PIDE WORKING PAPERS
No. 108

PAKISTAN INSTITUTE OF DEVELOPMENT ECONOMICS

Financial Flows, External Capital Structure, Institutions and Economic Growth in Asian Developing Economies

Madiha Bashir
Attiya Yasmin Javid

July 2014

PIDE Working Papers
No. 108

Financial Flows, External Capital Structure, Institutions and Economic Growth in Asian Developing Economies

Madiha Bashir
Pakistan Institute of Development Economics, Islamabad

and

Attiya Yasmin Javid
Pakistan Institute of Development Economics, Islamabad

PAKISTAN INSTITUTE OF DEVELOPMENT ECONOMICS
ISLAMABAD
2014

Pakistan Institute of Development Economics
Islamabad, Pakistan

E-mail: publications@pide.org.pk
Website: http://www.pide.org.pk
Fax: +92-51-9248065

Designed, composed, and finished at the Publications Division, PIDE.

C O N T E N T S

Page

List of Tables

ABSTRACT

Present study is conducted to measure the impact of financial integration on economic growth in Asian developing economies using panel data of twelve Asian countries from 1984-2012. In first part of analysis, study finds for the direction of causality between financial development and economic growth and based on empirical finding suggests that it is financial development that follows growth. In second part of analysis, study examined the growth effect of four different kind of financial integration variables. The effect of financial integration differed considerably depending on the type of financial integration variable employed. Foreign direct investment and equity assets and Foreign direct investment and equity liabilities negatively affects growth while debt assets and debt liabilities positively affects growth in developing Asia. Moreover, the impact of two dimensions of public institutions i.e. corruption and financial development on composition of external liability structure is also examined. Study arrives at conclusion that financial integration does not contribute in growth of developing Asia as much as it is expected. Moreover, countries should develop and strengthen its financial system and reduce corruption to attract FDI in order to enjoy more growth episodes and to avoid currency crisis as well.

Keywords: Financial Integration, Economic Growth, Financial Development, Composition of External Liability Structure, Corruption, Currency Crisis

1. INTRODUCTION

Economic growth is effected by economic integration is the concern of almost all the economists especially the development economists where economic integration comprises of trade integration, financial integration and so on. The empirical research findings are in line with the theory on benefits of trade integration on economic growth. As far as theory on the benefits of financial integration on economic growth is concerned, neo-classical framework proposes straightforward benefits. The exploration of the relationship between financial integration and economic growth goes back to McKinnon and Shaw (1973) thesis work. Till now, vast strand of literature is being devoted to come up with a strong and robust relationship between financial integration and economic growth but the issue is inconclusive and controversial. There are studies that state positive relationship between economic growth and financial integration but others state no or negative relationship.

The landscape for financial integration has markedly changed during late 70s and early 80s. At first, developed countries liberalised their capital accounts and in turn experienced high growth episodes. Developing countries witnessed the scenario and introduced financial reforms in order to enjoy high growth as well.

Financial integration improves risk sharing by providing the investors with more opportunities to diversify risk and to undertake more risky investments. Financial integration further follows by a reduction in cost of capital and stabilises macroeconomic environments by ensuring reduced volatility in the incomes of the households.Geographic boundary of a country does not matter as financial integration proceeds. What matters is the total integrated area: firms may differ in their domestic financial sectors but have equal access to financial services. Integration develops and strengthens the financial markets of backward areas and ensures companies access to more sophisticated security and credit markets. This strengthening of domestic financial systems augment domestic savings: these savings are then mobilised to more competitive and efficient sectors or firms of the economy [Mckinnon and Shaw (1973)]. Developed financial systems share its services with other integrated country partners, cross border loans are made, and equity market integration follows listing of domestic shares on foreign exchanges thus adding to turn over ratio of these stock markets in such a way less developed financial countries gain an access to major financial systems by listing on foreign stock exchanges. Development of domestic financial system is further followed by the

entry of foreign banks. The entries of foreign banks induce massive competition on the part of domestic banks. Domestic banks reduce the costs, prices and overhead expenses of financial services when foreign banks enter the domestic markets. Financial integration improves national regulatory quality in this way. Countries with good regulatory quality are capable to have developed credit and stock markets. This process results in development of domestic financial system. Another argument is that financial integration raises a country's economic growth that in turn develops a country's financial system Gurley and Shaw (1967), Goldsmith (1969), and Jung (1986).

Integration to the world capital market has both direct and indirect channel effects on growth. It directly raises investments and total factor productivity by accumulating physical capital and developing human capital. The indirect channel effects are confined to an increase in development of domestic financial system and trade openness. Eichengreen (2001) and Prasad,*et al*. (2003) point out that it is not easy to find relationship between financial integration and economic growth for developing countries. Alesina (1994), good institutional quality and property rights (secured by good institutions) are important inputs for economic growth. Reisen,*et al.* (2001) found that there is no strong evidence for positive growth effects of financial integration.

Osada and Saito (2010), financial integration promotes growth directly by raising FDI and equity liabilities and indirectly by increasing trade openness and strengthening domestic financial system. Kose (2009), Masten, Coricelli, and Masten (2000), it is the developed and well-functioning financial system that have positive growth effects attached with it. Developed financial system attracts inflows whereas underdeveloped financial system experience capital outflows instead of capital inflows known as Lucas paradox. Countries may also face negative growth effects because of heavy reliance on foreign capital and foreign capital may be subject to sudden stop thus causes persistent loses in output. Financial crisis of 80s and 90s occurred in developing countries with weak financial systems but recent turmoil is experienced by developed countries with more developed financial systems thus putting a question mark on the role of developed financial systems on growth.

Two hypotheses related to financial integration are being posed in literature i.e., composition hypothesis and threshold hypothesis. A composition hypothesis is related to a country's composition of international inflows. This composition of international inflows is known as its external liability structure or external capital structure. Composition of external liability structure greatly affects growth of the countries. If liability structure consists of more share of equity like flows then a country can enjoy more growth. Or in other words, if capital structure is composed of more equity like flows then country has less probability of occurrence of currency crisis because these flows cannot be easily reversed whereas on the other hand, if liability structure comprises of more

loans then that liability structure increases a country's probability of currency crisis as they are easily reversible and are subject to sudden stop. FDI and portfolio equity flows are positively associated with economic growth [Bekaert,*et al.*(2005)]. According to Frankel and Wei (2005), FDI is negatively associated with the probability of crisis. Threshold hypotheses state that a country must pass certain minimum standards of human capital, institutional quality and financial development before liberalising capital account or moving to financial integration. If these factors are not paid heed and country liberalises its capital account then instead of positive growth rate, negative growth rates will be experienced. These two hypotheses are not rival hypothesis but are opposite sides of the same coin. Present study explores growth effects of financial integration by employing four different measures of financial integration following Osada, and Saito (2010) and composition hypothesis because of its great significance and policy implication. Institutions play an important role in the composition of capital flows therefore present study takes in to accounttwo dimensions of public institutions i.e., corruption and financial development following Wei (2006).

Wei and Wu (2006) have suggested that capital inflows move to the Swiss accounts and few élite families in highly corrupt countries rather than raising productive investments. Moreover, capital inflows may result in an increase in country's probability of currency crisis if heavy risky investments are backed by the government. Wei (2000, 2001, and 2002) and Wu and Wei (2002) have found that countries with good public institutions attract more FDI and equity flows than international lending or bank loans. Albuquerque (2003) stated that Countries with high financial constraints finance themselves with FDI. Financial constraint means weak financially developed countries with these institutions will lead to lower share of FDI. Rogoff (1999) has suggested that emerging markets should try to have an external liability structure composed of by a major share of equity like flows especially FDI because it is related with technological transfer [Borensztein, *et al.*(1998)]. Equity like flows helps domestic producers by diversifying risk and stabilises consumption risk sharing. Liability structure more composed of debt liabilities maysubject an economy with sudden stop that is less likely observable for equity flows.

A large number of variables are available to measure financial integration. Study uses defacto measures of financial integration because they are more meaningful to use than any other kind of financial integration measure. Defacto measures are more objective, less prone to measurement errors and are stock variables. Financial integration measures used in present study are derived from accumulated stock of assets and liabilities. Accumulated stock of assets and liabilities is broken down to FDI and equity assets, FDI and equity liabilities, debt assets and debt liabilities following Osada and Saito (2010). This study divides these capital flows in to two sets. One set is composed of FDI

and equity liabilities and debt liabilities intended to measure growth effects of foreign assets held in domestic economies. Second set comprises of FDI and equity assets and debt assets. This second set would measure the growth effects of domestic assets held abroad. FDI and portfolio equity assets and liabilities are developed by taking the sum of FDI and portfolio equity (assets and liabilities). This study adds these two variables to come up with a single measure i.e., FDI and equity assets/ liabilities because company's success depends on the return coming from these two kinds of capital flows.

As far as composition of external liability structure is concerned, this study divides capital inflows in to three components i.e. FDI, portfolio equity and debt liabilities. Study keeps FDI and equity liabilities separate because these inflows may get influenced differently from public institutions i.e., financial development and corruption.

This study examines whether financial integration promotes economic growth in Asian developing economies or not the analysis involves the examining the direction of causality between financial development and economic growth. The study also isolate the growth effect of following financial flows: FDI and equity liabilities and debt liabilities, FDI and equity assets and debt assets. The study analysis the effect of public institutions on the composition of capital structure.

Financial integration raises the quality of future policies by committing the governance to pursue good policies. Good institutions, good governance and high level transparency serve as inputs for capital inflows. If institutions and policies are not strong and lack transparency, then a country may face a problem called "capital flight". These volatile capital flows may disrupt domestic institutions, policies and growth. Attributed to these properties of financial integration, present study is important. Composition of capital structure is of significant importance for developing economies because composition is equally important for growth as well as for country's probability to experience currencycrisis Mauro and Faria (2004). Capital flows between countries are positively correlated with the probability of crisis [Frankel and Rose (1996), Radeletand Sachs (1998), Rodrick and Velasco (1999)]. Therefore, an empirical finding on the composition of external liability structure is dire need of the hour. A small change in host country's economy brings a large change in portfolio equity flows and bank loans and can lead to self-fulfilling expectation or probability of crisis Wei (2000). Present study is intended to provide useful information about determinants that attract more FDI and less debt.

Although large empirical work is being devoted to check the impact of financial integration on economic growth but present study is intended to measure growth effects of financial integration in Asian developing economies. Previous studies provided a general conclusion about growth effects of financial integration by including mix of countries i.e., developed, emerging and developing economies in their samples.

As far as composition hypothesis is concerned, few studies are conducted to explore this side of financial integration. Wei (2006) has explored the hypothesis by considering two aspects of public institutions i.e., corruption and financial development (measured by domestic credit to private sector). Following him, study will explore these two aspects of public institutions but the indicator of financial development used in present study is different from Wei (2006). Domestic credit to private sector is only a partial indicator of financial development therefore present study employs liquid liabilities of financial system that determine overall size of equity liabilities.

As economy is at the forefront of any state's policy and the era of post modernism is fast pacing, the topic "impact of financial integration on economic growth in Asian developing economies" has motivated to undertake this study. One of the scholars has rightly put the crystal clear importance of the Asian countries in the following manner: *"twenty first century is going to be Asia centred economically"* this quote motivated me to check the growth in Asian developing economies in the context of financial integration.

After the introduction in Section 1, the remaining study is organised as follows. The relevant literature in this area is reviewed in Section 2. Section 3 develops conceptual framework and working hypothesis and Section 5 discusses data, sample, variables and methodology. Section 6 is composed of results discussion and Section 7 provides conclusion of the present study and policy implications.

2. LITERATURE REVIEW

The economic growth is extensively researched area and there is large body of literature which investigates the impact of financial development, financial liberalisation and financial integration on economic growth. In this section relevant literature is reviewed briefly.

2.1. Review of Theoretical Literature

Presence of perfect competition and absence of information and transaction costs does not permit the existence of financial intermediary system. Occurrence of intermediary system makes sense if these kinds of costs are present in the market. Intermediary systems overcome these frictions which are usually two i.e., incentive and technological friction and serves as screening of investment for investors especially small Sinha (2001), Khan and Senhadji (2000). It searches for, process and locate the investments, pool funds and move those funds to best profitable uses. Small investors are hesitant to invest in risky projects but these financial intermediary systems provide them with the opportunity to diversify the portfolio. In turn, they (small investors) end up with a portfolio that is risky as well Sinha (2001).

