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Impact of Financial Development on Economic Growth: Empirical Evidence from SAARC Countries

by

Neelam Waheed Khan

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I want to dedicate this achievement my parents, teachers and friends who always encourage and support me in every crucial time

CERTIFICATE OF APPROVAL

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MMS201023

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Abstract

Relationship between financial development and economic growth is still a debatable topic around the globe. The impact of financial development and economic growth is a great topic of discussion and debate between the economists. In this study the relationship between financial development and economic growth is examine. This study examines the relationship between financial development and economic growth of selected four South Asian Association for Regional Cooperation (SAARC) countries. The selected four SAARC countries are Pakistan, India, Bangladesh, Sri Lanka. The study is conducted for the time period of 2000 to 2020. The empirical study is carried out by using three different proxies and measures of financial development i.e. broad money (M_3 % of GDP), domestic credit to private sector (DC % of GDP), market capitalization of listed companies (MC % GDP). Growth rate of GDP is used for economic growth. In this study some other independent variables are also used i.e. inflation rate (IN), gross capital formation (GCF % GDP), trade openness (TO % GDP) and trade balance or net trade (TB % GDP). The panel data is used. The descriptive statistics are use country wise for proper result. In the study the fixed effect method is apply one by one to see the impact of the variables.

This study used fixed effect model for examine the impact of financial development on economic growth. The results declares that the gross capital formation(GCF) has a positive impact on the economic growth. The increased in the gross capital formation of the countries helps to increased its economic growth. Some variables also have negative relation with the economic growth. According to the results of the tests, the financial development has a negative impact on the economic growth in the selected SAARC countries.

Keywords: Financial development, Economic growth, panel least square, Gross capital formation,

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Abbreviations

DC	Domestic Credit to Private companies
EG	Economic Growth
Fd	Financial Development
FEM	Fixed Effect Model
GCF	Gross Capital Formation
GDP	Gross Domestic Production
IFD	Indicators of Financial Development
IN	Inflation rate
$\mathbf{M_3}$	Broad Money
MC	Market Capitalization of Listed Companies
REM	Random Effect Model
SAARC	South Asian Association for Regional Cooperation
TB	Trade Balance
TO	Trade Openness

Chapter 1

Introduction

1.1 Background of the Study

Every country or every government wants to increase its economic growth. The factors influencing economic growth are numerous. One of them is financial development. It significantly contributes to boosting economic growth. The main aim of financial sector is to distribute and allow capital from surplus to deficit units. An effective financial structure is a main component for the growth of business and enterprises. For every kind of businesses financial sector is important. It plays an important role for each medium and small businesses. As stated by Murinde (2012) financial development helps to minimize price risk and information asymmetry which is significant for economic growth.

Financial development works for improving and strengthen the financial effectiveness, access, strength of the financial organization and its markets. Basically, it is the set of institutions, tools, markets, legal system, and regulatory environment, they all work together to make it possible for transactions to be carried out using credit. Lowering "costs" associated with the financial system is the primary objective of the financial industry's development. Financial contracts, markets, and intermediaries came into being as a result of decreasing transactional, understanding, and performance costs.

Different information, enforcement, and transaction costs as well as various legal, regulatory, and tax regimes have pushed various financial contracts, markets, and

intermediaries throughout history and in various nations. The financing provided by the financial systems to enterprises and industries results in more employment, enhanced economic activity, and increased domestic trade. The advancement of the financial sector is categorized as innovation in the size, production, and the financial markets in stable condition along with the expanded access to the financial markets that can enjoy various benefits for the economy. The connection between financial development and economic growth has drawn a lot of attention in recent decades. There are conflicting opinions regarding the financial sector's role to economic growth. In contrast to Lucas Jr (1988) who thinks that the financial sector's involvement in economic growth is "over-stressed," .

Levine (1997) contends that financial intermediaries promote economic efficiency and eventually growth by assisting in the allocation of money to its optimal uses. The microeconomics of financial systems and endogenous growth theory are incorporated in the present theoretical research on the relationship between finance and growth notwithstanding their discrepancies.

Denison et al. (1962) defined economic growth as an increase in real GDP or GDP per capita, a rise in the country's gross domestic output as measured in constant prices. The determinants of economic growth are the variables that affect the rate of economic growth. Six fundamental variables have an impact on growth; four of them are supply-side factors, while the other two are efficiency and demand-side factors. The four supply factors are capital goods, human resources, natural resources, and technology. Each of these elements directly affects how much the given goods and services cost. The GDP growth is a gauge of economic expansion, but the causes affecting the growth of each component are highly varied. Government spending, capital formation, private or public investment, employment rates, currency rates, and other variables all have varying effects on economic growth depending on how developed a state is. Additionally, the social environment and current state of a country have a significant impact on its ability to sustain economic growth.

In empirical research, there has been a great deal of focus on the positive association between financial development and economic growth. Several empirical studies have shown that financial development encourages economic growth (Beck and Levine, 2004; Jalil and Ma, 2008).

In the history of economies in the modern era, relationship between financial development and economic growth has received a lot of attention. Different economists use different methods and models to find that relationship. It is widely acknowledged that the financial sector of the economy is essential to its growth. Financial sector helps to allocate resources in efficient way, promotes import and export of goods and services, increase in mobilizing savings, facilitating payments. A strong and well-developed financial sector is essential to preserving financial stability in an economy since it reduces risk in the real economy. It may even decrease the harmful effects of such adverse impact if it does occur in economy. The financial intermediaries also increase the quantity of money available on the market for lending by mobilizing savings. Additionally, it generates income, supports the expansion of small businesses, and adds jobs.

The finance is a broad term that is used to describe activities associated with banking, credit, money and investments. Academics frequently discuss the expansion of the financial industry and economic growth. Numerous theoretical and empirical studies have examined how financial development and economic growth are related. Several studies discussed to establish that weather performance of the economic growth is improved by financial deepening, or also to analyze the strength of this relationship. The focus of additional studies is to determining the pathways from financial intermediation to growth. Financial systems includes group of institutions, instruments and markets. These financial organizations work with a legal and regulatory environment that helps to promote economic activity through flow of money. It gives significant data about allocation of the capital and investment. The financial institutes supervise the investment process and also assist in increasing productivity. Trade, risk management, savings mobilization, and the promotion of the interchange of goods and services are all made easier by well-established management of the financial system.

Better financial management facilitates trade, risk management, savings mobilization, and the promotion of the exchange of commodities and services. The creation and improvement of financial institutions, tools, and markets that support investment and growth processes are a component of the growth and improvement of the financial system, according to FitzGerald (2006).

Why do nations grow at varying rates? The main problem with economic expansion has attracted the attention of specialists. Cross-country differences in growth can be explained by a variety of factors, including factor accumulation, resource endowments, the degree of macroeconomic stability, educational attainment, institutional development, the effectiveness of the legal system, international trade, and ethnic and religious diversity. There seems to be no end to the number of potential factors that could be involved. The function of financial markets in the growth process is one important component that has recently started to get a lot of attention. In one sense, it is very evident that financial depth, which is widely defined as the degree of development of financial markets, and economic growth are positively correlated. In other words, financial markets in more developed nations are more advanced. Therefore, it would seem that plans for the financial sector's expansion would be anticipated to spur and boost economic growth. In reality, a lot of individuals think that the key to economic growth and development lies in the function of finance. Studies by Goldsmith (1969); McKinnon (1973); Shaw (1973); Gelb (1989); Roubini and Sala-i Martin (1992); Easterly (1993); King and Levine (1993); Levine et al. (2000); Christopoulos and Tsionas (2004). And are a few that have shown a positive relationship between financial development and economic growth.

Robinson (1952); Lucas Jr (1988) found a negative correlation between financial development and economic growth in their subsequent studies. The relationship between financial development and economic growth is non-linear, according to the most recent global recession. Moreover, numerous investigations have fallen short of establishing a connection between the two factors. The influence, nature, and direction of the association between the factors have been the subject of conflicting findings from earlier researchers. There have been several suggestions made. First, there is the supply-leading group, which contends that a strong banking sector is necessary to boost economic growth and productivity (Goldsmith, 1969; McKinnon, 1973; Levine et al., 2000). The second demand-following theory focused on the necessity and requirement for a wide range of financial services as actual economic output rose.

(Demetriades and Hussein, 1996; Liang and Jian-Zhou, 2006; Zang and Kim, 2007; Odhiambo, 2008) all contributed to its creation. A reliable measurement of financial

development is necessary to assess the financial sector's expansion and to comprehend how it influences economic growth. By using the financial development index (IFD), financial development can be measured. The three ratios LCREDIT: Domestic credit to private sector (as% of GDP), LMCAP: Market capitalization of listed companies (as % of GDP), and LM3: Broad money (as% of GDP) are used to construct the financial development index. These three ratios are widely used in empirical studies as a gauge of financial development. (Xu, 2000; Fase and Abma, 2003; Rioja and Valev, 2004; Rahman, 2004; Tahir, 2008). Real interest rate, capital stock, and trade ratio were used in the previous study to control additional variables related to either financial development or economic growth. In addition, metrics for both financial progress and economic expansion were applied. Divide the loan rate by the inflation rate to get real interest rates. The trade ratio calculates the percentage of nominal GDP that is taken up by total exports and total imports. The capital series are built with the assistance of the investment flows.

For more significant results, economic growth (EG) is quantified using the growth rate of GDP (annual %), while financial development is determined using specific financial development metrics (IFD). The substitutes and proxies are (M_3) Broad money (as a percentage of GDP), (MC) Market capitalization of domestically listed enterprises (as a percentage of GDP), or (DC) Domestic credit to the private sector (as a percentage of GDP). Other independent variables and factors are employed in this study to examine the influence. The independent variables are the annual percentage rate of inflation (IN), gross capital formation (GCF), trade openness (TO), and trade balance (TB). Each of the mentioned variables has some bearing on the growth of the economy.

The independent variable is the inflation rate. The annual growth in prices of the nation's products and services is measured by the inflation rate. It is the annual percentage of change in the consumer acquiring goods and services. As the inflation rate in the economy increased due to that the economic growth decreased. For measuring the inflation rate on annual basis, consumer price index is used. It is change of rate in the level of prices on a specific time period. When inflation is increased in the economy, it reduces the value of currency. Due to this the people are not able to buy more goods and services. When inflation is high in the economy,

it will lead to scarcity of the wholesaler, retailer's starts hoarding the goods to earn more money and benefits. It effects the economic growth negatively. The expected sign of the inflation is negative.

Gross capital formation (GCF) is also used as an independent variable. It includes additional capital on fixed assets of a country or economy. It also examines the net changing in the inventories. The phrase describes the increase of capital goods or fixed assets, including machinery, tools, vehicles, and electricity and inventories includes stock of goods and services which is taken by the firms. Economy of any country wants capital goods which helps to swap with the older ones that are used to generate goods and services. On the other side, if the capital goods are not changed or replaced than the production declines. Usually, when the higher the capital formation of an economy is higher than the aggregate income of the economy is also increased and grow faster. This demonstrates a relationship between increasing variable gross capital formation (GCF) and economic growth (EG).

Moreover, the independent variable that is used is trade openness. It represents the total of the nation's imports and exports. The percentage of GDP is taken. Imports of commodities and services contribute to the expansion of the economy. Positive trade openness is the anticipated result. In order to invest in international assets, trade openness helps investors to obtain accounting and regulatory information on foreign markets through trade. Trade openness encourages compliance with external obligations by increasing a nation's susceptibility to punishment from creditors in the event of default. Due to this, there is a tendency for external financial crises to occur less frequently as trade integration increases. The trade balance are the variation between the goods and services value that country exports and imports. The trade balance has a negative effect on economic growth. The average GDP per capital growth rises by 0.47 percentage points for every 1% increase in the average trade to GDP ratio. The percentage of GDP is taken of some of the variables which is used in the study.

The South Asian Association for Regional Cooperation (SAARC) was picked for this investigation. In 1985, the SAARC was designed. This cooperation was established when the SAARC governments of Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka publicly accepted its authority. The countries that

make this regional association are very greatly in terms of size, population, natural resources, and economic development. In the SAARC area, India is the greatest or also a one of the developed country. The province has made significant progress in the last 20 years in terms of economic reform, banking sector reform, and the liberalization and globalization processes.

Alternative investment opportunities with a range of rates of return, risks, and maturities are available in a well-developed financial system. The potential correlation between the two variables for the South Asian developing economies is what spurred the author to write this research. Using panel data from 2000 to 2020, no studies, to our knowledge, have attempted to gauge how South Asian countries' financial development has affected their nations' economic growth. . Bangladesh, India, Pakistan, and Sri Lanka are the countries we focused on in our study.

The primary goal of this article is to demonstrate the significance of financial market development for these economies' ability to sustain economic growth. The article also seeks to highlight the important financial market activities that are crucial in fostering economic expansion. It differs from past research by defining financial progress using more data and better financial variables. Finding the precise mechanism by which the financial system affects economic growth in these four South Asian countries is our secondary goal. The size of the impact that financial development has had and will have on economic growth is what is important, not the direction of the causal link in the case of South Asian economies. The results of this empirical study will therefore provide recommendations to the relevant governments on how to concentrate their regulatory and supervision efforts on upgrading key financial system components in order to achieve the desired economic growth.

