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TECHNOLOGY, ISLAMABAD



**Financial Integration, Financial
Development & Economic
Growth: Evidence from
Developing Countries**

by

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degree of Master of Science

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This work is dedicated to my beloved parents who supported me, encourage me, and prayed for me and to my respected supervisor Dr. Nousheen Tariq Bhutta, who has been a constant source of inspiration.



CERTIFICATE OF APPROVAL

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Abstract

Changing in policies for the market based economies and appropriate resource allocation shifted the developing and developed economies toward the improvement of financial system. Main aim of financial sector are to increases the saving in the economies and enhancing the investment opportunities and risk diversification. Through that way the integration started in the economies to achieve the benefit and boosting the growth of economy. A developed financial organization is most imperative for the progress of economy and financial development. The study uses panel data of 71 developing countries from 2000 to 2015 to determine the relationship among international financial integration, financial development and economic growth. Fixed effect model is used for the analysis. Results showed that international financial integration has positive and significant impact on economic growth. The second hypothesis also confirms the positive and significant impact of financial development on growth. Moreover International financial integration and financial development also have positive relationship between them. The findings suggest that developing countries should promote the financial integration in order to boost their economic growth. Less restriction on cross border transaction, better institutional quality enhances the economic growth.

Keywords: International Financial Integration, Financial Development, Economic Growth.

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Abbreviations

BD	Commercial Bank Deposits
EDU	Secondary School Enrollment
FAL	Sum of Foreign Asset and Foreign Liabilities
FAS	Foreign Asset
FD	Financial Development
FLI	Foreign Liabilities
GDP	Gross Domestic Product Per Capita
IFI	International Financial Integration
IMF	International Monetary Fund
INF	Inflation
INST	Institutional Quality
INV	Gross Capital Formation
OLS	Ordinary Least Square
PCR	Private Credit
POP	Population Growth
TO	Trade Openness

Chapter 1

Introduction

1.1 Background of the Study

Recent trend in the changing in policies for the market based economies and appropriate resource allocation shifted the developing and developed economies toward the improvement of financial system. Main aim of financial sector are to increases the saving in the economies and enhancing the investment opportunities and risk diversification. Through that way the integration started in the economies to achieve the benefit and boosting the growth of economy. A developed financial organization is most imperative for the progress of economy and financial development.

Financial integration is way of integration of financial system of local with the financial system of international economies. Integration starts when the countries started to move the capital from local to international market (Levine, 2005).

Levine (2005) said financial systems can be improved and enhance the growth through efficient way of availability and exchange of goods and service, investment monitoring way and improving corporate governess, allocation of saving and investment, allocation of information about the investment entrepreneurs, monitoring of saving that used in productive and beneficial purpose. All these function improve the savings; enhance the investment that fosters the growth.

Recent time these research studies taken as the openness of the markets context. Benefits that are associated with the financial development achieved through financial integration with international markets. In other hand financial integration increases the investment and better resource allocation that foster the economic growth (Levine, 2005).

Different channel of capital allocation enhancing the growth FDI effects the economic growth through the investment, technology transfer, allocation of resources. Financial integration negatively impact on domestic saving. Integration overall enhance the economy growth and improve the financial development and system in the economies (Osada, et al., 2010).

McKinnon, et al., (1973) argued that close economies results the bad experience of growth. Developing economies need openness and integration to improve the financial system and better growth. They discuss that financial integration boost the saving which further use for the productive way to enhance the economic growth. In the developing countries negative interest rate cause less saving ultimately leads to less investment. Liberalization enhances the saving which becomes the channel of improvement of economic growth. They encourage that closed and depressed economic system cause discouragement of savings, best resource allocation and trade among the countries. Integration not only the integration of markets also the allocation of flow of capital among the economies. Developed countries started financial liberalization in 1970s. Later on the liberalization started in developing countries in 1980s and 1990s.

The role of financial integration is important in economy but in other hand the integration causes uncertainty and risk also. Integration in risky because they increase the inflation rate term of trade deficit. They provided the evidence that how integration enhance the development and the correlation among the economic growth and development. Different studies used the endogenous growth theory to explain the integration and growth nexus. Financial development boosts the capital efficiencies in result productivity improved and economy grows (Levine 2005).

Capital flow boost the economic growth in the country but it works only where the banking system and other legal and governance system are developed and having capacity to get benefit of integration. Bailliu (2000) Countries with open economy grow faster than the closed economy. Economies that wanted to open the economy need first to improve their financial system to attain the benefit of integration (Steger, et al., 2006). In contrast, sometime integration does not affect the integration positively because the countries do not have the system that bears the liberalization Glickman, et al., (2002) and (Adam, 2008).

Capital account liberalization enhances and the growth by increase in taxation, government spending increases that enhance the growth of economy. Growth is attained through the enhancement of investment, return on investment and through trade of between growth and equity market (Quinn, 1997).

Capital mobility and the economic growth is correlated some economy grow faster and in others rate of growth slow due to their financial structure Capital account liberalization encourages the countries to easy access at international market that enhances their scope and risk is diversified due to integrated investment. In developing countries the capital accumulation enhances the investment that boosts the stock of capital in the economy in results economy grows faster. Capital control reduces the chances of bad allocation of resources in the economies due to the large number of opportunities and competitions in the international market and easy access to the financial market. It also explained the four things as supporter of the capital account controls balance of payment instability, control the savings, taxation on domestic capital, reforms in improvement of financial system and structure Grilli, et. al, (1995). In general financial integration and globalization are different terminologies but they are related with each other closely. Globalization is the broad term that means the link of economies across the border and integration means the one country link to another countries financial market (Prasad, et al., 2003). In easy way the globalization is the link of different integrations. In other way the removal of restriction on the drive of investment from the countries to another country, having more capital toward the countries having less capital foster the economic growth.

The literature about integration indicates that if they channelized in proper way they boost the savings, cost of capital reduced, risk diversified, proper utilization of resources, transfer in technology, transfer of managerial skills and knowledge and financial sector developed.

There are some schools that challenged the positive linkage of international financial integration. Edison, et al., (2002) described that integration not enhance the economic growth with the weak financial system of the economy and poor legal policies and system. They resulted capital flight and insatiability in the economy. Integration in other way promotes and increases the investment rate and movement of capital in the economies foster for this reason emerging economies like china loose the restriction and open the economy (Edison, et al., 2002).

International literature in the subject of finance and economics not define the international financial integration in a specific definition. In literature financial integration called with the name of integration, openness, liberalization, and capital account liberalization these all used in literature in a same way and measure with same method (Edison, et al., 2002).

Edison, et al., (2002) defined the financial integration as in which extent economies restricted for trade across the border. They identified three routes in which financial integration works and enriches growth of economy. Firstly, integration promotes the specialization, separation of risk and promotes the investor to invest in the portfolio where the returns are high. This financial openness system increases the companions, transfers the knowledge and helps the transfer of technologies from developed countries. Secondly, through movement of capital to the developing countries where the productivity is high. Lastly, international financial integration enhances the market penetration developed banks and financial system involved in transaction that reduced the risk.

Prasad, et al., (2003) divided the financial integration in two type de-jure and de-facto. De jure integration related to financial system policies in the economies but de facto is the capital flow. They argued de facto integration is that type which not a country easily regularized. It tells that in some countries the restriction is high in only papers. Some countries like Africa there are restriction on openness

of capital account liberalization. Prasad, et al., (2003) explained that economic conditions of the economy matter allot like the good policies and macroeconomic policies corruption level in the economy.

Goods institutional quality and financial system included the better system of economy legally like law enforcement and standard of corporate governance. These shows that the financial integration is dependent on the removal of barriers like financial barriers, legal barriers policy and environment that create the system to fulfill the requirement. After that we enter in next step to achieve the benefit of financial integration. Results of the integration attained through increase in the volume of investment and saving rates that discussed in the literature in detailed.

Financial integration is the removal of legal and financial restriction on the movement of capital outside the border and removal of difference between local and foreigner individual taxes (Von Furstenberg, 1998). Financial integration needed the openness of trade across the border and relaxation for both domestic and foreigners. Financial integration involves the systems and institutions of that country, irrespective of transfer of funds. The international involvement helps the countries to improve their system according to the international standard. Savings at domestic level boost through integration. Von Furstenberg (1998) indicated the pre-requirements conditions like standard of goods that traded international level, regulations, and policies. Many studies were done on the association of development and growth. Before understand the nexus of economic growth and financial integration that is important to realize the affiliation amongst economic growth and financial development.

McKinnon, et al., (1973) was the main researcher who worked first to determine connection of growth and development and its importance within emerging economies. Nexus of financial development worked contrarily with growth in better financial system. They perform different functions like the eliminations of transaction cost and productivity. The rate of investment improved in the economies through providing better opportunities, improved interchange of things and facilities also diversify risk. They improve the distribution of resources, mobilize saving and transfer the technology that enhance the economic growth of economy.

Financial development boosts the economic growth in the economy before the period of crises and after crises hampers the growth. Financial integration and trade openness main source of economic growth during the period of crises in the economy (Asteriou, et al., 2019). Integration works through the capital formation in the economy. Flow of capital creates the integration that enhances the financial development. Study focused on the impact of financial integration in the era of crises (Lane, et al., 2018). Different kinds of integration used in the different study like, total integration, financial integration and integration of trade that influence the economic growth. All types of integration boost the economic growth in the economy (Nguyen, et al., 2019).

1.2 Theoretical Background

1.2.1 Neo-Classical Growth Theory

Solow, (1956) explained Neo-classical growth theory is used to ascertain the elements that affect the economic growth. Theory explains three factors that have an influence on the economic growth, which include labor availability, capital and technology. Theory explains the temporary equilibrium state and explains that impermanent equilibrium can be achieved if the labor, technology and capital are used suitably. Theory indicates that provisional evenness is dissimilar as of the long-term equilibrium and not depends upon these three factors.

Growth rate can be accomplished through labor and capital. Theory indicates that the different amount of labor, capital changed the economic growth. Theory grounded capital accumulation of capital in the economy and the relationship between capital and labor to determine the outputs. Better financial system and skilled human capital improves the productivity of labor. Increase in any one factors impacts on the GDP.

The growth rate depends on the saving rates, and be influenced by the population growth. Higher savings leads to a higher output per capital in steady state and population growth reduces the per capita output in steady state. Countries in

which there is same kind of financial system and but growth rate are different is due to the difference in population growth rate. Solow model indicate that capital movement in the economies enhances the economic growth and leads financial development in the economy. Capital movement enhances the investment in the economies through financial integration.

1.2.2 Theory of Endogenous Growth

Theory of growth indicates that the human capital investment, novelty and information have noteworthy sway on the growth of economy. Theory emphasized effects of awareness based economy which results the financial development in economy. Endogenous theory of growth state that economic progress is created through the internal factors by system. The nation with good human capital leads economic growth by expansion of technology. It also indicates that countries which invested more in human capital and technology grow economically. It provides mixed evidence relating to the growth and integration.

Neoclassical model provides the pros of international financial integration that they facilitate capital flows which enhance private savings and investments thus which tend to foster the economic growth. Financial integration can strengthen the market and also promote the risk-sharing.

1.3 Problem Statement

Existing research showed that integration has an effect on the economic development and growth. The International financial integration has positive influence on economy in result of equity and capital market liberalization (Bekaert, et al., 2005). Though, there are contradictory opinions relating to the exceling role that financial integration plays in economic growth and by boosting the trade. For instance, Tukenmze, (2005) didnt confirm that financial integration backings on economic growth of country. The study intents to explain connection among financial integration, development and per capita GDP in developing countries.