2.1.1. *Theoretical Working on Financial Development*

Bagehot (1873) has emphasised the existence and importance of banking system and says that banking system promotes the economic growth by introducing innovations. Theintermediaries are usually followed by the developments of secondary market, tertiary markets and so on. Schumpeter (1911) follows Bagehot and emphasis on the role of banks: according to him banks hold central position for economic development. He has argued that no one can become creditor if previously he has not experienced debt. Keynes (1930) states that bank loans provide a pavement for future growth if they realise and know their duty. They provide the services to the extent that the country's productive capacity is fully utilised. Robinson (1952) has argued that it is the financial development that follows growth. He has said that if developing countries are facing credit constraints then this may reduce growth but in developed economies finance is endogenous that responds to demand requirements. His suggestion for economic growth is perhaps bidirectional. McKinnon and Shaw (1973), Dmetriades (1998), government restrictions hinder the quality and quantity of investment. Pagano (1993) government restriction positively affects the steady state growth. King and Levine (1993) government restrictions negatively affect the economic growth. All these developments are in contrast with the Miller and Modigliani thesis work in that they have suggested that finance and growth are irrelevant because financial development works independently and so the firms financing decisions are irrelevant.

Earlier studies have used the financial development variable as credit to private sector and other monetary aggregates but later studies employ along with domestic credit to private sector, the variables indicating stock market size, total equity size (liquid liabilities to GDP) and liquidity of stock market. The most significant variable as far as its impact on per capita income is domestic credit to private sector (PRIVO).

2.1.2. *Causality Analysis between Growth and Financial Development*

The issue of the direction of causality between finance and growth is for the first time put forward by Patrick (1966) and further developed by Mckinnon (1988) that still remains unresolved. They basically put two basic questions i.e. what is the cause and what is the effect? It is Finance that follows growth or growth is followed by finance?

Levine has identified various channels by which financial development promotes economic growth: (1) it mobilises and pool the savings, (2) ease the exchange of goods and services through provision of payment services, (3) allocate savings to most profitable investments by acquiring information about all possible investments and enterprises, (4) diversifies, liquidates and reduces the risk and (5) monitor investments. All these functions increase savings and investments thus promote growth.

2.2. Empirical Literature Review on Financial Development and Economic Growth

Sinha (2001) has accessed the relation between financial intermediation development and economic growth in order to find empirical evidence of Schumpeter view. Goldsmith (1969) finds high correlation but his study has three shortcomings i.e., he has ignored the active participation by the government and households in financial intermediation process, direction of causality between two phenomenon is missing and set of variables that are the determinants of growth were missing as well. King and Levine (1993) has filled this gap by finding that financial services are the drivers of economic growth as they help in the accumulation of physical capital and raise the efficiency of investment. They argue that financial intermediaries predict the future economic growth and this statement is the criticism by the followers. Future authors criticised King and Levine on the ground that high correlation between financial development and economic growth could be a result of some missing variables e.g. households propensity to save because endogenous savings affect the long run economic growth of the countries. Secondly, financial development may be able to predict the economic growth but not the cause of economic growth: it can be only a leading indicator of growth. Rajan and Zingales (1998) have based their work on two properties of financial intermediaries; decrease in the cost of saving and investment and decreases the chances of moral hazard and adverse selection (all this results in reduction of the cost of external financing) conducted study on an assumption i.e. the industries that rely on external financing for growth grow faster in countries that are more integrated. Study finds that industries that rely on external financing grow faster in countries with more developed financial systems. La Porta,*etal*. (1998) have studied the development of domestic financial system on the ground of countries legal systems as they are supposed to be derived from four sources i.e., English, Scandinavian, German and French common law. Gregorio (1998) come forward to find the relation between financial integration and economic growth and between economic growth and financial development. His study finds that economic growth is positive only if physical capital accumulation is accompanied with human capital development and development in domestic financial system. Inflation is highly influential to the development of domestic financial systems because high inflation countries have weak financial systems. Gregorio finds that financial integration is only beneficial in the presence of deep domestic financial systems. Once the domestic financial system is controlled for, he has not found additional effect on growth. Sinha(2001) has concluded after examining the relevant literature that these studies are failed to capture those aspects of financial intermediaries that Schumpeter (1911) proposed.

On one hand, if cross sectional data is questioned on the direction of causality and being prone with spurious correlation then on the other hand, time series data provides unreliable results if time span is short. This has allowed Christopoulos and Tsionas (2003) to make use of panel unit roots, cointegration tests and threshold autoregressive models. The study concludes that there is unidirectional long run causal relationship running from financial development to economic growth. Moreover, there is no short run causality between two variables and weak evidence in favour of threshold effect of financial development on economic growth is found.

Hussain and Chakraborty (2009) have made use of Johansen and Juselius co-integration approach and granger causality to find the relationship by developing principal component analysis in Assam: state of India. Results favour the existence of long run relationship and unidirectional causal relationship for Assam. Study has suggested that financial development significantly affects the growth so countries should try to improve the financial services in order to enjoy growth.

It is quite easy to identify the channels via which financial development is supposed to affect the growth and the channels via which growth is supposed to affect financial development but empirical finding is difficult. Khan and Senhadi (2000) find strong and significant relationship between financial development and economic growth but the size of effect is conditional on the type of variable used. Study finds weak results because a linear equation model is used to test the cross country differences in growth rather than determining the individual growth effects of the countries. When relationship between financial development and growth is assumed to be quadratic, the results improved suggesting conditional convergence that is; poor countries grow faster than advanced countries.

A vast literature documented the bidirectional relationship between financial development and economic growth. Only a few studies document the role of financial development in economic growth for Pakistan. Therefore the authors Jalil and Feridun (2008) found the relation between two variables for the economy of Pakistan. The economy of Pakistan has undertaken certain reforms to reduce market segmentation and increase competition in order to move towards the market based economy. The result of co-integration indicated thatfinancial development is long run determinant of economic growth but financial development is not determined by the growth.

Time series data is being explored by Dmetriades, Hussein (1996) to find the direction of causality between financial development and economic growth. Authors are of the view that cross country regressions may be misleading so time series dimension should be explored. The roots of this special relationship go back to Bagehot (1901), Robinson (1952) and more recently McKinnon and Shaw (1973) thesis work who suggests that financial development precedes

economic growth. The direction of causality is explored using co integration techniques as these techniques provide a way for testing causality using a wide range of financial development variables. The study has found that there is bidirectional relationship between financial development and economic growth in some of the countries included in sample of the study. Moreover, the countries like Spain and Thailand that have undergone financial reforms enjoyed more financial deepening and are better able to contribute in economic development in general. The study has arrived at the same conclusion as of the World Bank's statement that success of economic policies depends on the country's institutions that implement these policies.

Patric (1966) has identified two possible channels, the first is known as demand channel which states that it is the economic growth which creates the demand for financial services and fosters domestic financial system. The second possible channel is supply leading channel. According to him, Resource transfer takes place from low growth sector to high growth sector. This transfer would attract entrepreneurs to these high growth sectors. All this implies that financial institutions are created in response of need for them. Rault, *et al.* (2009) has explored the relationship for transition economies. Study's results suggest that financial development (measured by PRIVO)positively and insignificantly affects economic growth

2.3. Literature Review on Composition of Capital Structure, Financial Integration and other Control Variables

Acemoglu, *et al*. (2002) is of the view that macroeconomic policies are often blamed for increasing volatility in economic growth that eventually results in crisis. But in reality, weak institutions play their role via mismanaged macroeconomic policies and decrease the growth. Weak institutions are statistically found in countries with overvalued exchange rate, hyperinflation, large government size and severe crisis etc. Macroeconomic policies may affect the growth episodes but are not the mediating channel for the volatility. When institutional quality is controlled for, macroeconomic variables have only minor effect on volatility in growth. But one cannot conclude from such finding that distortionary macroeconomic policies are fully free from the blame of being responsible for the crisis. For instance, inflation and overvalued exchange rates discourage investment outcomes etc. Weak institutions have drawbacks i.e., politicians to remain in power distribute income between them and create economic turbulence, such an environment requires cooperation among the politicians but shocks make it quite difficult to cooperate following output loses, contractual arrangements are usually imperfect making a country vulnerable to shock. Moreover, the party in power works to secure the interests of other political parties in order to remain in power causing volatility in output growth, investors takeout their capital whenever they find any chance eventually results

in unsustainability. Cross country differences in volatility are attributable to institutions rather than against the usual thought that macroeconomic variables serve as mediating channel for the introduction of volatility.

Carlson and Hernandez (2002) found the determinants of capital flows and the relation of these flows with severity of crisis. Investors usually invest in short term flows in order to get high returns and leave the host country whenever there is any sign of upcoming crisis where as long term flows accumulate physical as well as human capital and encourage the development process. Direct investment and equity flows are pronounced in countries that have fixed exchange rates whereas floating exchange rate attracts short term debt.

Wei (2006) has examined the significance of threshold and composition hypothesis by taking into account two dimensions of public institutions i.e., corruption and financial development. Study find that FDI move to countries with low level of corruption and strong domestic financial system. Moreover, corruption shifts the composition of capital flows from FDI (Stable capital flow) to loans (volatile and instable flow) increasing a country's probability of crisis. Study suggested that financial development (FD) and corruption does not significantly affect country's total foreign liability but change the composition.

Seyal(2006) suggests two opposing dimensions are being attached to foreign debt i.e., positive and negative. If on one side, it helps in bridging the gap between saving and investment, government's revenue and expenditure, import substitutes are made end export promotion schemes are undertaken. But its negative effects overweigh its positive effects; there is transfer of wealth when loans are repaid with interest payments and country traps to "debt trap peonage": a situation when a country's sovereignty is at the stake or it destroys the independence of the country. Use of foreign debt matters, if it is allocated to productive investments then in turn domestic investment will rise which would balance the increase aggregate demand by raising aggregate savings. On the other hand, if unproductive expenditures are made, aggregate demand would increase, giving rise to inflationary pressures, real interest will also increase thus suppressing the investment. If debtor countries face problem of sudden reversals, they in turn reduce aggregate demand for goods and services resulting in serious recession.

Albuquerque (2003) has provided new evidence by relating FDI to financing constraints. It is said that countries where projects enforcement is imperfect, there the major source of financing comes via FDI because of low default premium and expropriation risk attached to it. Major recipients of FDI are developing countries because they are in need for intangible assets in order to operate efficiently their investments. With FDI, countries enjoy growth episodes because these intangible assets are attached to advertisement, research and development activities. Two properties of FDI make them favourable for financially constrained countries i.e., in alienate and inalienable have low default premium. So if a country faces a problem of financial constraints then

there is a change in country's borrowing constraints affecting non FDI flows greatly. Because of poor financial status of developing countries, they get major share of FDI than any other flows. In order to get more and more capital flows along with FDI i.e., short term portfolio equity and bond flows etc. then these countries should undertake reforms that could ensure the credible enforcement mechanisms for repayment.

Wu and Wei (2002) have analysed the impact of corruption on capital flows. Level of corruption in a country shifts the international creditor's expectations. Corruption refers to the bribe paid to government officials, bureaucratic corruption and deviations in the rule of law. Corruption in a country is followed by defaults in bank loans and harms not only foreign investors but also the creditors. International investors have more access to recipient country information than portfolio investors and banks. So on one side, they have an advantage to pay bribes to local officials and gain power whereas on the other hand, their bargaining power decreases as compared to foreign banks and portfolio investors. In the presence of this scenario, foreign direct investors become more cautious than other investors. G7 country governments and IMF insures more bank loans than direct investors. All this deters FDI in a corrupt country and shifts the composition of capital flow from FDI to portfolio flows and bank borrowings. The benefits of FDI are more than other flows because of technology transfers and managerial know how. Summary statistics proved FDI is less volatile than other capital flows (portfolio equity flows and government borrowings). Regression results suggested that corruption tilts the external capital structure from FDI to more bank loans. Existing literature suggested that low share of FDI in external capital structure increases a country's probability of crisis.

Williamson (2000) has discussed the issues with different forms of capital flows. Developed countries have a complete set of flows from which they have to choose to include them in external capital structure while developing countries have few options. Poor countries have two kinds of capital flows; (1) FDI, (2) Trade credit. Foreign investors in an attempt to exploit the natural resources of recipient countries are ready to undertake high risk and high cost so operates in a poor financial system and infrastructure country. Portfolio equity flows are more pronounced in rich countries with well-functioning stock markets but trend is now changing, equity started following to poor and lower income countries. FDI is a stable capital flow, the experience of East Asian crisis proved it true as well while Portfolio equity returns are volatile representing the stock market volatility.