1.2 Problem Statement

The effect of financial development on economic growth is a subject of debate among economists. Every nation's government strives for the strongest possible economic growth. Many research have been done on the relationship between financial development and economic growth in the literature. The relationship between

financial development and economic growth can be studied using a variety of methods. The relationship between the two factors is that efficient financial growth aids in the cost reduction of any financial enterprise that involves transaction, information, and monitoring. The savings and investment level will increased with good performance of the financial market. The common consent is that a well performance of financial sector helps in the allocation of resources in an efficient way and also increase the gross domestic production in the economy.

There are number of researchers who tried to give a concept that how the infrastructure and growth of the financial industry in an economy influence economic growth and also discussed that what are the factors affects growth of the income, capital accumulation and domestic savings and vice versa. Analyses of the relationship between financial development and economic growth are explored above. The causal relationship is also identified by several authors. The majority of studies focused on specific nations or regions. However, some researchers focused on this study from a global perspective, while many others focused on developed and developing countries with diverse methodologies and sample sizes. Some researchers study on aggregate level which includes the high level of cultural difference, and some uses individual country for the study. That is why the relevant literature does not reach a unique conclusion, it has given us a comprehensive picture of how financial development affects economic growth.

Different studies used different SAARC countries and also used different time period and measure the financial with different proxies. In this study 4 SAARC countries are used with the time period of 2000 to 2020 to investigate the impact of financial development on economic growth. Also used many different proxies of financial development. Which may help us gain a better understanding of the topic. The literature has filled in the gaps by addressing the questions.

1.3 Research Gap

In previous studies, some studies have used one set of independent variables and others have used different set of independent variables to examine their impact on economic growth.

For example, Creane et al. (2003); Ang and McKibbin (2007) they used capital stock, real interest rate and trade ratio, and Ang (2008); Tiwari et al. (2013) they used trade openness, price stability. There empirical result shows that some of those variables statistically significant. The interest rate is not choose because its result is not significant.

Many previous studies have used only one country data for empirical research which may give country specific results.

For example, Khan et al. (2005); Khan and Qayyum (2007) used only one country which is Pakistan for examine the impact. In this study different countries of same cultural is used for research. It is therefore advisable to use multiple countries for more significant result.

Moreover, the earlier studies, used different measures of financial development for empirical research it is probably for this reason that their results are different for example Ang (2008); Tiwari et al. (2013). It is advisable to try out several financial development proxies one at a time to see if the effect changes or not.

1.4 Research Questions

- How does financial development affect economic growth?
- Does the impact of different measures of financial development on economic growth?

1.5 Research Objectives

- To investigate the impact of financial development on economic growth along with other independent variables found significant in previous studies by using different SAARC countries data.
- To investigate the impact of financial development on economic growth using different measures of financial development.

1.6 Significance of Study

This study has paid close attention to the importance of macroeconomic stability, income and wealth disparity, institutional development, racial and religious diversity, and flaws in the financial system. The literature has been thoroughly analysed by Levine (1997).

The contribution made by financial markets to the growth process is one of these variables that has recently attracted a lot of attention. The purpose of the current essay is to investigate the impact of SAARC countries' financial sector development on macroeconomic activity between 2000 and 2020. Pakistan is one of the significant transition economies and has experienced significant transformations toward a more market-based economy.

With the exception of a few studies like Khan et al. (2005); Khan and Qayyum (2007) there has not been much research on the relationship between financial development and economic growth for the Pakistani economy. A trustworthy measure of financial development is very important in order to assess the financial sector's development and understand how it influences economic growth and poverty reduction.

However, due to its broad definition and several characteristics, financial development is challenging to quantify in practice. The empirical work that has been done so far typically relies on common quantitative indicators that are readily available over extended time series for a variety of countries.

1.7 Scheme of the Study

This study is arranged as fallow, chapter second includes is a literature review where the past empirical evidence is shown and the formulation of hypothesis. The third chapter of the study is data and methodology from where data is collected. The fourth chapter of the study shows the results where the interpretations of the models are shown. And in chapter 5 conclusion and Implication of the study are explained.

Chapter 2

Literature Review

The study project, which examines financial development and economic growth, is supported by a thorough evaluation of the literature. Numerous studies have looked at the relationship between financial development and economic growth using cross-country, time series, panel data, and firm-level analysis, among other econometric techniques. These methods include those employed by Levine (1997); Beck and Levine (2004); Levine et al. (2000); King and Levine (1993).

In general, empirical research has demonstrated a favorable long-term association between economic growth and financial development indicators. A healthy financial market is often implied in all of these publications as supporting the axiom "more finance, more growth."

The growing contribution of the financial sector to economic growth has been extensively examined in both theoretical and empirical literature. Some economists assert that achieving rapid economic growth necessitates the expansion of the financial sector (Goldsmith, 1969; McKinnon, 1973; Shaw, 1973).

Economic growth is influenced by financial development in the following ways: 1) Small savers can pool assets through financial markets, 2) savers have access to a greater variety of products that encourage saving. 3) as the percentage of financial saving in total wealth increases, effective capital allocation is attained; 4) More wealth is created as a result of financial intermediaries diverting savings from individuals and industries with weak growth to those with rapid growth, 5) Financial markets promote production specialization, the growth of entrepreneurship, and

the acceptance of new technology, 6) Financial intermediaries partially address the issue of adverse selection in credit markets.

It is anticipated that the financial sector would contribute to economic expansion because it is crucial for financing capital accumulation and the creation of cutting-edge technology. These technologies and the accumulation of money are the main forces behind an economy's expansion. Economic growth may be impacted by the financial sector's changing or deteriorating features (OECD, 2004). According to the IMF (2004), a dysfunctional financial sector may have an impact on how well the economy runs.

According to Rajan and Zingales (1996) the reduction of investing and reduction of transaction costs are the main results of financial development. This suggests that the domestic economy has lower capital costs. By reducing moral hazard and unfavorable selection challenges for businesses, the financial sector aids in hiring processes. The purpose of transactions through financial institutions is to direct savings toward productive investments. These expenditures foster economic expansion. The financial sector growth is promoted by international organizations and national governments as one of the factors that contribute to economic efficiency.

It may be obvious that there is a connection between an economy's growth and the expansion of the financial sector, but it is unclear if financial development necessarily translates into economic growth. This suggests a causal relationship; it may be that financial development encourages economic growth, or it may be the other way around, with economic growth encouraging financial development. Local authorities' choice of policies may be influenced by the nature of the relationship. One of the key reasons why so much time is spent attempting to identify which one it is is especially because of this.

According to Patrick (1966) the supply-leading phenomenon occurs when financial development fosters economic expansion, and the demand-following phenomenon occurs when the opposite occurs. He continued by saying that the demand-following phenomena shows how the financial industry grows in response to societal wants for financial services. Thus, the expansion of financial services in the economy is a reaction to the demands of the population's savers, investors, and borrowers. This

shows that the financial sector takes its cues from how economies flourish. This method implies that the financial sector does not actively contribute to economic growth; in reality, it does the opposite and simply manifests where there is a demand.

In addition, Patrick (1966) recognized the phenomenon of supply leading by describing it as the financial sector's growth prior to the population's actual demand. According to this perspective, the finangancial development might play a crucial role at the start of the process. By using financial institutions, it offers a possibility to promote growth. People would be encouraged to save money and make investments through the establishment of financial institutions and the provision of their financial services. The result will be an increase in the economy. As a result, these financial institutions' provision of financial services will encourage business transactions that may promote economic growth.

The majority of explorers agreed that boosting the country's economic growth requires improving the financial position. The financial system and intermediaries perform some major functions in the economy which are: create finance, distribute capital between different sectors, improvement in technology sector, making investment in profitable projects. In earlier literature, no importance is given to finance sector for economic growth, but from late 19th century to earlier 20th century many economists considered that finance sector is important for the development of the economy. According to the following economists:

McKinnon (1973); Domar (1946); Christopoulos and Tsionas (2004); Shaw (1973); Nowbusting et al. (2010); King and Levine (1993) that there is a beneficial and profitable relationship between financial development and economic growth. There are two schools of thoughts are given in literature. According to the first school of thought, the expansion and growth of the economy are positively and helpfully impacted by the financial sector's development.

Bencivenga and Smith (1991); Levine (1997); Abu-Bader and Abu-Qarn (2008); Beck et al. (2000); King and Levine (1993) they all believe that economy of any country will increase as the financial sector develops. However, some experts advise that as economies grow, there will be a greater need for financial services, which

will result in greater economic growth. For Example Liang and Jian-Zhou (2006); Pradhan (2010); Guryay et al. (2007)

They asserted that the expansion of the financial sector is made possible by economic growth. In the past few years, a significant body of research has shown the connection between financial development and economic growth. The relationship between financial development and economic growth is a crucial subject of discussion among academics and policymakers as a result of McKinnon (1973) substantial contribution. A large number of studies during 1990s by De Gregorio and Guidotti (1995) specially highlight that how the financial development play a role in distribution of finite resources, mobilizing savings, contribution on economic growth, diversification of risks and contribution.

2.1 Theoretical Literature on Financial Development and Economic Growth

Many researchers now recognize the importance of the financial system's development in the growth of the economy. In past the finance has no importance in the economy and no one knows about its function and role which is important for economy of the country. Bagehot (1873) declare that for economic growth the financial development perform a major role. According to Bagehot financial system have some important functions. First function is that how financial markets helps to gather the money and funds in the form of capital. Second role is that how financial system help to handle and overcome risk for an investment. Schumpeter investigate that good establishment of financial system encourage the development in technological sectors which helps in economic growth. The private sector can also be given credit by banks, which makes it possible.

The importance of financial development in economic growth has been emphasized by several scholars and explorers in a variety of literary works. For this purpose the model of McKinnon-Shaw is very popular in economic literature. According to this approach, investing in large-scale projects while just raising a nominal sum of money is feasible in order to build the economy and create additional savings,

which will boost real wealth. According to McKinnon (1973); Shaw (1973) the growth of the financial sector has a positive impact on an economy's ability to grow.

The financial industry, which is a part of the larger economic environment, provides the framework for numerous transactions. According to the International Monetary Fund (2012), the financial sector is made up of the central bank, national banks, stock and securities exchanges, pension funds, and insurance businesses. The development of these financial institutions and their services is considered of great importance for the development of a country.

Ang (2008) noted that financial institutions are created in response to market transaction and information costs. Financial resources are offered or sought by savers and borrowers. Identifying suitable savers and borrowers is costly because the matching process is complex without a trusted organization or intermediary. Individuals seeking to invest face difficulties when trying to identify credible investment projects. They are reluctant to invest before making reasonable arrangements for future payments, a procedure that might be expensive and time-consuming. Therefore, project managers who are in need of money are unable to successfully raise the funds required to advance their projects. By using financial institutions, there is great potential to reduce these costs. The institutions that make up the financial sector have the capacity to facilitate activities and reduce costs. The concrete way to reduce costs is through their functions.

In economic literature, a lot of economists discussed about the financial development importance on economic growth but no exact link describe by the economists. Although Levine (1997) established the link between in his research. He focused on main functions of financial sector, financial markets, institutions, instruments which effect the economic growth of the economy. There are some financial functions that improve the economic growth.

The financial system or intermediaries has numerous functions. One of them is mobilize savings from many savers which helps in lending. There are two methods to increase the saving mobilizing discussed by Dolar and Meh (2002).

According to their study the first way is they reduce the transaction cost which is collected from many savers for the purpose of savings. It is done due to the economies of scale. The second way is that the financial intermediaries reduce the risk and negative selection problems. These are the major problems of the saving mobilization. Financial intermediaries use saving mobilization to generate more capital, innovation in technology sector which drive the economic growth.

Allocating resources, according to Levine (1997) is the financial sector's second purpose. This function is performing for the purpose of investments. It is compulsory to evaluate many investments opportunities before making huge investments. An individual saver cannot able to afford the evaluation of different investments opportunities because the evaluation costs is high, information costs is also high. It is hard and expensive to calculate managers, organizations and market circumstances. If there is less, negligible or unreliable information than the individual investors avoid investing in such investment opportunities. In accordance with Boyd and Prescott (1986) the reduction in cost of acquiring and processing information helps the financial intermediaries in making improvement in resource allocation.

Every investor invests in such opportunities where the level of risk is minimum. According to Levine (1997) he declares that the well-established financial institution and system include risk of two types which are liquidity and unsystematic risk (idiosyncratic risk). Liquidity risk can be define as the unpredictability associated the conversion of asset in paying capacity. Moreover Levine said that, liquidity is the easiest and faster way through that asset easily converted in to the purchasing power. The idiosyncratic risk includes the risk which is related to the specific firms. Both risks are reduce by the financial intermediaries. King and Levine (1993) conclude that the financial institutions develop such mechanism that help in the diversification of risk. The investors want to know that the business and enterprises in which they invest are using their finance efficiently or effectively. For this purpose, the enterprises are monitored. It is difficult for the individual investors to monitor their enterprises because the monitoring cost is very high. So, therefore the financial intermediaries give loans to them for the purpose of monitor their enterprises and ensure that the financing is used properly or not. The financial institution monitors the working of firms. It also encourages the

managers of the firms to perform well. According to Bencivenga and Smith (1991) the financial arrangements that helps to reduce the monitoring cost which helps to increase the economic growth.