1.4 Research Gap

Through literature review indicated that different studies done in the field of financial integration, development and economic growth Levine (2005), Adam (2008), McKinnon, et al., (1973), Prasad, et al., (2003), Von Furstenberg (1998), Bailliu (2000). Existing research showed that integration has an effect on the economic development and growth. These studies indicate the positive, negative and some studies showed mixed relation of financial integration and economic growth. Few explained positive association among financial development and financial integration. Previous studies showed the individual country effect that not showed different culture, financial system development and economic condition. This study explores the effect of integration on development and economic growth in 71 developing countries. Financial integration enhances the economy in larger amount in developing countries. Additionally, most of studies used single measure of financial integration and development but in the study used different measure of integration and development that capture the clear picture.

1.5 Research Questions

Rendering to the problem statement, following questions addressed in the study

- Does international financial integration influence the economic growth?
- Does financial development influence economic growth?
- Does international financial integration affect financial development?

1.6 Study Objectives

The broad determination of study is to recognize the sway of financial integration and development on economic growth in developing countries.

Specific objectives of study are:

- To scrutinize the connection among international integration and growth of economy.
- To identify association among development of financial systems and economic growth.
- To explore the financial integration influence on the financial development.

1.7 Significance of Study

Study intends to add empirical literature in this area of study since little work done in the field of financial integration and growth in developing countries. The outcomes of the study will also help policy makers on the extent to which developing countries are integrated financially into the worldwide financial markets. And also help them to know the implementation of appropriate policies to reduce their vulnerability to financial crises. For academia purpose, this study will assist researchers for further study on the subject of international financial integration of financial markets, financial development and economic growth in both developed and developing countries.

1.8 Study Scheme

Study divided in five chapters. Chapter one incorporate theoretical background and introduction and second chapter cover literature review. Chapter three and four contain methodology and results discussion. In last chapter five comprise the conclusion and recommendation.

Chapter 2

Literature Review

2.1 International Financial Integration and Economic Growth

Lot of literature on the financial integration and economic growth available. Empirical studies also observed relation of international financial integration with economic growth, meanwhile using as controlling variable that influence the economic growth. There is no universal definition of financial integration, in literature it's connected with movement of capital across the borders. Financial integration includes the eliminations of restriction across the border financial operations. In Financial integration process different markets enter in competition and then become one financial market. Greater financial integration increases the cross border ownership assets, and also increases the opportunities of investment. Stronger financial integration results, openness of financial market and lead converging prices. Financial integration reduces also the risk through diversification and reduces the implied cost. Therefore, they enhance the economic growth (Amadou 2006).

Klein, et al.,(2008) scrutinized the influence of capital liberalization on the economic growth and used cross-sectional data and time series pooled data from 1986-1995. Their result showed that countries which have open capital had greater increase in economic growth then the countries which have restricted capital account. Their research also finds that the capital account liberalization is beneficial

in those countries which have better financial system. The findings also showed that financial liberalization did not offer the same edge to all countries and it depends on the circumstances in which the liberalization occurred. The desired benefit of financial liberalization and integration achieved through complete information about the policy, institution, and economic condition of world's economy.

Financial integration is the link of a country to the international capital markets. It means that, the degree in which a country is connected with other countries in capital market. Prasad, et al., (2003) explained that integration concerned with the monetary flow through cross border. Their definition also explained that legal restriction causes increase or decrease of financial integration. A country borrows from abroad and invests in home therefore it got the extra saving through net capital inflow. Financial integration will affect the funds stream from the developed economies to the developing countries that enhance the portfolio returns, technology and per capita incomes.

Bailliu (2000) studied the share of capital flow to determine economic growth in developing economies. Study used 40 sample countries panel data for the period of 1975-1995. Their findings showed that capital flow increased economic growth of that countries in which financial sectors is established at firm level. She observed that countries in which the banking sectors are not so good capital flow not increase the growth in such economies. Study showed that the local monetary structure play vital role to achieved the desired results through financial integration and promoting the economic growth.

Eichengreen, et al., (2003) discussed the association among openness of capital account and economic growth for panel data from 1880-1997 and one panel form 1971 for 21 economies. They explained that previous results of studies were not much accurate because they did not account for the effect of crises on the growth. They control this factor through capital account, by including it in the study. During the whole period of study 1880-1997 capital account control impact significantly and positively on economic growth. Economic growth of the states in period of war also fostered even there are many types of control system imposed to handle the crises in the economy. The crises within the country and outside,

international crises affected the growth negatively. The study determined that the fruits of openness acquire only through better financial system. And the growth benefit from capital account liberalization attained through best allocation of the resources. In the period of crises the capital account negatively affects the economy.

Quinn, et al., (2008) explained relation between economic growth and liberalization of capital account using 58 cross section countries. Their study originate that capital account liberalization have straight impact on the economic growth in the countries where the developed industrial democracies. They also found that in the emerging market democracies with some legal, social and economic condition decreases the economic growth.

Kose, et al., (2011) observed relation of international financial integration with economic growth, meanwhile using as controlling variable that influence the economic growth such as trade openness, institutional quality, inflation rate and population growth quality. The study employed the GMM techniques for 84 countries for the time period 1975-2004. The outcomes of his study advocated financial integration influence the economic growth but influence depended upon the threshold variables. Financial integration effects vary and depended on the type of external asset and external liabilities. In case of external liabilities, foreign direct investment and equity positively affected the economic growth. Debt liabilities negatively impact on the growth of economy of countries. Context of external assets, direct investment (FDI), equity and debt asset have no substantial consequence on the economic growth of country.

Levine (2005) considered affiliation among economic growth and financial institution. This study confirmed the increase in economic growth because of exchange of goods and services. Through savings many opportunities of investment can occur. These benefits attained by allocating the saving in best way, and by diversification also the risk reduced. Each function of saving and investment increased the economic growth.

Schularich, et al., (2006) explained the link concerning international integration and growth. The study examined relationship for the first era of financial integration from 1880-1913. To examine the relationship among these variables GMM used for estimation. Their findings suggested, financial integration boost the economic growth in those nations where financial system was developed.

Their result explained that the countries which wanted to integrated at international level; they first develop the domestic system to achieve the benefits of international financial integration. Their study argued that financially open countries performance were better than the less integrated economies in the shape of standard of living and per capita income.

Zenasni and Benhabib, (2013) surved the nexus among international financial integration and economic growth for 3 North African countries (Algeria, morocco, tunsia) by using the dynamic panel system GMM estimator from 1980 to 2010. Their findings confirmed the positive liaison between international financial integration and economic growth of these three countries. Positive result means that North Africa financial situation was improved by the international financial integration.

Beck, et al., (2000) probed liaison among financial integration and growth. The study used Dynamic techniques of panel data to estimate the link for 112 developing and 22 industrialized countries from 1960-1995. They discussed the financial development and their different measures and also argued that financial development helped to attain the benefit of financial integration. Improved financial system of the economy explained that the countries which wanted to integrated at international level; they first develop the domestic system to achieve the benefits of international financial integration. . Study testified the robust association between international financial intermediaries and economic growth of economy. The study argued the financial intermediaries enhance the foreign investment, which increases the international financial integration ultimately enhance the economic growth.

Arestis and Glickman, (2002) postulated that the financial openness were differently importance in all countries. Financial openness in some cases leads to the

crises because the economies have imperfect characteristics. Their result explained, financial openness negatively effect on the economic growth.

Adam (2008) scrutinized effect of financial openness on the economic growth of Ghana from 1970-2007. Study used multifaceted index for financial integration which constructed through different ten policy measure. The study used principal component analysis (PCA) method to obtain the index of financial liberalization.

Their findings suggested, financial integration boost the economic growth in those nations where financial system was developed. Their result explained that the countries which wanted to integrated at international level; they first develop the domestic system to achieve the benefits of international financial integration. Their study argued that financially open countries performance were better than the less integrated economies in the shape of standard of living and per capita income. There finding also indicated international financial integration is beneficial but there is more need to economy to improve the system for getting complete benefit.

Quinn (1997) inspected the association of economic growth the liberalization of capital account. Quinn composed financial regulation measure to assign the scale 0 to 14. Most regulated and open economies assigned 14. Their findings suggested that, there is positive link concerning capital liberalization and economic growth of economy. They also originate that economic growth rise through boost in financial integration because they foster the investment in capital and labor in an efficient way. Secondly, the efficient investment caused the shift in income of the economy. Thirdly, the benefit of financial integration was achieved through tradeoff between equity and growth in result of international financial deregulation.

Osada, et al., (2010) studies relationship of international financial integration and economic growth used panel data of 83 countries for time period 1974-2007. Study explained influence of international integration on the growth is different in every country. To examine this relation he used defacto measure of international financial integration (external assets, external liabilities). There result showed that the investment FDI and equity positively related with growth of economies having high level of initial income, higher education level, and openness to trade, developed financial system and institutional quality. At the same time public debt

negatively associated economic growth. The difference in result was due to the characteristics of the countries. They divided the economies into two groups one high group and second low group on the base of average of variables (rate of inflation and schooling year) at the time of study. In this paper he also explained the unintentional consequence of financial integration to economic growth. They suggested that trade volume and financial markets improvement indirectly effects on the growth of state.

McKenzie (2001) inspected nexus of international financial integration and economic growth of sample 112 countries for time period of 1960 to 1989 by using estimation techniques cross sectional regression and panel data method GMM. Their findings claimed financial integration not affected significantly economic growth. Finding also explained that the cross-sectional analysis expresses control of capital negatively influenced the economic growth. The main finding was the effect of interaction between the capital controls, initial income and trade openness. The effect of capital account restriction depends upon the specific type of controls.

Miesi-Ferriti, et al., (1995) explained the indirect association between economic growth and international financial integration through FDI and portfolio inflows for 60 developing countries from 1966-1989. Study observed no confirmation of strong linkage among capital account restriction and economic growth of 61 countries.

Mclean and shectha, (2002) examined the link between economic growth international financial integration of 40 economies from 1976-1995 time periods. The study divided the economies in 20 developed and 20 developing and emerging countries. Panel regression is used to examine the relation and Five year averaged data is used. Main focus of study was on capital inflows composition, they studied FDI and portfolio inflows and its influence on the economic growth. Findings suggested that FDI and portfolio inflow enhance economic growth. Also showed in study investment increases the economic growth in that economy where the financial policies and system is sound.

Fried et al., (2010) study the association of integration and growth of economy by using industry level data for low and middle level income countries from 1998-2005. They used rajan and zinglas methodology (1998) and suggested that financial openness foster the growth. Also explained in study financial integration enhanced when the country is politically integrated with advanced countries. They examined the different factors that explain the findings such as, quality of institution, integration of trade, financial development, integration of political level and financial integration. Results showed that the result of monetary integration is more in economies which are close politically with European Union. Study argued that political integration and financial integration is interdependent. Political integration causes foster the benefit of financial integration.

Mody and Murshid, (2005) explained the indirect association between economic growth and international financial integration through FDI and portfolio inflows for 60 developing countries from 1979-1999. They used first serial correlation for annual data and then Generalized method of moments GMM for three year averaged data. The study also discussed that financial integration encouraging the investors for the investment and results showed that increases in the investment due to these diversification. Their findings indicated FDI and economic growth of countries positively related.

Saleem (2017) using ordinary least square (OLS) to probe the link of liberalization with capital account and economic growth for Pakistan time period 1975- 2013. Financial integration index was used as the international financial integration proxy derived by FDI, external debt and remittances. The study illustrated financial integration influence depends upon policies and system of government. The countries which had better systems (less corruption, better financial system and good governance) are more attractive for investments as compare to the countries with bad system and policies. Their findings suggested that the financial integration significant and negatively associated with the economic growth of Pakistan.