Sumanjeet (2009) and Faria and Mauro (2004) have determined the role of institutional quality on capital inflows of developing and advanced countries. The study's concluded that better institutions tilt the country's external liability structure from debt and loans to FDI and portfolio equities. Moreover equity like flows is positively related with natural resource abundance and human capital.

Human capital and natural resources serves as a pull to attract FDI. In order to have favourable external liability structure, one should work on to develop deep and sound institutional quality.

Lane, Mauro, Faria, and Ferretti (2007) have studied the external liability structure of countries both across countries and time series. Since equity liabilities are more stable capital flows because they cannot be easily reversed but debt liabilities are subject to sudden stop. Developed countries enjoy both type of external flows i.e., debt and (FDI and portfolio) equity but developing and emerging economies have more share of equity and debt liabilities share in there external liability structure (less FDI). Cross sectional results suggest high institutional quality, more trade openness, and reliance on high natural resources attract more equity liabilities i.e., FDI and equity. But when time series dimensions are explored,study suggests that the countries who introduced investor friendly financial reforms have greater share of equity in capital flow structure.

Sadig (2009) has examined the effect of corruption on FDI inflows. A country before investing abroad should undertake preliminary assessment of that (recipient) country's corruption level because investing abroad in the presence of corrupt bureaucrats results in tax on FDI (bribe payment)and additional cost on investment. Over the sample period, it has been found that 1 percent increase in corruption lead to 11 percent decrease in FDI proving weak institutional quality effect. Skilled Human capital attracts the FDI. Country's institutional level influences the investment level. Panel estimation results suggested that FDI flows to a country depends on the institutional quality but one should not mix it with the general argument that corruption decreases FDI but it supports the relative importance of institutions in attracting FDI.

Osada and Saito (2007) have broken down the accumulated stock of assets and liabilities to four categories i.e., FDI and equity assets, FDI and equity liabilities, debt assets and debt liabilities to access their separate influence on output growth. Study empirically examined both direct channel effects of financial integration on economic growth and indirect channel effects i.e., development of domestic financial system and rise in trade openness. Moreover, study check for the marginal effect on output growth as well. They find FDI and equity liabilities positively associated with growth while debt liabilities negatively affect the growth. FDI and equity assets and debt assets do not significantly affect the growth. Study finds a rise in growth when direct channel effect in accompanied by indirect channel effect. Study's results suggest that countries with developed financial systems and good institutional quality extract more benefit from financial integration.

Carkovic and Levine (2004) have accessed the relationship between economic growth and FDI. Study does not find robust positive growth effect of FDI. Moreover, the results are conflicting to the theory when study finds that FDI induce growth in countries with low level of schooling whereas theory

states that countries where human capital is sufficiently developed there growth effects in the form of new technology transfer are more pronounced. Effect of portfolio, FDI with initial income, financial development, trade openness and human capital are also insignificant reducing the belief that FDI accelerates economic growth.

Beck, Levine and Loayza (2000) have evaluated the impact of financial intermediaries on economic development. There are different views on the effect of financial intermediation on growth. Schumpeter said in (1911) that financial intermediaries choose to allocate domestic savings amongst the firms or companies and raise the productivity rather than accumulating savings to promote growth. While others said that financial intermediaries accumulate domestic savings and attracts foreign capital. Study comes up with the conclusion that deep financial intermediation produces faster growth and productivity rates supporting Schumpeterian (1911) view of economic development because of financial intermediary developments. Results support rise in total factor productivity related to growth but does not conclude that physical capital accumulation promotes the growth.

Beck (2001) has explored the relation between financial sector development and trade balance. He has based his model on the assumption made by Rajan and Zingales (1996) that industries that rely heavily on external finance grow faster and tested that industries that rely on external finance their export share is greater than the industries that do not use external finance. Study finds that developed financial system of a country provides comparative advantage to the industries of manufactured goods that depend on external financing and increases its trade balance and exports thus economic development. High value of equity size (financial development) in any country have high share of trade balance as well. Study found dependence between financial market and trade balance. Gregorio (1998) has found that if financial development is controlled for, there is no additional effect on growth. In other words, one may say that financial integration exerts only dependent effect on growth, it is not pronounced to have independent effect on growth besides FDI. Friedrich, *et al*. (2010) find negative effect on per capita GDP growth by using disaggregated data i.e., industrial level data and found by employing threshold hypothesis that financial integration may be harmful for the countries that go for opening up there capital accounts with less developed financial systems.

Rachdi and Saidi (2011) have estimated that FDI has a positive and significant effect on economic growth attributed to its well-known belief i.e., it adds to growth by transferring knowledge. But portfolio flows has negative coefficient in case of developing countries and positive for developed, that is portfolio flows promotes growth in rich economies only. In order to extract positive benefits from portfolio flows government should take steps to ensure law and order, investment profile, political stability and socio economic

conditions etc. Schularick and Steger (2006) suggest that that in historical period flows moved from capital abundant to capital scarce countries but now the reverse is at the place. Lucas (1990), empirically find that changing pattern of human capital and property protection right are the main determinants that allowed for changing capital flows between the two periods. The rate of interest differentials that were high in historical were main cause of capital flow from rich to poor but now as they are low, movement of capital flow has changed its direction.

Chen and Quang (2012) found large growth benefits of FDI and portfolio equity than other forms of capital flows. Moreover, institutional quality plays a pivotal role in attracting capital flows. Financial openness is more growth promoting in countries with low developed financial systems than the developed financial systems. Low inflation is more relevant for maintaining growth than government expenditures. High inflation negatively affects the growth but low inflation has positive effects. King and Levine (1993) have constructed an endogenous growth model and supported the argument of Schumpeter and Knight that financial systems enhance growth by introducing innovations (increasing productivity and opposing physical capital accumulation) rather than promoting growth. Financial institutions influence investment decisions i.e., entrepreneurs fund savings in most promising investments. Evaluation of investment projects by entrepreneurs incurs less cost than individual investors thus enhances productivity. Cross country micro and macro level effects of financial services and reforms suggest that financial system promotes growth by raising productivity. Study suggests that government policies towards financial system have causal relationship with growth.

Guiso, Japelli, Padula, and Pagano (2004) have found that companies that face credit constraints grow faster once financial integration between countries is made and it is this financial integration that develops domestic financial system. Moreover, main beneficiary of financial integration are small investors.Barro (2007) has estimated the empirical relationship between GDP growth rate, human capital, investment and fertility rate. He finds that countries can experience convergence in their growth rates if they have sufficient amount of human capital. Moreover, human capital in turn promotes the growth through different channels one of them is the reduction in fertility rate and addition in physical and human capital further. Political instability reduces private investment by hurting property rights protection and hinders the economic growth. Faria (2001) has find that inflation affects the real variables negatively in the short run but being substitute to money it has no effect on output in long run supporting Fischer (1967).Kocherlakota, *et al*. (1995) has examined that if technology shocks vary across the countries and are temporary then convergence can be experienced but if the

shocks are permanent then higher economic growth will be carried out by already developed and high initial income countries. Barro (2003) find thatthere is inverse relationship between initial income per capita and a country's per capita growth rate. The main element responsible for positive convergence effect on growth is diminishing returns to reproducible factors. High marginal products are attached to the low capital labour ratio's in poor countries that results in high growth rates.

Linden (2001) has found that so far, population growth does not promote economic development in Asian developing countries.Chipanlkatti and Rishi (2001) find that there is causal relationship between capital flight and indebtedness because it is the capital flight that causes a country to borrow more from external sources for possible substitution of lost capital. The authors confirmed door relationship between capital flight and debt inflows. Mustafa and Ali (2007) find debt overhang situation prevailing in Pakistan. Moreover, they find significant positive relationship between human capital, physical capital and economic growth while labour force had negative effect on economic growth.Cecchetti, Mohanty, and Zampolli (2011) estimated different threshold levels i.e., for households and governments the threshold is 85 percent of GDP and for non-financial 15 corporate it is near to 90 percent of GDP. The governments where the debt levels are high they are required to stabilise the debt flows and should keep the debt level below the estimated thresholds. For, in case of any extraordinary event if debt was initially closed to the estimated threshold then any further increase in it may lead to fiscal pressure and drag growth.

3. CONCEPTUAL FRAMEWORK AND WORKING HYPOTHESIS

This section discusses the theoretical relationship between the variables and hypothesis of primary interest.

3.1. Neo-classical Growth Model

Gains from financial integration are straight forward and work through different channels to promote growth. Financial integration is responsible for global allocative efficiency as it put the resources to best available investments and uses. It provides the capital scarce countries with excessive capital essential to undertake investment. It strengthens the domestic financial system and promotes risk sharing and risk diversification with foreign investors, thus recomposes the portfolio of investors(due to financial integration they hold portfolios with more risky assets in order to earn high returns). It is further followed by listing of domestic firms to foreign countries and makes possible the entry of new banks. In this way, it enhances the functioning of domestic banks and firms and promotes the growth.

3.2. Financial Development and Economic Growth

The relationship between financial development and growth is dual. Developed financial systems promote savings; move those savings to best possible investments and raises the growth [Mckinnon and Shaw (1973)]. Growth further fosters and promotes the functioning of financial systems [Goldsmith (1969)]. Some authors stated positive correlation between the two concepts while others argued that correlation does not imply causation.

The search for causality between financial development and economic growth carries following hypotheses

Ho.a: growth doesnot granger causes financial development
Ho.b: financial development doesnot granger causes growth

3.3. Financial Integration and Economic Growth

Study includes state variables are the measures of financial integration (Foreign direct investment and equity assets, foreign direct investment and equity liabilities, debt assets, debt liabilities) while control variables ranges from initial real per capita growth rate to human capital stock (secondary schooling, gross percentage) to policy variables (ratio of government consumption expenditures to GDP, inflation: to account for macroeconomic instability and trade openness) and to national characteristics of the countries (financial system development, population growth and institutional quality).

The rationale for human capital is, for any given value of physical capital and low initial per capita GDP growth, human capital has a positive effect on steady state level of output per effective worker. Human capital is a key input to research anddevelopment is responsible for the introduction of new ideas or products thus affect the growth positively. Meanwhile, human capital helps in the absorption of new technologies introduced in the World. High growth rate of population implies that more resources are being devoted to increased population rather than spending on education, health and other productive expenditures. High Population has a negative effect on steady state level of output per effective worker.

Government Consumption expenditures do not only means the productive expenditures but also entails the distortions in private sector decision making. The presumed effect on steady state level of output per effective worker is negative. The underlying assumption behind the rationale for negative growth effect on steady state is that for given values of state variables, the control variable Government consumption to GDP ratio (unproductive expenditure) induces distortions by government thus involves adverse effects from the associated finance. These distortions are high tariff rates which provide no stimulus for growth and investment.

Good institutional quality implies high rule of law with better protection of property rights that provide more incentives for investment so the expectation is for positive steady state level of output per effective worker for given values of state variables.

Macroeconomic stability measurement variable included in analysis is inflation that implies for negative effect on growth. Control variable group includes international openness as well measured by the ratio of exports plus imports to GDP. The presumed effect on output per effective worker is positive and thereby on growth. Countries with high trade openness tend to raise steady state level of output per effective worker. Financial development raises a country's GDP growth rate by enhancing its exports and trade balance of manufactured goods. Therefore, it positively affects steady state level of out per effective worker.

Financial integration measures i.e., FDI and equity assets, FDI and equity liabilities, debt assets and debt liabilities have the tendency to shift the steady state level of output and can affect the long run growth rate of the countries. Present study moves around the mainquestion: whether financial integration positively affects growth or not in Asian developing economies? To get answer, we developed two hypothesis stated below:

H1.a: there is positive relationship between growth and FDI and equity liabilities and debt liabilities.

H1.b: there is positive relationship between growth and FDI and equity assets and debt assets.

3.4. Composition of External Liability Structure

By composition of external liability structure, we mean the kind of capital flows a country has in its liability structure. Different capital flows exhibit different properties. There are some capital flows that add more to the growth i.e., FDI than do the loans and debt. Frankel and Rose (1996), composition of external liability structure is also related with a country's probability of currency crisis. If capital structure is composed of such items that are volatile in its nature then there is more probability of occurrence of currency crisis in those countries. Rogoff (1999), emerging markets should try to have an external liability structure composed of by a major share of equity like flows especially FDI because it is related with technological transfer [Borensztein, *et al.* (1998)]. Equity like flows helps domestic producers by diversifying risk, stabilises consumption and increases risk sharing. Liability structure more composed of debt liabilities may be subject to sudden stop. This sudden stop increases a country's probability of upcoming currency crisis. Whereas sudden stop is less likely observable for country with capital structure more composed of equity flows. Because of this policy implication, the hypothesis is supposed to provide policy makers a useful insight in the development of composition of external liability structure.

