

EVALUATING THE SUBSIDY FRAMEWORK AND  
ITS EFFECT ON ECONOMIC GROWTH, A CASE  
STUDY OF PAKISTAN.



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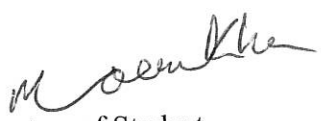
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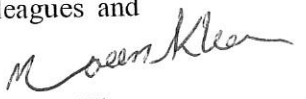
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## **ABSTRACT**

A subsidy is an important ingredient of fiscal policy. It is used by the government to achieve macroeconomic objectives, such as to stabilize the price, to remove market failure, promote positive externality, increase efficiency, encourage investment, reduce poverty, and create employment opportunities in the country. This study aims to evaluate the fiscal framework of the study and its impact on economic growth and inflation in Pakistan. Time series data from 1980 to 2020 has been used to analyze the impact of subsidies on economic growth and inflation by employing Autoregressive Distributed Lag (ARDL) Bounds Testing Approach. The findings of the study indicate that government subsidies have a significant negative impact on economic growth and inflation in Pakistan.

Moreover we also qualitatively analyzed and evaluate the fiscal framework of the subsidy. Therefore we held structured interviews with the relevant stockholders. We found that there is no framework available for subsidies in Pakistan. Impact evaluation is a weak area in the government sector therefore reverent authority was not able to evaluate the impact of subsidies in Pakistan. The study recommends proposing developing a fiscal framework of the subsidy with a sunset clause in the subsidy policy, conversion of indirect subsidy to direct subsidy, monitoring and evaluation of subsidy program, and impact assessments for future role outs.

**Key Words:** Subsidies, Economic Growth, Inflation, Fiscal Imbalances, Sunset clause Trade Openness, ARDL model.

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# CHAPTER 1

## INTRODUCTION

### 1.1 Background

Subsidies play an important role in Pakistan's economy. The government provides subsidies to both consumers and producers on numerous goods and services. Most of the people in Pakistan know the concept of government subsidies but do not know the complete definition. In economic theory, the subsidy is considered one of the most important economic activities. It can be defined as a financial or non-financial benefit by the government to consumers and producers that enables the consumers to purchase goods/ services at prices below the market level and the producers to increase revenue. So, they always expect that government will provide subsidies on a wide range of goods and services. People believe that the provision of subsidies can reduce poverty and increase the welfare of the nation.

In economics, subsidies are usually used by the government to remove market failure, increase the welfare of the state, promote positive externality and stabilize the prices of goods and services. But in Pakistan, it is used as a political tool by the elected government to maximize its voting power. It ignores the long-run economic impact of subsidies on economic growth. (Houthakker 1972)

Government subsidies have long-run costs in the form of fiscal deficit. It is one of the main factors for fiscal imbalances. Mostly, the government argues that through the provision of subsidies, we can achieve our objectives, but there are various alternatives to achieve those objectives.

In Pakistan, well-organized groups have influential power. They are involved in the policy-making process. They influence the government to provide subsidy due to which the government keeps providing unnecessary subsidies.

Currently, the government is providing heavy subsidies to the agriculture sector, energy sector, and automobile in the form of financial support, tax exemptions, tax reductions, and regulatory policy. The outcomes of subsidies to these sectors are not significant. Our agriculture sector is

not modernized and is still underdeveloped. We are facing the problem of energy crisis. Our automobile industry does not grow and cannot compete in the international market. That makes these subsidies futile. There is no time limit for the subsidies and their outcome is also not significant. In Pakistan, we are also giving heavy subsidies to the industrial sector, but its performance is very low when compared to our neighboring countries like India and Bangladesh. The exports sector also enjoys the provision of subsidies, but our exports are very low, as we have an uncompetitive export sector.

## **1.2 Introduction**

A subsidy is defined as a type of incentive or financial support to an individual or industry given by the government in the form of direct cash payment or tax reduction. The basic motives of the government or state to give subsidies are to decrease the burden on consumers and producers. The government provides the subsidy to keep the prices of goods and services below the market level for consumers and reduce the cost of production for the producer. Whereas in economic theory, a subsidy is considered an important economic activity. It can be defined as a financial and non-financial benefit by the government to consumer and producer, which enables the consumer to purchase goods and services at prices below the market level and increase the producer's revenue.

In economics, subsidies are usually used by the government to remove market failure, increase the welfare of the state, promote positive externality and stabilize the prices of goods and services. In classical economics, government intervention creates market distortions. Through subsidies, the government intervenes in the market and creates market distortions. According to classical economists, there will be no market distortions in the absence of government subsidies. They also argue that subsidies create inefficiency in the allocation of resources.

In Economics, we also consider numerous pure public goods as a subsidy. But many public goods have a cost that is imposed on the user, such as road infrastructure. Road infrastructures are financed through toll taxes and excise duties on transport (World Trade Organization, 2007) In some countries, oil taxes and duties are also used to finance the road infrastructure. The government also pays the private producer sometimes for providing goods and services to the consumer. For example, the government is providing electricity to the public at a low cost, which

does not reflect the total cost of production. In the case of provision of public goods and services by the government at low or no cost, it is also considered as a subsidy. For instance, the provision of education and health facilities in the public institutions free of cost or at prices below the private sector institutions is defined as subsidies (Schwartz & Clements, 1999). Some government policies are also considered as a subsidy, such as price floors and price ceiling. Government, sometimes, imposes price floors to increase the prices in order to benefit the producer and impose price ceilings in order to protect the consumer. In this case, the government is not paying to increase the revenue of the producer but the users. (Schluep and De Gorter, 2000).

Tax exemption and the tax cut are also important types of government subsidies (Schwartz and Clements). When the government reduces or levies cut on the tax of any production, it is also considered a subsidy. Sometimes the government gives tax exemption to a farm. It is also considered a subsidy. The definition goes across the boundaries of the concepts that exist in fiscal or national accounts and doesn't restrict an array of government activities to be boxed in the category of subsidies. Having said that, this wide definition is essential to grasp implicit and explicit subsidy components that are in various interventions of government. In many cases, the government gives tax relief and supports financially the private and public sector. Some farms take a loan from the government at a low-interest rate. It is also considered as a subsidy called credit subsidy.

Government subsidies play important role in the development of developing economies like Pakistan and are considered an important fiscal policy tool. They are financial incentives provided to businesses. Developmental subsidies are used to generate revenue and increase the economic growth rate, but non-developmental subsidies are one of the major reasons for fiscal imbalances. (Asghar et al., 2011)

Definition and evolution of government subsidies is a problem in Pakistan. Therefore, before the fiscal budget, there is a hot debate on it in the media. Many well-organized groups having strong positions in the policy-making process pressurize the government to provide subsidies. On the other hand, the government also uses subsidies sometimes for their political purposes to increase the voting power (Houthakker, 1972). But they ignore the economic and social costs of the subsidies. Government subsidies have long-run economic costs in the future (David Victor, 2009), That is the reason the government in Pakistan is facing the problem of fiscal imbalances.

It is a challenge for the government to reform the subsidy policy framework. Pakistan Economic Survey suggests that subsidy spending is increasing in every fiscal budget. It is considered as one of the important factors of fiscal deficit.

The government subsidies spending also has a significant impact on the employment opportunities in Pakistan. According to (Zulfiqar, 2018) the fiscal policy variables such as public spending and taxes have a significant impact on economic growth, poverty reduction, and employment opportunities in Pakistan. The author of the study estimated the relationship between the variables through econometrics models. The estimations showed that government spending has a positive impact on economic growth and a negative impact on employment opportunities.

According to Asghar et al (2011), many studies rejected the statement that subsidies promote the welfare and reduce poverty. In Pakistan, mostly the government provides a generalized subsidy program, which benefits both the poor and rich in the country. It is important to target the most vulnerable groups of the country for the subsidy program to promote social welfare and reduce poverty. The government is providing different subsidies to goods and services. They are giving subsidies on wheat, sugar, electricity, fuel, and utility stores. In the past, the government provided subsidies to the metro and sasti roti. These types of subsidies are known as untargeted subsidies and are one of the reasons for inequality.

There are many reasons for studying government subsidies. First, subsidies are one of the main instruments of fiscal policy. Subsidies affect domestic resource allocation. They are used for the correction of market failure. They are also used to promote positive externalities. Through subsidies, we can achieve social policy objectives, including protecting the poor, changing the distribution of income, and increasing employment in the country. Subsidies are also used for political objectives.

The government is providing subsidies to different sectors of the economy; therefore this study provides a framework to examine that how subsidy policy uses a fiscal policy instrument. So the main objective of the study is to evaluate the outcome of government subsidies and their impact on economic growth. The framework of the study also explores the issue of subsidies and provides the subsidy policy targeting the most vulnerable groups in Pakistan. Subsidies have economic and social consequences; therefore, the framework will recognize these consequences. The proposed framework also tests the hypothesis about the existing fiscal policy framework.

### **1.3 Significance of the Research**

Government Subsidies are given all over the world. It is considered an important economic activity and used as an economic tool for the correction of market failure, stabilizing the inflation, efficient allocation of resources, promotion of social welfare, and for positive externalities in the country (Schwartz & Clements, 1999). They also have an impact on the productivity and efficiency of the economy. So there is very vast literature available on the government subsidies and their impact on economic growth in many countries and that provides reliable evidence on the provision of subsidy programs (Schwartz & Clements, 1999; López & Galinato, 2007; Victor, 2009; Coady et al., 2010; Brahmhatt & Canuto, 2012; Di Bella et al., 2015; He, 2016; Zhao et al., 2018). However, in the case of Pakistan, very few studies are available on government subsidy (Asghar et al., 2011; Trimble et al., 2011; Hamid & Rashid, 2012; Hassan Danish Muhammad Avais Tahir Hafiz Syed Azeem, 2017; Zulfiqar, 2018). However, there is no fiscal framework available on the government subsidies to empirically evaluate the outcome and their impact on economic growth. Therefore, it is important to discuss the fiscal framework for government subsidies and evaluate their economic performance. So this study is designed to evaluate the fiscal framework of government subsidies and examine its impact on economic growth and inflation in the case of Pakistan.

### **1.4 Problem Statement**

This study explores the statement “Evaluating the Subsidy Framework and its effect on economic growth”, A case study of Pakistan.

A few economists consider subsidy as a bad economic activity, because subsidy has a short-term positive impact on the economy, but in the long run, it has a negative impact. This seems to be prevalent in the case of Pakistan as despite the government providing huge subsidies to different sectors of the economy, there is no improvement in the outcome for these subsidies. So it becomes imperative to evaluate the fiscal framework of government subsidies and also the impact of subsidies on economic growth. Unfortunately, as per my knowledge, no academic study is conducted to evaluate the performance of the subsidies framework in Pakistan.

The study also explores the issue of subsidies and provides an analysis of subsidy policy targeting the most vulnerable groups in Pakistan. Subsidies have economic and social consequences; therefore, the study will recognize these consequences while discussing the cost-benefit of such programs. The study will also examine the economic impact of subsidies in Pakistan, therefore, this study is also designed to investigate the impact of the subsidies framework on economic growth and inflation.

