation of funds and leads to economic development Alesina and Perotti (1996) argued that political stability helps in overcoming financial backwardness and it leads to favorable economic outcomes Butsa (2008) noted that political

stability provides investor protection and they are committed to long term investments in those particular markets

CHAPTER 5

5. CONCLUSION AND POLICY RECOMMENDATIONS

5.1 Conclusion

Over the years the emerging markets of South Asian countries have developed and progressed with the help of financial liberalization and economic development Therefore it was important to find out the determinants of stock market development for these countries The present study used six macroeconomic and other variables as highlighted by previous literature in order to find out the impact of macroeconomic factors like income level, macroeconomic instability, stock market liquidity and other variables like remittances, corruption and political stability The sample size was of 20 years i e from 1993 from 2012 because of data constraints This sample size helped to capture the impact of financial liberalization of KSE in 1991 which led to growth of stock market up till 1997, similarly the major economic boom that changed the stock market of India from the 1990s

From the study it is concluded that all variables except corruption (stock market liquidity, income level, remittances, macroeconomic instability, and political stability) have significant relationship with stock market development

Stock market liquidity has a direct significant link with stock market development Thus the increasing liquidity in stock markets allows the investors to look for frequent trading and maximum returns The increase in stock market liquidity facilities the investors to execute their

orders quickly This phenomenon also reduces the friction in stock markets and leads to operational efficiency, which helps in stock market development This relationship is in line with the theoretical perspective of market microstructure theory and asset pricing theory

Income level and stock market development have a positive relationship, with the increase in income level more and more opportunities are created for savings which channels the investments in capital markets and leads to effective capital allocation This increasing flow of funds has a positive impact on the market capitalization The increase in income level leads to economic growth as the GDP per capita increases,it has a strong association with the stock market development The theoretical perspective also highlights that countries in a similar geographical region have parallel income levels

Remittances also have a positive and significant impact on stock market development, this is due to the financial liberalization phenomenon that increase in foreign capital flow provides boost to economy and develops the stock market According to World Bank (2007) the flow of remittances to developing countries has increased significantly and US$199 0 billion were transferred to developing countries and US$47 0 billion to the low income countries respectively Remittances are a source of disposable income which provides investment opportunities This result is in agreement with the financial liberalization theory

The result of macroeconomic instability is positive and significant This direct relation could be because when the inflation rises, the prices of stock might increase as it follows the pattern of general prices Therefore when inflation rises then there is a possibility that stock market capitalization will also increase

Corruption has an insignificant impact with stock market development although the sign is positive in emerging markets the start of corruption can lead to short term efficiency as the

investors believe that the norms of fair dealings can be violated to achieve maximum returns The menace of corruption does exist in developing economies and it influences the stock markets of South Asia as well, however this study was unable to capture a significant effect of corruption on stock market development

Political stability also has a significant positive relationship with stock market development The economic development and financial markets cannot be separated from a political system as it helps them in providing institutional protection and enhanced competition political stability is an important factor for stock market development and over the years it has a significant impact in the development of economies and stock markets

5.2 Recommendations

The result of this study has important policy implications for South Asian countries as in order to promote the stock market development economic growth plays an important part Also financial liberalization has a positive effect on stock market development Income level increases economic growth, similarly stock market liquidity has a positive effect on stock market development Hence, improvement in stock market liquidity paves the way for stock market development Remittances are also a source of saving, therefore incentives should be provided to encourage the flow of remittances Political stability provides confidence to investors and weak regulations creates loopholes for corruption Thus regulatory authorities should look to overcome these factors in order to create a positive effect of stock markets on national economy Similarly these emerging markets of South Asia are a great avenue for international investors as because it helps them in risk diversification and allows for optimum portfolio A well-functioning market

contributes significantly to a growing economy and provides them capital development Thus the potential value of a successful stock market is a foremost important for an economy

5.3 Future Research

Based on the findings of this study, future research should focus on the following

1 The current study focuses on only on the South Asian markets, however in the future studies it would be useful if the sample size is increased to other emerging markets in order find out key determinants of Stock market development in other regions

2 Other institutional factors like political risk etc can also be used in order to check the impact on stock market development Similarly an alternative measure to variables like corruption can also be used

3 Stock price synchronicity is an important factor in the stock markets according to Morck (2000) stock price in an emerging markets are synchronous therefore additional variables like stock price synchronicity can also be used to determine the stock market development

5.4 Limitations

1 The study is not isolated from external world factors, which might distort results

2 Although this study was able to identify the key determinants of stock market development it was not designed to extrapolate future trends in stock market development

3 Although we maximized the length of the study period, the duration of this study may be insufficient to exclude long-term cyclical changes in market attributes

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