3.4.1. *External Liability Structure and Institutional Quality*

A more generally accepted theory of country's external capital structure is not yet being developed. But the empirical work is available. Two theories are posed in this context i.e., external capital structure and public institutions. They are discussed below.

Formal theories by Razin (1998, 2001)and others said that firms at first (after retained earnings) finance their liability structure by FDI then by debt and afterwards with portfolio equity. In case there are large and severe information barriers, companies finance themselves with FDI and place their own managers in the recipient countries (more corruption and weak financial system development translates into more FDI flows). But better institutional quality (better regulated markets) of a country shifts the capital composition from FDI to portfolio equity by reducing information asymmetries.

Second best theory posed by Albuquerque (2003) discusses the imperfect enforcement of contracts and expropriation risk. According to him, FDI is subject to less expropriation because it is usually made in intangible assets (brand name, technology).So countries with high financial constraints (weak institutions) finance themselves with lower share of FDI.

3.4.2. *External Liability Structure and Corruption*

Corruption means deviations from rule of law and government regulations and provides shorthand for poor public governance that includes bureaucratic corruption as well. Corruption can affect domestic investors as well as foreign investors but domestic investors have informational advantage than foreign investors. Corruption level adversely affects FDI because corruption increases uncertainty. Wei (2006), high corruption translates into more debt flows than the equity flows. High level of corruption shifts the capital flows from FDI to debt flows. Moreover, less evidence is available on the recovery of nationalised assets of foreign investment and foreign investors in case a country suffers from any kind of crisis period. This additional feature translates into less FDI flows in corrupt countries.

3.4.3. *External Liability Structure and Financial Development*

Foreign direct investment relationship with financial development can be both positive and negative. Conventional view about FDI flows is that they go in countries which have safe and strong institutions and are more financially developed. This theoretical relationship favours positive relationship between variables. Negative coefficient with foreign direct investment implies that FDI move to countries where weak financial system is being practised. Countries where there is low capital labour ratio, there the return on capital is high which attracts foreign capital. This means FDI and weak financial system go parallel to

each other. Conversely, high financial system development means low inflows of FDI Wei (2006), but deep financial system translates into high portfolio equity flows.

H1: corruption and financial development significantly affects the composition of external liability structure.

4. DATA, SAMPLE, AND METHODOLOGY

The section discusses data, data sources, variables, sample period, sample countries and empirical methodology.

4.1. Sample Countries and Sample Period

Initially the study is started with a large sample size covering nineteen countries of Asia but data availability issue decreased the sample size from nineteen to twelve. The study is conducted for twelve developing Asian countries namely as Bangladesh, China, India, Indonesia, Malaysia, Singapore, Sri Lanka, Philippines, Pakistan, Thailand, Vietnam and Nepal for the time period from 1984–2012. Study estimates each model twice a time. First time estimations are done for period between 1984–2007 and secondly for time period 1984-2012. Study did so because data of financial integration variables is taken from Lane and Milessi-Feretti (revised 2009) data source and this data source contains data from 1970–2007 only.

4.2. Variables and Data Sources

The variables used in the analysis, the definition and data source are given by the following Table 4.1.

Table 4.1

List of Variables

Name of Variables	Variables Definition	Data Source
FDI and equity liabilities (FDIEQL)	FDI includes greenfield investment, foreign property investment and controlling stakes in acquired foreign firms and equity liabilities include It includes ownership of company's shares and mutual funds below 10% threshold level.	Lane and MilesiFerretti database (revised 2009)
FDI and equity assets (FDIEQA)	FDI includes greenfield investment, foreign property investment and controlling stakes in acquired foreign firms and equity assets include It includes ownership of company's shares and mutual funds below 10% threshold level	Lane and MilesiFerretti database (revised 2009)

Continued—

Table 4.2—*(Continued*)

Foreign direct investment liabilities (FDIL)	FDI includes greenfield investment, foreign property investment and controlling stakes in acquired foreign firms	Lane and MilesiFerretti database (revised 2009)
Portfolio equity liabilities (PFEL)	equity liabilities include It includes ownership of company's shares and mutual funds below 10% threshold level.	Lane and MilesiFerretti database (revised 2009)
Debt liabilities (DL)	Debt liabilities consist of deposits, portfolio debt securities, bank loans and other debt instruments etc.	Lane and MilesiFerretti database (revised 2009)
Debt liabilities (DL) and (debt assets (DA)	Debt assets and liabilities consist of deposits, portfolio debt securities, bank loans and other debt instruments etc.	Lane and MilesiFerretti database (revised 2009)
Financial development (EQS)	Variable is constructed by taking the sum of two financial measures i.e. Domestic credit provided to private sector and market capitalisation.	WDI
General Government consumption expenditures (GGCE)	The variables' data is taken from WDI, then at second hand subtract data of education and health expenditures and defense expenditures.	WDI
Institutional quality (IQ)	An equally weighted index is formulated by using seven political risk assessment measures. These Seven measures include corruption, bureaucracy quality, law and order, ethnic tensions, corruption, socio economic conditions and democracy accountability.	ICRG
Real GDP per capita growth (GDP)	GDP is divided by the mid-year population.	WDI
Population growth (PG)	It counts all the residents regardless of their legal status or citizenship.	WDI
Trade openness (TOP)	Exports plus imports are divided by GDP is the total trade as percentage of GDP.	Penn World table
Consumer price index (CPI)	It is a variable that represents annual percentage change in cost to average consumer acquiring a basket of goods and services.	WDI
Economic development (ED)	Economic development is measured by GDP per capita.	WDI
Market size (MS)	The variable is proxied by GDP constant USD.	WDI
Urban population (URBPOP)	Urban population is a proxy used for quality infrastructure and concentrated population.	Human capital (HK)
Human capital (HK)	The variable is proxied by the secondary years of schooling.	WDI

4.3. Model Specification

In order to determine the causality between financial development and economic growth, we employed granger causality test. Test helps to explain the significance of a time series in forecasting other time series or past values of a variable are used to determine and predict the present values of other variable growth is said to be granger caused by financial development, if lagged values of growth can forecast the present values of financial development.

Present study at first checks stationarity by applying the panel unit root on growth variable (*gdppc*) and financial development measure (*EQS*) then applies granger causality test between financial development and economic growth. If causality runs from financial development to economic growth, then granger causality takes the following form

$$dgdppc_{i,t} = \alpha + \Sigma a_{11} dgdppc_{i,t-1} + \Sigma b_{11} dEQS_{i,t} + +\epsilon_{i,t}$$

If causality runs from economic growth to financial development, then granger causality takes the following form

$$dEQS_{i,t} = \alpha + \Sigma a_{11} EQS_{i,t-1} + \Sigma b_{11} dgdppc_{i,t-1} + +\epsilon_{i,t}$$

Where growth is measured by the growth rate of GDP per capita (shown by *gdppc*) and financial development is measured by the equity size and determined by *EQS*.

4.4. Growth Models

Following Osada and Saito (2010), Bonfiglioli (2008), Kose, Prasad and Taylor (2009), real per capita GDP growth is regressed on several growth indicators along with measures of financial integration

$$y_{i,t} - y_{i,t-1} = \alpha + \beta y_{i,t-1} + \gamma FI_{i,t} + XZ_{i,t} + \eta_i + \mu_t + \epsilon_{i,t}$$

$$GDP_{i,t} - GDP_{i,t-1} = \alpha + \beta GDP_{i,t-1} + \gamma F_{i,t} + XZ_{i,t} + \theta_i + \mu_t + \epsilon_{i,t}$$

Explanatory variables are constant indicated by α, country fixed effects are shown by η and time dummies by μ. The Subscript *i* and *t* carries the country and time period effect. Lagged per capita GDP captures the financial convergence effects because there is a hypothesis of neo classical framework known as absolute convergence Ramsey (1928), Solow (1956), Swan (1956), Koopmans (1965) and Cass (1965). Convergence hypothesis states that poorer economies grow faster in per capita and soon catch up with rich economies. It implies that growth rate of real per capita GDP growth is negatively or inversely related to the level of real per capita GDP.

The ordinary least squares is illogical to use because lagged dependent variable appear on right hand side in order to capture financial convergence (within neo-classical framework) might correlate with country fixed effects in

the error term and generate the simultaneity bias. Standard OLS may provide biased estimates of parameters then. Therefore, this study at first examines the heteroskedasticity of residuals of the models. Then on the basis of residual plots, study decides to employ generalised method of moments (GMM) proposed by Blundell and Bond (1998) as heteroskedasticity of unknown. GMM is performed by applying suitable instruments and the validity of instruments is tested by j-statistic of Hansen (1982) or Sargan test. J-statistic has chi-square distribution where number of over identified restrictions is usually equal to the number of restrictions. J. It has null that instruments are valid, in case it is accepted, then instruments are valid. Right instrumental variables have two characteristics; first they are uncorrelated with error term and correlated with endogenous variables.

GMM by Blundel and Bond (1998), is the methodology in which lagged variables are used as instruments. This method controls for endogeniety and measurement errors of not only those variables that comes in finance-growth nexus but also for other explanatory variable. The method has two steps. In first step, it removes the country fixed effects by making use of first differenced equations while in second step, it estimates the original equation. The second endogeneity problem may result with the correlation between (control variables) $Z_{i,t}$and (financial integration) $FI_{i,t}$with the error terms. To tackle the issue, the study made use of instruments indicated by lagged financial integration measures ($FI_{i,t)}$ and control variables ($Z_{i,t}$) in the regression. Growth models with steady state and control variables take the following form:

$$GDP_{i,t} - GDP_{i,t-1} = \alpha + \beta_1 GDP_{i,t-1} + \beta_2 FDIEQL_{i,t} + \beta_3 DL_{i,t} + \beta_4 CPI_{i,t} + \beta_5 POP_{i,t} + \beta_6 TOP_{i,t} + \beta_7 IQ_{i,t} + \beta_8 EQS_{i,t} + \beta_9 HK_{i,t} + \beta_{10} GGCE_{i,t} + \mu_t + \epsilon_{i,t} \quad \ldots \quad \ldots \quad \ldots \quad (a)$$

$$GDP_{i,t} - GDP_{i,t-1} = \alpha + \beta_1 GDP_{i,t-1} + \beta_2 FDIEQA_{i,t} + \beta_3 DA_{i,t} + \beta_4 CPI_{i,t} + \beta_5 POP_{i,t} + \beta_6 TOP_{i,t} + \beta_7 IQ_{i,t} + \beta_8 HK_{i,t} + \beta_9 EQS_{i,t} + \beta_{10} GGCE_{i,t} + \mu_t + \epsilon_{i,t} \quad \ldots \quad \ldots \quad \ldots \quad (b)$$

Where growth is measured by real GDP per capita growth, population (shown by is proxied by population growth, financial development is measured by equity size (*EQS*), general government consumption expenditures is shown by (*GGCE*) and inflation by *CPI*. Financial integration proxy variables are *FDIEQL* (Foreign direct investment and equity liabilities), *DL* (debt liabilities), *FDIEQA* (Foreign direct investment and equity assets) and *DA* (debt assets).

4.5. Models for Composition Hypothesis

In order to have an understanding of determinants of external liability structure, following models are developed.

$$FDI_{i,t} = \alpha + \beta_1 Corruption_{i,t} + \beta_2 EQS_{i,t} + \beta_3 POP_{i,t} + \beta_4 CPI_{i,t} + \beta_5 URBPOP_{i,t} + \beta_6 TOP_{i,t} + \beta_7 MS_{i,t} + \beta_8 HK_{i,t} + \beta_9 NR_{i,t} + \beta_{10} ED_{i,t} + \mu_t + \epsilon_{i,t} \quad \dots \quad \dots \quad \dots \quad \dots \quad (c)$$

$$PFEL_{i,t} = \alpha + \beta_1 Corruption_{i,t} + \beta_2 EQS_{i,t} + \beta_3 POP_{i,t} + \beta_4 CPI_{i,t} + \beta_5 URBPOP_{i,t} + X_6 \beta_1 TOP_{i,t} + \beta_7 MS_{i,t} + \beta_8 HK_{i,t} + \beta_9 NR_{i,t} + \beta_{10} ED_{i,t} + \mu_t + \epsilon_{i,t} \quad \dots \quad \dots \quad \dots \quad \dots \quad (d)$$

$$DL_{i,t} = \alpha + \beta_1 Corruption_{i,T} + \beta_2 EQS_{i,t} + \beta_3 POP_{i,t} + \beta_4 CPI_{i,t} + \beta_5 URBPOP_{i,t} + \beta_6 TOP_{i,t} + \beta_7 MS_{i,t} + \beta_8 HK_{i,t} + \beta_9 NR_{i,t} + \beta_{10} ED_{i,t} + \mu_t + \epsilon_{i,t} \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (e)$$

Where *FDI* represents foreign direct investment, *PFEL*: Portfolio equity liabilities, *DL* symbols debt liabilities, *URBPOP* is a proxy for infrastructure measured by urban population. Urban population represents concentrated population and quality infrastructure. Natural resources is proxied by *NR* and is measured by the merchandised exports i.e., export of minerals, ores etc. *ED* represents economic development measured by the GDP per capita and market size shown by *MS*, is measured by GDP constant USD. Like growth regressions, it is suspected thatendogenietyexists between the regressors. Moreover, residual plot of the equations suggested heteroskedasticity of unknown form therefore *GMM* is employed.