### **1.5 Research Questions**

The following research questions will be focused on in this study:

- Is there a subsidy policy framework existing in Pakistan? And who are the main stakeholders in that framework?
- If there is a subsidy policy framework, has it been able to achieve the desired objectives of respective subsidy programs?
- Is the existing subsidies policy framework growth-enhancing and how does it affect macroeconomic variables, i.e. inflation, economic growth, etc.?

### **1.6 Objectives**

- To evaluate the undertaken and ongoing subsidy interventions by the government in the context of objectives and outcomes.
- Analyze the effect of the subsidy on economic growth and inflation in Pakistan.
- Recommend a subsidy policy framework and the most effective policy for achieving the desired goals after the fiscal intervention.

### **1.7 Hypothesis**

The null and alternative hypotheses of this study are given below:

**H0:** There is no impact of subsidies on economic growth

**H1:** There is the impact of subsidies on economic growth

**H0:** There is no impact of subsidies on inflation

**H1:** There is impact of subsidies on inflation



## **1.8 Organization of the study**

This study has been organized into five chapters. The first chapter includes introduction of the study. Chapter two includes literature review of the study. The third chapter includes methodology. Forth chapter includes interpretation of the results and the fifth chapter includes qualitative analysis. The sixth chapter includes conclusion and policy implication of the study.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Introduction

Many studies show that government subsidies have potential impact on economic growth and social welfare (poverty reduction) but due to heavy subsidies most of the developing countries are facing the problem of fiscal deficit. Fiscal deficit leads to inflation in the economy. In many developing countries high fiscal deficit crowding out the private investment in the long run and decreases the employment and output which adversely affects the economic growth and social welfare.

#### 2.2 Subsidies and Economic Growth

According to (Timilsina & Pargal, 2020) in many developed and developing countries government provides huge amount of subsidies energy which leads to significant fiscal imbalances in the economy. it also affect the rich and poor household. In fact mostly energy subsidies affect the wealth of the rich and on the other side it exploits the poor household. Indeed the findings of their study indicate that the removal of energy subsidies reduces the fiscal deficit, increase the revenue and increase the economic growth rate. They concluded that the positive impact of the subsidy removal on the economic growth rate depends on the allocation of saving subsidy. And theses saving from the energy subsidy will be utilized in the investment which increase the GDP growth rate.

Government uses macroeconomic policies such as fiscal policy to provide a platform which leads to higher growth. Therefore Zulfiqar (2018) explored how fiscal policy leads to inclusive economic growth. The study investigated impact of fiscal policy variables such as public expenditure and taxes on economic growth, employment, poverty reduction and income inequality. The relationship among macroeconomic variables, was determined by applying VAR model using secondary data from 1980-2015. The result of the estimation showed that fiscal policy does not have significant impact on economic growth while, government expenditure has negative impact on poverty reduction, income inequality and employment opportunities. On the

other hand the taxation mechanism of the country is not impressive in term of achieving the macroeconomics goals such as higher growth, higher employment opportunities, poverty reduction and income inequality.

The relationship between economic growth, institutional quality and fiscal policy has been examined by (Chaudhary, 2017). They used the data from 1984-2015 to analyze the impact on institutional quality and fiscal policy on economic growth. they employed the ARDL econometric approach to analyze the data. They found that government spending, private investment, institutional and educational quality has significant positive impact on the economic growth.

A study was conducted by Granados et al. (2008) on reforming government subsidies in the new member states of European Union. The main objective of their study was to explain the structural reforms in European Union's economies. These countries removed subsidies. So, the study explains how the subsidies reforms were introduced in agriculture, energy transport and state aid enterprises in the European Union. State aid enterprises subsidies were reduce by 20%, transport and energy subsidies also reduced. But agriculture subsidies increased. The findings of the study explain that European Union economic growth and income increased post agricultural subsidies reform. The findings of the study showed that reforms were difficult to reform when economic growth is low and there is external conditionally on the economy.

Sometimes Pakistan adopts the IMF program and IMF imposes conditionalities on the government. They provide financial package in term of fiscal policy and monetary policy support. Therefore (Bengali & Ahmed, 2002) analyzed the impact of IMF program on the fiscal policy and monetary policy variables. They focused on the concerned variables such as GDP growth, poverty reduction, inflation, unemployment, investment budget deficit, and government spending. These determents have dominant impact on the GDP growth. The findings of their study showed that these macroeconomic variables are stabilized at the cost of GDP growth. They concluded that increase in revenues collection and reduce in the expenditure have influential impact on the budget deficit. They also concluded that mostly government tries to reduce the developmental spending rather than current expenditure. Developmental expenditure plays an important role in the GDP growth of Pakistan economy.

According to (Burnside & Dollar, 2000) who have evaluated the impact of subsidies on economic development in European Union. They used panel data to evaluate the impact of subsidies. They also emphasize on the relationship between institutional quality of the country and the impact of subsidies on the economic development. They concluded that impact of subsidies depend on the institutional quality of the country. They found that subsidies have significant positive impact on the economic development with higher institutional quality. On the side it has insignificant negative impact on the economic development with weak institutional quality.

Research and development activities has significant impact on the economic growth. Therefore (Segerstrom, 2000) examined the impact of research and development subsidies on long run economic growth. Research and development subsidies are considered as an engine of long run economic growth. The result of the study showed that research and development subsidies have positive impact on the long run economic growth and the effect is highly significant. They concluded that research and development subsidies also have positive impact on the research and development expenditure. Therefore these subsidies lead to long run economic growth however it depends upon the vertical and horizontal expenditure.

To defend government subsidies and analyze their economic impact is always a problem. (Schwartz & Clements, 1999) conducted a study on the definition of government subsidies and also investigated their economic performance. They examined why we use government subsidies and what is the mechanism of giving the government subsidies. Their study is based on the data from 1975 to 1990 to investigate the economic impact of government subsidies. They concluded that in most cases it is difficult to justify the government subsidies, because government subsidies are always costly to achieve the economic and social objectives. The government subsidies are one of the main reasons of fiscal deficit. They further inferred that to reduce government subsidies is very important and we can achieve the desirable economic and social objectives through targeted subsidies.

According to macroeconomists economic growth is influenced by both monetary and fiscal policy instruments. But the effectiveness of these policies is different and depends on the situation and requirements of the economy. Therefore (Us Saqib & Yasmin, 1987) examined Some Econometric Evidence on the Relative Importance of Monetary and Fiscal Policy in Pakistan. They focused on the comparison of the monetary and fiscal policies. They used the

data from 1959 to 1985. They found that the coefficient of monetary variables are highly significant and have stronger impact than fiscal policy. They also concluded that subsidies have important impact on the economic growth. They found that the coefficient of subsidies is positive and insignificant at nominal level however they are highly significant positive impact on the GDP growth in real term.

### **2.3 Subsidies for research and development programs**

An empirical study conducted by Zhao et al. (2018) assessed effectiveness of Chinese government's subsidy policy for research and development programs. This study takes into the account the provision of government subsidy to research and development program as they are risky and costly in nature. Therefore these subsidies reduce their risk and cost of production risk. For the research primary data was collected through a questionnaire whereas, GLS econometric model was employed for analysis. The result of the study showed the significant impact of government research and development subsidy policy. The provision of government subsidies to research and development programs generate the willingness to invest more in these activities. The findings of the study empirically concluded that there is a positive relation between size of subsidy and positive outcomes of research and development program.

(Ádám Banai, Péter Lang, Gábor Nagy, 2017) examined the Impact evaluation of EU subsidies for economic development on the Hungarian SME sector. They examined the impact of subsidies on economic development which is proposed for Hungary under the 2007–2013 programming period. They we estimated the impact of the subsidy on employees, real gross value added, real operating profit, real sales revenue, real tangible assets and labor productivity. They found that subsidies have significant positive impact on the number of employees, on sales revenue, on gross value added and operating profit of the beneficiaries. But subsidies have not significant impact on labor productivity. They concluded that the impact of subsidies was positive and highly significant in case of big companies because they receives huge amount of subsidies.

A research on China the impact of fiscal support on earnings management of firms was conducted by He (2016). Earning management is costly and risky for any firm, therefore they expect the financial support from the government. The main objective of the study was to investigate the impact of government fiscal support on the earnings management and to show the empirical evidence that how financial supports effect the earnings management of the firm. He

used the data from 1997 to 2006 for Initial public offering (IPO and seasoned equity offerings SEO). The findings of the study indicated that fiscal support enables firms to better achieve earnings objectives. As fiscal support increases cash benefit for the firm, it reduces the demand for earnings management. The financial support in the form of subsidy and income tax reduction reduce the risk and enables the firms to achieve the desired objectives.

Research and development activates has significant impact on the economic growth. Therefore (Segerstrom, 2000) examined the impact of research and developments subsidies on long run economic growth. Research and development subsidies are considered as an engine of long run economic growth. The result of the study showed that research and development subsidies have positive impact on the long run economic growth and the effect is highly significant. They concluded that research and development subsidies also positive impact on the research and development expenditure. Therefore these subsidies lead to long run economic growth however it depends upon the vertical and horizontal expenditure.

#### **2.4 Subsidies and inflation:**

Electricity subsidy reform is big challenge for the government in Pakistan because both poor household and rich consumers enjoy the subsidy on electricity. Therefore (Khalid & Salman, 2020) who examined the impact of electricity subsidy reforms on Welfare in Pakistan. They used micro-model approach to examine the impact of electricity subsidy on welfare. They highlighted the issue of inefficiency regarding to subsidies. They found that inefficiencies, deadweight loss and welfare are very sensitive toward the change in electricity subsidy while they less sensitive toward the change in prices of electricity. They concluded that subsidy wedge is an important instrument which is used to change in the amount of subsidy rather than change in the prices because it has significant impact of deadweight loss and also benefit the vulnerable group of the society. Moreover they concluded that subsidy wedge has also significant positive impact on the fiscal side as it increase the savings of the economy.

There are many functions of the provision of subsidies such as stabilizing the inflation in the economy, allocating the resources, removing the market failure and promoting the welfare of the nation. Government provides subsidies to achieve these macroeconomic and socioeconomic objectives. Therefore (Rehman & Khan, 2015) examined the Determinants of Food Price Inflation in Pakistan. They focused to identify the important variables which have significant

impact on the inflation in Pakistan. They used the data from 1990 to 2013. They employed different econometric approach to analyze the determinants of inflation. They found that indirect taxes and the export have significant direct impact on the inflation. However subsidies and GDP growth has significant negative impact on the inflation in Pakistan.

Another study conducted on Pakistan's fiscal policy evaluated its impact on employment generation. Mahmood and Khalid (2013) used secondary data from 1980 to 2010 to analyze the relationship between fiscal policy and employment. They used Johansen Co-integration approach to investigate the impact of fiscal policy variables on employment. The findings of their research showed that fiscal policy variables such as government expenditure and inflation have negative impact on employment. On the other hand, the foreign direct investment FDI has positive impact on employment. According to the author of the study the negative impact of government expenditure on employment is because of high non-developmental expenditure, such as spending on defense, spending on war against terrorism and spending for political goals, in the country.