De Gregorio (1999) inspected the connection between international financial integration and economic growth for 24 economies for 1960-1993 time periods. Study showed financial integration positively affected the economic growth by managing

capital market. Study also found the benefit of international financial integration is acquired by developing domestic financial system. No direct relation showed among the financial integration and economic growth. International financial integration impact growth through financial deepening.

Edison, et al., (2002) examined effect of financial integration on the economic growth of 57 countries from 1980-2000. Different measure used for financial integration also different methodology used for estimation. They also investigated assistance of financial integration to growth is dependent on the different component such as economic development of nation, corruption of government in country, legal structure, economic policies and financial development. They used simple ordinary least square; two stage least square and generalized method of moments. There OLS, 2SLS results were conflicting only in GMM the financial integration indicator (stock of capital inflow and outflow to GDP) has substantial association with growth of economy. In OLS results of following two indicators of financial integration capital outflow and secondly inflow of capital having significant and positive relation with the economic growth. There 2SLS results showed that none of these indicators of financial integration significantly related with economic growth of country. Their findings suggested capital liberalization has slight association or not related to the growth. But it doesn't indicate financial integration and economic growth not related with each other or not correlated. Their findings also showed that financial openness enhance the development in banking sector, per capita GDP increased and developed the stock market.

Kraay (1998) using ordinary least square (OLS) to probe the link of liberalization with capital account and economic growth for 117 countries 1985 to 1997 time period. He admitted the assistance of liberalization explains in the literature. Their findings suggested capital liberalization has slight association or not related to the economic growth.

Kose, et al., (2003) examined the link between economic growth international financial integration of developing economies from 1960-1999 time periods. They founded the consumption of growth be influenced by the income growth which enhance in 1990s. Their findings showed that financial integration enhances the

growth. They suggested benefit of financial integration can be achieved through enhancing the integration with developed financial market.

Epaulard and Pommeret, (2005) examined the link between economic growth international financial integration of 32 economies from 1990-1998 time periods. To investigate the relation they divided the countries into high integrated and low integrated group. Findings show that financial integration not impact on domestic saving and investment total. To discover the connection of liberalization with economic growth investment is divided into private and public investment in this study. Financial integration had positive relation with the private investment that boosts the economic growth. Public investment and financial integration have negative relation. Findings indicated financial integration positively and significantly influences the investment and growth. Their findings recommended that international financial integration boost the economic growth by 0.3 percent annually.

Farid (2013) assessed the association between financial integration on saving, investment and also the impact of liberalization on growth of African countries from 1980-2010. Study examined issues of financial liberalization and its effect on the economy. They admitted that financial integration effects on the trade openness, investments, technology transfer, financial system development and economic growth but financial integration is also cause of macroeconomic instability. The stock market integration needs an environment to attain the benefit of integration. The environment can be created through better policies, institutional system and political commitment. They found that which African states more integrated not develop earlier than others. Findings disclosed that financial integration enriches growth with the support of development. They also initiate that more international integration cause instability.

Afzal (2007) inspected association among capital openness and economic growth for pakistan and from 1960-2006. They used proxy of financial integration capital inflow and outflow ratio to GDP a secondly proxy of trade openness used as sum of import and export to GDP. Johansen approach was used to analyses the relation. They found that trade openness and financial integration co-integrated and influence the economic growth of Pakistan in long terms. The also advocated

that investment at public sector and human resource development are the aspects that enhance the economic growth.

Rodrick (1998) inspected association among capital openness and economic growth for 100 developing and developed countries from 1975-1989. They used different controlling variable along with per capita GDP as dependent variable, they uses investment ratio to GDP and inflation also to estimate the relation. Their findings explained that there is no evidence founded in data which represent capital openness has substantial effect on growth of economy.

Mougani (2012) inspected the nexus between international financial integration and economic growth in African nation state. The African countries financial integration into the open and close country to investigate the relationship and using the data set from 1976-2009. For the analysis GMM estimation technique was used. Different proxies of financial integration are used in the study such as private capital inflow ratio in net to GDP and FDI to GDP. They accepted that financial integration affect the different aspects of the economy such as enhancement of investment, openness to trade, technology transfer, financial system improvement, economic and financial deepening and the growth of the countrys economy. Although, they also investigated that international financial integration may cause the economic instability in the economy. Foreign investment and integration affected the economy local investment, production capacity and also promote the growth and financial system. Instability was caused by the poor financial system and development of economy. They initiate that international financial integration effects the growth and there influence depends on the economy economic condition of the economy such as the regulation and policies, trade openness, foreign investment and development of financial system.

Mahjan and Verma, (2015) discussed the association among openness of capital account and economic growth for panel data from 1880-1997 and one panel form 1971 for 21 economies. They explained that previous results of studies were not much accurate because they did not account for the effect of crises on the growth. They control this factor through capital account, by including it in the study.

During the whole period of study 1880-1997 capital account control impact significantly and positively on economic growth. Economic growth of the states in period of war also fostered even there are many types of control system imposed to handle the crises in the economy. The crises within the country and outside, international crises affected the growth negatively. The study determined that the fruits of openness acquire only through better financial system. And the growth benefit from capital account liberalization attained through best allocation of the resources. In the period of crises the capital account negatively affects the economy.

Khan, et al., (2006) investigated trade liberalization and integration influence on the growth of Pakistan. Annual data used during 1961-2005 for investigation. Co-integration approach was used to analyze the liaison between real GDP per capita, trade liberalization and financial development of the Pakistani economy. Financial development measure M3 to GDP, total bank deposit ratio to GDP, clearing house amount ratio to GDP, M2 divided GDP, stock market capitalization ratio to GDP and private sector credit ratio to GDP are used to estimate. Their outcomes indicated that equally trade openness and integration has important part in fostering the growth of Pakistani economies in long term. Outcomes highlighted that financial integration influences the growth more than trade liberalization.

Hermes and lensink, (2005) assessed the association between financial integration on saving, investment and also the impact of liberalization on growth of 25 developing countries from 1973-1996. Utilizing the data set which included six types of financial system policies, assigning score to the countries 0 and 3 for highly liberalization economies assign 3 and 0 for less liberalized economy. Set of data composed six year for 25 economies. Estimation of equation separately did for saving, growth, investment, public investment and private investment. Findings show that financial integration not impact on domestic saving and investment total. To discover the connection of liberalization with economic growth investment is divided into private and public investment in this study. Financial integration had positive relation with the private investment that boosts the economic growth.

Public investment and financial integration have negative relation. Findings indicated financial integration positively and significantly influences the investment and growth.

Fowowe (2008) taken two indexes and dummy variables for the integration assign 0 to before integration and 1 is assign after integration. Dynamic panel estimation technique and OLS were used to examine the relationship. They found that financial system stability risk was associated with financial liberalization. They found that financial liberalization increases the per capita GDP. The coefficient of all proxies was positive and two of them had significant relationship. Second proxy of financial integration presented that financial integration enhances the economic growth by 0.7 percent. Their findings of GMM also showed the significant and positive relationship. Overall picture of findings advocated that financial integration significantly and positively linked with growth.

Bumann (2012) investigated the effect of integration polices carried out during 1970s on the economic growth. They conduct meta-analysis which explained the nexus among international financial integration and economic growth of the economy. Findings show that financial integration not impact on domestic saving and investment total. To discover the connection of liberalization with economic growth investment is divided into private and public investment in this study. Financial integration had positive relation with the private investment that boosts the economic growth. Public investment and financial integration have negative relation. Findings indicated financial integration positively and significantly influences the investment and growth.

Sedik and Sun, (2012) investigated the link among financial integration and monetary system stability risk and its association with economic growth for 37 emerging economies during 1995-2010. To find the relationship system GMM methodology was used. They found that financial system stability risk was associated with financial liberalization. They found that financial liberalization increases the per capita GDP.

Ahmed (2011) considered the association among international financial integration, economic performance, and investment for 25 Sub-Saharan countries. They

investigated that impact of financial integration through direct channel boosting the growth and indirectly through the financial development of the economy. They observed that there was no straight relation between financial integration and economic growth of Sub-Saharan countries. Results displayed all measure of financial integration are insignificant.

Lane and Ferrets, (2006) created set of data of foreign asset and foreign liabilities for 145 countries for the time period of 1970-2004. Their data represented the foreign asset and foreign liabilities also differentiate the position of portfolio equity asset, portfolio liabilities equity, FDI asset, liabilities FDI, debt asset and liabilities. For constructing the data set the information about the items collected from the (IMF), UNCTAD data for FDI , national sources, balance of payment statistics and world economic data outlook for some items. The set of data used the information that reported in IFS regarding the investment and its gain or losses. The data showed that through financial integration industrializing countries gain more benefit in 1970s. Financial integration raises the growth and changes the financial structure of the developing countries. FDI asset and liabilities showed increasing trend in the data. Through the integration some developing countries shift from developing to develop or under developing countries.

Kim et al., (2012) measure of openness they used external asset and liabilities divided by GDP. They used the (pooled mean group) PMG method for the estimation of relation among financial liberalization and growth. Findings suggest the both for long term and short term. Findings showed that openness has good consequence on the growth in long run level and have bad effect in short term level. The openness coefficient in long term displayed the value 1.12 for 1960-2007 and 3.59 for 1987-2007. They showed that openness and growth has positive and significant association. In the short run there coefficient appraise -2.64 for 1960-2007 and -3.61 1987-2007 respectively. Result of short run displayed there was negative and substantial association between the openness and growth of the countries. Apart from the result openness negatively affects the uncertainty. Entire results show that there is swap between openness and economic growth both

in short term and long term. In long run the outcomes positive and significant due the better condition of financial system and development.

Ahmed (2014) in his study explained the link among integration and growth in Botswana for period 1974-2009. On the road to investigate the relationship they used econometric technique of (Generalized method of moment) GMM. Their findings explain that liberalization and economic growth is negatively associated. The financial integration benefit not attains directly but through the channel of financial development integration improve growth.

Awan, et al., (2010) explained the link among the financial integration, deposits real interest rate, economic growth, remittances and term of trades on the saving of Pakistan domestically. They applied ARDL techniques for the time series data from 1973-2007. Financial integration and interest rate related to the saving positively in Pakistan. The coefficient of real interest rate was positively and significantly with the value 2.02 that means that rise in 1 percent in interest rates the saving will increase with 2.02 percent. But the other variables remittances and trade terms negatively associated with the domestic saving. To identify the association between these variables Error Correction Model applies and show that remittances, interest rate and negatively impact on the domestic saving of Pakistan. Coefficient of change in GDP is positively related with the domestic saving in Pakistan.

Ahmed (2016) considered the association among international financial integration, economic performance, and investment for 30 Sub-Saharan countries. They investigated that impact of financial integration through direct channel boosting the growth and indirectly through the financial development of the economy. They applied GMM for the estimation for using data of 30 countries from 1970-2010. They used range of financial integration measure they measure financial integration both rule based and quantity based measure. Foreign asset to GDP, foreign liabilities to GDP and foreign asset plus foreign liabilities is used as quantity base measure of integration. For rule base measure they used Chinn-Ito index as proxy of integration. Their findings told that financial integration not directly effect

on growth. All proxies of integration showed negative relation with the economic growth in Sub-Saharan.

Gregorio (1998) analyzed the financial integration, financial development and economic growth relationship. Financial system promoted integration and by this channel economic growth increases.

Nguyen, et al., (2019) explained the indirect association between economic growth and international financial integration through FDI and portfolio inflows for 60 developing countries from 1979-1999. They used first serial correlation for annual data and then Generalized method of moments GMM for three year averaged data. The study also discussed that financial integration encouraging the investors for the investment and results showed that increases in the investment due to these diversification. Their findings indicated FDI and economic growth of countries positively related.