A number of literature is available that many economists discussed that services related to transaction, innovation and specialization have good impact on growth. The Smith (1776) discussed about the key factor which helps to enhance productivity and growth is specialization. He concludes that if there is less transaction cost then the chances of specialization is greater. In the late 20th century, some researchers Greenwood and Smith (1997) present the connection among specialization, exchange, and innovation. They confirmed the Smith (1776) conclusion which is that the lower transaction cost help to increase the level of specialization.

2.2 Empirical Literature on Financial Development and Economic Growth

No universal accord are given against the specific connection among variables that have been laid out after a remarkable studies. Greenwood and Jovanovic (1990) conducted research on the connection between financial development and economic growth. They conclude a well-established financial market helps to increase the capital which means that the higher capital creates higher economic output. Economic growth and financial development are correlated both favorably and unfavorably, according to Luintel and Khan (1999). They employ information from ten developing countries. On the other hand, Al-Yousif (2002) study is done on the basis of 30 developing countries. The results of the study imply a bi-directional relationship between the two variables, financial development and economic growth. It is not common across all nations.

According to Christopoulos and Tsionas (2004) analysis, there is a long-term association between analysis, there is a long-term association between economic growth and financial development. The study makes use of ten developing countries, and its testing methods include panel unit root and co-integration analysis. The study's findings unequivocally showed that there is a balance between financial

advancement and economic expansion. Considering Chinese economy the co-integration test for the time period of 1952 to 1999 are used. This study claims that there is casual relationship among national income, interest rate and savings. According to his analysis, the interest rate and a proper financial system of the economy helps to developed a sustainable economic growth.

According to Cargill and Parker (2001) the experiences of the Japanese economy's economy have shown the risks and effects of excessive financial liberalization. Some academics used country-specific data to focus on the context of individual countries when studying financial development and economic growth. Once more using data from Saudi Arabia, Masih et al. (2009) employed long run structural modeling to examine the relationship between financial development and economic growth employed long run structural modeling to examine the relationship between financial development and economic growth. They also observed a one-way relationship between the two variables. The authors' analysis suggests that the relationship between financial development and economic growth is determined by supply rather than demand. In addition, several academics have studied the connection between financial development and income levels across different countries. The countries are frequently divided as low-income, developed, and developing countries. For instance, Hassan et al. (2011) conducted a short run multivariate analysis and a long run causality test using panel data for poor and middle income countries that are divided up by regions. The outcome shows that the low-income and middle-class regions have very different prospects. For instance, whereas there are two-way causal relationships between financial development and economic growth in most places, there is only one such relationship in the poorest areas.

Using panel data from Chinese regions, Hasan et al. (2009) investigated the impact of financial and legal institutions on economic growth rates. According to the study's findings, China's economic growth is strongly correlated with improvements in the financial market, legal environment, and political tolerance. Zhang et al. (2012) collected data from 286 Chinese towns between the years 2001 and 2006 for a different study on the Chinese economy in order to examine the connections between financial development and economic growth in China's cities. Using cross-sectional regression, first-difference analysis, and GMM estimation for panel data,

the study discovered a positive association between financial development and economic growth in China's cities.

Ansari (2002) reportedly looked at the connection between gross domestic product, financial development, and the availability of capital for the Malaysian economy. The findings showed that the rise of the financial industry had a positive influence on income growth. Ray (2013) used the Granger causality test for India for the years 1990–1991–2010–2011 to examine the relationship between financial development and economic growth from a South Asian perspective. The study's findings indicate that India's economic development is significantly impacted by the country's financial development. Singh (2008) on the other hand, conducted a time series analysis of the Indian economy using data from 1951 to 1996. The findings revealed a one-way causal relationship between India's economic expansion and financial development.

From 1972 to 2011, Uddin et al. (2013) examined the relationship between Kenya's economic growth and its financial development. The empirical findings indicate that financial development and economic growth have a beneficial, long-lasting association. Another researcher's study, Sehgal et al. (2013) demonstrates that there is a two-way relationship between financial development and economic growth. This study, which encompassed 75 nations from 1990 to 2009, used the panel co-integration and fully modified ordinary least square (FMOLS) methodologies.

Meltem (2011) also employed co-integration and causality analyses to examine the relationship between financial development and economic growth using data for Turkey from 1980 to 2010. The investigation's findings demonstrated that there was no sustained relationship between financial development and economic growth. Some researchers evaluated the causal relationship between financial development and economic growth in Korea and found a unidirectional association between the two variables, which is similar to the findings of this study.

The relationship between financial development and economic growth in five rising markets Brazil, India, China, Turkey, Russia and Mexico is also examined by

Mercan and Göçer (2013). The author used the time period of 1989-2010 and apply panel data analysis. This study suggests the positive and significant link with each other.

Caporale et al. (2015) go into greater detail about the connection between financial development and economic growth for the countries of the European Union (EU). Panel model is employed in this investigation. An inverse association between financial development and economic growth is revealed using the Granger causality test.

A well-organized financial system of any country that offers interest rates may also persuade individuals to store more things and ensure the availability of funds, which aids in promoting economic expansion, according to McKinnon (1973) theory. Besides, Levine (1997) came to the conclusion that financial development, along with capital accumulation and technological innovation helps to maintain economic expansion. In addition, one more panel data analysis helps to conduct a causality test for 22 OECD countries in the study of Müslümov and Aras (2002). The results show a one-way relationship between capital market expansion and economic growth. On the other hand, Panel data were utilized by Levine et al. (2000); Beck et al. (2000) to determine the casual relationship between financial development and economic growth. They employed 77 nations in their analysis, which covered the years 1960 to 1995. According to their findings, a highly advanced finance industry can result in faster economic expansion and higher factor productivity. Again, using data from 1971 to 2007, and ARDL bound testing, the dynamic causal relationship between the rise of the South African stock market and the country's economy was examined by Odhiambo (2008). The empirical analysis of the study shows a causal association between economic growth and stock market development.

Numerous studies have looked at the factors influencing this investment, which many businesses have made considerable investments in working capital. According to Kim et al. (1998); Opler et al. (1999); Enqvist et al. (2014); D'Mello et al. (2008) the availability of outside financing, is a factor in determining liquidity. This section presents a panel data analysis to investigate the relationship between financial development and economic growth while accounting for the increasing

frequency of financial crises. The impacts are assessed using King and Levine (1993) adaption of Barro (1991) growth regression to yield comparable results to past experiments Rousseau and Wachtel (2011).

Moreover additional explanatory variables and controls while following the methods of Caporale et al. (2015). Despite the long-standing dispute on the causal link between finance and economic growth, many research, like those by King and Levine (1993) they find that financial development supported economic growth. Others demonstrate that, between 1960 and 1998, finance had no effect on low-income (developing countries), but it did on high per-capita income ones Deidda and Fattouh (2002); Rioja and Valev (2004) seminal investigation of economic growth rates and the link between finance and growth also found no conclusive evidence that finance boosts growth in less developed nations, but it had a favorable impact on high- and middle-income nations. Levine offers a thorough analysis of this collection of studies. His research indicates that there is a favorable correlation between finance and growth at the level of cross-national comparisons, studies of specific countries, as well as in particular industries and businesses. The idea that finance is positively correlated with growth obviously predominates, despite several macroeconomic research pointing out a non-linear strength in the relationship and even finding instances of a negative link.

Al-Yousif (2002) conducted research using panel and time-series data for the years 1970 to 1999. Which may aid in analyzing the nature and direction of the connection between economic growth and financial development in 30 emerging nations. It has been established that there are causal links between financial development and economic growth in both directions. Additionally, Calderón and Liu (2003) used pooled data and a larger sample size to run the Geweke decomposition test (109 nations from 1960 to 1994). According to their argument, the world economy expanded more quickly as a result of financial development.

In comparison to more developed countries, less developed economies see greater relative effects of financial development. A long run relation between the variables used. Additionally, it was claimed that financial intermediaries helped increase overall production. Beck and Levine (2004) used a panel data set covering the

years 1976 through 1998 to examine, using the most recent generalized-method-of-moments methodologies, how banks and the stock market affect economic growth. The research demonstrates a long-term relation among the factors used.

Numerous economists have recognized this relationship in their research by examining the relationship between financial development and economic growth. Different regions or countries are used in many studies e.g. Latin America, Africa, Asia, sub-Saharan, America etc. The World Bank Indicators and the International Financial Statistics Yearbook for particular nations are just two of the various sources from which the data is compiled.

Different econometric models are applied by different researchers in their research. The economists apply cross-country regression when they select developing countries and more than thirty countries for a good result. Some economists used other econometric models like generalized method of moment, panel data approaches and time series techniques in their studies. Economic growth measured which is used by economists is GDP or GDP per capita. However, for financial development many different measurements and proxies are used by the economists. The financial development indicators that economists use include the ratio of liquid liabilities to GDP, the real interest rate, the trade ratio, the ratio of credit given to the private sector to GDP, and the ratio of broad money to GDP. Using various approaches and methodologies, many economists reach the same result regarding the link between financial development and economic growth. A fully modified ordinary least squares model is used by Acharya et al. (2009); King and Levine (1993) apply cross-sectional regression model.

Khan (2008) used autoregressive distributed log model. Each economist used a different econometric model to examine the connection between financial development and economic growth. According to them, the both variable have a significant relationship among them, however, they all select and used different time period and different regions in their studies. The relationship between financial development and economic growth has been the subject of numerous studies by academics from different fields. Many studies shows a positive relation between them. Additionally, we discovered that in some instances in the literature, economists hold divergent opinions about the nature and direction of causality. Some economists conclude

that the casual relationships among variables. At the same time some economists argue that it is not true. According to some economists, financial development or progress and economic expansion are correlated in both directions.

Bagehot (1873) describe the innovation makes changes in the function of the production. The importance of well-defined financial system are also define. He makes the claim which is what spurs economic growth is financial sector. Due to these studies many countries especially the developing countries focused on their financial system and financial sectors of their countries which helps to increase the economic growth.

As reported by Robinson (1952) "Where enterprise leads finance follows". He said that the real growth in the economy needs financial development. Robinson concept is supported by many researchers. In their research, they focus on a variety of nations ranging from one to one hundred. They arrive at the conclusion that financial development is caused by economic expansion by utilizing a variety of methods.

There are several justifications in the literature for the symbiotic and bi-directional relationship between financial development and economic growth. The link is looked at using various regions and time periods. Developed countries are investigated by in their studies by Darrat (1999); Levine and Zervos (1998). In their studies they conclude that in economies the financial development helps in economic growth. Bivariate VAR econometric model is used by Darrat (1999) in his study and he used the time period of 1964 to 1993. The Levine and Zervos (1998) used horizontal section regression in their study. The developed countries are selected for the time period of 1976 to 1993. According to their analysis, long-term financial development also fosters economic growth in developed countries. In their study, Arestis et al. (2001) described financial development as a multidimensional process. They argue that there is no evidence to support the notion that financial development and economic growth are related.

Some economists Sinha and Macri (2001) conclude in their cross sectional analysis that the outcomes varied from nation to nation. The eight Asian countries are at work. Furthermore, there is a bi-directional relationship between financial factors

and income in Malaysia and India. The relationship between financial development and economic growth is skewed in Thailand and Japan. A detailed literature evaluation should focus on the effect of financial development on economic growth. That is the great topic of argument held between many economists. The majority of economists concurred that the expansion of the financial sector is a crucial element of any economy and has a significant role in boosting its rate of growth.

The rationale given above supports the assertion that financial development and economic expansion are highly advantageously related. They have connection that is well-documented in numerous works of literature. On the other hand, past investigations have also shown the various contradicting observations.

There is a broad agreement among authors in the literature that there is a link between finance and economic growth. Nevertheless, some economists are disagree on how the causal chain is oriented. On the one hand, a number of authors have theorized and empirically demonstrated the existence of a causal relationship between financial development and economic growth. In other words, policies that encourage the growth of financial systems are what lead to economic growth.

McKinnon (1973); King and Levine (1993); Levine et al. (2000); Christopoulos and Tsionas (2004) all back up this assertion. According to some experts, the focus is moving from economic development to financial development. The growing demand for financial services brought on by an increasing economy is what drives the growth of the financial sector. This viewpoint is supported by Goldsmith (1969). Results from earlier empirical investigations on the relationship's influence, nature, and direction have been ambiguous and contradictory.

Literature from both developed and emerging nations, as well as from other countries, has been discovered. Academics and economists are aware of the link between financial development and economic development.

Examining the link between financial development and economic growth across SAARC nations is the current main goal or problem of this research and study. By looking into the link between financial development and economic growth in South Asian rising countries, this study seeks to close a knowledge gap in this area.