A study was conducted by(R. E. A. Khan et al., 2011) who examined the impact of Structural Adjustment Program (SAP) on macroeconomic variables of Pakistan. They used the time series data from 1981-2001. The focused on four policy objective of SAP such as reduction in budget deficit, increase in indirect taxes, adjusting the exchange rate and reducing subsidies. they examined the impact of these policy instruments on inflation, employment, income inequality, and per-capita income. They found that decrease in budget deficit has negative impact on inflation, employment, and income inequality. The impact of increase in indirect tax has negative impact on the employment, income inequality, per capita income and has positive impact on the inflation. They also found that the impact of adjusting exchange rate has negative impact employment and has positive impact on inflation. They concluded that decrease in the volume of subsidies also leads to increase inflation rate, decrease employment, increase income inequality, and percapita income in Pakistan. The findings of the study concluded that IMF SAP has significant negative impact on the socioeconomic variables.

A study was conducted by(Mckean & Taylor, 1991) on the Sensitivity of the Pakistan Economy to Changes in Import Prices and Profits, Taxes or Subsidies. They examined the inflationary effect domestic prices of primary inputs. They used input output model to examine the inflation

impact of the concerned variables. They examined the impact tax rates, subsidies, import prices and trade duties. They found that changes in the tax rates, subsidies, import prices and trade duties have influential impact on the prices of domestic industrial sector. They also concluded that import prices and trade duties has positive impact on the cost of import which leads to increase in domestic input price and inflation in the economy.

### **2.5 Subsidies To Power Sector:**

Many studies showed that power sector is enjoying subsidy programme continuously. The provision of these subsidies to power sector has significant impact on the fiscal deficit and circular debit. According to Trimble, Yoshida, and Saqib (2011) who investigated the impact of distribution and fiscal implications of electricity tariff adjustment. The data was obtained from Pakistan household survey from 2008 to 2011. The findings of the study showed that 90% of the households receive subsidized electricity and it is one of the main reasons of fiscal imbalances. The empirical result of the study suggests that it is important to improve the tariff incidence benefits. In Pakistan the subsidy is used to reduce the cost of production of electricity but it also increases the fiscal burden on economy. Therefore, tariff adjustment is important to decrease the fiscal burden of electricity subsidies.

### **2.6 Subsidies on the Efficiency and Productivity**

According to many economist subsidies has significant impact on the efficiency in the economy. Therefore (Hudon & Traca, 2011) have examined the impact of subsidies on the Efficiency in Microfinance. They found that the impact of subsidies on the efficiency is positive and significant. The recipients of the subsidy are more efficient. However continuous subsidies and dependency of microfinance institution on the subsidy may hurt the efficiency and encounter the productivity level. And for some institutions the effect is negative because they receive huge amount of subsidies.

A study conducted by Lopez and Galinato (2006) on the impact of government subsidies to private goods: rural development and per capita income in Latin America. To analyse the impact of government subsidies to private goods, they collect the data from rural sector in 15 Latin America states from 1985 to 2001. They used Econometric model to estimate the data and separated the provision of subsidy to private goods from the provision of public goods. The findings of the study explains that provision of government subsidies to private goods have



negative impact on the rural development and reduced the per capita income. They concluded that provision of subsidy to private goods have reduced the investment, employment and productivity in the economy.

### **2.7 Subsidies on petroleum products**

Coady, et al. (2010) conducted a study on petroleum products subsidies. Subsidies on Petroleum products have been increased in the world over. The IMF is concerned about the petroleum subsidies because these subsidies are burden on the fiscal budget and cause fiscal deficit. They concluded that subsidies on petroleum products were \$60 billion in 2013 and have increased to \$250 billion. The authors of the study introduced the framework for the subsidy policy. According to the researchers it is important to reduce the subsidies on petroleum products because there are two major benefits of the reduction of the subsidies 1. Higher revenue, and 2. Able to address climate change. They also concluded that subsidies on petroleum products always benefit the rich household, hence it is important to target the most vulnerable groups and focus on the socioeconomic sector. They said that petroleum products should be recorded transparently, should be measured, analyzed and separated in the budget document.

A study was conducted by Vector (2009) on the politics of fossil fuel subsidies. According to the researcher of the study the government subsidies have potential impact on environment and economic growth in the economy. Therefore it is important to address the subsidy policy reforms the paper analyzed that well organized groups are usually benefited from these policies and they create barriers to reform government subsidy policy. The paper also concluded that subsidies are costly service which is provided by government and government ignores long run economic cost of subsidies and their impact on economic growth. On the other side these subsidy programs make more aware of their interest and objectives. Well organized group are involved in the policy making process and sometime they forced the government to provide the relief and political benefit. Therefore government provides the subsidies, as they are one of the easiest way to satisfy the interest groups.

### **2.8 Export subsidies**

A research on the market reaction to export subsidies in the USA was conducted by Desai, et al. (2009). The aim of their study was to investigate the effects of export subsidies on economic activity. In US government spends huge amount on exports subsidies. Therefore in 1997

European Union registered complaints against the USA in WTO. The European Union argued that US government is providing illegal subsidies on exports. The WTO forced USA to remove these heavy exports subsidies. After the removal of these subsidies USA stock prices fell sharply. So the researcher of the study explains that government provides export subsidies, because the lobby in the country wants to force the government to make trade policies and focus on the export. The exporter directly benefited from these subsidy policies. They analysed the data from 1992 to 1997. When the data was examined in the econometric model, they found that the complaint against USA causes sharp decline in the stock prices. They concluded that US exporter depend on the export subsidies because it increases their profits.

## **2.9 Conclusion:**

The existing studies showed that government subsidy is an important economic activity, and it has influential impact on economic growth. Many studies showed that subsidy has potential impact on economic activities. On the other side numerous studies showed that it has negative impact on the economics activities. In case of Pakistan very few studies were conducted on subsidy, but no study is available on the framework of government subsidies which empirically evaluate the outcome and their impact on economic growth. Therefore, it is important to discuss the fiscal framework for government subsidies and evaluate their economic performance. So this study is designed to evaluate the fiscal framework of government subsidies and its impact on economic growth

## CHAPTER 3

### METHODOLOGY

#### 3.1 Methodology and Econometric Model

This chapter consists of three sections. In the ‘first section,’ we have explained the theoretical background of the model, model specification, and definition of the concerned variables. The second section gives a detail explanation of the methodological framework. This section also explains the “unit root” and “ARDL Co-integration techniques” being used for estimations. The last section of the chapter discusses data and the source of data

#### 3.2 Theoretical Background and Specification of the Model

The main purpose of this study is to examine the importance of government subsidies and its impact on economic growth. For this purpose, we follow the study of Barro (1990), in which he has presented economic growth as a function of capital and government spending in a Cobb-Douglas form. According to his growth model, government spending has a significant impact on economic growth and has been considered as one of the important tools of fiscal policy. The model also explains the reason that the improved taxation system leads to an increase the investment and increases growth rate. The following equation is the basic form that was postulated by him and we have adopted it for our theoretical context.

$$Y = AK^{1-\alpha}S^{\alpha} \dots\dots\dots 1.1$$

Where,

$$0 < \alpha < 1$$

**Y:** GDP growth rate

**A:** Technology,

**K:** Gross fixed Capital formation

**S:** Government subsidies

The Economic growth model described as a function of capital and government spending in the Cobb-Douglas model in equation 1.1 can be written in the log-linear form as follows;

$$\log Y = \log A + \alpha \log S + (1-\alpha) \log K \dots\dots\dots 1.2$$

Now if we convert,  $\log A = A_0$ ,  $y = \log Y$ ,  $S = \log S$ ,  $K = \log K$  then the equation becomes

$$y = A_0 + \alpha S + (1-\alpha) K \dots\dots\dots 1.3$$

Using the context of Barro (1990) model where government spending has a significant effect on economic growth we have replaced government expenditures by subsidies which are also one of the important fiscal policy tool. There are numerous studies which have used the Barro model to examine the relationship between government spending and economic growth. These include the studies of (Alexiou, 2009; Carboni & Medda, 2011; Connolly & Li, 2016; d’Agostino et al., 2016; Fountas, 2001; Fund, 1972; Lin, 1994; Zeng & Zhang, 2007) . On the other hand, there are only a few people which have examined the impact of government on economic growth using the Barro Model of endogenous growth. In our study, we used the Barro model of 1990 to examine the relationship between government subsidies and economic growth in Pakistan. It has been cleared by vast literature, that many people have used the Barro model, but in the case of Pakistan, very rare studies have used the (Barro, 1990) model to examine the relationship between government subsidies and economic growth. In Pakistan (Iqbal & Zahid, 2017; Shahbaz et al., 2009) who have attempted to identify the determinants which affect economic growth by employing the Barro (1990) model of endogenous growth with some modifications but they have not used subsidies as one of the determining factors. We have used the Barro model with some necessary modifications. We have followed the procedure of (Mohammed & Ehikioya, IMOUGHELE, 2015) who assume that the other variables affect economic growth through their impact on the total factor productivity. So following these studies, we assume that government subsidies, labor force, trade openness, and gross fixed capital formation effect on economic growth.

$$GDP_t; Y_t = \beta_0 + \beta_1 + \beta_2 L + \beta_5 TO$$

$$Y_t = \beta_0 + \beta_1 + \beta_2 L + \beta_5 TO \dots\dots\dots 1.4$$

**Variables:**

**GDP:** Gross Domestic Product rate

**S:** Government Subsidies

**TO:** Trade Openness

**L:** Labor Force.

**K:** Gross Fixed Capital Formation

Substituting equation from equation 1.3 to equation 1.4 and modifying the coefficients, we introduce the following modified form of our new Barro model.

$$Y_t = \beta_0 + \beta_1L + \beta_2S + \beta_3K + \beta_4TO \dots\dots\dots 1.5$$

Now the econometric form of above model can be written as

$$Y_t = \beta_0 + \beta_1L + \beta_2S + \beta_3K + \beta_4TO + \varepsilon_t \dots\dots\dots 1.6$$

Where  $\varepsilon_t$  is the error term.

The concerned variables in our study which have been used are briefly explained.

**Y= GDP growth rate;** In this study economic growth is considered as the endogenous variable in the modified model. Economic growth is defined as the value of all final goods and services that are produced inside the boundary of the country during a given time period. In this study, we follow Barro (1989, 1990) to use the growth rate of GDP to measure economic growth.

**S= Government Subsidies;** Government subsidies are measured as the total public spending as a share of GDP. Barro (1990) has used the share of government expenditure to examine the economic growth, whereas in this study we have used the subsidies for this purpose. The main objective of this study is to examine the relationship between government subsidies and economic growth in Pakistan. The government provides subsidies to increase the welfare of the society, reduce market failure and stabilize the price of the goods and services in the country. Government subsidies are financed through tax revenue and borrowing (both domestic and

international borrowing). The government subsidies( spending) is expected to have a negative sign with economic growth since it creates dependencies and inefficiencies in the form of the fiscal budget deficit and will cause lower the confidence of the government. (Gebremichael, 2014; Hamid & Rashid, 2012; López & Galinato, 2007; Schwartz & Clements, 1999)

**TO = Trade Openness;** Trade openness is considered as one of the important effective economic tools to encourage economic growth. It provides an indicator of how much trade is taking place with the rest of the world. It is calculated as the sum of total exports and total imports divided by the gross domestic product (GDP). It can be written in mathematical form;

$$TO = \frac{X+M}{GDP}$$

Where

TO= trade openness,

X= total exports

And,

M= total imports.