Ehigiamusoe and Lean, (2019) examine the impact of integration on union countries and members of European country. They found that integration in the economy works through different channels like capital movement, growth in production, trade openness and integration of trade. They also indicated that the impact of financial integration on economic growth depends on different factors and not same all the time.

H₁: There is significant association among the IFI and economic growth.

2.2 International Financial Integration and Financial Development

Levine (1993) studied the association among international financial integration and development for 80 countries from 1960-1989. They oversee the analysis in two ways used the data set for the period of 1960-1989 and for the pooled analysis used data in average 1960s, 1970s and 1980,s so the every countries shows three observation. For the analysis different indicators used liquid liabilities, money bank deposit asset and credit to private sector as ratio of GDP. They found that

the benefit of financial integration is acquired in the economies which have developed financial system. Results indicate that financial development and financial integration has significant and positive relationship. Our all findings showed that financial integration correlated with financial development. And financial development fosters the economic growth.

Masten, et al., (2011) studied nexus among integration and financial development by using annual data for 31 European countries. In this study country both old and new member of the EU included. Generalized method of moments (GMM) estimation technique was used to explore the connection in the middle of financial development and financial integration. Their outcomes showed that only in that country where the financial system is improved and developed. Benefit of financial integration achieved through direct and indirect both way. Countries which are developed and having power of handling the changes through financial integration like technology improvement better production facilities can achieve benefit through both direct and indirect channel. The findings showed that international integration has positively influence the economic growth through financial development.

Edward (2001) observes the relationship between financial integration and growth of economy through the financial development for 62 countries from 1980-1989. For the link of financial development they used the CAPOP index as indicator and the liquid liabilities ratio of GDP also used as the measure. Findings suggested that capital liberalization has positive influence on the economic growth. They also suggested that these positive effect work only when the country achieve financial development.

Chinn Ito (2002) examined connection of capital account openness and development of financial sector. Index is developed to measure the financial development such as private credit to private sector and activities of stock market. For the stock market development measure they used capitalization of stock market ratio to GDP, total value of stock market traded to GDP and turnover ratio of stock market to GDP. In his analysis they used many legal and institutional variables such as standard of legal and development of institution, corruption level, law

and order situation and the quality of bureaucracy. Their findings showed that the financial development is associated with integration detected in the economies where the legal and financial systems are developed.

Masten, et al., (2008) studied the link between systematic risk, growth and globalization. Study discussed advantages of international financial integration to emerging markets from 1985-2009. The GMM was used as econometric technique for the estimation. Some countries get more benefit from financial integration than others financial integration enhances the financial development in the country. They found that financial integration is important and have advantages for the economies in both ways directly and indirectly. The study suggested that financial integration enhance the financial development and foster the liquidity of equity market. The study argues that institutional quality and financial policies are important source of gaining advantage from financial integration. Financial openness and globalization works in both way directly and indirectly through improving the financial system in the economy and through reducing the real systematic risk.

Kojo, et al., (2014) explored the correlation among financial liberalization and development used data in time series of Malaysia since 1960-2001. To resolve the measurement of financial deepening principal component analysis is used. They also used controlling macroeconomic factors that may affect in Malaysia economy. For the analysis they used the multivariate co-integration technique. Their findings show that real interest and financial repression negatively affect the financial development. Benefit of financial integration achieved through removing the policies that causes the repression. Finding advocated no significant effect of financial integration on financial development of African countries.

Ahmed (2014) discussed the connotation among integration, development of financial system and economic growth in Botswana from 1974-2009. Their findings indicates that commercial market development has momentous effect on the economic growth with savings, risk sharing, technology transfer and reducing the transaction cost. Their finding also suggested that financial integration beneficial for the financial development and financial improve the financial system in the economy through improving the country investment level. Their findings show

that real interest and financial repression negatively affect the financial development. Benefit of financial integration achieved through removing the policies that causes the repression. Entire picture showed in the study is that integration and development positively associated which indirectly foster the growth of economy.

Rajan and Zinglas, (2003) introduced the theory of interest group which explains that financial development of economy depends upon the political system. In his study discussed that some groups threaten to open trade which improves the financial system. Capital liberalization and openness to trade both enhance the financial system of the economy. Openness also increases the competition and financial market also changes. Financial and trade openness boost the economy and promote the external investment FDI in the economy and attract the investors. They initiate that openness of trade and financial openness is positively allied with the financial development. The study explained that openness create opportunities for external finance which are closely to the financial development. They private credit as indicator of financial development which provides easy formation of finance to company that leads to financial development.

Besnik (2015) studied the effect of development, financial integration on the growth for 89 developed nations from 1996-2007. They used different type of measure for integration of financial sector and development of financial system. For measuring financial integration they used the set of data formed by the (Lane and Milesi-Ferretti, 2006) external asset and external liabilities ratio to GDP. Capitalization of stock market to GDP and credit provided to private sector is used to measure of financial system development. Gernalize method of moment GMM is used in his study for the analysis. They analysis the estimation both transition and non-transition economy. They discussed economies which are less transition achieved less benefit of financial integration and the

Economies with higher transition get more level of benefit from financial integration. Findings exhibited that financial integration and development have positive influence on the growth. They suggested that financial integration directly not positively effects the growth of economy is influenced by the financial development of market in economies.

Frey and Volz, (2011) investigated the link among international financial integration and financial development for period 2004 to 2008 in sub-Saharan countries. Econometric technique of OLS was used to examine relationship. They used extent and ability of financial system measure for the financial development. For the size base measure liquid liabilities and private sector loan to GDP used. And for the efficiency of financial of financial system interest revenue total to earning of interest asset of commercial banks, cost of commercial banks to ratio revenue of commercial banks and other cost of commercial banks to total asset of commercial banks. Their finding suggested that international integration has positive sway on the financial development.

Mahmood and Rehamnan , (2015) studied the liaison among financial integration and development of ASEAN regions (Malaysia, Indonesia, Singapore, Thailand, Philpine and japan by using data from 1998-2013. To investigate the relationship pooled mean group regression (PMG) is used. The study indicated that financial integration foster the financial development in long-run. Indonesia had substantial and positive link among integration and development of stock market in long run. Malaysia also financial integration and development of market pointedly and positively interconnected. In the case of japan not a single variable significant that shows financial integration not affect the financial development. Their results showed that the developed country like japan has not get much benefit from the financial integration. Japan was already developed they not get much benefit from integration then others economy. Findings suggested that integration and development positively related.

Nicolo (2010) studied the link between systematic risk, growth and globalization. Study discussed advantages of international financial integration to emerging markets from 1985-2009. The GMM was used as econometric technique for the estimation. Some countries get more benefit from financial integration then others financial integration enhances the financial development in the country. They found that financial integration is important and have advantages for the economies in both ways directly and indirectly. The study suggested that financial integration enhance the financial development and foster the liquidity of equity market. The

study argues that institutional quality and financial policies are important source of gaining advantage from financial integration. Financial openness and globalization works in both way directly and indirectly through improving the financial system in the economy and through reducing the real systematic risk.

Oscar Chiwira (2015) studied the affiliation among capital account openness and development of financial sector for SADC South African development community from 1980-2011. Banking area growth indicators and development of financial market indicator used for the measurement of financial development. Study argues that in some states the direct advantage of financial integration not achieved. Financial integration benefit gets through the financial development channel. Findings indicate that there is positive association among integration and progress.

Klein and Olivei, (1999) studied the affiliation among capital account openness and development of financial sector for 93 states for the sample 1986-1995. Study explained that the countries which have open capital account are more financially developed than the countries having restricted capital account. Their results show that financial integration is not equally beneficial for all the economies and advantages of capital account openness is achieved through taking different step to improve financial system.

Ang and McKibbin, (2007) explored the correlation among financial liberalization and development used data in time series of Malaysia since 1960-2001. To resolve the measurement of financial deepening principal component analysis is used. They also used controlling macroeconomic factors that may affect in Malaysia economy. For the analysis they used the multivariate co-integration technique. Their findings show that real interest and financial repression negatively affect the financial development. Benefit of financial integration achieved through removing the policies that causes the repression.

Samouel, (2007) studied the nexus between openness and development in southmediterranean sea (SMS) countries for 1980-2005. They measure the level of threshold of financial development and also used the formal approaches. They applied the panel model of error correction to scrutinize the affiliation between openness and financial development. The study also considers the importance of institutional

quality and concludes that benefit of financial integration attain through strong financial system. Their results indicated that variable of liquidity of banking sector losses by 0.735% through increase one percent in financial openness. For the legal development case mean -1.947. Openness of capital account increased or decreased by the level of financial and legal institution development. Capital account openness works strong for the economy with better legal system then weaker legal system economy.

Bhetuwal (2007) explained relationship between integration and development in Nepal from 1975-2006. Granger causality test employs for investigation. The study reports that through financial integration risk spreads and flow of funds increase which cause higher investment. Range of integration proxies used in the study. Six indicators or proxies used for the financial integration entrance (difficulties in entry level), interest (control of interest rate), credit (control of credit), regulations (security market regulations), CAPITAC (barriers in international transaction), PRIVAT (financial sector privatization). They also indicated that the monetary integration increases the financial development.

Tresselet, et al., (2008) pointed out consequence of monetary changes on the development through financial integration for 91 countries. They investigate the relationship through OLS ordinary least square and GMM technique. Financial development correlated positively and significantly with security market index, capital account openness index, and foreign trade index and also suggests that economies where the financial system developed have extraordinary financial integration level. They assessed that the economies in which there are level of financial integration higher in that countrys more improvement and reforms take place in banking system through decreasing tariffs and increasing openness of capital account. Findings also presented that development has positive and momentous relationship with the per capita GDP and correlated negatively with inflation. Study indicates that financial reforms have influence on development of financial area of economy if the foundation is resilient. They also found that financial reforms have effect on economies with strong political system is.

Hanah (2010) reported the nexus among openness of trade, openness of financial sector and financial integration for 29 Asian developing states for 1994 to 2008. To analyse the relationship GMM technique is used. For looking the relationship among financial openness, financial development and trade openness they control some macroeconomic factors such as exchange rates. Results indicated that there was significant and positive association among openness to trade and financial development and also with financial openness indicator. Dejure and defecto measure of financial integration is used in the study for the proxy of financial openness. The study showed interconnection among openness, trade openness and financial integration.

Falahaty and Law (2012) inspected the link between integration and financial development in 9 MENA states from 1991-2007. Statistical technique Vector autoregression and fully modified OLS technique was used to investigate the correlation among integration and deepening. Unit root test applied and technique of co integration also used for the analysis. Findings showed long run nexus of integration and development.

Beck, et al., (2000) argued that developed financial system improves the saving in economy foster the production and changes come in the production of products in the economy. For looking the effect of financial development they used range of substitutes to extent the development. Private credit is the main indicator that was used also used commercial bank plus central bank asset also taken as proxy of economic development. Their findings indicated that development has positive and significant link with growth.

Ahmed (2016) explained the both straight and unintended both networks through which the integration workings in economy. They used different proxies for the financial development size based, activity based and stock market development indicators. Results propose that financial integration and financial deepening positively connected. All financial development proxies used in the study having momentous and positive relationship with financial integration and economic growth of Sub-Saharan countries. They concluded financial integration works through the

financial development channel and integration positively associate with growth only where the financial institutions and financial system work properly.

Batuo, et al., (2018) GMM is used for the analysis of these variables. Study focused on the crises of 2008 and their impact on the economy. Study indicated that integration enhanced the economic growth and development but also create instability if the financial system not developed. For looking the effect of financial development they used range of substitutes to extent the development. Private credit is the main indicator that was used also used commercial bank plus central bank asset also taken as proxy of economic development. There findings indicated that development has positive and significant link with growth. Another finding explained that economic growth reduced the stability in the countries. Findings indicated through the stable economic situation financial integration and development benefit achieved.