5. EMPIRICAL RESULTS

The empirical results and discussion is provided in this section and analysis begins by summary statistics od data.

5.1. Summary Statistics of the Data

On average growth rate in developing countries is 3.69 or 4 approximately. Debt liabilities, portfolio equity flows and FDI liabilities are on average 2.31, 4.38 and 4.35 with high standard deviation attached with FDI i.e., 1.57 compared to debt liabilities 0.81. On average, developing economies have market size for direct investment 25 percent. Human capital has low dispersion attached to it (0.43) and on average developing countries included in the study have human capital equal to 3.69. On average, countries have population growth rate of 1.79 and economic development 6.63. Direct investment and debt assets of developing held outside the domestic borders are on average 3 and 4 approximately. Foreign direct investment and equity liabilities have high variation as compared to debt liabilities with average 3.74 and standard deviation 1.06. On average, domestic financial system has average value 3.80 and standard deviation equals to 1.29. Corruption on average is 2.48 and financial development is 3.48 but the riskiness involved in domestic financial

system is 1.29 whereas corruption has a standard deviation of 1.09. Developing countries included in present study have on average mean for consumer price index, natural resources, urban population and trade openness is 1.48, 23.7, 3.59 and 1.87. Skewness can be measured by two measures of central tendency i.e., mean and median. Different values of mean and median yield positive or negative skewness. But present study finds the values of mean and median approximately equal indicating that the series is symmetric and data is normal.

Table 5.1

Summary Statistics of the Series

Name of the Variables	Mean	Standard Deviation	Median
FDIL	3.38	1.57	4.00
PFEL	2.41	1.17	3.00
DL	4.35	0.81	4.00
Corr	2.48	1.09	3.00
EQS	3.80	1.29	4.1
MS	25.34	1.39	25.1
HK	3.96	0.43	2.02
CPI	1.48	1.02	1.54
Pg	1.79	0.80	1.84
ED	6.63	1.44	6.6
URBPOP	3.59	0.50	3.5
NR	23.7	1.43	23.7
TOP	1.87	0.67	1.74
FDIEQA	2.64	1.49	3.00
FDIEQL	3.74	1.06	3.8
DA	3.84	0.35	4.00
IQ	3.43	0.53	3.41
GDPPC	3.69	3.80	3.5
GGCE	3.59	6.20	4.03

Descriptive statistics of all the variables used in the present study are shown in table. Full name of variables is given in methodology.

5.2. Correlation Matrix

Correlation Matrices of all the variables included in the model are reported in the Appendix Tables a, b, c and d. correlation matrix of growth models i.e., (a and b) suggests possible multi collinearity problem between population growth and institutional quality. More population growth means more resources are devoted to feed increased population rather than making expenditures on health and educational facilities. All this consequently leads to a corrupt population group; less ethically and morally developed leading to low law and order condition, low bureaucratic quality and political instability.

Liability structure correlation matrix suggested the occurrence of possible collinearityproblem between financial development and urban population. More urban population means high infrastructure, educated population concentration, aware of the importance of financial system i.e., banks, stock markets, money markets etc. therefore they make use of these markets so collinearity may occur between the two.

5.3. Direction of Causality between Financial Development and Growth

Study run panel unit root tests on growth and financial development variables; they are reported in Appendix Table (e). Unit root testsuggests that series is stationary at first difference after checking for this time series dimension of panel data set, we straight forwardly applied granger causality test. Patric (1966) identified two channels in finance-growth nexus i.e., Demand and supply channel effects. Demand channel effect states that high growth rate raises the demand of financial services and fosters financial system. Whereas supply channel effect says that growth follows finance i.e., financial system development has the ability to raise economic growth. In present study, Granger causality test supported the views of Gurley and Shaw (1967), Goldsmith (1969), and Jung (1986). These authors suggested that in developing economies, causality runs from growth to financial system development. Growing economy creates demand for financial services and increased financial services results in developed financial system. This developed financial system further fosters economic growth. In other words, present study identified demand channel effect effective in Asian developing economies.

Table 5.2

Granger Causality Test

	F-statistic	Probability
Ho: growth doesnot granger causes financial development	6.06	0.0027
Ho: financial development doesnot granger causes growth	1.55	0.21

Granger causality test conducted to measure the direction of causality between financial development and economic growth.

5.4. Financial Integration and Economic Growth

5.4.1. *Economic Growth and Foreign Liabilities*

For growth equations, due to possible multicollinearity between institutional quality and population growth these two variables are included

one by one. The GMM estimation technique is used with lag variables as instruments. In Model 1, financial development and human capital are insignificant while in Model 2, human capital is marginally significant. In Model 3, human capital, financial development, CPI inflation is insignificant.

In short, results all these six models suggest financial development and human capital as insignificant determinants of growth or these variables are not contributing to economic growth of Asian developing economies. One possible reason of human capital insignificance could be the quality of education. Quality of education matters to growth not the number of years of schooling [Barro(2003)]. Therefore these countries should focus on quality of education. Financial development is found most of the time insignificant. Study expected financial development variable highly significant with positive coefficient but the result shows that it is insignificant with positive effects on growth. May be domestic markets of developing countries are not enough stable and developed that they contribute significantly to growth. Moreover, inflows to developing countries are usually followed by high inflation rates. These high inflation episodes put pressure on domestic financial systems resulting in weak financial systems. Weak financial systems lack efficiency and decrease savings and so investment and growth.

Neo-classical framework proposes convergence hypothesis which states that poor economies grow faster than advanced ones and soon get able to catch up with the fast one. Hypothesis suggests that countries with low per capita GDP growth grow faster after financial integration. Therefore presumed sign with coefficient of initial growth rate is negative. But present study finds the variable strictly significant with positive sign indicating that there is no clear evidence of convergence effect in developing countries. The possible reason could be as stated by Barro (2003). He suggests that quality of human capital is essential input to growth and results in convergence hypothesis acceptance. This study finds human capital insignificant suggesting low quality of human capital. Then how this low level human capital can contribute and result in convergence effect. Moreover, according to Kocher Lakota, Yi (1994) convergence may be incorrect if one does not include in regression the initial capital stock. Two countries with different initial income and capital stocks, that country would grow faster that have high initial physical stock but not the initial income. If technology shocks vary across the countries and are temporary then convergence can be experienced but if the shocks are permanent then higher economic growth will be carried out by already developed and high initial income countries.

Table 5.3

Results of Growth Models of External Liabilities held in Domestic Economies

Name of the Variables	Model 1	Model 2	Model 3
GDPPC(–1)	0.43***	0.46***	0.43***
	(4.14)	(4.62)	(4.13)
FDIEQL	–0.25**	–0.35*	–0.33***
	(–1.90)	(–1.82)	(–2.17)
DL	0.13*	0.23**	0.30***
	(1.88)	(1.91)	(2.24)
EQS	0.01	0.04	0.07*
	(0.10)	(0.94)	(1.73)
HK	0.69	0.71	0.002
	(1.39)	(0.66)	(0.00)
CPI	–0.83***	–0.69	–0.55*
	(–2.02)	(–1.01)	(–1.71)
GGCE	–0.05	–0.05	–0.05
	(–1.29)	(–1.31)	(–1.10)
PG	–0.92***	–0.87**	
	(–2.38)	(–1.91)	
TOP	0.36***	0.22**	0.16***
	(2.08)	(1.74)	(2.15)
IQ	0.60		0.81
	(1.91)		(2.51)
R-square	0.43	0.38	0.43
Adjusted R^2	0.33	0.34	0.40
[1] Sargan test	0.52	0.49	0.61

Notes: The values in parenthesis denotes the t-statistics where (*, **, ***) determines the significance level at 10 percent, 5 percent and 1 percent levels. 1 is the test of over identified restrictions in GMM and is asymptotically distributed as chi square under the null hypothesis that instruments used are valid, exogenous and not correlated with error terms.

In Models 1 and 2, general government consumption expenditures, human capital and financial development are insignificant whereas in Model 3, financial development becomes significant.

Table 5.4

Results of Growth Models of External Liabilities (Extrapolated Data)

Variables	Model 1	Model 2	Model 3
GDPPC(–1)	0.34***	0.37***	0.38***
	(3.32)	(3.64)	(3.72)
FDIEQL	–0.48***	–0.44***	–0.33***
	(–3.35)	(–2.88)	(–2.39)
DL	0.72***	0.56**	0.83***
	(2.59)	(1.98)	(2.59)
EQS	0.03	0.02	0.01
	(0.43)	(0.38)	(0.13)
HK	0.90	0.52	0.86
	(0.07)	(1.56)	(0.67)
CPI	–0.98***	–0.73**	–0.28
	(–2.49)	(–1.99)	(–1.04)
GGCE	–0.09**	–0.11***	–0.10***
	(–1.99)	(–2.44)	(–2.04)
PG	–0.44*		–0.14***
	(–1.75)		(–2.20)
TOP	0.30*	0.61***	0.17***
	(1.79)	(2.16)	(2.11)
IQ	0.49*	–0.86**	
	(2.40)	(–1.73)	
R square	0.39	0.36	0.36
Adjusted R square	0.33	0.31	0.31
[1] Sargan test	0.998	0.92	0.65

Notes: The values in parenthesis denotes the t-statistics where (*, **, ***) determines the significance level at 10 percent, 5 percent and 1 percent levels. 1 is the test of over identified restrictions in GMM and is asymptotically distributed as chi square under the null hypothesis that instruments used are valid, exogenous and not correlated with error terms.

Dimensions of financial integration that are intended to measure capital inflow effects on growth are FDI and equity liabilities and debt liabilities. The empirical finding of these variables is inconsistent with the theory. Theory states that FDI is the most stable capital flow (either inflow or outflow); moreover, its indirect benefits on growth are more than any other kind of capital flow. Because FDI and equity flows are supposed to come with human capital, they helps in accumulating physical capital and develops human capital by diffusing knowledge and technology transfer Kose, Prasad, Rogoff, and Wei (2009). This study finds FDIEQL significant with negative effect on growth and supports dependency theory. Dependency theory says that FDI exploits developing countries by adversely affecting growth due to crowding out of private investment and displacing domestic investment. The finding is consistent with

Syed, Hafsa, and Li (2012). Developing countries always try to have more and more direct investment in the form of FDI because it does not involve direct payment of debt but it involves substantial foreign exchange costs. Capital starts moving out of the country in the form of dividends, transaction costs, remittances etc. The fact is, FDI is usually made in services that are domestically consumed and it moves to non-tradeable sectors of developing economies. Foreign investment in telecom, construction, and other non-tradeable sector involves capital outflows for import of technology, imports, royalty payments and repatriation of profits. Moreover, transnational corporations are usually found to involve in manipulative transfer pricing in order to avoid tax liabilities. Moreover, last two decades questioned the stability of FDI and equity flows in the light of evidence that whenever there is minimal sign of output loss, transactional corporation's start covering their exchange risk by involving in hedging activities raising the pressure on currencies.