Most of the empirical studies have concluded an ambiguous effect of “trade openness” on “economic growth”. But many others have found a positive and significant effect of trade openness on economic growth for example (M. A. Khan & Qayyum, 2007). It is considered as one of the important economic activity and an effective tool for economic development. Through trade openness, countries like Pakistan have access to modern technology and raw material for more growth and exports. It means that trade openness pushes the countries toward specialization. Therefore it reduces the cost of production and enhances the availability of modern technology which increases of capital productivity and encourages economic growth.(Adhikary, 2010)

**K=Gross fixed Capital Formation;** The empirical studies showed numerous important determinants of economic growth and gross fixed capital formation is considered one of the determinants of economic growth. It enhances the factor productivity and economic growth of

the country. It is considered as one of the main determinants of economic growth., therefor we included gross fixed capital formulation as a variable in our model. This variable is expected to have positive and significant impact on economic growth. For example, (Gibescu, 2013) have shown that gross fixed capital formulation has a positive and significant impact on economic growth.

**L: labor force participation:** Labor force participation is considered one of the important determinants that enhance economic growth. An increase in the labor force participation increases employment and reduces poverty, which means that it increases the welfare of the society, increases human resource availability, and enhances the economic growth of the country. In the study, we used the variable of labor force participation in our model to examine the relationship between labor force participation and economic growth. So it is expected that labor force participation will have a significant impact on economic growth.

### **3.3 Inflation**

Inflation is one of the important macroeconomic variables in Pakistan's economy. it is considered one of the important issues because it is economic and social consequences. Moreover, it is closely linked to economic growth, poverty, trade openness, investments, taxation, and subsidies. A higher inflation rate in the economy badly affects the economic growth of the country. In recent years, there has been a growing interest in inflation among governments, revenants stakeholders, policymakers, and macroeconomists. They used monetary policy and fiscal policy instruments to stabilize the inflation in the economy and they attempt to reduce its impact on the economy. They reduce the interest rate, taxes, and provide subsidies to stabilize inflation. In Pakistan governments mostly used subsidies to reduce inflation. They provide subsidies in the form of direct subsidy, indirect subsidy, and tariff subsidies. These subsidies enable the consumers to pay less than the market prices because the government pays for consumers. And also enable the producers to produce at lower cost and reduce their cost of production. The provision of indirect subsidy and tariff subsidies in Pakistan reduces the fuel prices, goods, and services. It also increases the value of money as it increases the purchasing power parity. Therefore subsidies in Pakistan are used to stabilize the inflation rate in the economy. The existing empirical studies showed that a rise in inflation reduces the purchasing power parity and increases poverty in the country. Therefore one of the main objectives of government subsidies is

to stabilize inflation, remove the market distortions, promote positive externalities, and promote the welfare of the society. Therefore we have estimated an inflation model in our study because government subsidy is one of the important determinants of inflation and we are interested to examine the relationship between government subsidies and inflation. We followed the model of (Lim & Sek, 2015) to check the relationship between these two macroeconomics variables.

$$Inf_t = \beta_0 + \beta_1TA + \beta_2S + \beta_3Ex + \beta_4Bd + \beta_5MS + \varepsilon_t \dots\dots\dots 1.7$$

$$Y_t = \beta_0 + \beta_1TA + \beta_2S + \beta_3Ex + \beta_4Bd + \beta_5MS + \varepsilon_t$$

**Variables**

**Inf:** Inflation

**TA:** Total Advances:

**S:** Government Subsidies:

**Ex:** Exchange rate

**Bd:** Budget deficit

**Ms:** Money Supply

The concerned variables in our study which have been used are briefly explained.

**Inf= Inflation:** Inflation is defined as a continuous increase in the general price level in the economy, it also means an increase in prices, a decrease in purchasing power parity, and a decrease in the value of money. Inflation is a serious issue in Pakistan's economy because it has economic and social consequences. According to (Ahmed, 2013; Lim & Sek, 2015) inflation directly affects economic growth, poverty, and income inequality in the economy. It is related to interest rate, money supply, subsidies, taxes, budget deficit, and exchange rate in the economy. One of the main objectives of this study is to examine the relationship between government subsidy and inflation in Pakistan because one of the main objectives of government subsidy is to stabilize the prices in the economy. (Schwartz & Clements, 1999)



**TA= Total Advances:** Security and nature-wise weighted average lending rates/financing rates for conventional banks are considered one of the main determinants of inflation in Pakistan. Weighted average lending rates will affect the total credits in the economy. When the weighted average lending rates decrease, it will increase total credits. Therefore total credits will affect the growth rate and inflation in the country. Therefore we have taken the data of total advances as a percentage to examine its impact on inflation.'

**S= Government Subsidies;** Government subsidies are one of the important determinants of inflation in Pakistan. This study aims to examine the impact of government subsidies on economic growth and inflation with other explanatory variables. Numerous studies showed the functions and objectives of the provision of government subsidies. However, the purpose of the provision and allocation of subsidies is different in different countries. For example, some countries provide subsidies to increase the efficiency in the country (Hudon & Traca, 2011) and other providers to stabilize the inflation in the country (Rehman & Khan, 2015). According to (Schwartz & Clements, 1999) the government provides subsidies to increase the welfare of the society, reduce market failure and stabilize the price of the goods and services in the country. Government subsidies are financed through tax revenue and borrowing (both domestic and international borrowing). Government subsidies are expected to have a significant impact on inflation. (Shafiu & Salleh, 2020)

**Ex=Exchange rate:** it is the price/value of one currency of the economy versus another currency of another country. Many studies (Ahmad & Ali, 1999; Asad et al., 2012; *Siddiqui and Akhtar*) showed that it is one of the important determinants of inflation. When the exchange rate of the country is increasing or decrease, it also affects the prices of the goods and services in the economy. Therefore we focused on the relationship between the inflation and exchange rate in Pakistan.

**Bd=Budget deficit:** Budget defect occurs when the spending exceeds the revenue in the country. The persistent budget deficit in the economy is a serious issue. Many empirical studies (Aamir, 2015; Chaudhary et al, 2018; Winter 1995, Elev," 1995; Samimi & Jamshidbaygi, 2011) have examined the relationship between budget deficits and inflation. According to many economists fiscal deficits damage an economy. Sometimes it pushes the country toward recession and depression. When the economy is facing the problem of the budget deficit, it lowers the

confidence of the government, increases inflation, increases unemployment, and increases poverty.

Large fiscal deficits and budgetary imbalance are the major macroeconomic issues over the last three decades for Pakistan and it leads to effect the other macroeconomic variables such as economic growth, employment, investment, and inflation.

**Ms=Money Supply:** Money supply is another important determinant of inflation in our study. Therefore we are interested to examine the impact of subsidies on inflation with money supply. Moreover, the money supply is directly linked with inflation. Change in money supply leads to change the inflation in the economy and change in money supply is because of the budget deficit. The government prints the money to finance the budget deficit.

Equation 1.6 shows the growth equation of the economy and also shows that GDP growth depends on the government subsidies, labor force, gross fixed capital formation, and trade openness. We modified the earlier model by including the subsidy in our model because subsidy has not been discussed much with growth context in Pakistan yet.

Further, we also used subsidy in our models for inflation determinants in equation 1.7 because the empirical studies showed that one of the main purposes of the provision of government subsidy is to stabilize the price in the economy

The data for GDP growth has been taken as the initial Gross Domestic Product (At current factor Cost)(FC) minus final Gross Domestic Product( At current factor Cost)(FC) divided by final Gross Domestic Product( At current factor Cost)(FC) multiply 100. The data for the concerned variable has been considered as the current factor cost (FC). So the data for other variables have been taken as current factor cost (FC). The data for concerned variables have been taken from Pakistan Economic Survey. The data for inflation has been taken from Pakistan Economic Survey through the supplied method.

The data for government subsidy has been used from national accounts measured on current factor cost (FC). The data for Gross Fixed Capital Formation is also taken at current factor cost (FC). The data for Gross Fixed Capital Formation (GFCF) in Private, Public, And General Government sectors by economic activity at current market prices has been used. Here we do not

use Gross Fixed Capital Formation (GFCF) separately for Private, Public, and General Government economic activities and this variable has been used in our model as an independent variable. The data for trade openness has been used at the current market price. Trade openness is the sum of total export and total import divided by GDP (current).

Government subsidies, interest rate, exchange rate, and budget deficit are on the main determinants of inflation. So to examine the relationship between interest rate and inflation variables we used total advances as a proxy for interest rate. The data for budget deficit has been used as a percentage of GDP growth.

The ARDL approach has been used to examine the relationship between the concerned macroeconomic variables. We used the ARDL approach instead of another econometric approach for the data under the consideration that all the variables are stationary at a level and first-order difference.

ARDL approach is preferable in case of comparison among the concerned variables. ARDL approach was also used to capture short-run as well as long-run cointegration among the variables. The ARDL model based on the work of (Pesaran, 2008; Pesaran et al., 2001) can be written:

$$Y_t = \beta_0 + \sum_{i=1}^p \Delta Y_{t-1} = \sum_{i=0}^q \theta X_{t-1} + \beta_1 Y_{t-1} + \beta_2 X_{t-1} + \varepsilon_t \dots \dots \dots 1.8$$

The ARDL approach has been used to examine the long run as well as the short run relationship between the time series variables. The above model has been broken into two different components. The first term (component) in equation 1.8 expresses the traditional ARDL short-run terms whereas the second component expresses the long-run terms.

### 3.4 Econometric Approach

In this section of the chapter, we discuss an overview of the econometric methodology which have been used in our study. In the section, we provide a description of the econometrics techniques such as unit root test, ARDL Bound Testing approach for cointegration, Diagnostic test technique, Error Correction Model, and CUSUM techniques. We also specify the concerned

econometric models in this section of the chapter. We also discuss the data and source of the data in this chapter.

In this study, we are interested to compare the understudied macroeconomic variables such impact of government subsidy on economic growth and also examine the impact of government subsidy on inflation. Therefore we employ a dynamic autoregressive distributed lag (ARDL cointegration) model. The ARDL approach enables us to compare the relationship between the variables. It also provides short-run as well as long run relations between the concerned variables. For the ARDL approach it is very important that the data/series must be stationary at a level I(0), or first-order difference I(1) but not on the second difference I(2). It is the first condition of the ARDL approach that the variable must be stationary. Most of the time series data is not stationary or the has a unit root. Therefore we employ the ADF unit root test to check the stationary of the series at level or first order but not on second difference before applying the ARDL approach.

### 3.4.1 ADF Test for Unit Root

As it is usually possible, most time series data is not stationary. Sometimes a time series data affected by past accidents are said to be non-stationary. The past pattern of the data affects the future pattern because the future pattern depends on the influence of the past pattern of the data. Therefore it is important to check the stationery of the time series data or the integration order for related variables. For this purpose, the "Ducky Filler" (DF) test is used, which was introduced by "Ducky & Filler" in 1985. The Aggregate Dickey Filler (ADF) test solves the problem of serial correlation of error terms by incorporating a lag dependent variable to the equation as an additional explanatory variable.