2.3 Negative Impact of Financial Development on Economic Growth

The financial development also has some negative or insignificant impact on the growth of the economy. Some researchers suggest that, mainly in developing nations, emphasize the negative or negligible effect of financial development or markets on economic growth. Singh (1997); Nili and Rastad (2007); Naceur and Ghazouani (2007); Narayan and Narayan (2013) are a few examples. For instance, nili2007addressing claim that oil revenues, rather than investment levels, best explain why oil exporting nations have higher levels of investment, and that financial development actually has a depressing influence on investment. In a similar vein, Narayan and Narayan (2013) find no evidence that the Middle Eastern countries' banking or financial sectors contribute to growth. According to the analyses of several academics, such as Rioja and Valev (2014); Henderson et al. (2013); Odedokun (1996) there is evidence of heterogeneity in the finance-growth nexus.

For instance, Rioja and Valev (2014) demonstrate that banks have a significant beneficial impact on capital accumulation, however stock markets have not contributed to growth in low income nations. Scholars note that this link may change depending on the degree of financial development. Additionally, recent works by Beck et al. (2014); Chen et al. (2013); Shen and Lee (2006) have examined the evidence on the non-linearity between finance and growth. For instance, according to Beck et al. (2014) the favourable impact of finance on growth is only present up to a certain point before it disappears completely.

2.4 Hypotheses Development

On the basis of above literature following hypotheses are developed.

H_1: *Financial development measured by broad money (M_3 as % of GDP) has a positive impact on economic growth (EG).*

H_2: *Financial development measured by market capitalization of listed companies (MC as % of GDP) has a positive impact on economic growth (EG).*

H_3: *Financial development measured by domestic credit to private sector (DC as % of GDP) has a positive impact on economic growth (EG).*

H_4: *There is a positive impact of gross capital formation (GCF as % of GDP) on economic growth (EG).*

H_5: *There is a negative impact of inflation (IN) on economic growth (EG).*

H_6: *There is a positive impact of trade openness (TO as % of GDP) on economic growth (EG).*

H_7: *There is a negative impact of trade balance (TB as % of GDP) on economic growth (EG).*

Chapter 3

Data Description and Methodology

3.1 Data and Sample

This portion of the study gives information about the data and methodology. The data is collected using the world development indicators (WDI). Data for the countries selected in the study are extracted using a filter on the World Bank website. In this study, the data are used on an annual basis. Time is selected from the year 2000 to 2020. The main objective of this study is to establish an empirical connection between financial development and economic growth in SAARC nations between 2000 and 2020. The countries selected for the study by South Asian Association for Regional Cooperation are Bangladesh, India, Pakistan, and Sri Lanka. Data accessibility in the SAARC nations is taken into account when selecting the countries. The SAARC countries' financial development impact on economic growth is examined in this study by utilizing panel data. The major goal of this study is to find how important financial development is for countries' successful economic progress. This study uses a variety of variables across a range of historical periods to investigate the relationship between financial development and economic growth. The findings of this empirical study will provide recommendations and guidelines for governments on how to focus their regulatory and oversight efforts on strengthening the financial sector, which helps in achieving strong economic growth.

3.2 Research Model

In this study, the relationship between the dependent variable, economic growth (EG), and the independent variable, financial development (FD), is examined. Different measures are used for this purpose. The measures which are used to measure financial development are broad money (M_3), Market capitalization of listed domestic companies (MC), Domestic credit to private sector (DC). Economic growth is measured through GDP growth rate. To examine how independent variables affect dependent variables some other independent variables like inflation rate (IN), gross capital formation (GCF), trade openness (TO), and trade balance (TB) are also employed.

The research model is:

$$GR_{GDP} = f\ (FD,\ IN,\ GCF,\ TO, TB) \tag{1}$$

The Growth rate is a function of financial development and other independent variables including inflation rate, Gross domestic formation, Trade open, and Trade balance. The econometric equations of this model are

$$GR_{GDP} = \alpha + \alpha_1 FD_{1it}\,(M_3 as\%ofGDP) + \alpha_1 IN_{it} + \tag{2}$$
$$\alpha_2 GCF(as\%ofGDP)_{it} + \alpha_3 TB(as\%ofGDP)_{it} + \alpha_4 TO(as\%ofGDP)_{it} + u_{it}$$

$$GR_{GDP} = \alpha + \alpha_1 FD_{2it}\,(MCas\%ofGDP) + \alpha_1 IN_{it} + \tag{3}$$
$$\alpha_2 GCF(as\%ofGDP)_{it} + \alpha_3 TB(as\%ofGDP)_{it} + \alpha_4 TO(as\%ofGDP)_{it} + u_{it}$$

$$GR_{GDP} = \alpha + \alpha_1 FD_{3it}\,(DCas\%ofGDP) + \alpha_1 IN_{it} + \tag{4}$$
$$\alpha_2 GCF(as\%ofGDP)_{it} + \alpha_3 TB(as\%ofGDP)_{it} + \alpha_4 TO(as\%ofGDP)_{it} + u_{it}$$

Where,

GR stands for annual Growth rate of GDP

FD stands for Financial development

FD_1 stands for financial development measured by M_3 (as % of GDP)

FD_2 stands for financial development measured by MC (% of GDP)

FD_3stands for financial development measured by DC (% of GDP)

IN stands for Inflation rate

GCF stands for Gross capital formation (as % of GDP)

TO stands for Trade openness (as % of GDP)

TB stands for Trade balance (as % of GDP)Subscript i stands for countries which varies from 1 to 4 Subscript t stands for the years which varies from 1 to 21 (2000 to 2020)

μ_{it} stands for the random error term of the regression

α_0 stands for constant term

α_1 stands for the coefficient of financial development

α_2 stands for the coefficient of inflation rate

α_3 stands for the coefficient of gross capital formation

α_4 stands for the coefficient of trade balance

α_5 stands for the coefficient of trade openness

3.3 Development of Variables

Several variables are selected to examine how financial development affects economic growth. This study makes use of dependent, independent, variables. The economic growth is a dependent variable. It is calculated as growth rate in GDP. Financial development is independent variable. The financial

development is measures with different measures and proxies of financial development is Broad money (M_3), Market capitalization (MC), Domestic credit to private sector (DC). These indicators, or proxies, helps in determining the significant connection among financial development and economic growth. Additionally, some independent variables are inflation rate (IR), gross capital formation (GCF as % of GDP), trade openness (TO as % of GDP) and trade balance (TB as % of GDP).

The previous study also used the real interest rate which is drop in this study because it shows the multi co-linearity. A nation's currency will often increase at higher interest rates. Higher interest rates frequently encourage foreign investment, which raises the demand for and value of the local currency.

SAARC countries were chosen because they have a similar cultural background. Which helps to makes the selection of the countries easy. Some researchers use different developing countries which is difficult to choose.

The further explanation about the variables is given below:

3.3.1 Dependent Variable

Economic growth is the dependent variable in this study. A rise in the output and production of products and services over the course of a year is referred to as "economic growth" (EG). Real or nominal GDP can be used to calculate economic growth (EG).Growth rate in nominal GDP may be little bit misleading because it includes the impact of prices. Therefore, the better measurement is growth rate in real GDP. That is nominal GDP growth rate is deflated by prices. In this study we have used real GDP growth rate, which is based on constant 2015 prices. "Economic growth (EG) shows a steady process by which the productivity capacity of the economy is increased over time to bring rising levels of national output and income." Michael P. Todaro.

GR_{GDP} is measured as

$$GR_{GDP} = \left(\frac{GDP_t - GDP_{t-1}}{GDP_{t-1}} \right) \times 100$$

3.3.2 Independent Variables

A mix of institutions, goods, markets, and legal and regulatory frameworks that let credit to be provided in order to conduct business are referred to as financial development. The main goal of financial industry development is to lower "costs" related to the financial system. This process of reducing the costs of knowing something, performing a contract, and carrying out a transaction led to the creation of financial contracts, markets, and intermediaries. Markets and financial intermediaries have been influenced by diverse financial and combinations of information, enforcement, and transaction costs along with various legal, regulatory, and tax regimes throughout history and across different nations.

The index of financial development (IFD) is employed in this study to measure financial depth. The country's economy is impacted by financial development (FD), which varies in numerous ways. In countries with a robust and advanced developed structure, borrowing costs, for example, are generally low. It also raises transparency among borrowers and creditors and improves access to financial capital. All these factors result in the flow of investment between countries which helps in getting access to better technology.

The proxies employed to calculate financial development include Broad money (M_3 as % of GDP),

Market capitalization of listed company (MC as % of GDP),

Domestic credit to private sector (DC as % of GDP)

M_3 is another name for broad money. M_3 is a measure for assessing financial progress (FD). M_3 contains the total amount of money in circulation outside of banks. Demand deposits and foreign currency deposits are also included. M_3 also includes bank and traveler's checks as well as various other assets like deposit certificates. It is used to quantify the banking system's liquid liabilities within the economy. Because M2 and M1 are "more tied to the ability of the financial system to provide transaction services than to the ability to channel funds from savers to borrowers," We used M_3 as a measure of financial depth rather than the other two monetary aggregates (M2 or M1). A higher liquidity ratio indicates greater banking system intensity. Here, it is

assumed that financial services are positively correlated with the size of the financial industry (King and Levine, 1993).

The market capitalization (MC) of listed domestic corporations includes the number of shares outstanding. Some businesses, including investment funds, trusts, and firms, have as their primary objective the holding of shares in other listed corporations. These businesses do not fall under market capitalization (MC). It is a second proxy of financial development (FD). It is also known as market value. If the market value increased due to that the economic growth (EG) is also increased.

Domestic credit to the private sector (DC) is another sign of financial development (FD).The domestic credit (DC) are some financial resource such as loans, securities, credits and other receivable accounts which are provided to private sector by financial corporations. These financial corporation is finance and leasing companies, foreign exchange companies.

These three measures of financial development (FD) are applied to see its effect on economic growth (EG), whether the result is significant or not.

To investigate the impact of financial development (FD) on economic growth, other independent variables are considered. The selected variables are used one by one because these variables are substitute of each other.

The independent variables are:

Inflation rate in this study, serves as a independent variable. The inflation rate (IN) is calculated using a wide variety of pricing indicators or indices. The GDP deflator index, the consumer price index, the wholesale price index, the sensitive pricing index, and many others are among these price indexes. GDP deflator index is not a good measure of inflation because it includes many goods and services which a common person does not use, but only government uses them such as airports, ministry etc. Also the GDP deflator index does not include imported goods and services which a common person use. Sensitive price index measures the basket consumed by lowest income groups. The wholesale prices are measured by the wholesale prices whereas the typical person pays retail prices. As a result, the consumer price index, which is based on the prices of a basket of products and services used by the consumer of the country. So the percentage of consumer

price index used to determine the inflation. It consider the percentage change in consumer acquiring basket of goods and services. Generally, inflation means rise in the price of good and services. This change may be interval or yearly. Increased in the rate of the inflation in the economy decreases the currency's value because of this effect people are not able to buying goods and services. The inflation has a negative and positive both effects in the country. The inflation might be expected to have a negative impact on growth rate probably for two reasons such as the prices of goods and services are increased as a result the purchasing power of consumer decreases as a result the aggregate demand in the country decreases which pulls down the economic growth in the country. The second reason is, during the inflationary period the people who lend money are the depositors and the people who borrow money be therefore savers are not prefer to save their money in the bank they prefer to buy land, plots, gold and modern currency. For these two reasons it is expected that the coefficient of the inflation would be negative. The increasing trend in the inflation also reduces the value of the shares and affects the stock market performance. When inflation level in the country increased then the growth of economy decreased which means that inflation (IN) effects the economic growth (EG) negatively. The low level of the inflation provides the hedge against the market. The rate of inflation is calculated by CPI.

The inflation rate is measured as

$$IN = \left(\frac{CPI_t - CPI_{t-1}}{CPI_{t-1}}\right) \times 100$$

Gross capital formation (GCF) is a independent variable. It is calculated as a share or percentage of GDP. It contains the fixed assets of the economy. Net adjustments to inventory levels are also included. Land upgrades, plant and equipment purchases, buildings for the commercial and industrial sectors, and machinery and equipment purchases are all included in fixed assets. Inventories includes the goods that businesses keep on hand to cover brief or unexpected changes in production or sales as well as work that is still in process. The greater is the amount of accumulated capital will increased the economic growth (EG). So therefore, economic growth is predicted to benefit from the gross capital formation.