ThisStudy finds a significant and positive relationship between debt liabilities and economic growth. Positive growth effect of debt liabilities could be due to fact that it remained stable throughout the period and this stability added to growth positively. Moreover it may be diverted towards development projects resulting in high growth rates. Debt can have favourable effects on growth only up to certain limit. It positively affects the growth if its inflow is devoted to development or productive projects. It is also supposed to come with technology transfer and informational know how (but these indirect benefits are usually less than the indirect benefits of FDI). But beyond its threshold level, it starts contributing negatively to growth. The finding is consistent with Abubakar and Hassan (2000); they find that external debt promotes growth in Malaysia. There is also a possibility that if present study was conducted by taking averages of data for five, seven or ten years, then this positive effect may get vanished and positive sign should have taken its place because high level of debt today means increase in tax rates by tomorrow in order to pay for the debt services. An increased future tax rate reduces after tax return on capital and lowers the incentives for investments. Low investments lead to low growth rates in long run. Based on its positive affect on growth, developing countries should not start moving towards debt liabilities because its long run negative effect overweighs its positive effects.

All the three policy variables i.e., inflation, government consumption expenditures and trade openness are found as significant with expected signs in extrapolated data while real data estimations suggested for significance of trade openness and inflation in two out of three models. inflation and government consumption expenditures affect the growth negatively. Macroeconomic stability proxied by inflation has large negative effect on growth. Government consumption expenditures affect the private sector by inducing distortions in

private decisions. These distortions are a sign of government activities and related public finance. They reduce growth by lowering savings or induce distortionary effects from tax to government expenditures. Trade openness and financial integration are often considered as complements. In the absence of trade integration, financial integration can lead to misallocation of resources [Eichengreen(2001)]. Less open economies undergo more exchange rate fluctuations, face severe balance sheet effects coming from depreciations and capital adjustments Kose, Prasad, Rogoff, and Wei (2009).

Population growth is significant but has negative growth effects. Countries have constant capital where large population means constant capital is at the expense of large work force. Or in other words, capital per effective worker is low. The phenomenon is known as capital dilution. Increased population means increased demand for goods and services. In such a scenario for sure inflation will increase which would cause a shift in demand curve towards left because of low income profile of households, all this results in decreased economic growth Trang (2011). Malthusian model (1826) states that an increase in population of a country with constant natural resources results in resource shallow condition (natural resources per capita decreases). Moreover according to Galor and Weil's model (1996), each labour faces two kinds of dimensions i.e. mental labour and physical labour. Men workers are assigned physical labour while women labour faces mental labour. Consequently, there appears a gap between wages of men and women. In such a situation, women will prefer to stay at home and to give quality time to her children rather than going on jobs. All this raises population and decreases the output growth.

Institutional quality is a key determinant of capital flow. The variable is strongly significant with positive coefficient. Good institutional quality is a sign of improved rule of law and higher protection of property rights. So we can conclude that developing economies institutions are playing their due role in raising economic growth.

5.4.2. *Economic Growth and Domestic Assets Held Abroad (Capital Outflows)*

Human capital and financial development remained insignificant in these six models. General government consumption expenditures is significant twice a time out of six models. The results (FDI and equity assets and debt assets) in general remained same as they are for FDI and equity liabilities and debt liabilities. Once again the study find positive coefficient with initial GDP per capita growth rate. The study failed to find convergence hypothesis proposed by neo classical growth model.

Table 5.5

Growth Models of Domestic Assets Held Abroad: 2007Data

Name of the Variables	Model 1	Model 2	Model 3
GDPPC(–1)	0.58***	0.58***	0.41***
	(6.43)	(6.32)	(4.61)
FDIEQA	–0.45*	–0.54*	–0.61***
	(–1.71)	(1.78)	(–2.13)
DA	0.40*	0.49*	0.05***
	(1.73)	(1.77)	(2.43)
EQS	0.04	0.03	0.05
	(0.80)	(0.67)	(0.11)
HK	0.14	0.40	0.70
	(0.14)	(0.47)	(0.58)
CPI	–0.40*	–0.44*	–0.49**
	(–1.73)	(–1.78)	(–1.96)
GGCE	–0.05	–0.05	–0.07*
	(–1.27)	(–1.42)	(–1.71)
PG	–0.23		–0.02
	(–0.54)		(–0.04)
TOP	0.30***	0.27*	0.46***
	(2.04)	(1.70)	(2.44)
IQ	0.30*	0.25*	
	(1.73)	(1.82)	
R square	0.43	0.42	0.37
Adjusted R- square	0.38	0.38	0.32
[1] Sargan test	0.99	0.99	0.99

Notes: The values in parenthesis denotes the t-statistics where (*,**,***) determines the significance level at 10 percent, 5 percent and 1 percent levels. 1 is the test of overidentified restrictions and is asymptotically distributed as chi square under the null hypothesis that instruments used are valid, exogenous and not correlated with error terms.

Table 5.6

Growth Models of Domestic Assets held Abroad:Extrapolated Data

Name of the Variables	Model 1	Model 2	Model 3
GDPPC(–1)	0.43***	0.27***	0.25***
	(4.63)	(2.65)	(2.93)
FDIEQA	–0.68*	–0.54*	–0.50***
	(–1.74)	(1.78)	(–2.13)
DA	0.50**	0.49*	0.45***
	(1.99)	(1.77)	(2.43)
EQS	0.11	0.03	0.05
	(1.26)	(0.67)	(0.99)
HK	0.89	0.40	0.70
	(0.74)	(0.47)	(0.58)
CPI	–0.37*	–0.44*	–0.49*
	(–1.89)	(–1.77)	(–1.70)
GGCE	–0.05	–0.05	–0.07*
	(–1.29)	(–1.42)	(–1.73)
PG	–0.65		–0.02
	(–0.99)		(–0.04)
TOP	0.07*	–0.27*	0.46
	(1.73)	(1.84)	(1.23)
IQ	0.32*	0.25*	
	(1.78)	(1.72)	
R square	0.40	0.42	0.37
Adjusted R- square	0.35	0.38	0.32
[1] Sargan test	0.99	0.94	1.00

The values in parenthesis denotes the t-statistics where (*, **, ***) determines the significance level at 10 percent, 5 percent and 1 percent levels. 1 is the test of over identified restrictions and is asymptotically distributed as chi square under the null hypothesis that instruments used are valid, exogenous and not correlated with error terms.

The assets held abroad are divided in to two components i.e., FDI and equity assets and debt assets. The study finds FDI and equity assets significant (variable remained significant five times out of six models) with negative effect on growth. Negative sign attached with FDI may have a possible interpretation that direct investment may lead to a shift in the location of production from domestic market to foreign markets. The variable debt assets have significant positive relationship with growth. Debt flows have the ability to raise exports of the domestic economy to markets where debt is held Osada and Saito (2010).

Trade openness, institutional quality and CPI inflation have significant relationship with growth. Population growth and government consumption expenditure have insignificant but negative relationship with growth.

5.5. Composition Hypothesis

Since correlation matrix suggested possible multi collinearity problem between financial development and urban population therefore, study runs each of the three models (c, d,e) twice a time. First equation includes both variables but second time estimation is done by dropping urban population. The financial development is not dropped because it is the main test variable (important dimension of public institution along with corruption).

Table 5.7

Composition of FDI Liabilities in External Liability Structure

Name of the Variables	Model 1 (0f 2007)	Model 2 (of 2007) Excluding Urban Population	Model 3 (2012)	Model 4 (2012) Excluding Urban Population
Corruption	–0.67*	–0.50*	–0.43***	–0.27*
	(–1.77)	(1.81)	(–3.10)	(–1.70)
EQS	0.27***	0.25***	0.34***	0.30 ***
	(3.10)	(4.13)	(4.96)	(2.15)
CPI	–0.36	–0.25*	–0.07	–2.1*
	(–0.03)	(–1.79)	(–0.49)	(–1.77)
MS	0.89*	0.60***	0.55***	0.63
	(1.71)	(4.73)	(2.45)	(1.10)
NR	0.46***	0.41*	0.65**	0.78*
	(2.34)	(1.71)	(1.90)	(1.74)
URBPOP	0.43***		0.32*	
	(2.73)		(1.84)	
PG	0.14	0.57***	0.12	0.52**
	(0.15)	(2.10)	(0.54)	(1.96)
TOP	0.50***	0.56	0.21*	0.41*
	(2.69)	(1.27)	(1.88)	(1.84)
ED	–0.16*	–0.09***	–0.14*	–0.38*
	(–1.85)	(–2.41)	(–1.94)	(–1.92)
HK	0.01*	0.33**	0.26*	2.5*
	(1.75)	(1.97)	(1.70)	(1.84)
R-square	0.46	0.47	0.50	0.52
Adjusted R-square	0.39	0.43	0.45	0.49
[1] Sargan test	0.56	0.89	0.75	0.60

Notes: The values in parenthesis denotes the t-statistics where (*,**,***) determines the significance level at 10 percent, 5 percent and 1 percent levels. 1 is the test of over identified restrictions and is asymptotically distributed as chi square under the null hypothesis that instruments used are valid, exogenous and not correlated with error terms.

When urban population is plugged in and dropped as well, the action caused change in some of the variables results like CPI inflation is significant in first and third model but insignificant in second and fourth model, likely population growth is significant in second and fourth model but insignificant in first and third model. The study find financial development variable still significant even when urban population is dropped. All this suggests that level of financial development is an important determinant and plays a key role in the composition of capital structure.

Table 5.8

Composition of Portfolio Equity Liabilities in External Liability Structure

Name of the Variables	Model 1 of 2012	Excluding Urban Population	Model 3 of 2007	Excluding Urban Population
Corruption	0.34**	0.18*	0.42***	0.14***
	(1.95)	(1.85)	(2.00)	(2.31)
EQS	0.43***	0.40***	0.50***	0.54***
	(4.27)	(5.80)	(2.1)	(5.15)
CPI	–0.17***	–0.20***	–0.25	0.08
	(–3.30)	(–3.89)	(–0.31)	(1.39)
MS	0.19***	0.28***	0.27***	0.21***
	(2.45)	(4.81)	(2.76)	(3.48)
NR	0.46	0.16***	0.48***	0.24***
	(1.21)	(4.44)	(2.42)	(3.71)
URBPOP	0.50		0.96	
	(0.67)		(0.81)	
PG	0.38***	0.37***	0.10	0.16***
	(2.37)	(3.57)	(0.29)	(2.08)
TOP	0.26***	0.48***	0.03*	0.09**
	(3.67)	(2.78)	(1.78)	(1.89)
ED	0.28***	0.15***	0.65***	0.02
	(3.16)	(2.17)	(2.87)	(0.48)
HK	0.25***	0.51***	0.47***	0.66***
	(2.28)	(2.15)	(2.01)	(3.88)
R-square	0.73	0.47	0.56	0.54
Adjusted R-square	0.63	0.44	0.45	0.50
[1] Sargan test	0.99	0.47	0.50	0.63

Notes: The values in parenthesis denotes the t-statistics where (*,**,***) determines the significance level at 10 percent, 5 percent and 1 percent levels. 1 is the test of overidentified restrictions and is asymptotically distributed as chi square under the null hypothesis that instruments used are valid, exogenous and not correlated with error terms.

The results indicate urban population an insignificant determinant of portfolio equity liabilities. Its exclusion caused a vast change in the coefficient of corruption decreasing it from 34 percent to 18 percent (2007 data) and from 42 percent to 14 percent.

Table 5.9

Composition of Debt Liabilities Structure in External Liability Structure

Name of the Variables	Model 1 of 2007	Excluding Urban Population	Model 3 of 2012	Excluding Urban Population
Corruption	0.34**	0.23***	0.42***	0.24***
	(1.95)	(2.43)	(2.00)	(2.31)
EQS	0.18	0.14	0.20***	0.14
	(0.27)	(1.16)	(2.1)	(1.15)
CPI	–0.07***	–0.18***	–0.05	–0.08
	(–3.30)	(–3.34)	(–0.31)	(–1.39)
MS	–0.19	–0.30	–0.27***	–0.21
	(–1.45)	(–1.19)	(–1.76)	(–1.48)
NR	0.46	0.16*	0.48	0.24
	(1.21)	(1.83)	(1.42)	(1.71)
URBPOP	0.50		0.52	
	(0.67)		(0.41)	
PG	0.28***	0.23***	0.22***	0.16***
	(2.37)	(2.78)	(2.29)	(2.08)
TOP	0.26***	0.30***	0.28	0.28*
	(3.67)	(2.18)	(0.18)	(1.79)
ED	0.28	0.15	0.25	0.20
	(1.16)	(1.48)	(1.07)	(0.48)
HK	0.25***	0.39***	0.39**	0.66***
	(2.28)	(2.08)	(1.99)	(3.88)
R-square	0.53	0.35	0.44	0.47
Adjusted R-square	0.46	0.29	0.45	0.41
[1] Sargan test	0.99	0.96	0.81	0.62

Notes: The values in parenthesis denotes the t-statistics where (*, **, ***) determines the significance level at 10 percent, 5 percent and 1 percent levels. 1 is the test of over identified restrictions and is asymptotically distributed as chi square under the null hypothesis that instruments used are valid, exogenous and not correlated with error terms.