The generalized form of the ADF equation is given below:

$$\Delta Y_t = \beta_0 + \beta_1 t + \beta_2 Y_{t-1} + \sum_{i=1}^p Y_{t-1} \Delta Y_{t-1} + \varepsilon_t \dots \dots \dots 1.9$$

Where  $i = 1, 2, 3 \dots n$

Where  $Y_t$  denote time series,  $\beta_0$  indicate an intercept term,  $t$  represents time trend,  $\Delta$  indicate change/difference,  $\beta_1$  and  $\beta_2$  are the parameters which are to be estimated, and  $\varepsilon_t$  represents white noise error term.

To test the hypothesis we estimate the difference from the above equation

**H0:**  $\rho \geq 0$  (non-stationary)

**H1:**  $\rho < 0$  (stationary)

**H0** represents the Null hypothesis which states the series is not stationary (has unit root) and it will be compared with the alternative hypothesis (represented by **H1**) which states that the series is stationary. We reject the null hypothesis if the p-value is less than 0.05 and it means that the series is stationary at level or first order. We do not reject the null hypothesis if the p-value is greater than 0.05 and it means that series is not stationary.

### **3.4.2 ARDL Cointegration Approach**

The main objective of this study is to evaluate the fiscal framework of the subsidies and also examine their impact on economic growth and inflation. We are interested to examine the short-run as well as long run impact of subsidies on economic growth and inflation. The empirical studies show that one of the main objective of the provision of subsidies is to stabilize the inflation in the economy. Therefore we estimated an inflation model too. We adopted the (Lim & Sek, 2015) inflation model. We modify the adopted model by adding subsidies as the main variables. We can examine the relationship by employing the ARDL approach. In this section, we provide a quick overview of the ARDL approach. ARDL approach is developed by (Pesaran, 2008; Pesaran et al., 2001). The ARDL approach enables us to simultaneously estimate both long-run and short-run relationships between the time series variables. It also estimates the cointegration among the concerned variables and also may include both endogenous and exogenous variables. We need two things before employing the ARDL approach. First, we used the unit root test to check stationary in the series.

Second, we select the appropriate number of lags of the dependent variable (denoted by  $p$ ) and the regressor/s (denoted by  $m$ ) by employing the information criteria like Akaike (1969, 1973) Information criterion (AIC), Schwartz Bayesian (1978) Information Criterion (SC) or The Hannan Quinn (1979) Criterion (HQ). Therefore the model should be based on those appropriate number of lags estimate by the information criteria.

In this study, we prefer the ARDL approach to other econometric techniques because it is used to estimate cointegration among the concerned variables for a small sample size. Second, it is also useful because a small sample size creates biasedness and it controls that biasedness.

### 3.4.3 ARDL Model Specification

To investigate the impact of government subsidy on growth and inflation with some other concerned variables in both equations (1.1 and 1.2), we employ the ARDL approach. It is an OLS model which consists of lags both dependent variables ( $Y_t$ ) and independent variables ( $X_t$ ).

The ARDL model for both growth and inflation can be written as:

$$Y_t = \beta_0 + \sum_{i=1}^p \beta_1 \Delta Y_{t-1} + \sum_{i=0}^q \alpha_1 \Delta X_{t-1} + \varepsilon_t$$

$$\Delta Y_t = \beta_0 + \sum_{i=1}^p \beta_1 \Delta Y_{t-1} + \sum_{i=0}^q \beta_1 \Delta X_{t-1} + \alpha_1 Y_{t-1} + \alpha_2 X_{t-1} + \varepsilon_t$$

#### GDP growth model

$$\begin{aligned} GDP_t = & \beta_0 + \sum_{i=1}^p \beta_1 \Delta GDP_{t-1} + \sum_{i=1}^p \beta_1 \Delta L_{t-1} + \sum_{i=1}^p \beta_1 \Delta S_{t-1} + \sum_{i=1}^p \beta_1 \Delta K_{t-1} + \sum_{i=1}^p \beta_1 \Delta TO_{t-1} \\ & + \alpha_0 GDP_{t-1} + \alpha_1 L_{t-1} + \alpha_2 S_{t-1} + \alpha_3 K_{t-1} + \alpha_4 TO_{t-1} + \varepsilon_t \end{aligned}$$

#### Inflation model

$$\begin{aligned} Inf_t = & \beta_0 + \sum_{i=1}^p \beta_1 \Delta Inf_{t-1} + \sum_{i=1}^p \beta_1 \Delta TA_{t-1} + \sum_{i=1}^p \beta_1 \Delta S_{t-1} + \sum_{i=1}^p \beta_1 \Delta Ex_{t-1} + \sum_{i=1}^p \beta_1 \Delta Bd_{t-1} \\ & + \sum_{i=1}^p \beta_1 Ms_{t-1} + \alpha_0 Inf_{t-1} + \alpha_1 TA_{t-1} + \alpha_2 S_{t-1} + \alpha_3 Ex_{t-1} + \alpha_4 Bd_{t-1} \\ & + \alpha_5 Ms_{t-1} + \varepsilon_t \end{aligned}$$

The above model is autoregressive because the dependent variable ( $Y_t$ ) is explained by the lag value of itself. It is also distributed because the dependent variable is also explained by the lag value of the independent variable ( $X_t$ ). The model also included the current values of independent variables ( $X_t$ ). So the above models are specified for the combination of the concerned variables at I(0) and I(1), but not at I(2).

#### **3.4.4 Bound Testing Approach**

For this study we have time-series data which is stationary at level  $I(1)$  and the first difference  $I(1)$  but not at the second difference  $I(2)$ . In this case, we use ARDL bound test. ARDL bound test developed by (Pesaran et al., 2001). It is used to estimate the long-run cointegration among the variables. When the coefficients of the variables are jointly significant, it means that the dependent variable ( $Y_t$ ) and independent variables ( $X_t$ ) are cointegrated in long run. The null hypothesis ( $H_0$ ) of the bound test states that there is no long-run cointegration between the concerned variables. We accept the null hypothesis ( $H_0$ ) when there is no long-run cointegration between the variables.

#### **3.4.5 Diagnostic Tests**

In this study, we use time-series data and with the time series data, there is a problem of autocorrelation, instability, non-normality, and heteroskedasticity. These problems are very serious because they can affect our results. We employ a diagnostic test to check these problems in the series. For the autocorrelation problem, we employ the Breusch Godfrey LM test. The CUSUMSQ test is also employed to check the instability of coefficients. CUSUMSQ test plots the graph of the cumulative sum of the square of the recursive residuals with the critical lines which are significant at 5%. The stability exists in the coefficient of the variables if the line of cumulative sum square of the recursive residuals is inside the middle of the two critical lines.

#### **3.5 Data and Source of Data**

In this study, we use the time series data from 1980 to 2020. The data has been taken from Pakistan Economic Survey. In this study, we have two models (GDP growth model and Inflation model). Therefore we have two dependent variables i.e. GDP growth and inflation.

In the GDP growth model, 1.6 GDP growth is our dependent variable while Government subsidies(million), Trade openness (% of GDP), civilian labor force participation (million), and Gross Fixed Capital Formulation (GFCF million) are the independent variables,. In inflation model 1.7 Inflation is our dependent variable while Government subsidies, exchange rate, total advance, and the budget deficit (percentage of GDP) are independent variables. In both model government subsidies is the main independent variable.

However, to emphasize on the qualitative analysis we have collected primary data through structured interviews. Therefore we hold structured interviews with government officials, experts, and macroeconomists to get the answers to the questionnaires.



## **CHAPTER 4**

### **EMPIRICAL RESULT**

#### **4.1 Introduction**

This chapter is based on the interpretation of the empirical result. As the main objective of this study is to investigate the impact of subsidies on economic growth (GDP) and inflation in Pakistan. Therefore we used two models to achieve our objective. In the first model, we used economic growth (GDP) as a dependent variable and subsidies, gross fixed capital formation, labor force, and trade openness as explanatory variables. In the second model, we used inflation as a dependent variable and subsidies, total advances, exchange rate, and budget deficit as an explanatory variable. ARDL approach has been explained in the previous chapter has been employed on the time series data for the concerned variable. We employed the ARDL approach for both growth and inflation model to get short-run and long-run cointegration. Moreover, the following estimation will be utilized and explained.

- **Unit Root Test**
- **Var Lag Selection Criteria**
- **ARDL Long Run Test**
- **ARDL Bound Test**
- **ARDL Short Run Or ECM Regression**
- **ARDL Diagnostic Test**

## 4.2 Test for Unit Root

**Table 4. 1** Unit Root Test Results

<b>Variable</b>	<b>t-Statistic</b>	<b>Prob.*</b>	<b>Order of integration</b>
<b>GDP</b>	-7.780521	0.0000	I(1)
<b>Inf</b>	7.780416	0.0000	I(1)
<b>S</b>	5.809546	0.0000	I(1)
<b>Bd</b>	-6.295233	0.0000	I(1)
<b>LF</b>	-7.189241	0.0000	I(1)
<b>K</b>	-6.405665	0.0000	I(1)
<b>Ex</b>	-5.412548	0.0004	I(1)
<b>TA</b>	-5.396038	0.0001	I(1)
<b>TO</b>	-5.370597	0.0001	I(1)
<b>M2</b>	-5.880877	0.0001	I(1)

ADF unit root test has been applied on the understudied variables to check the stationarity of the time-series data. From the above table 5.1, it is clear that variables are stationary at the first-order difference. All of the variables are non-stationary at a level while they are stationary at the first-order difference. The p-value of the GDP growth rate, inflation, subsidies, labor force, Gross fixed capital formulation, trade openness, budget deficit, exchange rate, and total advances is less than 0.05 which means that the data of these variables are stationary at the first-order difference. Therefore we are able to use the ARDL model in the study instead of other econometrics models because for the ARDL approach the time series data must be stationary at level, first-order difference, or the mixture of both (level and 1<sup>st</sup> order difference) to analyze the relationship between the variables.

### 4.3 Impact of Subsidies on Economic Growth

#### 4.3.1 VAR Lag Order Selection Criteria

**Table 4. 2** Var Lag Order Selection Criteria Result

<b>Lag</b>	<b>LogL</b>	<b>LR</b>	<b>FPE</b>	<b>AIC</b>	<b>SC</b>	<b>HQ</b>
<b>0</b>	-1188.092	NA	7.01e+21	64.49148	64.70917	64.56822
<b>1</b>	-1021.237	279.5954	3.33e+18	56.82362	58.12977*	57.28410
<b>2</b>	-988.4446	46.08668	2.36e+18	56.40241	58.79702	57.24662
<b>3</b>	-946.2116	47.94015*	1.15e+18*	55.47090*	58.95396	56.69884*

\* indicates lag order selected by the criterion

**LR:** Sequential modified LR test statistic (each test at 5% level)

**FPE:** Final prediction error

**AIC:** Akaike information criterion

**SC:** Schwarz information criterion

**HQ:** Hannan-Quinn information criterion

ARDL models are very sensitive to lag, therefore it is very important to determine the appropriate lag length by using lag selection criteria. To select the optimal lag for our ARDL model we apply the VAR model. The results are shown in the above table 5.2 that 3 lags are the appropriate lag in our study for the AIC and HQ information criteria, so 3 lags will be used to incorporate in ARDL estimation.