Trade openness is calculated by the trade volume. It is used by taking percentage of GDP. The trade openness (TO) is also a independent variable. The total sum of exports and imports is the trade openness (TO). The more the country exports as a result there is a multiples effects on the economic growth (EG). Similarly, the more the country imports so it is expected that the imports are the investment which effects positively the economic growth (EG). The simplicity of obtaining products and services, improved resource allocation, and increased total factor productivity due to the diffusion of knowledge and technology are all benefits of open trade that contribute to economic growth.

$$TO = \frac{Imports + Exports}{GDP}$$

Trade balance (TB) of an economy can boost employment and economic growth, but it can also result in higher prices and interest rates. In trade balance if the imports are greater than exports than that it is a leakage from economic activity of home country. On the other hand, exports are greater than imports than it boosts the economic activity of home currency by multiply effects. Therefore, it is accepted that on economic growth (EG) the trade balance (TB) has a negative impact. The reason is, it allows that country to exchange most of its currency, a country's trade balance can also have an effect on the value of that country's currency on international markets. A change of ownership of products and services between citizens of one country and the rest of the globe is included in all transactions involving exports and imports of commodities and services.

$$TB = \frac{Exports - Imports}{GDP}$$

The variables are discussed in the figure:

3.4 Estimation Method

In this study the panel data have been used. For panel data analysis there are three methods are discussed below for the estimation of regression equation or

TABLE 3.1: Variables, Measurements, Source and expected signs

Variables	**Measurement**	**Source**	**Expected Sign**
Economic Growth (EG)	GDP Growth rate (annual % $GR_{GDP} = \left(\frac{GDP_t - GDP_{t-1}}{GDP_{t-1}}\right) \times 100$	World development indicators	
Financial development (FD)	M_3, DC,MC	WDI	
Broad money (M_3 % of GDP)	M_3 = Cash + Demand deposit + Saving + Foreign currency deposit (% GDP)	WDI	Positive
Domestic credit to private sector (% of GDP) (DC)	DC = Loans + trade credits + accounts receivable to private sectors	WDI	Positive
Market capitalization of listed domestic companies (% of GDP) (MC)	MC = Current Market Price per share × Total Number of Outstanding Shares		Positive
Inflation, consumer prices (annual %) (IN)	—$IN = \left(\frac{CPI_t - CPI_{t-1}}{CPI_{t-1}}\right) \times 100$	WDI	Negative
Gross capital formation (% of GDP) (GCF)	GCF = Net domestic fixed capital formation + depreciation + change in stock	WDI	Positive
Trade openness (% of GDP) (TO)	$TO = \frac{Imports + Exports}{GDP}$	WDI	Positive
Trade balance (% of GDP) (TB)	$TB = \frac{Exports - Imports}{GDP}$	WDI	Negative

model equation.

3.4.1 Panel Data Methods

Many researchers typically analyze data sets with multiple time-series observations of a cross-sectional units of people, companies, or countries. For example, the data might cover several years of production for multiple firms or total production for multiple countries.

The panel data is the most used technique in the field of finance because it includes flexibility, more information. Data from both cross-sectional and temporal series are combined in this method. The panel data aids in reflecting the observations of both persons and time. Groups are submitted as subscript i and times as subscript

t, for panel data. Comparatively speaking, cross-sectional and time series data are inferior to panel data. The two forms of data balanced and unbalanced are used. Balanced data includes same set of time observations for each cross-sectional of variable. The panel data which includes different observations for each cross-sectional of the variables are called unbalanced panel (Gujarati, 2003). The panel data helps in detecting and estimating the statistical effect which pure time series and cross sectional data cannot estimates properly.

There are following methods for the estimation of panel data analyses are used.

1. Pooled OLS
2. Fixed effect model
3. Random effect model

3.4.1.1 Pooled OLS Model

Pooled OLS the coefficient is same for all cross sectional. It is the first model of panel data analyses. This method is used when different sample of panel data for each year/month/period. Panel data is a dataset where the actions of various entities are tracked over time. These entities can include states, businesses, people, nations, etc.

The general equation of pooled ols is

$$Y_{it} = \alpha_0 + \beta\left(X\right) it + \mu_{it} \tag{5}$$

3.4.1.2 Fixed Effect Model

Fixed effects are those types of variables that are remain the same across all individuals. The variables are like age, sex, or ethnicity. These factors and variables either change less often or not at all over time. The other name of this model is first difference model. Studying the effects of the variables across time is made easier by the fixed effect model. In other words, any change they make

in a person is the same. It is different from common effect model. This model helps to determine that all the variable have effects or no effects on other variables. All the variables have its own effects and functions it means no all independent variables need to be influenced by dependent variables. In fixed effect model each cross-section has different intercept.

The general equation of fixed effect model is

$$Y_t = \alpha_i + \beta(X)_t + \mu_t \tag{6}$$

3.4.1.3 Random Effect Model

Statistical models are another name of random effects models. The influences that define the model's systematic components in these models have some kind of random variation.

Additionally, the random effects model is employed rather than the fixed effects model. Statistical models generally distinguish between systematic and non-systematic component.

This model has fewer parameters to estimate. The random effect model also allowed to put more independent variables with the same amount of observations.

The general equation of random effect method is

$$Y_t = \alpha 0 + \beta_1 (X) + (V + \mu)$$

3.4.2 Diagnostic Tests

These tests are used to check which of the above three methods is most appropriate some other methods were used.Those methods are: Redundant variable test/ Likelihood ratio test Hausman test

3.4.3 Redundant Variable Test/Likelihood Ratio Test

Between the common and fixed effect models, redundant fixed effect test work as a decision maker. Fixed effect model is used when cross-section Chi-square and F

statistic are both less than 0.05 and significant. And, when the P-value exceeds 0.05, the common coefficient model is apply.

3.4.4 Hausman Test

For the board information investigation, this test can assist you with choosing whether to utilize a decent impacts or irregular impacts model. This test is used to choose from the FEM and REM. If F stats and Chi-Square of cross-area is under 0.05 than the fixed effect model is utilized.

When the p-value is significant and more than 0.05, the random effect model is chosen. Hausman test detects endogenous repressors in a regression model.

When the random effect model is not acceptable but the fixed effect model is appropriate, then the Hausman test is used. It is a must for this test. It is also used to see the impact of dependent variables on independent variables.

The Hausman test used sampled data. It is only applied on sampled data. This test can be used to distinguish between the fixed effect model and the random effect model. The reliability of the study has been examined using panel data regression.

Chapter 4

Results and Discussion

4.1 Descriptive Statistics

That test is used to identify about the qualities of the data. The descriptive statistics gives a detail which is related to the measures of the data and information in summarize form about the data. Descriptive statistics gives a statistical summary of the data. Descriptive statistics are used to provide some quantitative information in a reasonable way. It helps to summarize the data of large amount in a sensible way. Descriptive statistic gives the data in summarized form.

In this test two types of measures are used for data. One is measures of central tendency. It is used for measure determining the mean median and mode. Mean gives information about the data, median helps to distribute the data in two equal parts and mode gives the center value of the data. The second is measures of variability. It is applied to identify the standard deviation, minimum, maximum, kurtosis and skewness values of all variables.

Table 4.1 shows the results descriptive statics of dependent variable and independent variables which is economic growth and financial development. The other independent variables which are Inflation rate (IN), Net trade (NT) and trade openness (TO). Gross capital formation (GCF) is used to measure capital stock CS and net trade used to find trade balance. The descriptive statistics show the results related to a selected country.

TABLE 4.1: Descriptive results of all selected countries

	GDP	**M_3(% GDP)**	**MC(% GDP)**	**DC(% GDP)**	**IN**	**GCF(% GDP)**	**TO(% GDP)**	**TB(% GDP)**
Mean	5.142	55.91	35.76	34.69	7.062	26.57	42.68	-5.402
Median	5.540	56.01	26.51	33.56	6.340	27.03	39.73	-5.440
Maximum	9.140	88.16	161.24	54.80	22.56	41.93	88.64	-0.260
Minimum	-7.250	30.55	1.810	15.39	2.010	14.12	25.31	-13.29
Std. Dev.	2.678	13.40	29.81	11.58	3.763	7.251	14.42	2.889
Skewness	-1.811	0.206	1.600	0.007	1.573	0.009	1.178	-0.302
Kurtosis	8.277	2.232	5.771	1.747	6.563	2.286	4.039	2.826
Jarque-Bera	143.42	2.660	62.75	5.489	79.08	1.781	23.21	1.385
Probability	0.000	0.264	0.000	0.064	0.000	0.410	0.000	0.500
Sum	431.98	4697.03	3003.96	2914.16	593.23	2231.99	3585.15	-453.83
Sum Sq. Dev.	595.47	14914.01	73796.38	11142.93	1175.29	4364.90	17270.77	693.05
Observations	84	84	84	84	84	84	84	84

Table 4.1 shows all descriptive statistics results of selected countries. Mean, median and standard deviation of all variable are included in this table.

The first variable is growth rate of GDP. It is a dependent variable and used to measure economic growth. The mean value of growth rate of GDP is 5.142. The standard deviation value is 2.678. GDP can range from a maximum of 9.140 to a minimum of -7.250. The table also shows the median value which is 5.540. The skewness value is -1.811. The GDP growth rate indicates that the economy is expanding because more goods and services are being produced, or declining because of lower output.

M_3 is also known as broad money. It is basically a independent variable. As a measure of financial development, M_3 is used. The mean value of M_3 is 55.91 and standard deviation is 13.40. Moreover, the maximum and minimum value of M_3 is 88.16 and 30.55. The median value of M_3 is 56.01. The skewness value is 0.206.

The other independent variable is MC. MC stands for market capitalization of listed companies. The result shows the mean value of MC is 35.76. Maximum and

minimum value is 161.24 and 1.810. The value of standard deviation of MC is 29.81. The impact of financial development on economic growth is quantified by using it as a proxy. Median and skewness value which is 26.51 and 1.600 are also given.

The following variable in the table, known as domestic credit to the private sector (DC). It serves as a measure of financial progress (FD). The table shows that the mean amount of domestic credit to the private sector (DC) is 34.69. The standard deviation value is 29.81. The maximum and minimum value which comes through results is 54.80 and 15.39. This variable helps to know that how much amount is given sector by financial institutions. The table also explained the median and skewness value. The skewness value is 0. 007. The median value is 33.56.

This study also include some independent variables. The independent variable is inflation rate (IN). The mean value of inflation is 7.062. The standard deviation value is 3.763. The table also includes the result of the value of maximum and minimum. The maximum value is 22.56. The minimum value is 2.010. The median value is 6.340. The skewness value is 1.573. The inflation helps to calculate the change in percentage of consumers for acquiring goods and services.

The next variable is gross domestic formation (GCF). The gross domestic formation helps to find the capital stock. The mean value of GCF is 26.57. The table also shows the value of standard deviation which is 7.251. The maximum and minimum value is 41.93 and 14.12. The median value is 27.03. The skewness value is 0.009. In this study the capital stock relation with economic growth is measured with the gross capital formation (GCF).

The other variable is trade openness (TO). The trade openness (TO) mean value is 42.68. The standard deviation is 14.42. The maximum and minimum value is 88.64 and 25.31. The median value is 39.73. The skewness value is 14.42. According to the results the t rade openness (TO) has positive impact on economic growth (EG). When import increased due to that the economic growth (EG) is also increased.

Trade balance (TB) is the next variable. The mean value of trade balance (TB) is -5.402. The value of standard deviation is 2.889. Maximum and minimum value of trade balance (TB) is also given in the table. The maximum value is -0.260 and

the minimum value is -13.29. The median value of trade balance (TB) is -5.402 and the skewness is -0.302. All the result of trade balance (TB) are negative except standard deviation. According to results the trade balance (TB) has negative impact on economic growth (EG).

TABLE 4.2: Descriptive statistic of Bangladesh

	GDP	**M_3(% GDP)**	**MC(% GDP)**	**DC(% GDP)**	**IN**	**GCF(% GDP)**	**TO(% GDP)**	**TB(% GDP)**
Mean	6.028	54.87	22.40	36.93	6.311	27.32	37.38	-5.272
Median	6.060	58.75	27.21	40.96	6.190	26.25	37.95	-5.440
Maximum	8.150	66.85	39.60	47.58	11.40	31.57	48.11	-2.450
Minimum	3.510	30.55	1.810	21.78	2.010	23.81	26.86	-8.980
Std. Dev.	1.206	10.23	13.02	8.556	2.191	2.419	6.484	1.805
Skewness	-0.313	-0.670	-0.364	-0.354	0.018	0.280	-0.020	-0.252
Kurtosis	2.620	2.503	1.622	1.608	3.414	1.872	1.994	2.116
Jarque-Bera	0.469	1.790	2.124	2.132	0.151	1.387	0.886	0.905
Probability	0.790	0.408	0.345	0.344	0.926	0.499	0.641	0.635
Sum	126.59	1152.36	470.55	775.70	132.55	573.77	785.07	-110.73
Sum Sq. Dev.	29.10	2094.35	3394.51	1464.23	96.02	117.03	841.02	65.23
Observations	21	21	21	21	21	21	21	21

Table 4.2 shows all the results of descriptive statistics. Descriptive table includes dependent variable, independent variable and also the control variables. This descriptive table shows all the results of specific country which is Bangladesh. All the variables are discussed in the perspective of Bangladesh.

The GDP growth rate is a dependent variable that is used to measure economic growth. First column of the table shows the result of growth rate of GDP of the Bangladesh economy. The mean value of growth rate of GDP is 6.028. The standard deviation value in the table is 1.206. The maximum and minimum value of variable is 8.150 and 3.510. The table also indicate the median value which is 6.060. The skewness value is -0.313.