As far as debt liabilities are concerned, the results show urban population insignificant i.e. infrastructure is not the priority of foreign banks or lenders when they lend or make debt liabilities investment.

Study finds corruption significantly and negatively associated with FDI. Corruption means deviation from rule of law and government regulations and provides shorthand for poor public governance that includes bureaucratic corruption as well. Corruption can affect domestic investors as well as foreign investors but domestic investors have informational advantage than foreign investors. Wei and Wu (2002) have found that corruption deters FDI more than other capital inflows. There are two main reasons that reduces direct investment i.e., FDI inflows to countries. Firstly, high level of corruption in a country changes the expectations of international investors because it causes additional fees on the part of international investors. They have to pay to corrupt officials in order to get licences, permits or other services (from government) for making investment. Corrupt authorities know that settled foreign business and investment is difficult to be liquidated so they further threaten the foreign investors till they get bribe Wei (2000). That is why foreign investors face greater sunk costs in case of FDI than portfolio equity and bank loans etc. Secondly, in case of default of foreign loans, countries are capable of getting loan from IMF to minimise default on loan. For instance, there are examples available like Mexican crisis, Asian crisis, and tequila crisis when countries get assistance from IMF, WB and G-7 countries in order to minimise default on bank loans. But less evidence is available on the recovery of nationalised assets of foreign investment. That is why; bank's lending is more favourable to deal with corrupt countries than foreign investment. For if in these countries, corruption discourages FDI then there are still gaps to fulfil for credit constraints by bank borrowings. The result is consistent with Hines (1995), Wei (2000a).

Present study results favours conventional view and states that FDI moves in countries which are more financially developed.Higher trade openness attracts FDI, finding is consistent with consistent with Wei (2006). Low trade openness means bureaucrats hinder foreign investors by restricting their capital accounts in order to get bribes Wei (2001). Human capital is positively and significantly associated with FDI consistent with Monge-Naranjo(2002) who reported that human capital serves as pull for FDI inflows. Study finds strong and negative relationship of FDI with economic development. Economic development leads to a decline in FDI flows. The finding is consistent with Haussmann and Fernandez (2000), high share of FDI in a country is not a signal for good health of the economy but response of deteriorating environment. High risks and low growth allows companies to hold capital structure composed of more FDI and portfolio equity and less by debt liabilities. Market size tends to be positively associated with FDI suggesting that larger economies tend to attract large shares of FDI in their liability structure. Natural resources are positively and significantly associated with FDI suggesting that natural resources serve as magnet for FDI flows and they have the ability to shift liability structure in favour of FDI. FDI is attracted to countries in order to

exploit natural resources. We find population growth (proxy for market potential) positive but insignificant i.e., market potential does not matter for FDI inflows. Moreover, we find positive and significant relationship of urban population with FDI inflows. This finding suggests that infrastructure matters for foreign investors and serves as strong pull for FDI flows. Instability of economy is measured by CPI inflation; it is found to be negatively and insignificantly associated with FDI.

Study finds corruption positively and significantly associated with portfolio equity liabilities and debt liabilities. Corruption encourages portfolio equity flows because these foreign investors face less corruption as they are usually not in contact with corrupt bureaucrats. Corruption shifts the composition of capital flows from FDI to portfolio equity and debt liabilities where debt is usually short lived and more volatile (theoretically). Study find financial development positively and significantly associated with portfolio equity.The finding is consistent with theory because portfolio equity flows usually moves in economies where financial systems are strong. In general, we find portfolio equity liabilities positively associated with public institutions. Portfolio is also found to be positively and significantly associated with market size, natural resources, trade openness, population growth, human capital and economic development. Infrastructure doesn't matter for portfolio equity flows.

Financial development is positively but insignificantly associated with debt liabilities. Study finds negative and insignificant relationship of debt with market size. Large market size tends to receive less debt liabilities. The finding is consistent with Wei (2006). Economic development is positively and insignificantly associated with debt. Trade openness and human capital are positively related with growth. Natural resources are insignificantly associated with debt liabilities.

6. CONCLUSION AND IMPLICATIONS

Financial integration owns a vast strand of literature but empirical studies till now failed to come up with a straight forward result about its growth effects. Present study empirically examined the growth effects of financial integration for twelve Asian developing economies covering period 1984 to 2012.

The direction of causality runs from growth to financial system development. Theory states that there is bidirectional causality between financial system and economic growth then if someone empirically finds finance following growth or growth following finance then the results clearly echo around World Bank statement related to East Asian Miracle. In which, it says that success of economic policies depends on the institutions that implement them therefore economic policies are viewed as country specific. Empirical finding so far do not come up with a clear and conclusive cause and effect relationship between financial-growth nexus then one may need to be very clear

that there is no general acceptance of view that finance leads growth or growth leads finance.

The effect of financial integration on economic growth differs depending on the type of financial integration variable employed in the model. Foreign assets held in domestic economies are broken down to FDI and equity liabilities and debt liabilities. Former affects growth negatively and significantly while later has positive effect on growth. Study's finding is contradictory to theory. Theory states positive growth effects of FDI and equity liabilities because these liabilities accumulates capital, bring with them technology transfer, diffuse knowledge and develops human capital. Present study find an evidence of dependency theory which states that FDI exploits developing countries by adversely affecting growth due to crowding out of private investment and displacing domestic investment. In case of capital flows to developing countries, the study would find that from last two decades FDI flows are unstable whereas debt liabilities are somehow stable and so predictable. Present study descriptive statistics also suggests FDI and equity liabilities unstable(standard deviation) while debt liabilities stable. Since these countries are facing the problem of unpredictable FDI and portfolio equity flows then how governments can initiate long run projects when financing is unpredictable. Moreover, FDI is usually made in services that are domestically consumed and it moves to non-trade able sectors of developing economies and involves substantial foreign exchange costs. Due to FDI, capital starts moving out of the country in the form of dividends, transaction costs and remittances etc. Transnational corporations are usually found to involve in manipulative transfer pricing in order to avoid tax liabilities. In this way, FDI affects the growth negatively. Since debt liabilities remained stable so developing economies had made full use of this source of financing by moving them to development and productive projects which resulted in positive growth effect. Despite positive growth effects of debt liabilities, countries should not rely only on it because in long run it drags down the growth and its long run negative effects overweigh its positive effects. High level of debt today means increase in tax rates for tomorrow in order to pay for the debt services. An increased future tax rate reduces after tax return on capital and lowers the incentives for investments. Low investments lead to low growth rates in long run.

Domestic assets held in foreign countries are captured by making use of two proxy variables i.e., FDI and equity assets and debt assets. Study finds negative and insignificant effect of FDI and equity assets and positive by debt assets. This positive effect of debt assets may be because these assets leadto an increase in exports of the domestic country to countries where they are held previously. Negative growth effect of FDI and equity assets could be because of possible shift in location of production [Osada(2010)]. Based on empirical finding, study comes to a conclusion that financial integration doesn't contribute to economic growth in Asian developing economies as much as it is expected.

Composition hypothesis is of significant importance as it is related with a country's probability of currency crisis. The study finds better institutional quality (low corruption and sound financial systems) attracts FDI inflows while high level corruption attracts portfolio and debt liabilities.

Owing to negative growth effects of FDI and equity liabilities one should not conclude only on empirical finding that there is going to develop a liability structure more composed of debt and less with FDI because inflow of debt is often considered as a signal of capital flight. When in a country debt flows are on high side then there is possibility of devaluation. Domestic residents while making investments change their mind and dollarise their assets before possible devaluation. Moreover there is causal relationship between capital flight and indebtedness because it is the capital flight that causes a country to borrow more from external sources for possible substitution of lost capital. Debt liabilities are usually made for interest rate differentials and expectations of exchange rate. They are not made for long term perspectives. It runs away at the appearance of first sign of trouble and is also considered responsible for 1990's Asia's boom bust cycles [Chuhan, Perez-Quiros, and Popper (1996); Chuhan, Claessens, and Mamingi(1998); Claessens, Dooley, and Warner (1995); Dooley, Claessens, and Warner (1995); Sarno and Taylor (1999)].There is transfer of wealth when loans are repaid with interest payments and country traps to "debt trap peonage": a situation when a country's sovereignty is at the stake and it destroys the independence of the country.High level debt opens the doors for currency crisis as it is easily reversible and more volatile. Sudden stop is less likely observable for country with capital structure more composed of equity flows. FDI comes to a country with long term perspectives and cannot leave a country on the onset of very first sign of trouble. Therefore developing markets should try to have an external liability structure composed of by a major share of equity like flows especially FDI because it is related with technological transfer [Borensztein,*et al.*(1998)]. Equity like flows helps domestic producers by diversifying risk, stabilises consumption and increases risk sharing.

Large inflows of FDI to any country should not mislead anyone that country is healthy economically because study's empirical finding (negative relationship between FDI and economic development) suggests that more inflows of FDI to any country are not the sign of good internal environment of that country rather it shows country's deteriorating environment. The countries where there is high risk and low growth rate(low economic development) then foreign investors instead of relying on franchises place FDI.

At the end, study concludes that countries should try to develop the liability structure more composed of FDI because large indirect benefits are attached with it. For this, they have to strengthen their public institutions. Steps should be taken to reduce corruption level and domestic financial systems should be strengthened. In turn, such a liability structure will develop(containing

more FDI, and less debt) that would have more positive growth effects and less chances of currency crisis because more FDI is negatively associated with probability of currency crisis.

Debt as is said double edge sword, its moderate level is good for any economy. Moreover, its use matters. Excessive use of it beyond a certain threshold drags down the growth. Governments should try to develop their fiscal buffers to address any extraordinary event and should keep debt level as below as possible. Governments and policy-makers should try to reduce the preference which they are used to give to debt and reduce government subsidies and increase savings. Human capital is a key input to growth, however, the quality of education that matters for economic growth not the years of education Barro (2003). Institutional quality should be enhanced because it serves as prerequisite for FDI flows. Capital flows in developing countries are usually followed by high inflation and it is this high inflation that puts a pressure on domestic financial system thus results in weak financial systems Gregorio (2004).

APPENDICES

Correlation matrices of equations (a, b, c, d and e) presented in empirical modelling are given below:

Table of Correlation Matrix of Equation (a)

	GDPPC	FDIEQL	DL	EQS	IQ	HK	CPI	GGCE	PG	TOP
GDPPC	1.00									
FDIEQL	–0.06	1.00								
DL	–0.13	0.17	1.00							
EQS	0.44	0.41	0.41	1.00						
IQ	–0.01	–0.02	–0.02	–0.35	1.00					
HK	–0.16	–0.13	0.43	0.09	0.03	1.00				
CPI	0.03	0.04	0.040	0.07	0.16	0.16	1.00			
GGCE	–0.04	–0.06	0.02	–0.06	0.20	0.42	0.08	1.00		
PG	–0.12	–0.16	–0.16	–0.49	–0.87	0.22	0.06	–0.06	1.00	
TOP	–0.14	–0.04	–0.04	–0.01	0.01	0.35	0.43	–0.16	0.23	1.00

Full name of variables are given in methodology.

Correlation Matrix of Equation (b)

	GDPPC	FDIEQA	DA	EQS	IQ	HK	CPI	GGCE	PG	TOP
GDPPC	1.00									
FDIEQA	–0.17	1.00								
DA	–0.11	0.45	1.00							
EQS	–0.43	0.05	0.04	1.00						
IQ	0.03	–0.05	0.33	–0.25	1.00					
HK	–0.20	0.30	0.45	–0.01	0.11	1.00				
CPI	0.03	–0.27	0.30	–0.08	0.18	0.16	1.00			
GGCE	–0.05	–0.03	0.14	–0.08	0.20	0.44	0.08	1.00		
PG	–0.08	–0.22	0.05	–0.40	–0.85	0.11	0.07	–0.05	1.00	
TOP	–0.15	0.42	0.53	–0.05	0.07	0.43	0.43	–0.16	0.20	1.00

Full name of variables is given in methodology.