Lane, et al., (2018) identified new data set of financial integration external asset and liabilities. Study indicated that integration works through the capital formation in the economy. Flow of capital creates the integration that enhances the financial development. Study focused on the impact of financial integration in the era of crises. They identified the impact of debt in the economies. Also showed that developing countries have low amount of external asset and external liabilities than emerging economies.

H₂: There is positive and significant association among the international financial integration and financial development.

2.3 Economic Growth and Financial Development

Jalil, et al., (2011) deliberate link between development and growth of economy for time period 1975-2008 in the context of Pakistan. ARDL econometric technique used for estimation. Financial development variable measure through PCA.

PCA created from financial deepening three indicators liquid liabilities, second indicator private division credit and third commercial bank asset plus central bank asset. Findings of study argued that there is substantial and positive relationship between financial development and economic growth of Pakistan. Study also explains growth boost if the system of financial sector in the countries are developed the transaction cost saved due to better intermediaries services. In Pakistani economy and other nations which are not developed growth can be increased through the improvement of financial system.

Cesar, et al., (2003) assessed financial development and economic growth relationship. They use sample period 1960-1994 for 109 both industrialized countries and developing countries. For analysis test Geweke of decomposition operated to form the interconnection among growth and financial development. The study discussed five things. Initially, financial development affects the economic growth. Moreover, they also checked how economic growth sources financial development. Thirdly, they differentiate the result of financial development in emerging and built-up nations. Fourthly, extensive period of sampling causes more financial progress and economic growth. Lastly they checked that thorough the channel of capital accumulation how financial development causes the economic growth. The study results also in five ways. First they found development raise the economic growth in all sampling countries. Secondly, there results say that economic growth also causes bi-directionally development. Study explained development lift the economic growth in high rate then industrialized economy. For a long sample the financial development cause additional to the growth because of development of monetary structure. Capital accumulation in the economy also enhances the economic growth.

Dimitris, et al (2004) study considered the linkage among development, economic growth and stock market development. 1997:1 to 1998:4 Quarterly data is used for the analysis for the seven countries. Outcomes state substantial and positive association of financial development and growth. But no bidirectional cause among both development and growth found. Modified ordinary least square (OLS) also smeared for the estimating the equation the result of OLS also show the causality

among growth and development of financial system. Study also demonstrates that the development of financial sector only has influence on economic growth in extensive time period not in short span of time.

Khan, et al., (2005) study utilized the ARDL estimation technique for the estimation. Their result represents that financial deepness and economic growth have positive and significant relation. They represent that rate of real interest also positively and significantly linked with growth. Investment also enhance the real income but insignificant in the study. Their findings explain that development and rate of interest works well in long and short term time span. Findings of study suggest some policies measure. Results indicate that the growth increases through long term policies for the improvement of financial market, banking segment and improvement of market. Stock market improvement changes the cost of firms that helps to promote the investment that foster the growth. If the cost of investment is low then the growth foster for long period.

ADB (2010) reviewed the connection among development of financial sector and growth in Asian unindustrialized states. Together banking sector and development of stock market indicator take into account for the analysis. Their results explain that financial development of banking sector and also financial market progress positively and considerably related with economic growth in Asian developing nation state. All controls variable also contain expected sign that proposed in literature and according to the theory. In case of liquid liabilities their impact is high in Asian developing countries then other regions. Results indicate that financial development be contingent more on the financial system of the country then growth. In broad way study directs that development improve the economic growth and development can be improved through improvement of financial system and stock market. The more investment causes the more development in the states that fosters the growth of nation.

Guglielmo, et al., (2004) in the study considered the linkage among development, economic growth and stock market development. 1997:1 to 1998:4 Quarterly data is used for the analysis for the seven countries. VAR econometric techniques used to check the causality. Domestic credit cause only in two countries economic

growth and bank deposit cause growth in three countries. The results biased due to ignoring the importance variables. For dynamic interaction between financial developments, development of stock market and economic growth results changed. Financial and stock market development cause economic growth in five countries. The whole result states financial sector development and growth has casual relation. Economic growth cause domestic credit Chile, Korea, Malaysia, and Philippines.

Benhabib, et al., (2000) examined the development, economic growth and investment. Data in panel form used from 1965 to 1985 for sample economies Argentina, Chile, Indonesia, and Korea. Fixed effect model and Generalized method of moments (GMM) methods for estimation applied in study. In the neoclassical model equation the all variables show positive and significant results but the financial development indicators not significant. The endogenous growth model represent that all variable are significant and with positive sign. Financial depth coefficient show that financial depth enhances the growth by 0.5 percent and private credit boost the economic growth by 0.7 percent. Results indicate that financial development be contingent more on the financial system of the country then growth. In broad way study directs that development improve the economic growth and development can be improved through improvement of financial system and stock market. The more investment causes the more development in the states that fosters the growth of nation.

Jordan (2001) investigates relation of financial development and economic growth for OECD countries (USA, New Zealand, Denmark, and Japan, Italy, France, UK, and Australia) and china for time period 1976 to 1998. They used the VAR granger causality test for investigation. Results represent development and economic growth has no directional causality. The outcomes of the study recommend that there is not only financial system development cause the economic growth.

Gregorio, et al., (1995) appraised the interconnection among development of financial system and growth in 100 countries for 1950 to 1995 and also the regression run with 19 Latin American states separately. Ordinary least square OLS is applied for the computation of the results. The analysis in the study done separately also

for middle level low income countries and countries with low level income. For the Latin American countries random effect model used in the study with the controlling variable like investment rate, literacy rate and inflation. Finding represents the picture development of financial division lifts the economic growth in all nations also in the Latin American region. Latin American region experienced the integration in 1980s that enhance the financial system there and boost the development level. Liang, et al (2006) appraised the interconnection among development of financial system and growth from 1952 to 2002. To review nexus VAR technique utilized. Study specifies that financial growth and other growth factors considerably impacts on the economic growth. For addressing the robustness different indicators of development separately applied for the estimation. Foreign trade, liquid deposit liabilities and interest rate significantly impact to growth of china.

Khan, et al., (2000) assed financial development and economic growth relationship. They use sample period 1960-1994 for 109 both industrialized countries and developing countries. OLS and 2SLS estimation techniques applied. Results indicated positive and significant association among financial development and economic growth. Robustness checked through separate model with financial development proxies. Size of impact varies in different indicators. Other growth factor also significantly effects economic growth along development.

Najeb, et al., (2018) analysed the association among financial deepness and growth for 42 emerging economies for sample period of 1995-2006. They used endogenous growth model in the study. Investment, education, trade openness, inflation and population growth utilized as controlling variable along with range of measures of banking organization and development of financial market indicators. Results showed that monetary and stock market development indicator boost growth in the economy. Findings also clarified affiliation between stock market and growth in emerging economies are bi-directional. Study point out that advantage of development on economic growth achieved through improved financial system and better facilities for the banking sector. Ranking of the country economy in long run related with stock market development.

Ram (1999) viewed at the affiliation among financial development and economic growth of 95 economies from 1966-1982. They found weak correlation among the development and growth with negative sign of 95 individual nation states. In cross country estimation there is sharp correlation across the country for same variables of financial development. That indicates most of literature analysis in cross country context. Positive sign of financial development across the country indicates that growth and financial development have significant relation but not found in his study.

Rana, et al., (2015) assessed association among financial system progress and economic growth of five emerging nations Sri Lanka, Nepal, Pakistan, India and Bangladesh for the sample period 1974-2012. To estimate the relationship fixed and random effect model applied. Their result of fixed effect models showed that independent variable signs are according to the expectation of literature but only two variables gross domestic saving and total debt services significant at 5% level. Broad money, trade balance and domestic credit not boost the economic growth. The study explained that unexpected result comes because the Asian countries taken in sample less developed and financial system not much strong. Study discussed also that saving is significant but in theory saving and investment are related and equal. Saving channeled through private and public investment in these economies and the economies of these countries run on deficit and take loan from financial sector that not included in the DCFS. Entire study indicated that financial development raise economic growth only in those economy where the financial system strong and developed.

Ahmed, et al., (1998) demonstrated the connection of development of financial system and South-Asian countries Sri Lanka, Pakistan and India growth from 1973 to 1991. Study used three approaches to examine the relationship correlation analysis, Granger causality test and pooled regression. Result of correlation analysis specifies that development and growth are highly correlated. Test of Granger causality show that development cause economic growth. Their pooled regression specified that financial development and economic growth have meaningful positive relationship.

Bader, et al., (2008) inspected association among development and economic growth of Egypt from the period 1960-2001 and used vector autoregressive models for estimation. Findings represented that monetary development and economic growth have causal link in Egypt. Growth in economy enhance through variables of development, investment and efficacies. Policies measure of the study explains that economic growth of Egypt increases through taking step to improving the financial system of the economy.

Khalifa (2002) viewed at the affiliation among financial development and economic growth of 95 economies from 1966-1982. They found weak correlation among the development and growth with negative sign of 95 individual nation states. In cross country estimation there is sharp correlation across the country for same variables of financial development. That indicates most of literature analysis in cross country context. Positive sign of financial development across the country indicates that growth and financial development have significant relation but not found in his study. Results of study also explain other sides like demand side, supply side and some explained no relationship among the variable. Financial development effect size depends upon which indicators of measurement used. For each countries influence of development on economic growth is different because their financial system structure.

Wang, et al., (2015) inspected link among financial development and growth of china for sample period of 1978 - 2013. Study inspected influence of financial sector development on primary and secondary industries growth of china. Statistical technique OLS model is used for the estimation. For determining effect of development on economic growth of china macroeconomic variables like labor force, inflation, capital growth and export growth. Results explained that development has negative effect on china tertiary industries. And no significant impact founds in the china primary and secondary industry. Findings advocated that the financial development benefit achieved through improving the financial system of the china.

Ahmed (2016) explored the link among integration, development and growth in African states. Their outcomes proposed that development of financial system

having substantial and positive link with the economic growth of the countries. They contend that the countries with sound financial system boost the financial development in the economies.

Asteriou, et al., (2019) viewed at the affiliation among financial development and economic growth of 95 economies from 1966-1982. They found weak correlation among the development and growth with negative sign of 95 individual nation states. In cross country estimation there is sharp correlation across the country for same variables of financial development. That indicates most of literature analysis in cross country context. Positive sign of financial development across the country indicates that growth and financial development have significant relation but not found in his study. Results of study also explain other sides like demand side, supply side and some explained no relationship among the variable. Financial development effect size depends upon which indicators of measurement used. For each country influence of development on economic growth is different because their financial system structure.

Bucci and Marsiglio, (2018) studied the relationship among financial development and economic growth in different ways. Many other studies only explained the effect of financial development in smooth way on growth. They studied the effect of intermediaries and human capital development on the economic growth. Results indicated that financial development enhances the economic growth.

H₃: There is positive and significant relationship between the financial development and economic growth.

Chapter 3

Methodology

3.1 Data Description & Methodology

Many researches done on that observe the association among financial developments, financial integration on growth. Log of per capita GDP is used as dependent variables in the study to examine relationship among financial integration and financial development. Financial development indicators also used as dependent variable to see their influence on economic growth and financial development. Inflation, institutional quality, investment, trade openness, growth of population and secondary schooling enrollment used as control variable that effect on the economic growth. The variable related to financial integration used in this study foreign asset ratio of GDP, foreign liabilities and sum of foreign asset and liabilities. Commercial bank deposit ratio of GDP and credit allotted to private segment by commercial bank and other mediators as proxy of financial development. This study outlines that how financial integration works for the growth and financial development. Also reported in this study that how growth and development related with each other.