The next column shows the findings of the independent variable in the view point of Bangladesh. In this study the broad money (M_3) is an independent variable. Financial development used this variable as its proxy. The mean value of M_3 is 54.87. The standard deviation value of the variable is 10.23. The maximum and minimum value of M_3 is 66.85 and 30.55. The median result of the M_3 is 58.75. The skewness value of M_3 is -0.670. The variable makes it easier to find the relationship in Bangladesh's economic growth and financial development are related.

The next independent variable is MC. MC stands for market capitalization of listed companies. The impact of financial development on economic growth is assessed using it as a measure of financial development. According to the result shows the mean value of MC. The mean value is 22.40. The value of standard deviation is 13.02. The descriptive statistic also indicates the maximum and minimum value. MC maximum and minimum value is 39.60 and 1.810. The table also shows the median and skewness value. The median value of MC is 27.21. The skewness value of MC is -0.364.

The next variable in the table is domestic credit to private sector (DC). DC is a proxy which is used to measure financial development. Mean value of DC is present in the table. The mean value is 36.93. The standard deviation value is 8.556. The maximum and minimum value of DC which comes through results is 47.58 and 21.78. The table also explained the median and skewness value. The median value is 40.96. The skewness value is -0. 354. This variable helps to know that how much amount is given sector by financial institutions.

In this study some independent variables are also used. The next column shows the results of control variable. The independent variable is IN which is the abbreviation of the Inflation rate. The mean value of IN is given in the table which is 6.311. The standard deviation value of is 2.191. The descriptive statistics also gives the result of maximum and minimum value. The maximum and minimum value is 11.40 and 2.010. The median value given by the descriptive result is 6.190. The skewness value is 0.018.

The next variable is GCF. Gross Domestic Formation is the full form of GCF. According to the descriptive test, the mean value of GCF is 27.32. The table also

shows the value of standard deviation which is 2.419. The maximum and minimum value are also shown in the table. The maximum and minimum value is 31.57 and 23.81. The median value of GCF is 26.25. In the table the skewness value is also given which is 0.280.

The next column shows the result of next independent variable that is trade openness (TO). The mean value in the descriptive table is 37.38. The standard deviation of the TO is 6.48. According to the results given in the table, the maximum and minimum value of TO is 48.11 and 26.86. The median value of the variable is 37.95. The descriptive statistics also shows the value of skewness which is -0.020.

TB is the last variable in the table. The TB is known as trade balance. It is a independent variable. The mean value of TB is -5.272. The standard deviation value of TB is 1.805. The descriptive statistics results also indicate the maximum and minimum value of TB. Maximum and minimum value is -2.450 and -8.980. The median value is -5.440. The skewness value of TB is -0.252.

Table 4.3 shows all the results of descriptive statistics. This table includes dependent variable, independent variables. Now, this descriptive table shows all the results of specific country which is Pakistan. All the variables are discussed in the existence of Pakistan.

Growth rate of GDP is a dependent variable used in the study and used to measure economic growth. The first column shows the result of GDP of the Pakistan. The mean value of growth rate of GDP is 4.010. The standard deviation value in the table is 2.060. The table below provides the GDP growth rate's maximum and minimum values. The maximum and minimum value is 7.550 and -0.940. The table also indicate the median value which is 4.400. The skewness value of is -0.535.

The next column shows the results of independent variable. The independent variable is M_3 which is also known as broad money. M_3 is a proxy of financial development. Mean value of M_3 is 50.95. The standard deviation value is 7.571. The maximum and minimum value of the M_3 is also given which is 62.38 and 34.80. The median result of M_3 is 52.24. The descriptive statistics also gives the result of skewness. The skewness value of M_3 is -0.671.

TABLE 4.3: Descriptive statistic of Pakistan

	GDP	**M_3(% GDP)**	**MC(% GDP)**	**DC(% GDP)**	**IN**	**GCF(% GDP)**	**TO(% GDP)**	**TB(% GDP)**
Mean	4.010	50.95	21.79	20.54	7.851	16.53	30.23	-6.376
Median	4.400	52.24	17.70	19.61	7.600	16.15	30.35	-7.400
Maximum	7.550	62.38	45.75	28.73	20.29	19.33	35.68	-0.260
Minimum	-0.940	34.80	6.170	15.39	2.530	14.12	25.31	-11.89
Std. Dev.	2.060	7.571	12.56	4.305	4.435	1.475	3.223	3.438
Skewness	-0.535	-0.671	0.749	0.626	0.996	0.403	0.028	0.426
Kurtosis	2.858	2.568	2.085	2.038	3.944	2.268	1.844	2.430
Jarque-Bera	1.019	1.739	2.696	2.182	4.255	1.038	1.171	0.919
Probability	0.600	0.419	0.259	0.335	0.1190	0.594	0.556	0.631
Sum	84.22	1070.14	457.67	431.51	164.89	347.25	634.98	-133.90
Sum Sq. Dev.	84.93	1146.64	3158.31	370.72	393.55	43.55	207.79	236.47
Observations	21	21	21	21	21	21	21	21

The next variable is MC. MC means market capitalization of listed companies and it is a measure of financial development. The table shows the MC mean value. 21.79 is the value of mean. The standard deviation value of MC is 12.56. The descriptive table also shows the maximum and minimum value. The maximum value is 45.75. Minimum value of MC is 6.170. The table also shows the median and skewness value. The median value is 17.70. The skewness value is 0.749.

The next independent variable in the table is DC. Domestic credit to the private sector is referred to as DC. It serves as a proxy for financial development. The table shows the mean value of DC. The mean value is 20.54. The standard deviation value of DC is 4.305. The maximum and minimum value of DC which shows in the table is 28.73 and 15.39. The table also explained the median and skewness value. The median value is 19.61. The skewness value is 0. 626.

The independent variable is Inflation rate (IN). The mean value of IN is given in

the table which is 7.851. The standard deviation value is also shows in the table. The standard deviation value of IN is 4.435. The descriptive statistics also gives the result of maximum and minimum value. The maximum value is 20.29. The minimum value is 2.530. The median value given by the descriptive result is 7.600. The skewness value in the table is 0.996.

The next independent variable is Gross Domestic Formation (GCF). According to the results the mean value of

GCF is 16.53. The table also shows the value of standard deviation which is 1.475. The maximum and minimum value are also shown in the table. The maximum value in the table is 19.33. The minimum value is 14.12. The median value of GCF is 16.15. In the table the skewness value is also given which is 0.403.

The other variable in the table is trade openness (TO). It is also a independent variable. The mean value of the TO in the descriptive table is 30.23. The standard deviation value is 3.223. According to the results the maximum and minimum value of TO is 35.68 and 25.31. The median value is also given in the table which is 30.35. The descriptive statistics also shows the value of skewness which is 0.028.

The other variable in the table is TB. The TB is known as trade balance. It is a independent variable. The mean value of TB is -6.376. The standard deviation value of TB is 3.438. The descriptive table also shows the maximum value which is -0.260 and minimum value of TB is -11.89. The median value is -7.400. The skewness value of TB is 0.426.

Table 4.4 shows all the results of descriptive statistics of India. This table includes dependent, independent variables of India. The dependent variable is the GDP growth rate. It is measure of economic growth. First column of the table shows the result of growth rate of GDP of the India. The mean value of growth rate of GDP is 5.819. The standard deviation value in the table is 3.454. The maximum and minimum value is given in the table. The maximum and minimum value is 8.500 and -7.250. The table also indicate the median value which is 6.800. The skewness value is -2.700.

The next column of the table conclude the results of independent variable. The independent variable is M_3. M_3 in this study used as a measure of financial

TABLE 4.4: Descriptive statistic of India

	GDP	**M_3(% GDP)**	**MC(% GDP)**	**DC(% GDP)**	**IN**	**GCF(% GDP)**	**TO(% GDP)**	**TB(% GDP)**
Mean	5.819	72.36	78.08	45.10	6.222	34.03	42.40	-3.255
Median	6.800	74.55	76.15	49.10	4.950	34.02	42.00	-2.970
Maximum	8.500	88.16	161.24	54.80	11.99	41.93	55.79	-0.330
Minimum	-7.250	54.65	30.65	28.34	3.330	26.66	25.99	-7.980
Std. Dev.	3.454	8.255	28.21	8.572	2.768	4.935	8.973	2.098
Skewness	-2.700	-0.524	0.851	-0.929	0.817	-0.002	-0.281	-0.582
Kurtosis	10.87	2.686	4.934	2.354	2.308	1.638	2.245	2.505
Jarque-Bera	79.81	1.047	5.813	3.391	2.757	1.622	0.774	1.400
Probability	0.000	0.592	0.054	0.183	0.251	0.444	0.678	0.496
Sum	122.210	1519.74	1639.78	947.17	130.67	714.75	890.57	-68.36
Sum Sq. Dev.	238.66	1363.16	15925.57	1469.61	153.33	487.12	1610.39	88.04
Observations	21	21	21	21	21	21	21	21

development. M_3 mean value is 72.36. The standard deviation value is 8.255. Maximum and minimum value of the M_3 is also given in the table, which is 88.16 and 54.65. The median result of the M_3 is 74.55. The skewness value of M_3 is -0.524.

The next variable is market capitalization of listed companies (MC). It is a proxy of financial development. The mean value of MC is 78.08. The value of standard deviation of MC is 28.21. The descriptive table also shows the maximum and minimum value. The maximum value is 161.2. Minimum value of MC is 30.65. The table also shows the median and skewness value. The median value is 76.15. The skewness value is 0.851.

The next independent variable in the table is DC. Dc is known as domestic credit to private sector (DC). Financial development used DC as its measure. The table shows the mean value of DC which is 45.10. The standard deviation value of DC is 8.572. The maximum and minimum value of DC which shows in the table. The maximum and minimum value is 54.80 and 28.34. The table also explained the

median and skewness value. The median value is 49.10. The skewness value is -0.929.

In this study other independent variables are also used. The independent variable is inflation (IN). The mean value of IN is given in the table which is 6.222. The standard deviation value is also shows in the table. The standard deviation value of IN is 2.768. The maximum value of IN is 11.99. The minimum value is 3.330. The median value given by the descriptive result is 4.950. The skewness value of IN in the table is 0.817.

The other independent variable is GCF. Gross Domestic Formation is the full form of GCF. The mean value of GCF is 34.03. The table also shows the value of standard deviation which is 4.935. The maximum and minimum value are also shown in the table. The maximum value in the table is 41.93. The minimum value is 26.66. The median value of GCF is 34.02. In the table the skewness value is also given which is 0.002.

The other variable in the table is trade openness (TO). It is also a independent variable. The mean value of the TO in the descriptive table is 42.40. The standard deviation of the TO is 8.973. The descriptive table also shows maximum and minimum value of the TO which are 55.79 and 25.99. The median value is also given in the table which is 42.00. The descriptive statistics also shows the value of skewness which is -0.281.

The other variable in the table is TB. The TB is known as trade balance. It a independent variable. The TB mean value is -3.255. Standard deviation value of TB is 2.098. The maximum and minimum value of TB are also shows in descriptive table. The maximum value is -0.330 and minimum value is -7.980. The median value is -2.970. The skewness value of TB is -0.582.

Table 4.5 shows all the results of descriptive statistics of Sri Lanka. This table includes dependent, independent variables. Now all the variables and results are discussed for a specific country which is Sri Lanka. The dependent variable is the GDP growth rate. It serves as a measure of economic expansion. The first column of the table shows the result of GDP. Mean value of growth rate of GDP is 4.712. The standard deviation value in the table is 3.048. Maximum and minimum value

TABLE 4.5: Descriptive statistic of Sri Lanka

	GDP	**M_3(% GDP)**	**MC(% GDP)**	**DC(% GDP)**	**IN**	**GCF(% GDP)**	**TO(% GDP)**	**TB(% GDP)**
Mean	4.712	45.46	20.76	36.18	7.862	28.39	60.69	-6.706
Median	5.010	41.68	22.67	34.67	6.720	27.95	53.51	-6.650
Maximum	9.140	63.02	35.12	50.17	22.56	39.06	88.64	-2.680
Minimum	-3.570	32.61	6.580	25.52	2.140	22.00	39.52	-13.29
Std. Dev.	3.048	9.469	7.528	7.773	4.894	4.187	14.06	2.743
Skewness	-1.119	0.736	-0.267	0.631	1.483	0.552	0.466	-0.649
Kurtosis	4.308	2.185	2.422	2.163	5.061	3.241	1.873	3.115
Jarque-Bera	5.887	2.478	0.542	2.006	11.41	1.118	1.872	1.486
Probability	0.052	0.289	0.762	0.366	0.003	0.571	0.392	0.475
Sum	98.96	954.79	435.96	759.78	165.12	596.22	1274.53	-140.84
Sum Sq. Dev.	185.87	1793.46	1133.46	1208.55	479.18	350.73	3956.75	150.49
Observations	21	21	21	21	21	21	21	21

of growth rate of GDP is given in the table. The maximum and minimum value is 9.140 and -3.570. The table also indicate the median value which is 5.010. The skewness value is -1.119.