#### 4.3.2 Long Run estimates of GDP growth employing ARDL approach

**Table 4. 3** Long Run Result of the Coefficient employing ARDL Approach

Variable	Coefficient	Std. Error	t-Statistic	Prob.
<b>S</b>	-4.39E-05	1.94E-05	-2.259075	0.0358
<b>K</b>	-1.23E-06	1.65E-06	-0.749053	0.4630
<b>LF</b>	1.570237	0.809819	1.938999	0.0675
<b>TO</b>	141.4360	31.30897	4.517427	0.0002

From the above table, it is clear that the coefficients of government subsidies(S) have a negative impact on the growth rate and are statistically significant. Subsidies are negatively related to the GDP growth rate which is shown in the above table, which means that a 1 percent increase in subsidies will reduce the GDP growth rate by -4.39E-05 percent. This implies that an increase in the volume of subsidies will reduce the GDP growth. as it may divert the scarce resources away from the research and development activities. The negative association of subsidies with economic growth is very important for Pakistan because the amount of subsidies has been financed through revenue and borrowings. Therefore it leads to reduce the economic growth in Pakistan. The higher amount of subsidies increase the fiscal deficit, thereby allowing higher non-developmental spending that leads to lower economic growth. The coefficient of subsidies is negative because government subsidies are mostly provided to the power sector and non-developmental & research activities. The negative impact of subsidies can be justified that the elite class and well-organized group are attached to the government and involved in the policymaking process. They force the government to provide heavy and unnecessary subsidies. Moreover in Pakistan government provides subsidies to protect the poor, stabilize inflation, and spend more on the social sector i.e. public goods public education, and public health facilities. Our findings are according to the results of the existing study (Asghar et al., 2011) who found that subsidies have a significant negative impact on economic growth in the case of Pakistan. The empirical results displayed in the above table 5.3 showed that gross fixed capital formation (K) has negatively related to GDP growth rate. We see that the p-value of the K is higher than 0.05 which means that the relationship between GDP growth rate and gross fixed capital formation (K) is not statistically significant. The findings of the study are in accordance to the

previous findings of the study (Shaikh et al., 2016) who found that gross fixed capital formation (K) has an insignificant negative impact on economic growth. However, the result of the study is in contrast with the previous findings of the study (Gibescu, 2013) who found that gross fixed capital formation (K) has a positive impact on GDP growth

The coefficient of the labor force is positive which means that the labor force has a positive impact on the growth rate. However, the p-value of the labor force is also greater than 0.05 which means that the relationship is not significant. The result of the study can be justified that labor force participation is one of the important determinants which enhances economic growth. it means that an increase in the labor force participation increases employment and reduces poverty, which leads to increases the welfare of the society, increases human resource availability, and enhances the economic growth of the country. The result of the study is in accordance with the previous findings of the study (Shaikh et al., 2016) who found that the Labor force participation rate (LF) has a negative impact on economic growth in Pakistan.

From above table 5.3 we can see that the coefficient of trade openness (TO) is positive. So it means the increase in trade will cause to increase in the GDP growth rate in the Pakistan economy. We can also see the p-value which is lower than 0.05 means that the relationship between the variable trade openness and GDP growth rate is statically significant. Trade openness (TO) has a positive and significant impact on economic growth, implying that trade is beneficial for economic growth in Pakistan The result of our study is in confirmation by the findings of the existing study (Jawaid, 2014) who found that trade openness has a significant positive impact on economic growth. However, our findings are in contrast with the finding of an earlier existing study (Hye, 2012) who found that trade openness has a significant negative impact on economic growth in the case of Pakistan. Therefore our study found that trade openness has a positive impact on the economic growth of Pakistan. It also increases employment opportunities, foreign direct investment, per capita income, and is also an effective tool in poverty reduction. It also improves the efficient allocation of resources, pushes the country toward specialization, adopts modern technology, increases the domestic competition in the country, and also increases the innovation, especially in research & development activities. Through trade openness, country can increase the economic growth.

### 4.3.3 Bound Test

ARDL bound test is employed developed by (Pesaran et al., 2001) to estimate long-run cointegration between the dependent variable(GDP Growth ) and independent variables ( Subsidies, Labor Force, Gross Fixed Capital Formation, and Trade Openness).

**Table 4. 4** Bound Test Result

Test Statistics	Value	Signf	(0)	(1)
<b>Asymptotic: n=1000</b>				
<b>F-statistic</b>	11.17065	10%	3.03	4.06
<b>K</b>	4	5%	3.47	4.57
		2.5%	3.89	5.07
		1%	4.4	5.72

In the above table, we compare the estimated F-statistic value with upper bound and lower bound. If it is greater than the upper bound, the coefficients of the variables are jointly significant, which means that the dependent variable ( $Y_t$ ) and independent variables ( $X_t$ ) are cointegrated in long run. So the estimated F-statistic value of our growth model with the dependent variable and other explanatory variable is 11.17065 which is higher the than upper bound value (4.06) and lover bound value (3.03). It means that the result is significant at a 5% level. So we reject the null hypothesis ( $H_0$ ) of the bound test states that there is no long-run cointegration between the concerned variables.

#### 4.3.4 Short Run ECM Regression ARDL

**Table 4. 5** Short Run ECM Regression result employing ARDL Approach

Variable	Coefficient	Std. Error	t-Statistic	Prob.
<b>GDP(-1)*</b>	-1.545487	0.242177	-6.381651	0.000
<b>K(-1)</b>	-1.90E-06	2.60E-06	-0.733706	0.472
<b>LF(-1)</b>	2.426781	1.228192	1.975898	0.062
<b>S(-1)</b>	-6.78E-05	2.81E-05	-2.411762	0.026
<b>TO(-1)</b>	218.5874	49.74347	4.394292	0.000
<b>D(GDP(-1))</b>	0.359578	0.186857	1.924347	0.069
<b>D(K)</b>	-5.00E-06	4.35E-06	-1.147619	0.265
<b>D(K(-1))</b>	-1.13E-05	5.11E-06	-2.205242	0.040
<b>D(LF)</b>	-1.667920	0.964871	-1.728646	0.100
<b>D(LF(-1))</b>	0.338442	1.375467	0.246056	0.808
<b>D(LF(-2))</b>	2.075397	1.436878	1.444380	0.164
<b>D(S)</b>	-2.04E-05	2.06E-05	-0.990536	0.334
<b>D(S(-1))</b>	1.31E-05	1.88E-05	0.694971	0.495
<b>D(S(-2))</b>	3.50E-05	1.77E-05	1.980061	0.062
<b>D(TO)</b>	21.10367	49.29635	0.428098	0.673
<b>D(TO(-1))</b>	-105.4993	52.98599	-1.991079	0.061
<b>D(TO(-2))</b>	-95.45867	46.52960	-2.051569	0.054

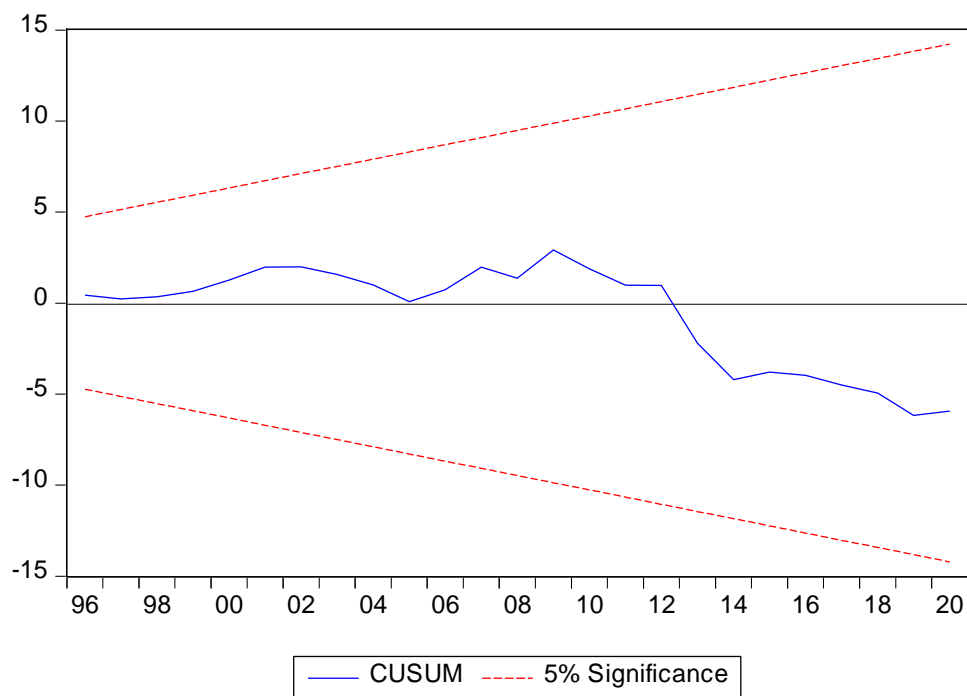
The above table shows the short-run correlation between a dependent variable and all other explanatory variables. From the above result, it has been clear that the effect of government subsidies (S) on GDP growth is negative and statistically significant. It means that the provision of government subsidies is not helpful to increase the economic growth (GDP growth) of Pakistan.

The given table 5.5 also shows the short-run relationship between gross fixed capital formation (K) and GDP growth. It shows that the coefficient of gross fixed capital formation (K) is negative and statically significant. The result of the study implies that gross fixed capital formation (K) negatively influences economic growth in Pakistan.

The coefficient of the labor force (Lf) is also negative and statically significant. It adversely affects the growth rate of the economy so the negative sign can be justified in our study that an increase in labor force decrease the economic growth in Pakistan in the short run because there will be less opportunities available and an increase in the labor force also create congestion in the different departments and actors. The increase in the labor force in the short run means that there will be extra Burdon on the economy.

The short-run result for trade openness and GDP growth is also shown in the above table. The coefficient of trade openness is positive and statistically significant. It means that trade openness is an effective tool to increase the economics of Pakistan. It increases foreign direct investment, per capita income, investment, employment opportunities and also reduces poverty in the country.

#### 4.3.5 Diagnostic Test



*Figure 4.1* For Growth

To check the stability of the time series data and understudied econometric model, the CUSUM techniques have been applied which are based on the error correction model estimated earlier.



The graph provides the evidence that CUSUM series line is lying between their critical lines at the 5 percent level of significance. SO we can say that there is no problem of instability of the ECM model which confirms that the data is normal and parameters are stable at 5 percent.

#### 4.4 Impact of Subsidies on Inflation

##### 4.4.1 VAR Lag Order Selection Criteria

ARDL model are very sensitive to lag, therefore it is very important to determine the appropriate lag length by using lag selection criteria. To select the optimal lag for our ARDL model we apply the VAR model. The results are shown in the above table that 3 lags are the appropriate lag in our study for the AIC and HQ information criteria, so 3 lags will be used to incorporate in ARDL estimation.