3.1.1 Population and Sample Selection

To find out connection among financial development, financial integration and economic growth 71 developing economies used as sample. List of developing

countries that used in the study is according to the IMF and World Bank list of developing countries. Sampling period of our study is from 2000 -2015. The criteria of selection of the countries in sample based on the availability of data so we delete some countries which data of some variables not available. Data was collected from the following source:

- World Bank data portal.
- Financial structure and financial development set of data by World Bank.
- Lane and Milesi- Ferretti data set.

TABLE 3.1: List of Developing Countries used in this study as sample

Sample Countries			
Algeria	Ecuador	Jordan	Paraguay
Armenia	Egypt	Kenya	Peru
Azerbaijan	El Salvador	Lebanon	Philippines
Bangladesh	Equatorial Gui	Macedonia, FYR	Romania
Belize	Fiji	Madagascar	Rwanda
Bolivia	Gabon	Malawi	Sudan
Bhutan	Gambia, The	Malaysia	Syrian Arab Rep
Benin	Ghana	Mali	Sri Lanka
Botswana	Guatemala	Mauritius	Senegal
Burkina Faso	Guinea	Mexico	Suriname
Burundi	Guinea-Bissau	Morocco	South Africa
Central Africa Rep	Guyana	Nepal	Tanzania
Chad	Honduras	Nicaragua	Thailand
Colombia	India	Niger	Togo
Comoros	Indonesia	Nigeria	Tonga
Congo, Rep.	Iran	Pakistan	Tunisia
Costa Rica	Jamaica	Papua New G.	Turkey
Uganda	Venezuela	Zimbabwe	

3.2 Variables and Measurement

Based on previous studies and through literature review, this study used following variables to examine the relationship.

3.2.1 Dependent Variables

3.2.1.1 Economic Growth

Through previous literature and studies used per capita GDP in log form as the representation of economic growth. Per capita GDP measure of economic growth calculated through GDP divided by population of the country Gregorio (1998), Olaniyi Evans (2013).

3.2.2 Control Variables

Following control variable were included in study to inspect the relationship of financial development economic growth and international financial integration.

3.2.2.1 Secondary School Enrollment (EDU)

Logarithm level of Secondary school enrollment as ratio of gross is used for the proxy of human capital. In theoretical literature consider the human capital of the economy as the signal of knowledge base of economy, personality and social status of the economy. Government spends on the education to mend the standard of labor as human capital that enhances the economic growth Barro (1996), Ahmed (2016).

3.2.2.2 Inflation (INF)

Inflation equivalents to the rate of growth in consumer price index (CPI). Inflation is used as the macroeconomic variable that indicates the stability in the economy. Usually the inflation in the economy reduces the investment. Investors prefer the countries where the inflation rate is lower. Greater price rises decreases the economic growth of the country Barro (1996), Ahmed (2016).

3.2.2.3 Trade Openness (TO)

Openness to trade is well-defined as the addition of total export and imports in the country ratio of GDP. Openness to trade beneficial for the economy as shape of imports and exports. Exports surge the level of foreign exchange in the economy that leads toward the prosper economy. Barro (1996), Ahmed (2014), Ahmed (2016).

3.2.2.4 Investment (INV)

Gross capital formation is taken as (GDP %) as investment. Gross capital formation includes the fixed asset plus changes in inventories level Ahmed (2016), Ahmed (2014).

3.2.2.5 Population Growth (POP)

Population growth is taken as percentage and considered as the rate of midyear population from period t-1 to t. The population is counted all the resident people regards their citizen and legal status. Population growth is taken as percentage of GDP Ahmed (2016).

3.2.2.6 Institutional Quality (INST)

Institutional quality measured as the index of political and economic freedom political rights and civil liberties. Institutional qualities are taken 1 to 7 scales, with 1 represent the top degree of freedom and 7 the lowermost degree of freedom Beck et al., (2000).

3.2.3 Independent Variables

Independent variables used in the study are financial development and international financial integration. Literature measures both variables in different way. In literature range of proxies used in this study proxies for these variables are as below.

3.2.3.1 International Financial Integration

Different proxies of integration used in the literature in this study three proxies of integration used and used the data set composed by the Lane Milesi-Ferretti. In literature de- jure and de-facto measure both used for financial integration. Literature explained the limitation of both measure. De-jure measure major drawback is that they not fully captured all aspects and factors Quinn, et al., (2011), Ahmed, (2016). While de-facto measure captured all the aspect like flow of capital, effectiveness and original view of integration Kose, et al., (2009). In the study three de-facto measure of integration used that determined in wealth of nation mark II Database. Stock measure of all integration measure used they captured the clear flow and integration Gehringer, (2012), Kose ,et al., (2006).

i. Foreign Assets to GDP (FAS)

Foreign asset is taken as stock of foreign asset divided by GDP using the data set provide by Ferreti. Many studies used this measure of the financial integration as integration proxies like Ahmed (2016).

ii. Sum of Foreign Asset and Foreign Liabilities (FAL)

Second measure of integration is define and calculated the total stock of foreign asset and liabilities ratio of GDP.

iii. Foreign Liabilities (FLI)

Stock of foreign liabilities ratio of GDP of the country used for third indicator of the financial integration.

3.2.3.2 Financial Development

Financial development in literature measured by different proxies in this study two proxies of financial development used.

i. Commercial Bank Deposits (BD)

Commercial bank deposit ratio of GDP used for financial development proxies. Lot of studies used this proxy to measure the financial development of economy Beck et al., (2000).

ii. Private Credit (PCR)

The credit allotted to the non-public sector by commercial banks and other financial intermediary used as second proxy to calculate the financial development proposed by the literature. Private credit to GDP is used to measure the development Beck et al., (2000).

3.2.4 Variables with Sources

TABLE 3.2: Sources and Symbols of Variables

Variable	symbol	Source
Dependent Variable		
Economic Growth	Ln GDP	World Bank
Control Variables		
Secondary School Enrollment	LnEDU	World Bank
Inflation	INF	World Bank
Gross Capital Formation	LnINV	World Bank
Trade Openness	LnTO	World Bank
Population Growth	POP	World Bank
Institutional Quality	INST	Freedom House
Independent Variables		
Foreign Asset to GDP	FAS	Milesi-Ferretti Database
Foreign Liabilities to GDP	FLI	Milesi-Ferretti Database
Sum of foreign asset and liabilities to GDP	FAL	Milesi-Ferretti Database
Commercial Bank deposits to GDP	Ln BD	World Bank
Private credit to GDP	Ln PCR	World Bank

3.2.5 Panel Data Analysis

In research when the data included together cross sectional and time series panel data analysis used for estimation. Study used panel data for estimation. Three types of models used in literature for panel data set first ordinary least square OLS, secondly random effect model and fixed effect model. There are different criteria to use these models. Two tests that indicate which model is used. First test redundant fixed effect test and secondly hausman test applied. Redundant fixed effect test applied for the selection of fixed and ordinary least square model.

If the probability value of redundant fixed effect test comes significant we use fixed effect model. While, the selection of fixed and random effect model decided through hausman test.

If value of probability of hausman test comes significant fixed effect model is best in this case. When the hausman insignificant random effect model to be used.

3.2.6 Econometric Methodology

Statistics is all about the data collection and there analysis through specified model. In order to inspect the link among economic growth, financial development and international financial integration this study following model used that proposed by the literature. This model is used by different studies which are in same nature Badri (2016), Olaniyi Evans (2013).

For the examine the link of economic growth and financial integration equation of static model is written in this form

$$(LnGDP)_{it} = \beta_0 + \beta_1(IFI)_{it} + \beta_2(X)_{it} + \mu_{it} \quad (3.1)$$

where

$LnGDP_{it}$ = Log of GDP per capita.

IFI_{it} = Proxies of international financial integration.

- Foreign asset to GDP (FAS)
- Addition of foreign asset and liabilities to GDP (FAL)
- iii. Foreign liabilities to GDP (FLI)

X_{it} = Control Variables

- Log of secondary school enrollment to GDP (Ln EDU)

- Inflation (INF)
- Institutional quality (INST)
- Log of gross capital formation to GDP (Ln INV)
- Log of trade openness to GDP (Ln TO)
- Population growth to GDP

μ_{it} = Error term

According to second research question to inspect the nexus among financial development and growth equation written as

$$(\text{LnGDPP})_{it} = \beta_0 + \beta_1(\text{FD})_{it} + \beta_2(\text{X})_{it} + \mu_{it} \quad (3.2)$$

FD_{it} = Financial development indicator

- Log of Commercial Bank deposits to GDP (Ln BD)
- Log of private credit to GDP (Ln PCR)

Third equation to analysis the financial development and financial integration written as

$$(\text{LnFD})_{it} = \beta_0 + \beta_1(\text{IFI})_{it} + \beta_2(\text{X})_{it} + \mu_{it} \quad (3.3)$$

Proxies of financial development used as dependent variable and international financial integration as independent.

Chapter 4

Results and Discussion

4.1 Descriptive Statistics

Descriptive statistics represent the characteristic of data. Large data behavior check easily from descriptive statistics table. Mean of GDP is 7.476461, median 7.632017 and minimum and maximum value are 9.660933, 4.726054 respectively. 1.107163 displayed in table standard deviation of GDP.

TABLE 4.1: Descriptive Statistics

Variables	Mean	Median	Maximum	Minimum	Std dev.
Ln GDP	7.47646	7.63202	9.660933	4.726054	1.10716
INF	7.00371	5.19619	96.09411	-8.97474	7.87548
INST	3.76894	3.5	7	1	1.43224
LN INV	3.13535	3.14407	4.996395	1.373376	0.35822
LN TO	4.21036	4.19014	5.861087	3.042809	0.43612
POP	1.78554	1.64222	7.06102	-1.83066	1.11464
LN EDU	4.02091	4.23502	4.859826	1.921825	0.57204
FLI	1.10501	0.71994	36.80625	0.039322	3.1056
FAS	0.80647	0.30015	45.96057	0.02975	3.83228
FAL	1.91148	1.07016	78.64777	0.069072	6.84561
LN BD	3.37374	3.45759	5.460415	0.955535	0.74288
LN PCR	3.18576	3.20421	4.989638	-0.08067	0.84984

Average value of inflation 7.00371 median value 5.196186 maximum value 96.09411 minimum value -8.97474 values accordingly. The 7.875478 shows the standard deviation of inflation. Institutional quality average value is 3.768935 and median 3.5

with standard deviation of 1.432235. Minimum and maximum value of institutional quality is 7 and 1. Gross capital formation average value shown in table is 23.84362 median value 22.81506 maximum 70.66011 values minimum 2.781138 respectively along 8.698972 standard deviation. Value of trade openness standard deviation is 31.80150.

Mean of trade openness 72.75593 and median value is 67.09543. Minimum and Maximum value of trade openness is minimum 19.10080 and maximum value 120.4074. Variable of population show the 1.785543 average value median values 1.642217 along the standard deviation value 1.114644 standard deviation, -1.830655 minimum and 7.06102 maximum value of population respectively. Mean value of secondary school enrollment 62.01219 shown in table. Minimum and maximum of school enrollment variable is 6.833420 and 99.86019 accordingly.

Meanwhile the median value of secondary enrollment is shown 68.18069 with the standard deviation of 24.75675. Foreign liabilities average value is 1.105009 and median is 0.719937. Minimum and maximum value of foreign liabilities is 0.039322 and 36.80625 with the standard deviation 3.105603.

Average value of foreign asset is 0.806468 and median 0.300147. Minimum value of foreign asset is 0.02975. Maximum value 45.96057 with standard deviation of 3.832284. The minimum and maximum value of sum of foreign asset and liabilities are 0.069072, 78.64777 respectively. Average value of foreign asset plus liabilities 1.911477 along with 1.070162 median and standard deviation of 6.845607.