The next column presents the results of independent variable. M_3 is also known as broad money. It is an independent variable. M_3 in this study used as a measure of financial development. The mean value of M_3 is 45.46. Standard deviation value is 9.469. The maximum and minimum value of the M_3 is also given in the table, which is 63.02 and 32.61. The median result of the M_3 is 41.68. The skewness value of M_3 is 0.736.

The next variable is MC. MC means market capitalization of listed companies. It is a proxy of financial. The mean MC value is displayed in the table. The average number is 20.76. The value of standard deviation of MC is 7.528. The descriptive table also shows the maximum and minimum value. The maximum value is 35.12. Minimum value of MC is 6.580. The table also shows the median and skewness value. The median value is 22.67. The skewness value is -0.267.

Domestic credit to the private sector (DC) is the following independent variable in the table. The DC is used as a proxy of financial development. DC main value is 36.18. The standard deviation value of DC is 7.773. The maximum and minimum value of DC are also shows in the table.

The maximum and minimum value is 50.17 and 25.52. The table also explained the median and skewness value. The median value is 34.67. The skewness value is 0.631.

In this study some independent variables are also used. The independent variable is Inflation rate (IN). The mean value of IN is given in the table which is 7.862. The standard deviation value is also shows in the table. The standard deviation value of IN is 4.894. The maximum value of IN is 22.56. The minimum value is 2.140. The median value given by the descriptive result is 6.720. The skewness value of IN in the table is 1.483.

The other independent variable is GCF. Gross Domestic Formation is the full form of GCF. The mean value of GCF is 28.39. The table also shows the value of standard deviation which is 4.187. The maximum and minimum value are also shown in the table. The maximum value in the table is 39.06. The minimum value is 22.00. The median value of GCF is 27.95. In the table the skewness value is also given which is 0.552.

The other variable in the table is trade openness (TO). It is also a independent variable. The mean value of the TO in the descriptive table is 60.69. The standard deviation of the TO is 14.06. Maximum and minimum value in the descriptive table of the TO is 88.64 and 39.52. The median value is also given in the table which is 53.51. The descriptive statistics also shows the value of skewness which is 0.466.

The other independent variable in the table is TB. The TB is known as trade balance. The mean value of TB is -6.706. The standard deviation value of TB is 2.743. Additionally, the descriptive table displays TB's maximum and minimum values. The trade balance maximum value is -2.680 and minimum value is -13.29. The median value is -6.650. The skewness value of TB is -0.649.

4.2 Correlation Matrix

The correlation analysis is used to evaluate how strongly the study's chosen variables are related to one another. This analysis helps to identify the both positive and negative relationship of the variables.it is a tool which considered as a direction of the association of the variables. The correlation analysis range is - 1 to +1. The high and low correlation analysis among the variables has different results. High correlation indicates high level of multi-collinearity between variables Low correlation shows low multi-collinearity among variables.

Table 4.2 displays all of the findings from the variables' correlation analysis. It also investigates and represent the significant relationship among the variables which is used in the study. This analysis results includes the direction and strong relationship between variables.

TABLE 4.6: Correlation Matrix

	GDP_{GR}	**M_3 (% GDP)**	**MC (% GDP)**	**DC (% GDP)**	**IN**	**GCF (% GDP)**	**TO (% GDP)**	**TB (% GDP)**
GDP_{GR}	1							
M_3	0.004	1						
MC	0.226	0.725	1					
DC	0.148	0.709	0.613	1				
IN	-0.111	-0.087	-0.082	-0.052	1			
GCF	0.398	0.504	0.634	0.815	-0.067	1		
TO	0.103	-0.131	0.037	0.352	0.335	0.395	1	
TB	-0.095	0.054	0.2901	0.079	-0.344	0.050	-0.103	1

Table 4.6 present the correlation analysis of all variables. When the correlation value is close to -1 then it shows that the variables have negative relation and +1 indicates that the relationship between variables is positive. Sometimes the value of the correlation analysis comes 0 and close to 0 that means the variables has weak connection and no connections between them.

In case of low correlation between two variables then the availability of multi-collinearity is uncommon and if the connection is significant and positive then the multi-collinearity is common among the variables.

The GDP_{GR} is the first dependent variable and it has positive relationship with M_3. The correlation value is 0.004. There is no relation is between GDP_{GR} and M_3 because the value is less than 0.

The other variable is market capitalization (MC). The correlation results of GDP_{GR} and market capitalization (MC) is 0.226. The relationship of these two variable is positive. According to the results the value is less than zero so, they have weak relation between them.

The domestic credit (DC) and GDP_{GR} also have positive relationship according to the correlation analysis. The correlation value is 0.148. The relation is weak between them.

GDP_{GR} and inflation (IN) correlation value is -0.111. The correlation analysis shows that the both variable have negative relationship among them. The variables also in weak relationship.

Gross capital formation (GCF) and GDP_{GR} correlation value is 0.398. The correlation analysis results examined that the both variable have positive relation but at the same time they have weak correlation relation between them.

Trade openness (TO) correlation value with GDP_{GR} is 0.103. These variables also have positive relation. The correlation value is 0 it means they have weak relationship.

Trade balance (TB) correlation analysis results value is negative. The value is -0.095. So, the results indicate that they have negative relationship.

4.3 Results of Diagnostic Tests

In this study panel data has been apply for the diagnostic testing of selected variables. Selection of appropriate model is very important for panel data analysis. Due to this reason, two separate tests the Hausman test and the Redundant Fixed effect test are used. The choice between the fixed effect model and the common coefficient model is aided by these tests. This study includes one dependent variable economic growth (EG). It is measured by

GDP growth rate, and one independent variables, financial development (FD), and it is measured by broad money (M_3 as % of GDP), Market capitalization of listed companies (MC as % of GDP), and Domestic credit to private sector (DC as % of GDP). To study how financial development (FD) affects economic growth (EG), some independent variables, Inflation Rate (IN), Gross Capital Formation (GCF as% of GDP), Trade Openness (TO as% of GDP), and Trade Balance (TB as% of GDP) are also used.

To study how financial development (FD) affects economic growth (EG), the control variables Inflation Rate (IN), Gross Capital Formation (GCF as% of GDP), Trade Openness (TO as% of GDP), and Trade Balance (TB as% of GDP) are also used.

The effects of financial development (FD) with some selected proxies: broad money (M_3 as of% GDP), market capitalization of listed businesses (MC as of% GDP), and domestic credit to the private sector (DC as of% GDP) on economic growth (EG) have been examined using three distinct equations. The research described below investigate the relationship between variables.

The test results are given.

4.3.1 Results of Redundant Variable Test

The redundant fixed effect test displays the cross-sectional chi-square as well as the F-stat. The fixed effect model is applied or employed when the value is less than 0.05 of F-stat and chi-square. Common coefficient model is rejected if the p-value is significant. In this study the fixed effect

model is beneficial.

Null hypothesis results show that: Common effect is more appropriate,

Alternate hypothesis results show that: Fixed effect is more appropriate.

The above tables shows the entire "Redundant Fixed Effect Test" results. Because the null hypothesis is rejected by the significant P values, the fixed effect model is preferred over the common effect model as a modelling strategy. To determine the

TABLE 4.7: Results of Likelihood test on M_3

Redundant Fixed Effects Tests			
Equation: Untitled			
Test cross-section fixed effects			
Effects Test	**Statistic**	**d.f.**	**Prob.**
Cross-section F	11.971377	(3,75)	0.0000
Cross-section Chi-square	32.866527	3	0.0000

TABLE 4.8: Results of Likelihood test on MC

Redundant Fixed Effects Tests			
Equation: Untitled			
Test cross-section fixed effects			
Effects Test	**Statistic**	**d.f.**	**Prob.**
Cross-section F	3.874350	(3,75)	0.0124
Cross-section Chi-square	12.102538	3	0.0070

TABLE 4.9: Results of Likelihood test on DC

Redundant Fixed Effects Tests			
Equation: Untitled			
Test cross-section fixed effects			
Effects Test	**Statistic**	**d.f.**	**Prob.**
Cross-section F	5.257161	(3,75)	0.0024
Cross-section Chi-square	16.031992	3	0.0011

best model between a random effect model and a fixed effect model, the Hausman test will now be utilized.

4.3.2 Results of Hausman Test

Null hypothesis: Random effect is more appropriate.

Alternate hypothesis: Fixed effect is more appropriate.

Hausman test requires more cross-sectional data than the coefficients of the study. The Hausman test is not relevant because the number of cross-sections in the study is less than the number of coefficients.

The estimated model used in the experiment was the fixed effect model. In this study, the fixed effect model is being used because the null hypothesis was not accepted.

4.4 Results of Estimated Model

Fixed effect model is the estimated model that was employed in the investigation. This model is used to determine whether there is a substantial relationship between the outcomes of independent variables financial development (FD), inflation rate (IN), gross capital formation (GCF), trade openness (TO), and trade balance (TB) and the dependent variable economic growth (EG). The R square shows changes in dependent variable as a result of changes in independent variables, while the F-statistic shows the overall model's impact. Adjusted R square includes all the adjustments and modification which are done in other factors.

Table 4.10 shows relationship among the variables.

4.4.1 Impact of Financial Development on Economic Growth measured by M_3

TABLE 4.10: Impact of Financial Development on Economic Growth measured by M_3

Variable	**Coefficient 7 Std. Error**	**t-statistic**	**Prob.**	
C	2.331768	2.302452	1.012733	0.3144
M_3	-0.163667	0.029484	-5.550974	0.0000
IN	-0.232237	0.073039	-3.179619	0.0021
GCF	0.289149	0.076529	3.778302	0.0003
TO	0.088798	0.028675	3.096681	0.0028
TB	-0.394197	0.120823	-3.262587	0.0017
F-statistic	9.424672		R-squared	0.501321
Prob(F-statistic)	0.000000		Adjusted R-squared	0.448129

The results of the M_3 coefficients are displayed in the second row of table 4.4. The M_3 coefficients have a value of -0.163667. The results indicate that the M_3

has negative coefficients which is against expected hypothesis. The p-value is 0.0000 which is less than 0.05. It means M_3 has significant relationship. As given in hypothesis one the expected sign of M_3 is positive but according to the result it is negative. The results show that the M_3 affect the GDP growth rate negatively. M_3 negatively affect the economic growth. The result of M_3 is against our expected hypothesis. The estimated model result shows that when M_3 increases by one percentage point then the growth rate decreases by -0.16 percentage point. It indicates that first hypothesis is rejected. In the previous study, citehasan2015financial have positively significant result of M_3.

The other independent variable is inflation rate. It is used as a control variable. The coefficient value of inflation rate is -0.232237. The inflation rate has positive value of its coefficients. The sign of inflation is negative which is expected. The conclusion indicates that the hypothesis is correct. Inflation's p-value is 0.0021. Since inflation's p-value is less than 0.05, it is concluded that its impact is significant. As inflation increased the prices of goods and services are also increased due to that the economic growth is not possible.

The other variable is gross capital formation (GCF). It is a independent variable. Gross capital formation (GCF) helps to measure capital stock. The coefficient value of gross capital formation (GCF) is 0.289149. The value of co efficient is positive as expected. The p-value of the variable is 0.0003. The results shows that the value is highly statistically significant. Gross capital formation (GCF) positively influences economic growth (EG). It helps to accelerate the economic growth (EG).

The trade openness (TO) is an independent variable. The results show the co-efficients value of trade opened (TO) is 0.088798. The value of the coefficient is positive. 0.0028 is a p-value of TO. Because the p-value is below 0.05, the result is statistically significant. Trade balance result is as expected so the hypothesis is expected. When the trade of the country increased its effects on the economic growth (EG).

The next independent variable is trade balance. The coefficient of the trade balance is equal to -0.394197. The value of the coefficient is negative. The trade balance's

p-value is 0.0017. The findings demonstrate that the trade balance has a major influence on economic growth. As the trade decreased in the country due to that the economic growth is also decreased. The previous study Hasan and Barua (2015) also have a negatively significant result of TB.

4.4.2 Impact of Financial Development on Economic Growth measured by MC

TABLE 4.11: Impact of Financial Development on Economic Growth measured by MC

Variable	**Coefficient**	**Std. Error**	**t-statistic**	**Prob.**
C	-4.604380	2.531671	-1.818712	0.0729
MC	-0.009668	0.018804	-0.514123	0.6087
IN	-0.169594	0.085554	-1.982295	0.0511
GCF	0.293957	0.107992	2.722040	0.0081
TO	0.070509	0.034034	2.071743	0.0417
TB	-0.087044	0.131618	-0.661339	0.5104
F-statistic	3.997085		R-squared	0.298913
Prob(F-statistic)	0.000544		Adjusted R-squared	0.224130

Table 4.11 displays the answer to Equation 3. Market capitalization of listed firms is used in this table to calculate the effect of financial development on economic growth. It is an independent variable. MC is s measure of financial development (FD). The second column shows the coefficient value of the variables. According to the results, the market capitalization (MC) co-efficient value is -0.009668. The co-efficient value of MC is negative it means the MC has negative relation with economic growth. The actual result of the MC is not equal to the expected result so, it means the hypothesis is rejected. Since the MC p-value is 0.6087 and is higher than 0.05, the variable is unimportant or insignificant. As MC includes the shares outstanding for listed domestic enterprises if value of shares decreased then the GDP of an economy is also decreased.