**Table 4. 6** Var Lag Order Selection Criteria Result

<b>Lag</b>	<b>LogL</b>	<b>LR</b>	<b>FPE</b>	<b>AIC</b>	<b>SC</b>	<b>HQ</b>
<b>0</b>	-899.9479	NA	1.21e+15	48.91610	49.13379	48.99285
<b>1</b>	-758.7222	236.6483*	2.29e+12*	42.63363	43.93978*	43.09411*
<b>2</b>	-736.7392	30.89506	2.91e+12	42.79671	45.19132	43.64093
<b>3</b>	-704.1242	37.02247	2.39e+12	42.38509*	45.86816	43.61304

\* indicates lag order selected by the criterion

**FPE:** Final prediction error

**AIC:** Akaike information criterion

**SC:** Schwarz information criterion

**HQ:** Hannan-Quinn information criterion

#### 4.4.2 Long Run estimates of inflation employing ARDL approach

**Table 4. 7** Long Run Result of the Coefficient employing ARDL Approach

<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.</b>
<b>S</b>	0.042050	0.013279	3.166708	0.0081
<b>TA</b>	1.589773	0.548530	2.898244	0.0134
<b>Ex</b>	-0.811813	0.217430	-3.733680	0.0029
<b>Bd</b>	-0.636785	0.475055	-1.340444	0.2049
<b>GDP</b>	0.838361	0.289485	2.896044	0.0134
<b>M2</b>	0.003180	0.000778	4.085900	0.0015

From the above table, it is clear that the coefficients of government subsidies(S) has a positive impact on inflation and are statistically significant. Subsidies are positively related to inflation which is shown in the above table means that increase in subsidies will increase inflation in Pakistan. There are many objectives of provision of government subsidies and one of the main objectives is to stabilize the price in the economy. Inflation is a serious issue in Pakistan's economy because it has economic and social consequences. It is associated to economic growth, poverty, and income inequality in the economy. Therefore government used subsidies to reduce the inflationary pressure on the economy and also increase the purchasing power parity of the poor household. However, in Pakistan more than 90 percent of the amount of subsidies is allocated for power and energy sectors, which is one of the reason of fiscal imbalances in Pakistan. Therefore government sometimes imposes taxes, borrow money and print money to allocate the fund for subsidies and reduce the fiscal deficit. as a result it leads to put inflationary pressure on the economy. The result of the study is in confirmation of the findings of the previous (B.-Y. Kim, 2000) who found that subsidies has a significant positive impact on inflation in Pakistan.

From the above table we can see that the coefficient of total advances (TA) is negative and also statically insignificant. So it means the increase in the total advances will cause to increase the flatiron rate in Pakistan economy.

The exchange rate is one of the main determinants of inflation in Pakistan. Therefore we used investigated its impact on inflation. From the table, it is shown that the coefficient of the exchange rate (Ex) is negative and statically significant. The result of the study is in confirmation

to the findings of the previous studies (K. I. H. O. Kim, 1998; Ullah et al., 2012) who have significant negative impact on inflation in Pakistan. When the exchange rate of the country is increasing or decrease, it also affects the prices of the goods and services in the economy.

The coefficient of a budget deficit is negative and significant. It means that the budget deficit has negatively related to inflation. We were not expecting that the coefficients of the budget defect will be negative because the budget deficit put inflationary pressure on the economy. In case of a budget deficit, government spending exceeds revenue. Therefore sometimes government borrows or prints money, which puts upward pressure on the interest rate, and increases the cost of production. So it causes inflation in the economy. The result of the study is in confirmation of the findings of the previous studies (Saleem et al., 2013) who found that budget deficit has a significant negative impact on inflation in Pakistan.

From the above table, it is clear that the coefficients of GDP is positive and it has a positive impact on inflation and are statistically significant. The result of the study is in confirmation of the findings of the previous study (Gyebi, 2013) who found that GDP growth has a significant positive impact on inflation in Pakistan. Typically, higher inflation is caused by strong economic growth. If Aggregate Demand (AD) in an economy expands faster than aggregate supply, we would expect to see a higher inflation rate. If demand is raising faster than supply this suggests that economic growth is higher than the long run sustainable rate of growth. Therefore it leads to increase inflation in the country. Second when the GDP growth of the country is increase, it also increases the employment opportunities, foreign direct investment, per capita income, and is also an effective tool in poverty reduction. It also improves the efficient allocation of resources. Therefore it will also increases the purchasing power parity and people will demand more, which leads to inflation in the economy.

The coefficients of money is positive and it value is is less than 0.05 which means that the relationship between the two variables are statistically significant. The result of the study is in confirmation of the findings of the previous study (Gyebi, 2013) who found that money supply has a significant positive impact on inflation in Pakistan. Increase in the money supply leads to reduces the value of currency. Therefore, the purchasing power parity of the country will reduces when the currency is devalued.

#### 4.4.3 Bound Test

ARDL bound test is employed developed by (Pesaran et al., 2001) to estimate long-run cointegration between the dependent variable(inflation ) and independent variables ( Subsidies, Total advance, exchange, rate, and budget deficit,).

**Table 4. 8** Bound Test Result

Test Statistic	Value	Signif.	I(0)	I(1)
<b>Asymptotic: n=1000</b>				
<b>F-statistic</b>	5.468154	10%	2.33	3.25
<b>K</b>	6	5%	2.63	3.62
		2.5%	2.9	3.94
		1%	3.27	4.39

In the above table, we compare the estimated F-statistic value with upper bound and lower bound. If it is greater than the upper bound, the coefficients of the variables are jointly significant, which means that the dependent variable ( $Y_t$ ) and independent variables ( $X_t$ ) are cointegrated in long run. So the estimated F-statistic value of our growth model with the dependent variable and other explanatory variable is 4.761658 at a 5% significant level, which is higher the than upper bound value (3.62) and lover bound value (2.63). It means that the result is significant at a 5% level. So we reject the null hypothesis ( $H_0$ ) of the bound test states that there is no long-run cointegration between the concerned variables.

#### 4.4.4 Short Run Error Correction Model Regression by employing ARDL

**Table 4. 9** Short Run ECM Regression result employing ARDL Approach

<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.</b>
<b>INF(-1)*</b>	-1.210589	0.228097	-5.307341	0.0002
<b>GDP(-1)</b>	1.014910	0.352794	2.876778	0.0139
<b>Bd**</b>	-0.770885	0.541895	-1.422572	0.1803
<b>M2(-1)</b>	0.003850	0.001119	3.440635	0.0049
<b>S(-1)</b>	0.050905	0.018423	2.763064	0.0172
<b>TA(-1)</b>	1.924562	0.825672	2.330904	0.0380
<b>Ex(-1)</b>	-0.982772	0.303675	-3.236258	0.0071
<b>D(GDP)</b>	0.164170	0.130310	1.259838	0.2317
<b>D(GDP(-1))</b>	-0.530417	0.223602	-2.372146	0.0353
<b>D(GDP(-2))</b>	-0.282195	0.121333	-2.325794	0.0384
<b>D(M2)</b>	-0.000396	0.000378	-1.047298	0.3156
<b>D(M2 (-1))</b>	-0.004562	0.001525	-2.991404	0.0112
<b>D(M2 (-2))</b>	-0.005636	0.001922	-2.932636	0.0125
<b>D(S)</b>	0.002847	0.027001	0.105435	0.9178
<b>D(TA)</b>	1.674004	0.564188	2.967106	0.0118
<b>D(TA(-1))</b>	-1.357721	0.670456	-2.025072	0.0657
<b>D(TA(-2))</b>	-1.066256	0.694588	-1.535091	0.1507
<b>D(Ex)</b>	-0.413564	0.219212	-1.886595	0.0836
<b>D(Ex(-1))</b>	0.459953	0.223899	2.054292	0.0624

From table 4.9, the coefficients of government subsidies(S) has a negative impact on inflation and are statistically significant. Subsidies are negatively related to inflation which is shown in the above table means that an increase in subsidies will decrease inflation in Pakistan and the result is opposite to the long-run relationship. A long-run relationship has shown in table 4.7 which states that subsidies have positively related to inflation.. But in the short run, the result states that it has a negative relationship with inflation, which means that it decreases inflation.

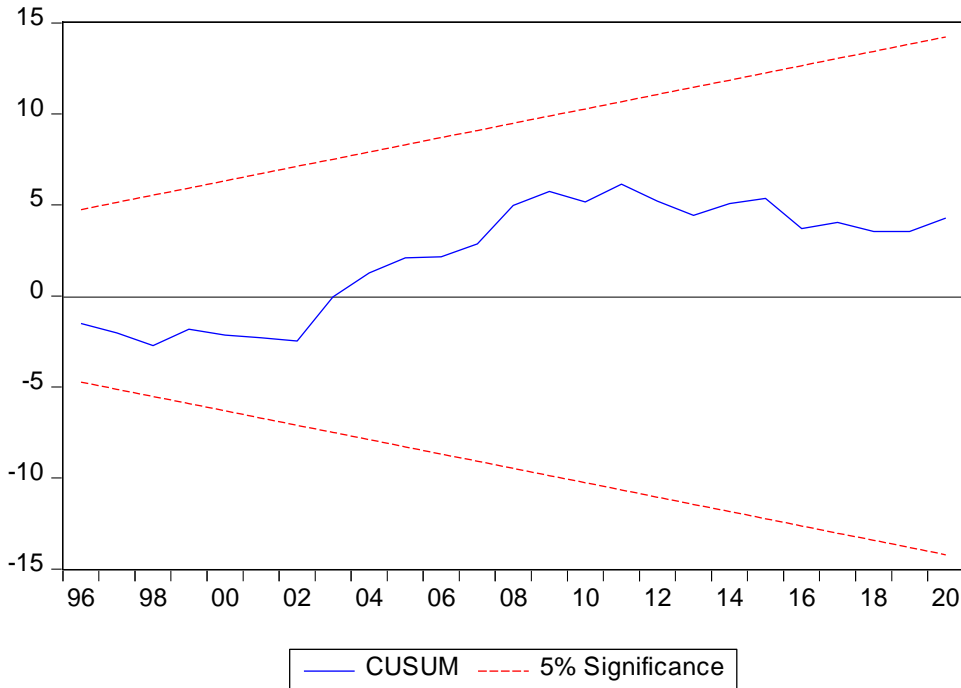
From the above table, it is clear that the coefficients of GDP is positive and it has a positive impact on inflation and are statistically significant. GDP growth has a significant positive impact on inflation in Pakistan. Typically, higher inflation is caused by strong economic growth.

Therefore it leads to increase inflation in the country. Second when the GDP growth of the country is increase, it also increases the employment opportunities, foreign direct investment, per capita income, and is also an effective tool in poverty reduction.

The coefficients of money Supply is positive and it has a significant positive impact on inflation in Pakistan. Increase in the money supply leads to reduces the value of currency. Therefore, the purchasing power parity of the country will reduces when the currency is devalued.

From the above table, we can see that the coefficient of total advances (TA) is positive and also statically insignificant. So it means the increase in the total advances will cause to decrease in the inflation rate in the Pakistan economy. The result of the short run is also different from the long run. In the long run estimation, the coefficient of Ta was also positive , which means that increase in total advances will increase inflation. But in the short run, it has a positive impact on inflation. An increase in total advances will increase inflation in Pakistan.