Table of Correlation Matrix of Equation (c)

	FDI	CORR	eqs	Pg	Cpi	urbpop	top	Hk	Nr	Ed	Ms
FDI	1.00										
corr	0.53	1.00									
Eqs	0.03	0.34	1.00								
Pg	0.17	–0.25	0.11	1.00							
Cpi	0.02	–0.15	0.10	0.34	1.00						
Urbpop	0.34	0.05	0.78	0.37	0.38	1.00					
Top	0.07	0.08	0.26	0.14	0.46	0.32	1.00				
Hk	0.04	0.11	0.23	0.10	0.24	–0.27	0.44	1.00			
Nr	0.15	0.23	0.34	0.03	0.03	–0.04	0.08	0.39	1.00		
Ed	0.06	–0.02	0.25	0.17	0.14	–0.26	0.16	0.43	0.10	1.00	
MS	0.17	0.01	0.41	0.21	0.08	–0.23	0.22	0.16	0.60	0.23	1.00

Full name of variables is given in methodology.

Table of Correlation Matrix of Equation (d)

	PFEL	Corr	eqs	Pg	Cpi	urbpop	top	Hk	Nr	Ed	ms
PFEL	1.00										
CORR	0.03	1.00									
Eqs	0.61	0.34	1.00								
Pg	0.06	–0.25	0.11	1.00							
Cpi	0.07	–0.15	0.10	0.34	1.00						
Urbpop	–0.39	–0.04	0.78	0.37	0.38	1.00					
Top	–0.15	–0.08	0.26	0.13	0.46	0.32	1.00				
Hk	–0.07	0.11	0.23	0.10	0.23	–0.42	0.45	1.00			
Nr	0.19	0.23	0.34	0.03	0.03	0.04	0.08	0.39	1.00		
ED	–0.07	–0.01	0.25	0.17	0.14	0.26	0.16	0.44	0.10	1.00	
MS	0.41	0.02	0.41	0.21	0.08	–0.23	0.22	0.16	0.40	0.23	1.00

Full name of variables is given in methodology.

Table of Correlation Matrix of Equation (e)

	DL	Corr	EQS	Pg	CPI	urbpop	TOP	Hk	Nr	ED	MS
DL	1.00										
Corr	–0.10	1.00									
EQS	0.35	0.34	1.00								
Pg	0.14	–0.25	0.11	1.00							
CPI	–0.17	–0.15	0.10	–0.34	1.00						
Urbpop	0.25	–0.04	–0.78	–0.37	–0.38	1.00					
TOP	–0.09	0.08	–0.26	–0.13	–0.46	0.42	1.00				
Hk	–0.02	0.11	–0.23	–0.10	0.24	0.32	0.45	1.00			
Nr	0.11	0.23	0.34	0.03	0.03	–0.04	0.08	0.39	1.00		
ED	–0.04	–0.02	–0.25	0.17	–0.14	0.26	0.16	0.44	0.10	1.00	
MS	0.27	0.01	0.41	0.21	0.08	–0.23	–0.22	–0.16	0.20	–0.34	1.00

Full name of variables is given in methodology.

Panel Unit Root Test (e)

Name of the Variable	t-statistic	Probability
EQS	–4.43	0.000
Gdppc	–5.27	0.02

Im-Pesaran and Shinn panel unit root test is applied with null hypothesis that unit root process exists, where gdppc and EQS are variables of real GDP per capita and financial development.

REFERENCES

Albuquerque, R. (2003) The Composition of International Capital Flows: Risk Sharing through Foreign Direct Investment. *Journal of International Economics* 1:2, 353–383.

Albuquerque, R., N. Loayza, and L. Serven (2003) *World Market through the Lens of Foreign Investors*.

Ali, R. and U. Mustafa (2009) External Debt Accumulation and Its Impact on Economic Growth of Pakistan. Pakistan Institute of Development Economics, Islamabad. (Unpublished Paper).

Alsenia, A. and R. Perotti (1994) The Political Economy of Growth: A Critical Survey of the Recent Literature. *The World Economic Review* 8:3.

Andersen, P. andR. Moreno (2004) *Financial Integration and Overview*.

Arestis, P. and P. Demetriades (1997) Financial Development and Economic Growth: Assessing the Evidence. *The Economic Journal* 107, 783–799.

Aria, E.F. and R. Hausmann (2000)The New Wave of Capital Inflows: Sea Change or Just another Tide. Inter-American Development Bank.(Working Paper, 417).

Barro, R. (1991) Economic Growth in A Cross Section of Countries. *Quarterly Journal of Economic* 106, 408–33.

Barro, R. (1997) *Determinant of Economic Growth*. Cambridge, MA: MIT Press.

Barro, R. (1998) *Determinants of Economic Growth: A Cross Country Empirical Study*. Cambridge: The MIT Press.

Bonfiglioli, Alessandra (2008) Financial Integration, Productivity and Capital Accumulation. *Journal of International Economics* 76,337–335.

Borensztein, Eduardo, De Gregorio Jose, and Jong-Wha Lee (1998) How Does Foreign Direct Investment Affect Economic Growth? *Journal of International Economics* 45:1, 115–35.

Cameron, A. C. (2011) *Day 2A: Instrumental Variables, Two Stage, Least Squares and Generalised Method of Moments*. Davis: University of California.

Cballero, R., E. Farhi, and P. O. Gourinchas (2005) An Equilibrium Model of Global Imbalances and Low Interest Rate. MIT and UC Berkley. (Unpublished Paper).

Chen, J. and T. Quanq (2012) International Financial Integration and Economic Growth: New Evidence on Threshold Effects. Paris School of Economics. (Working Paper 2012-30).

Chong, A. and C. Calderon (2000)On the Causality and Feedback between Institutional Measures and Economic Growth. *Economics and Politics* 12:1, 69–81.

De Gregorio, J. and P. Guidotti (1995) Financial Development and Economic Growth. *World Development* 23, 433–48.

Demetriades, P. and K. Hussein (1996) Does Financial Development Cause Economic Growth? Time Series Evidence from 16 Countries. *Journal of Development Economics* 51, 387–411.

Edwards, S. and J. Frankel (Eds.) (n.d.) *Preventing Currency Crisis in Emerging Markets*. Chicago: University of Chicago Press. 461–506.

Fara, A.,P. R. Lane, and P. Milessi-Ferretti Mauro (2007) *Shifting Composition of External Liabilities*.MIT Press. 480–490.

Faria, A. and P. Mauro (2004) Institutions and External Capital Structure of Countries. IMF. (Working Paper WP/04/236).

Fishlow, A., *et al.* (1998)*Miracles or Design? Lessons from the East Asian Experience, Oversees Development Council.*

Glaeser, *et al.* (2004) Do Institutions Cause Growth? *Journal of Economic Growth* 9:3, 271–303.

Goldsmith, R.W. (1969) *Financial Structure and Development*. New Haven, CT: Yale University Press.

Hernandes, L. and Mark Carlson (2012)Determinants and Repercussions of the Composition of Capital Inflows. Board of Governance of Federal Reserve System. (International Finance Discussion Papers).

Jalil, A. and M. Fereden (2011) Impact of Financial Development on Economic Growth: Empirical Evidence from Pakistan. *Journal of the Asia Pacific Economy*.

Ju, J. and S. -J. Wei (n.d.) A Solution of Two Paradoxes of International Capital Flows. International Monetary Fund. (Working Paper 06/178).

King, Robert G. and R. Levine (1993) Finance and Growth: Schumpeter Might be Right. *Quarterly Journal of Economics* 108:3, 717–738.

Kose, M., Eswar Ahyan, S. Prasad, K. Rogoff, and S. J. Wei (2009) Financial Globalisation: A Reappraisal.*IMF Staff Papers* 56:1, 8–62.

Lane, Philip and G. M. Milesi-Ferretti (2001a) The External Wealth of Nations: Measures of Foreign Assets and Liabilities for Industrial and Developing Countries. *Journal of International Economics* 55:2,263–94.

Lane, Philip and G. M. Milesi-Ferretti (2001b) External Capital Structure: Theory and Evidence. In Horst Siebert (ed.) *The World's New Financial Landscape: Challenges for Economic Policy*. Springer-Verlag.

Law, S.H., P. O. Demetriades, and B. H. Baltagi (2009) Financial Development and Openness: Evidence from Panel Data. *Journal of Development Economics*, 285–296.

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

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

Masten, A.B., F. Coriceli, and I. Masten (n.d.) Financial Integration and Financial Development in Transition Economies: What Happens During Financial Crisis?

Mauro, P. and A. Faria (2004) Institutions and External Capital Structure of Countries. International Monetary Fund. (Working Paper).

Mendoza, E.G., V. Quadrini, andJ. V. R. Rull (2008) *Financial Integration, Financial Development, and Global Imbalances*.

Monge-Naranjo, Alexander(2002) Human Capital, Organisations and Foreign Direct Investment. Northwestern University. (Mimeographed).

Osada, M. and M. Saito (2010) *Financial Integration and Economic Growth: An Empirical Analysis Using International Panel Data from 1974–2007*.

Padilla, S. B. and H. P. Meyer (2002) Is Financial Development Important for Economic Growth or Not?

Rajan, R. and L. Zingales (1998) Financial Development and Growth. *American Economic Review* 88, 559–586.

Rajan, R. S. (2009) *Crises, Private Capital Flows and Financial Instability in Emerging Asia*. ISAS Insight.

Razin, Assaf, E. Sadka, and C. W. Yuen (1998) A Pecking Order Theory of Capital Inflows and International Tax Principles. *Journal of International Economics* 44:1, 45–68.

Razin, Assaf, E. Sadka, and C. W. Yuen (1998) Debt and Equity Financed Investment: Equilibrium Structure and Efficiency Implications. *Finanz Archiv* 57:4, 361–75.

Reinhart, C., S. Collins, and B. Bosworth (1999) Capital Flows to Developing Economies: Implications for Savings and Investments. The Brookings Institutions.

Rishi, C. and N. Chippalkatti (2001) External Debt and Capital Flight in the Indian Economy. *Oxford Development Studies* 29:1.

Robbinson, J. (1952) *The Rate of Interest and Other Essays*. London: Macmillan.

Rodrik, D. (1994) King Kong Meets Godzilla: The World Bank and East Asian Miracle, in.

Sadig, A. (2009) Effect of Corruption on Capital Inflows. *Cato Journal* 29:2.

Schaffer, M. E. and C. F. Baum (2003) Instrumental Variables and GMM: Estimation and Testing. Bostin College. (Working Paper No. 45).

Schularick, M. (2006) A Tale of Two Globalisations: Capital Flows from Rich to Poor in Two Eras of Global Finance. *International Journal of Finance and Economics* 11:4, 339–354.

Schularik, M. and T. M. Steger (2007) Financial Integration, Investment and Economic Growth: Evidence from Two Eras of Financial Globalisation. (Working Paper).

Seyal, F. H. (2006) Foreign Debt and Its Impact in Developing Economies. (Unpublished Paper).

Shaw, E. S. (1973) *Financial Deepening in Economic Development*. New York: Oxford University Press.

Singh, K. (2011) The Third World Resurgence: Global Financial Reforms and Developing Countries. Madhyam and SOMO (Netherlands). (Unpublished Paper).

Sinha, T. (2001) *Role of Financial Intermediation in Economic Growth: Schumpeter Revisited*. Rohtak, India: Spellbound Publishers.

Stancil, B. and U. Dadush (2011) The Capital Flow Conundrum.(Unpublished Paper).

Vanaschhe, E. (2004) *Impact of Financial Integration on Industrial Growth*. Leuven: Katholieke University.

Wei, S. -J.(2000a) How Taxing is Corruption on International Investors? *Review of Economic Statistics* 82:1,1–11.

Wei, S. -J. (2000b) Local Corruption and Global Capital Flows. *Brookings Pap. Econ. Act*. 2, 303–354.

Wei, S. -J. (2000c) Natural Openness and Good Government. (NBER Working Paper 7765).

Wei, S. J. (2006) Connecting Two Views on Financial Globalisation: Can We Make Further Progress. *Journal of Japanese and Intl. Economic*, 459–481.

Wei, S.-J. and Y. Wu (2002) Negative Alchemy? Corruption, Composition of Capital Flows, and Currency Crisis. *National Bureau of Economic Research* 0-226-18494-3.

Wei, Shang J. (2000) How Taxing Is Corruption on International Investors? *Review of Economics and Statistics* 82:1, 1–11.

Wei, Wu (2001) *Corruption, Composition of Capital Flows and Currency Crises*. National Bureau of Economic Research.

Yuen, C.W. (2000) Explaining the Composition of Capital Flows in the Developing World 1990s: An Asymmetric Information Story and Policy Implications.

Zampolli, F., S. Cecchetti, and M. Mohanty (2011) The Real Effects of Debt. (BIS Working Paper).