Commercial bank deposit mean and median values are 30.84937 and 26.94848 accordingly. 99.56287, 3.747566 maximum and minimum value of commercial bank deposit along with 18.95512 standard deviation. Lastly, 26.99187 private credit average value is and 22.10453 median. Maximum value showed 98.60123 and 1.840340 minimum value with the standard deviation of 19.13088.

4.2 Correlation Matrix

In above table of correlation relation of all variables shown. Variable of inflation showed negative sign that means GDP and inflation is negatively related. Increase in inflation caused decrease of GDP. Institutional quality variable show negative sign they indicated that in developing countries institutional quality not good so institutional quality not influenced the GDP positively. Investment variable is positively related indicated that increase in level of investment cause boost in GDP. Trade openness 0.367 correlation with GDP shown in table that represent positive relation between trade openness and GDP. Increase in trade openness enhanced the GDP of economy. Population growth shown negative sign that indicated that population growth in developing countries uneducated and unskilled human capital not boost the economy. Secondary enrollment 0.805 correlated with growth positive sign indicated that increase in level of education increases GDP of economy. All three variable of financial integration showed positive correlation with GDP of the economy. They indicated more integration cause more GDP. Financial development variables also showed positive correlation with GDP. 0.946, 0.983 and 0.989 higher value shown in the correlation matrix. These all values showed the correlation among financial integration indicator. Higher correlation appeared due to the measure of same thing integration through de-facto method these values of integration line with researchers Ahmed, (2016), Gehringer, (2012), Kose et al., (2006).

Foreign liabilities plus foreign asset 0.166 correlation with bank deposit shown in table that represents positive relation between FLI and BD. Increase in foreign liabilities enhanced the development of economy. Foreign asset 0.211 correlation with bank deposit shown in table that represents positive relation between FAS and BD. Increase in foreign assets enhanced the development of economy. Foreign liabilities 0.193 correlation with bank deposit shown in table that represents positive relation between FAL and BD. Increase in foreign liabilities enhanced the development of economy.

TABLE 4.2: Correlation Matrix

Variable	GDP	INF	INST	INV	TO	POP	EDU	FLI	FAS	FAL	BD	PCR
GDP	1											
INF	-0.01	1										
INST	-0.242	0.033	1									
INV	0.257	0.002	0.067	1								
TO	0.367	-0.138	-0.113	0.226	1							
POP	-0.483	-0.029	0.255	-0.107	-0.102	1						
EDU	0.805	0.032	-0.285	0.205	0.342	-0.618	1					
FLI	0.147	-0.064	0.112	-0.026	0.17	-0.106	0.091	1				
FAS	0.189	-0.045	0.126	0.013	0.165	-0.151	0.122	0.946	1			
FAL	0.172	-0.054	0.122	-0.004	0.17	-0.132	0.11	0.983	0.989	1		
BD	0.543	-0.14	-0.104	0.194	0.338	-0.28	0.632	0.166	0.211	0.193	1	
PCR	0.57	-0.185	-0.228	0.116	0.296	-0.349	0.616	0.167	0.199	0.187	0.874	1

4.2.1 Financial Integration and Economic Growth

Table 4.3 illustrates the impact of international financial integration on economic growth. First model run first proxy of financial integration foreign asset to GDP. Second model with another proxy foreign asset and liabilities to GDP sum. In third model measure of IFI used as ratio of foreign liabilities to GDP. Fixed effect model result shown in above table. Results of Fixed effect model shows in the table for all three model.

Selection criteria among OLS fixed effect model is determined through the redundant test. Value of Probability of test is 0.0000 in all models so, the OLS model not better fixed effect used. Hausman test tells which model is best fixed or random probability of hausman test is 0.0417, 0.0400, and 0.0391 that is significant in all cases fixed model is best to use for the estimation. Result of first model indicates R-squared value 0.929 which means the model has good power of expiation.

Foreign asset, secondary school enrollment, trade openness, inflation and investment are significant. Others variables are insignificant that indicates that they not contributed in model. Foreign asset coefficient is positive 0.0145 with probability value of 0.0020. It means economic growth and foreign asset have positive and significant relation. Increase in foreign asset increase economic growth. 1% increase in foreign asset enhances the economic growth by 1.458%. Variable of Education coefficient 1.3257 with 0.0000 probability value indicate the significant and positive association with economic growth. Rise in education level the economic growth of economy also increases. Results alien with Osada and Saito (2010).

Trade openness coefficient -0.2701 with the probability 0.0015 displays that trade openness has negatively related with the economic growth. Population growth and institutional quality are insignificant in the model it means they not contributed in model. Inflation is with coefficient of -0.0086 and probability is 0.0000. Inflation coefficient displays there is negative and significant link with economic growth. Inflation causes the uncertainty and indirectly inflation cause the economic growth due to high rate of inflation investment rate also low that harm the economy. These finding same as Fischer (1993), Barro (1996). Investment coefficient 0.2689 with

probability value 0.0000 indicates significant association with positive sign among investment and economic growth. One percent increases in investment raise the economic growth by 26.89%.

In 2nd model second proxy of financial integration used as independent variable addition of foreign asset and liabilities to GDP. R-squared explain the power of explanation. R-squared of model is 0.9291 it show our model has good explanatory power. FAL coefficient 0.006654 with the probability value 0.0058. Education with coefficient 1.3279 and probability 0.0000 indicates the positive and significant association. Trade openness negative sign coefficient and significant that means there is negative relationship between economic growth and trade openness.

The outcomes of trade openness contrary from literature but some studies indicate that states with lower financial institution progress negatively related with trade openness. Population growth and institutional quality are insignificant both not contributed the variable. Result of inflation come with expected sign coefficient of inflation -0.0085 with probability value 0.000. Results indicate connection among inflation and economic growth is negative. Investment coefficient 0.2716 with probability value 0.0000. indicates positive and significant relation results same as Ahmed (2016).

In 3rd model another measure of IFI financial integration applied ratio of foreign liabilities to GDP. R-Squared 0.9289 explains that model is fine. Foreign liability coefficient 0.0111 with probability value 0.0201 indicates significant and positive relationship. Education coefficient 1.3300 and probability value show 0.0000 explains the positive and significant link between the education and economic growth. Increase in the level of education results the better quality of human capital that enhances the productivity ultimately the growth of economy.

Trade openness coefficient -0.2746 negative sign with the probability 0.0013 illustrate significant and negative association. Population growth percentage of GDP and institutional quality variable is insignificant. Inflation coefficient -0.0085 with the probability value 0.0000 represent inflation and growth related significantly and negatively.

TABLE 4.3: Financial Integration and Economic Growth

Variable	FAS		F.E Model		FAL		F.E Model		FLI		F.E Model	
	OLS Model Coeff.	Prob.	Coeff	Prob.	OLS Model Coeff	Prob.	Coeff	Prob.	OLS Model Coeff	Prob.	Coeff	Prob.
IFI indicators	0.0266	0.000	0.0145	0.002	0.0138	0.0004	0.0066	0.006	0.0264	0.0006	0.011	0.02
LN EDU	1.4637	0.000	1.3257	0.000	1.4646	0.000	1.3279	0.000	1.4659	0.000	1.33	0.000
LN TO	0.1701	0.004	-0.27	0.002	0.171	0.004	-0.272	0.001	0.1749	0.003	-0.275	0.001
POP	0.0251	0.347	0.0015	0.963	0.0225	0.4	0.0003	0.999	0.0188	0.481	-0.002	0.954
INST	-0.033	0.053	-0.007	0.773	-0.032	0.066	-0.007	0.772	-0.029	0.09	-0.007	0.785
INF	-0.003	0.359	-0.009	0.000	-0.003	0.369	-0.009	0.000	-0.003	0.373	-0.009	0.000
LN INV	0.2825	0.000	0.2689	0.000	0.2856	0.000	0.2716	0.000	0.2871	0.000	0.274	0.000
R-squared	0.673			0.929	0.6719			0.929	0.6703			0.929
Redundant test				0.000				0.000				0.000
Hausman test				0.042				0.04				0.039

4.2.2 Financial Development and Economic Growth

Table 4.4 examines relationship among financial development and economic growth. And also show result of fixed effect model and OLS model that used in this study. Model 1 used the first indicator of development private credit to GDP as independent variable. 0.9455 R-squared shows that model is good to explain.

Private credit to GDP coefficient 0.5728 with probability value 0.0000 indicates that there is significant association with positive sign among financial development and economic growth Levine, et al., (2000), Beck et al., (2000) and Ahmed (2016). Secondary school enrollment coefficient has positive value 0.9554 and probability 0.0000 represents that education level positively and significantly impact on the economic. Higher education level will cause higher level of growth. As the signal of knowledge base of economy, personality and social status of the economy. Government spends on the education to mend the standard of labor as human capital that enhances the economic growth Barro (1996), Ahmed (2016).

Trade openness coefficient -0.3767 with 0.0003 value of probability express there is significant and negative relation among the trade openness and economic growth. Population growth coefficient 0.0013 and probability value 0.9960 indicate insignificant that not contribute in the model. Institutional quality also insignificant in model.

Inflation coefficient with negative sign -0.0052 and the probability value 0.0319 denote significant effect on economic growth and negatively. It means the greater inflation rate become the cause of decreases in the economic growth. Usually the inflation in the economy reduces the investment. Investors prefer the countries where the inflation rate is lower. Greater price rises decreases the economic growth of the country Barro (1996), Ahmed (2016).

Investment coefficient 0.1731 shows positive association and the probability value 0.0002 indicates significant relation between the investment and economic growth. 1% increase in investment will cause the increase 17.3% in economic growth.

In model 2 commercial bank deposits ratio of GDP is used as the second measure of development. Commercial bank deposit coefficient 0.8539 with probability

0.0000 indicates significant link with positive sign among economic growth and development measure. Ahmed (2016), Beck, et al., (2000) and Levine, et al., (2000). Education with the coefficient 0.8797 the probability value 0.0000 indicates the significant and positive relationship. As the signal of knowledge base of economy, personality and social status of the economy. Government spends on the education to mend the standard of labor as human capital that enhances the economic growth Barro (1996), Ahmed (2016).

Trade openness indicator display the significant and negative impact on the economic growth with -0.3841 coefficient and probability value is 0.0001.

Population growth and institutional quality are insignificant in the model that means they not contribute. Inflation coefficient -0.0055 with the probability value 0.0141 indicates that there is significant and negative effect on the economic growth. The states where the inflation are high the economic growth in that economies are less. Usually the inflation in the economy reduces the investment. Investors prefer the countries where the inflation rate is lower. Greater price rises decreases the economic growth of the country Barro (1996), Ahmed (2016).

Investment coefficient shows 0.1874 with probability value 0.0030 shows that investment and economic growth has significant and positive relationship. Increase in 1% of investment will cause the 18.74% increase in the economic growth.

Results indicated that goods institutional quality and financial system included the better system of economy legally like law enforcement and standard of corporate governance. These shows that the financial integration is dependent on the removal of barriers like financial barriers, legal barriers policy and environment that create the system to fulfill the requirement. After that we enter in next step to achieve the benefit of financial integration. Results of the integration attained through increase in the volume of investment and saving rates that discussed in the literature in detailed.

Financial integration is the removal of legal and financial restriction on the movement of capital outside the border and removal of difference.