The next independent variable in the table is inflation (IN). The co-efficient value of IN is -0.169594. The co-efficient value of inflation is negative. The

p-value of inflation is 0.0511. According to the result, the relationship of IN is significant. The actual sign of inflation is equal to the expected results. So, it means the hypothesis is accepted. As inflation is not neutral. Strong economic growth is the root reason of the increased inflation rate. A higher rate of inflation is anticipated in the nation if the economy's overall demand grows more quickly than the supply.

Gross capital formation (GCF) is another independent variable. The coefficient value of GCF is 0.293957. The coefficient value of GCF is positive. The result of GCF is same as expected result. The value is positive, which indicates that it has a favorable effect on economic growth. There is a 0.0081 p-value. The result indicates that statistically significant relationship because the value is smaller than 0.05. Capital formation helps in increasing the investment which effects the economic growth in two ways firstly, by raising per-capita income and improving purchasing power, which in turn boosts demand; and the other way is that investments helps to increase the production.

The next variable is Trade openness (TO). The trade balance is a independent variable. The first column shows the value of its coefficient. The coefficient value of TO is 0.070509. The value of TO is positive. The hypothesis is accepted because the actual result is not equal to the expected result. Trade openness has the ability to stimulate economic growth by easing access to goods and services, improving the effectiveness of resource allocation, and raising total factor productivity.TO has a p-value of 0.0417. Because the value is less than 0.05, a p-value analysis shows that trade openness is statistically significant.

Trade balance is the next independent variable. The co-efficient value of trade balance is shown in second column. The coefficient value is -0.087044. The value of co-efficient is negative which is equal to the expected sign. The p-value of TB is 0.5104. The TB is statistically insignificant. A trade surplus can increase employment and economic growth in an economy, but it can also raise prices and interest rates. The value of a nation's currency on global markets can also be impacted by its trade balance because it permits that nation to exchange the bulk of its money.

4.4.3 Impact of Financial Development on Economic Growth measured by DC

TABLE 4.12: Impact of Financial Development on Economic Growth measured by DC

Variable	Coefficient	Std. Error	t-statistic	Prob.
C	-3.310831	2.186831	-1.513986	0.1342
DC	-0.135429	0.037183	-3.642201	0.0005
IN	-0.181520	0.079055	-2.296115	0.0245
GCF	0.377293	0.089264	4.226692	0.0001
TO	0.085069	0.031476	2.702625	0.0085
TB	-0.143964	0.119555	-1.204168	0.2323
F-statistic	6.307005		R-squared	0.402181
Prob(F-statistic)	0.000003		Adjusted R-squared	0.338414

Table 4.12 shows the result related to the equation number 4. In this table the domestic credit to private sector (DC) which is the measure of financial development is used to examine the effect on economic growth. It is used as an independent variable. Dc is selected as a proxy of financial development (FD). The co-efficient value is provided in the second column in accordance with the findings of the fixed effect model. The co-efficient value of DC is -0.135429. The co-efficient value of DC is negative. The actual result of the DC is not equal to the expected hypothesis. The hypothesis is disproved because the actual result differs from the anticipated result. The DC's p-value is 0.1342. When the p-value exceeds 0.05, there is no evidence of a significant link between the variables. The value is insignificant. In the previous study the DC value is also insignificant (Sehrawat and Giri, 2016).

The next variable in the table is inflation (IN). It is used as a independent variable. The co-efficient value of IN is -0.181520. The co-efficient value of inflation is negative. The inflation p-value is 0.0245. The p-value demonstrates the importance of the inflation. The actual sign of inflation is as expected. So, it means the hypothesis is accepted. Strong economic growth is to blame for the increasing inflation. A higher rate of inflation is anticipated in the country if the economy's overall demand grows more quickly than the supply.

The next independent variables are gross capital formation (GCF). The coefficient value of GCF is 0.377293. The coefficient value of GCF is positive. The result of GCF is same as expected result. The value is positive, indicating that it has a positive effect on economic growth. 0.0001 is the p-value of the variable. Because the value is less than 0.05, the result shows that the association is statistically significant. Capital formation helps to increase the investment which effects the economic growth positively. The great amount of capital helps to increase the economic growth.

The next independent variable is trade openness (TO). The first column shows the value of its coefficient. The coefficient value of TO is 0.085069. The value of TO is positive. By allowing access to goods and services, trade openness can boost economic growth. Additionally, it aids in increasing total factor production and achieving resource allocation efficiency. P-value of TO is 0.0085. As a result, the value is less than 0.05 so trade openness is statistically significant.

Trade balance is next selected independent variable. The co-efficient value of trade balance is shown in column one. The coefficient value is -0.143964. Because the trade balance's coefficient value is negative, the hypothesis is accepted. In the table, the p-value is also given. P-value of TB is 0.2323 and it is insignificant. In previous study the TB is negatively significant (Sehrawat and Giri, 2016).

These all tests are run to check out the relationship of financial development with the different measures on economic growth and also other independent variables which are inflation rate (IN), gross capital formation (GCF), trade openness (TO) and trade balance (TB).

4.5 Hypothesis Results

All the results of hypothesis which are developed in this study are described in the table which is given below. The measures of financial development used one by one to see the acceptance and rejection of the hypothesis which is conducted or developed in the study.

The possible explanation of the rejected hypothesis is that financial development is not geared towards real investment rather it is used for financial engineering. Negative conclusions from the Broad Money study indicate that the money injected into the system somehow lacks a relationship to economic activity, particularly with actual development in sector. When enterprises, local investors, immigrants, workers, and other parties from these developing or underdeveloped countries gather money, this can be possible, especially in extreme situations. It means that the financial development is used for trading of financial assets and instrument rather than real investment.

TABLE 4.13: Results of hypothesis according to measure M_3

Hypothesis	**Broad money (M_3 as % of GDP) (Actual result)**	**Expected result**	**Do not accepted**
H_1	Negative	Positive	Rejected
H_2	-	-	-
H_3	-	-	-
H_4	Positive	Positive	Accepted
H_5	Negative	Negative	Accepted
H_6	Positive	Positive	Accepted
H_7	Negative	Negative	Accepted

TABLE 4.14: Results of hypothesis according to measure MC

Hypothesis	**Market capitalization of listed companies (MC as % of GDP)**	**Expected result**	**Do not accepted**
H_1	-	-	-
H_2	Negative	Positive	Rejected
H_3	-	-	-
H_4	Positive	Positive	Accepted
H_5	Negative	Negative	Accepted
H_6	Positive	Positive	Accepted
H_7	Negative	Negative	Accepted

These tables shows all the results of the all hypothesis which are conducted for the study. In the above tables actual and expected results of the hypothesis

TABLE 4.15: Results of hypothesis according to measure DC

Hypothesis	**Domestic credit to private companies (DC as % of GDP)**	**Expected result**	**Do not accepted**
H_1	-	-	-
H_2	-	-	-
H_3	Negative	Positive	Rejected
H_4	Positive	Positive	Accepted
H_5	Negative	Negative	Accepted
H_6	Positive	Negative	Accepted
H_7	Negative	Negative	Rejected

are also mentioned. The table includes the acceptance and rejection of the all hypothesis.

Chapter 5

Conclusion and Policy Implications

This study uses a variety of variables to examine how financial development affects economic growth. An rising amount of empirical research, including studies at the firm, sector, and national levels as well as broad cross-country comparisons, shows a considerable positive association between the efficiency of the financial system and long-term economic growth. Since Goldsmith (1969) first described the connection among financial and economic development 30 years ago, the field has made considerable strides. Rigorous theoretical research has thoroughly outlined many of the mechanisms by which the creation of financial institutions and markets influences and is influenced by economic development.

Pakistan, Bangladesh, India, and Sri Lanka are chosen as SAARC countries in this study. The timeframe of the study is from 2000 to 2020. Financial development is measured by using the broad money (M_3 as a percentage of GDP), domestic credit to the private sector (DC as a percentage of GDP), market capitalization of listed companies, and a few independent variables like inflation, consumer prices (annual%), gross capital formation (as a percentage of GDP), trade (as a percentage of GDP), and trade balance (as a percentage of GDP). All the variables which are used have some impact on the economic growth.

In general, GCF is a major force behind economic growth in any economy, and South Asian nations are no exception. Growth in GCF reflects an increase in the

amount of capital added annually and the development of infrastructure in the economy's productive sector. In the end, this promotes economic growth through a variety of consequences, including as boosting employment, involving cutting-edge technology, raising productivity, and improving industrial output. Such expansion essentially denotes the growth of additions to fixed assets and inventories of goods each year, which contributes to an acceleration of the GDP growth rate.

However, given that Wide Money is deemed to be minor, it is advised that these nations look into how to properly channel the broad money into the real economy in order to guarantee that the money created and channeled are used for domestic economic activity. Therefore, capital flow, weather legal or illegal needs to be monitored and regulated to prevent countries from eventually losing their financial stability.

The DC also have an important role which significantly encourage the economic development and growth in the SAARC countries. As a result, growth in these economies continues to be driven by significant amounts of current government spending and interventions financed by financial sector borrowing or direct market measures. The leadership of these countries and economies continue to finance their costs for extensive development initiatives on a regular basis, in large part from international partners and organizations, which underpins the significance of government spending. As a result, debt repayment and servicing are importantly linked to economic growth.

The results of the study suggest that financial development has a detrimental or negative impact on economic growth. Without the promotion and extension of private sector investment, the futures of nations like Bangladesh, India, Sri Lanka, and Pakistan in terms of growth and development could improve, but not at the expected rate of economic growth.

5.1 Main Findings

Examining how financial development influences economic growth is the main goal of this study. Contrary to what we had anticipated, the study's key finding is that

there is a negative correlation between financial development and economic growth. The results of the other variables are as expected, but the trade balance result is not significant in the model.

5.2 Policy Implications

The major policy recommendations can be derived from the empirical results which are mentioned above. The study's conclusion demonstrate that there is negative impact of financial development economic growth, proving that net investment is not always a direct result of expansion and development of the financial sector. This study makes several crucial policy suggestions.

It is stated that in order to ensure solid prudential lending practices, the supervision of financial intermediaries needs to be strengthened and reformatted because financial development has a negative impact on economic growth. Credits should be given to the profitable businesses. In terms of policy implications, financial system could be improved to support economic growth because they are an important factor in determining the economic cycle.

Also, inflation rate has negative impact on the growth. Economic growth of economy is possible when the inflation rate of the economy is in controlled. It helps to promote the economic growth. Therefore, policymakers should focus on keeping inflation at a modest level. An important element is the stability of inflation rate. For a good partnership or relationship, the government should keep economic inflation under control. Governments must transfer funds from consumption to investment spending in order to make the best use of the available resources. To prevent from too much liquidity, the central banks should also apply some rules and regulations for credit requirements.

In order to achieve and maintain strong economic growth (GDP), policymakers should work to minimize inflation rate at the lowest level achievable. Furthermore, in the case of many financial institutions, it would make sense to implement strict admission restrictions to prevent weak competitors and thinly spread supervision issues.

If the policy makers demands to enhance the economic growth so, then they also have to focus on modern policy, and also developed the advance financial organizations in sector of banks. Also modernize and atomize system with the participation of new and modern technology. The banking institution should also have focused on the gross capital formation which increase the economic growth. The bankers should directly give loans to the firms which also increasing the economic growth.

Additionally, an increase in economic growth and an opening up of trade policy to boost trade openness could be considered as potential policy responses to the development of the financial sector. Promoting political, judicial, and macroeconomic policy improvements is necessary to improve monetary growth. Policymakers need to understand that the SAARC region's underdeveloped financial sector is a result of the region's weak institutional framework. Therefore, institutional complementarity effects must be taken into account before implementing financial sector reforms and openness policies in order to strengthen the financial industry. In the end, this will boost the region's stock market growth and banking sector efficiency, advancing the financial industry as a whole. In conclusion, the governance structure and institutional quality of the banks that dominate the Asian financial system are crucial.

5.3 Limitations of the Study

In this study the time period is limited. This study has a limited time period from 2000 to 2020. The limited time period is selected because the data is unavailable for most of the countries from the previous of this period. Many political or economic events occurred throughout the sample period. One limitation of the study is that it also could have been done region-wise, which were not considered, and it is genuinely difficult to explain too many problems in a single study. In this study selected countries from SAARC region are used. Different methods were also used for more good results.

Because of the limitations mentioned above, region-specific data can be used to develop the model for the results in the future. for example, a comparative analysis

between regions can be performed to better understand this relationship based on region type. Furthermore, researchers can use a range of methodologies to capture the results. When it comes to Pedroni panel co-integration and the Dumitrescu Hurlin panel, causality analysis can be extremely valuable. Furthermore, the ARDL approach can be used to determine causality even if the variables are integrated into a different sequence. Future research can also take into account a variety of aspects. Future studies could utilize a variety of proxies as well.

This study is limited to panel least square analysis. Thus, its extension through country-level analyses based on time series data will give complementary findings about the financial development and economic growth relationship.

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