TABLE 4.4: Financial Development and Economic Growth

Variables	PCR		F.E Model		BD		F.E Model	
	OLS Model Coeff	Prob.	Coeff	Prob.	OLS Model Coeff	Prob.	Coeff	Prob.
FD indicators	0.1398	0.0001	0.5728	0.000	0.0434	0.3041	0.8539	0.000
LN EDU	1.3398	0.000	0.9554	0.000	1.4284	0.000	0.8797	0.000
LN TO	0.1937	0.0009	-0.377	0.0003	0.2035	0.0006	-0.384	0.0001
POP	0.0041	0.8755	0.0001	0.996	0.0046	0.8643	0.0023	0.9329
INST	-0.015	0.3847	0.0079	0.7016	-0.02	0.2342	-0.001	0.9344
INF	-2E-04	0.9458	-0.005	0.0319	-0.003	0.403	-0.006	0.0141
LN INV	0.2694	0.0001	0.1731	0.0002	0.2607	0.0001	0.1874	0.003
R-squared	0.6718			0.9455	0.6657			0.9452
Redundant test				0.000				0.000
Hausman test				0.000				0.000

4.2.3 Financial Integration and Financial Development

Case 1 PCR Indicator

Table 4.5, represents the effect of financial integration on development. Ndikumanana (2000), Ahmed (2016) argued positive and significant relation among IFI and development. First model 0.9121 value of R-squared that indicate model has great explanatory power. Results represent the foreign asset to GDP coefficient 0.0100 with probability value 0.0000 indicate significant relationship between financial integration and private credit with positive sign. 1% increases in foreign asset causes 1.0098% increase in financial development indicator private credit.

Education with 0.0000 probability and positive coefficient explains that education and financial development has significant and positive relation. Bonfiglioli (2008), Osada and Saito (2010) and Ahmed (2016) findings same as this study. Trade openness result explains with coefficient 0.1763 positive and probability value 0.0071 significant association between trade openness and financial development. Increase 1% of trade openness causes 17.6% increase in financial development.

Population growth, institutional quality and inflation not significant at 5% level that means these variables not contribute in the model. Coefficient of investment shows the value of 0.1684 and significant at 5% level. They indicate positive and significant relation with financial development 1% rise in investment ratio financial development boost with 16.8%.

Addition of foreign asset and foreign liabilities to GDP used as indicator of financial integration in second model. Financial integration indicator shows the significant and positive relationship with financial development. Education coefficient 0.6551 with probability 0.0000 indicates significant relation among the education and financial development.

Trade openness coefficient represents the value of 0.1759. Openness to trade also significant at 5% that states significant and positive relation among trade openness and financial development. Increase in 1% of trade openness cause the financial development with 17.59%. Institutional quality, population and inflation not significant at 5% level. Investment with coefficient 0.1705 and probability 0.0018

shows the positive and significant relation among the development and investment.

Foreign liabilities used in third model to explore the connection among the financial development and integration. International Financial integration indicator with coefficient 0.0117 and probability value 0.0000 shows that 1% increases in financial integration cause the raise in financial development 1.117%. Coefficient of education also shows the significant and positive relation with financial development.

Trade openness coefficient 0.1750 with the probability value 0.0074 indicates link among development and openness is significant and positive. Increase 1% of trade openness causes the 17.5% increase in financial development. Inflation, institutional quality variable are not significant in this model. 0.0015 probability of investment indicates there is significant relation of investment and financial development and coefficient of 0.1729 indicate positive relationship.

Results indicated that goods institutional quality and financial system included the better system of economy legally like law enforcement and standard of corporate governance. These shows that the financial integration is dependent on the removal of barriers like financial barriers, legal barriers policy and environment that create the system to fulfill the requirement. After that we enter in next step to achieve the benefit of financial integration. Results of the integration attained through increase in the volume of investment and saving rates that discussed in the literature in detailed.

Nexus of financial development worked contrarily with growth in better financial system. They perform different functions like the eliminations of transaction cost and productivity. The rate of investment improved in the economies through providing better opportunities, improved interchange of things and facilities also diversify risk. They improve the distribution of resources, mobilize saving and transfer the technology that enhance the economic growth of economy.

Results of three models specify significant and positive connection among financial development and international financial integration.

TABLE 4.5: Financial Integration and Financial Development with PCR indicator

Variables	FAS				FAL				FLI			
	OLS Model		F.E Model		OLS Model		F.E Model		OLS Model		F.E Model	
	Coeff	Prob.	Coeff	Prob.								
IFI indic.	0.0286	0.000	0.01	0.000	0.015	0.000	0.0056	0.000	0.0289	0.0002	0.0117	0.000
LN EDU	0.9153	0.000	0.6545	0.000	0.916	0.000	0.6551	0.000	0.9176	0.000	0.6562	0.000
LN TO	0.0738	0.208	0.1763	0.007	0.075	0.206	0.1759	0.007	0.0783	0.1852	0.175	0.0074
POP	0.0518	0.053	-0.009	0.725	0.049	0.067	-0.008	0.735	0.0452	0.0915	-0.008	0.7277
INST	-0.045	0.01	-0.022	0.077	-0.04	0.013	-0.022	0.068	-0.0402	0.0196	-0.023	0.0619
INF	-0.021	0.000	-0.006	0.057	-0.02	0.000	-0.006	0.058	-0.0204	0.000	-0.006	0.0587
LN INV	-0.017	0.804	0.1684	0.002	-0.01	0.846	0.1705	0.002	-0.0111	0.8679	0.1729	0.0015
R-Sqd	0.445			0.912	0.443			0.912	0.4401			0.9124
Redu. test				0.000				0.000				0.000
Haus. test				0.019				0.023				0.0303

4.2.4 Financial Integration and Financial Development Case 2 BD Indicator

Table 4.6 shows the relationship among the commercial bank deposit indicator of financial development and three proxies of financial integration foreign asset to GDP, addition of foreign asset and liabilities to GDP and foreign liabilities to GDP. In first model results financial integration shows the significant and positive relationship with coefficient of 0.0040 and probabilities of 0.0000. Bonfiglioli (2008), Osada and Saito (2010) and Ahmed (2016) findings same as this study.

Coefficient of education 0.5291 with probability value 0.0000 indicates the positive and significant relation with financial development. Trade openness is significant at 5% level and show the positive association with financial development. 1% increase in trade openness causes 12.5% rise in financial development. Institutional quality and population growth variables are insignificant in the model.

Coefficient of inflation -0.0037 with 0.0048 probability value designates significant relation with the financial development along negative sign. Higher inflation rate cause decline the financial development level. Investment presents the positive and significant association. Raise in 1% of investment rate causes the raise of 9.48% in financial development. In second model coefficient of international financial integration shows the significant result with probability 0.0000 and coefficient value 0.0019. Positive and significant relationship recorded among the development and education level.

Coefficient of trade openness 0.1248 with probability value 0.0011 shows positive and significant relation with financial development. That explains there is negative relationship among the financial development and inflation rate.

In third model result of financial integration coefficient value is 0.0033 with positive sign shows positive association and probability value of 0.0006 shows significant link with financial development. 0.0000 Probability value of education show the significant relation along positive coefficient value 0.5303. Trade openness coefficient 0.1240 with probability 0.0012 indicates positive and significant relationship

among financial development and trade openness. 1% increase in trade openness result 12.4% raise in the financial development.

Population growth and institutional quality are not significant. Investment shows the positive and significant relation with the financial development. All three models using commercial bank deposit as dependent variables shows positive and significant association among the financial development and financial integration. Values of redundant test in all cases 0.0000 which indicates fixed effect is better than least square model. Hausman test indicates significant values in all three cases 0.0018, 0.0023, and 0.0033 respectively that shows the fixed effect model is used.

Result indicates that all proxies of international financial integration have significant and positive relationship with economic growth. Increase in international financial integration results increase in economic growth of economy.

Economic growth and development nexus explain that there is significant and with positive sign relation between them. It means increase in level of development of the country cause increase in economic growth of country. Result advocate that IFI (International financial integration) and financial development positively related that mean enhancement of international financial integration results increase in financial development.

Result shows both financial development and IFI positively and significantly related and development and integration also positively related with each other. It means level of integration in the economy enhance both financial division development and growth of state.

TABLE 4.6: Financial Integration and Financial Development with BD indicator

Variables	FAS		F.E Model		FAL		F.E Model		FLI		F.E Model	
	OLS Model Coeff	Prob.	Coeff	Prob.	OLS Model Coeff	Prob.	Coeff	Prob.	OLS Model Coeff	Prob.	coeff	Prob.
IFI indic.	0.0244	0.000	0.004	0.000	0.0122	0.000	0.0019	0.000	0.0219	8E-04	0.0033	4E-04
LN EDU	0.9209	0.000	0.5291	0.000	0.9219	0.000	0.5297	0.000	0.9231	0.000	0.5303	0E+00
LN TO	0.1132	0.024	0.1253	0.001	0.1154	0.022	0.1248	0.001	0.1207	0.017	0.1243	0.001
POP	0.1148	0.000	-0.01	0.427	0.1119	0.000	-0.011	0.413	0.1082	0.000	-0.011	0.393
INST	0.0242	0.098	-0.003	0.809	0.0261	0.075	-0.003	0.806	0.0289	0.049	-0.003	0.811
INF	-0.014	0.000	-0.004	0.005	-0.0136	0.000	-0.004	0.005	-0.014	0.000	-0.004	0.005
LN INV	0.0998	0.079	0.0965	1E-04	0.102	0.074	0.0972	1E-04	0.1021	0.075	0.0979	1E-04
R-Sqd	0.4742			0.949	0.4712			0.949	0.4674			0.949
Redu. test				0.000				0.000				0.000
Haus. test				0.002				0.002				0.003

Chapter 5

Conclusion

5.1 Conclusion

Intention of study is check affiliation among international financial integration IFI, economic growth and development. To investigate connection among international financial integration, development and economic growth per capita GDP is taken as dependent variable along independent variable indicator of financial integration ratio of foreign asset to GDP, foreign liabilities % GDP, addition of foreign asset and liabilities percentage of GDP. And two indicator of development used first commercial bank deposit ratio % of GDP and second credit to private sector % GDP used for discussion in study. To investigate the relationship 71 developing countries data used from the 2000 to 2015. In first analysis test the nexus among international financial integration IFI indicators and economic growth. For analysis fixed effect model used in the study. Foreign asset percentage of GDP, foreign liabilities to GDP and sum of foreign asset plus GDP is used as measure of integration. Results designated there is positive and significant relationship between the economic growth and financial integration IFI. All proxies of IFI positively linked with the economic growth.

Secondly, deposit of commercial bank to GDP and private credit divided by GDP. To investigate the effect of financial development on the economic growth used

fixed effect model for the both indicators of development. First model used commercial bank deposit which displayed economic growth positively and significantly associated. Result of second model showed significant and positive association among private credit and growth. Coefficient of FD (financial development) indicates that both proxies of development significantly and positively associated to the growth.

At last examine the affiliation of international financial integration and development. Financial development proxy commercial bank deposit to GDP is used first with all three proxies of international financial integration. Commercial bank deposit significantly and positively related with all three proxies of international financial integration. Secondly to investigate relation of financial development and financial integration private credit proxy of financial development used along three indicators of international financial integration. Private credit coefficient with all proxies of financial integration shows positive and significant relation.

To conclude it state that, financial integration positively related with growth of economy. Development also influences economic growth positively. Financial integration and development also positively and significantly related. Financial development and international integration significantly effected growth of the economy.

5.1.1 Recommendations

Our results indicate that institutional quality, education level and stability of economy macroeconomic factor inflation are major component of the growth. By improving quality of financial institutions benefit of integration achieved in larger amount. To reduce restriction and barriers in the trade and other institutional problems economic growth of the economy increases. To attain the benefit of improved and new technology the education level in the economy should increase. Macroeconomic factor in the shape of inflation also important to define the level of growth. Better macroeconomic conditions enhance the economic growth. Developing countries through supporting financial integration, better institutional

quality, developed financial institution and human capital improvement enhances the economic growth.

Chapter 6

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