**4.4.5 Diagnostic Test Inflation**



**Figure 4. 2 For Inflation**

To check the stability of the time series data and understudied econometric model, the CUSUM techniques have been applied which are based on the error correction model estimated earlier. The graph provides the evidence that CUSUM series line is lying between their critical lines at the 5 percent level of significance. SO we can say that there is no problem of instability of the ECM model which confirms that the data is normal and parameters are stable at a 5% significant level.

#### **4.5 Summary**

In the result, we found that government subsidies have a significant negative impact on economic growth and inflation in Pakistan. It can be justified by the following reason. First, higher percentage of subsidies is provided to the power sector which is mostly enjoyed by big consumers and the elite class. Second, subsidies are provided to non-developmental and R&D activities, which is injurious for the economy. Third, the well-organized groups are attached to government and they forced the government to provide and allocate unnecessary subsidies to them. Forth government aims to promote the welfare of the nation therefore they provide subsidies. the findings of the study is supported by the findings of the study (Asghar et al., 2011). Other explanatory variable such as Trade openness (TO) has a positive impact in both the short-run and long-run, but the result was not statically significant in the short run. Gross fixed capital formation (K), and labor for participation rate (Lf) have an insignificant positive impact in the long run but have a negative impact in the short run.

We also analyzed the impact of subsidies on inflation with some other explanatory variables in the case of Pakistan. In the result, we found that government subsidies have a significant negative impact on inflation. It can be justified that there are the main objective of the provision of government subsidies is to stabilize the inflation in the economy. The government aims to protect the poor consumer, therefore providing indirect subsidies on goods and services. The result is supported by the findings of the earlier study (Rehman & Khan, 2015). The coefficient of total advances and the budget deficit was negative in long run. The exchange rate is considered one of the main determinants of inflation therefore we include exchange rate (Ex) in the model. The coefficient of the exchange rate (Ex) is positive in the long run. It is justified that an Increase in the exchange rate reduces the purchasing power parity and leads to higher prices

in the economy. An increase in the exchange rate also increases the export which will increase the exports and also lead to an increase in the prices in the economy.



## Chapter 5

### Qualitative Data Analysis

#### 5.1 Provision of Subsidy

To study the main objectives and purposes of provision of subsidies by the government to different sectors of the economy such as the agriculture sector, power sector, export sector, and industrial sector, the question was asked from the respondent through an interview in different stakeholders such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power and ministry of industries. On the basis of answer that has been received from the respondents, qualitative analysis has been done.

##### 5.1.1 Rationale of the Subsidy

All the respondents were asked about the main objectives of the provision of government subsidies. Their response claimed that subsidies have a potential impact on the Pakistan economy. The provision of subsidies increases the welfare of the nation by reducing poverty, it increases the productivity and efficiency in different production units and sectors. The respondents also told that subsidy is used to stabilize the prices/inflation in the economy.

A respondent from the ministry of finance told *“that government gives different subsidies to different goods and services such as*

- *On Food: To reduce market prices*
- *On Fertilizer: To reduce agriculture input costs*
- *On Electricity: (On-budget: reduce the tariff for low consumption groups), Off-budget: to cope up with losses*
- *On Transport Metro: To subsidize transport*
- *On LNG and gas: To reduce input price for the industry”.*

One of the senior respondents from the ministry of finance told that the *“main purpose of provision of subsidy is to stabilize prices in the economy and reduce poverty in the country”*. Moreover, it was stated that when in Pakistan inflation rate is very high and the government revised the subsidy amount from 209 billion to 430 billion in order to stabilize the price and reduce poverty.

Another respondent from the ministry of national food and security told me during the interview *“that subsidies (especially agriculture subsidies) definitely are given to improve, to bring more area under crop cultivation and minimize the cost of production and inputs cost for a particular product in order to help farmers”*. So the main objective of agricultural subsidies is to enhance the productivity of a particular product in the agriculture sector.

Furthermore, it was stated that sometimes farmers switch from that particular crop which is very important for the country and without that we cannot survive, because cost of production (input cost) is higher, therefore we gave a subsidy to encourage the farmer to grow that particular product. A subsidy is provided to increase efficiency.

In Pakistan majority of agriculturists are less well-off and they cannot produce without government support because the cost of production is higher. But the issues arise as we know that Pakistan mostly we provide indirect subsidies and the well-off/ ( rich landlords) get more benefit as compared to less well-off (small farmers). Therefore it is very important for the government to make subsidy reforms and provide direct subsidies rather than indirect subsidies, but that is a big challenge for the government.

For the significant products in the agricultural sector, it was stated that government wants to minimize the cost of production of that particular product. So these were the main objectives of the provision of the agricultural subsidies.

The respondents from the ministry of commerce told: *“that the main objective of the export subsidies is to promote our export sector, increase the trade and facilitate the exporters”*. However, we were also informed that the main objective of export subsidy is to make the prices of our products more competitive in the global market. The level of our industrial development is low, therefore we are making more product even in surplus but their prices are very low in the foreign country. This is the main reason our exporters are discouraged and our export level is low. So government compensates the exporters by giving some subsidies.

Another respondent from the ministry of industries said *“that we provide subsidies to industries to increase the productivity, efficiency and to promote the specific industry in the country. The respondent also told that we provide subsidies to utility store corporation to stabilize the prices and to give relief to poor”*.

From the ministry of power, the respondent answered during the interview that the purpose of the provision of subsidies is different. We gave subsidies to remove the power crises and without

power, an economy cannot grow. Power has a significant impact on the economy and we want to increase our capacity. He furthermore discussed that we want to decrease the cost of production and increase productivity in different sectors such as agriculture, textile, and many other industries, etc. also want to protect the poor consumer of gas and electricity, therefore we gave subsidies. However, the previous studies also provided strong evidence of the provision of power subsidies in many other countries. But the amount which provided by the government in Pakistan is huge as compared to other countries. In the fiscal budget, 2021-22 huge amount of subsidy is provided to the energy sector in Pakistan. The government decided to provide 136 billion to independent power sector (IPPs) in the form of tariff differentials while for power holding private Ltd (PHPL) 118 billion is allocated. 22 billion is allocated for KES, 15 billion in the shape of power subsidy to industries, and 26 billion to electricity subsidy for zero-rated industries. So the given estimation of allocation of funds for the power sector is shown in the budget documents. We are spending a huge amount of subsidy on the power sector. We know that our fiscal budget is in deficit still spending a bulk amount of subsidy on the power sector. So it is very important to revise our subsidy policy for power as many elite and big producers (industrialists, agriculturalists) are facilitated.

## **5.2 Allocation of budget for Subsidies**

To examine the process of allocation of budget for subsidies in fiscal budget, the data was collected through interviews, and the question was asked from the respondent in the interview in different ministries such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power and ministry of industries. The answer that has been received from the respondents are as follow.

The majority of the respondents from the different ministries told me that the amount is annually allocated for subsidy in the budget but sometimes subsidy is also given which is not allocated on the annual budget. But a few respondents also told that it varies and is not allocated in the annual budget..

We were informed by the respondent from the ministry of national food and security that “*some subsidies (such as subsidies for tube wells in Balochistan) are annually budgeted in the fiscal budget, but not all subsidies are budgeted*”.

According to the respondents from the ministry of finance, the ministry of industries, and the ministry of commerce the amount of subsidies vary, and not all are annually budgeted. Sometimes government revises the amount for subsidies which is not budgeted in the annual budget. However one of the respondents from the ministry of power also told that the amount for subsidies is annually budgeted but sometimes we immediately need the amount, therefore we send a proposal to concerned stakeholders to allocate the amount for subsidies and provide subsidies which are not budgeted.

### **5.3 Identification and Need of Subsidies**

To examine who identify the provision of subsidies for different purposes and to different sectors of the economy such as the agriculture sector, power sector, the export sector, and industrial sector, and how to identify. The question was asked from the respondent through the interview in different ministries such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power, and ministry of industries. The answer that has been received from the respondents are as follow.

All the respondents answered our query and their response explained the identification of the subsidy beneficiaries. The respondents from the ministry of finance told me that concerned ministries and departments identify the requirement of subsidy. They also told that we only allocate the fund for subsidy and finance the amounts of funds for the provision of subsidies. Furthermore, they said that *“it is not our duty to identify the provision of subsidy and it is the duty of concerned departments and ministries”*.

According to the respondents from the ministry of national food and security, *“we do the analysis of a particular crop, we look over the cost of production. We also see the production of a particular crop, sometimes the production decrease or sometime acreage decrease of particular products”*. So the relevant ministry examines the reasons such as input cost, cost of production, or inflationary reasons, therefore they provide subsidies to enhance productivity and help the farmers by reducing the input cost (cost of production).

Another respondent from the ministry of industries told me that *“we analyze the situation of industries and sometimes we want to promote specific industries, therefore we provide subsidy to promote that industry”*. The government sometimes provides a subsidy to promote the specific

industry for example the current government in Pakistan aims to promote the electric cars industry and also want to protect the environment, therefore the provided the subsidy to electric cars which is manufactured locally in the shape of reducing the duties and sale tax from 17 percent to 1 percent.

The respondents from the ministry of power informed me that *“we hire highly paid consultants and researchers. These consultants and researchers identify through analysis and research. Ministry is not supposed to do identification, we (ministry) only implements the subsidy policy”*. It was told by the respondents from the ministry of commerce (for exports) that *“different stakeholders are involved in the export and every government has to promote the export sector. That is why they give subsidy”*. Moreover, we came to know that there are some industries which produce on regular basis such as sugar. So sometimes they produce in surplus. The government wants to export goods and they give subsidies to exporters for export. Some industries are export-oriented such as the leather industry and surgical instrument industry and textile industries and they are produced for export. Therefore government needs to encourage the industries by giving export subsidies.

#### **5.4 Subsidy Framework**

To examine “Is there any existing framework for subsidies” for different sectors of the economy such as the agriculture sector, power sector, export sector, and industrial sector, and how to identify. The question was asked from the respondent through an interview in different ministries such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power, and ministry of industries. The answer that has been received from the respondents is as follow.

All the respondents from the different ministries (ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power and ministry of industries) told me that there is no economic framework for subsidies.

It was informed by the respondents from the ministry of finance *“that there is no policy framework for subsidies. But we are developing a framework for subsidy and will bring the subsidy reforms. It was also told by a respondent from the same ministry that no such framework*

*exists. The subsidy is always political narratives. Therefore current government especially the prime minister is interested in the subsidy framework, the government developed a subsidy cell and Dr. Waqar Masood is the head of that cell. Subsidy cell will develop a framework for the subsidy, then they provide to the ministry of finance”.*

Furthermore, the respondents from the ministry of national food and security answered me “*that no such policy framework exists, but you can consider that decline of production, a decline in the acreage of particular product and input cost increases, we do analysis and find the what are the reasons and come to conclude that for this particular products subsidy is needed and we also identify that why farmers discourage, and why plant protection cost increases somewhere”.* I also informed that if we have a policy framework definitely it will support it, and there should be a framework. In that policy framework farmers and stakeholder knows how to invest in a particular product and they know the facilitations for that particular product.

Another respondent from the ministry of industries told me “*that there is no framework available for subsidies in Pakistan, but I think the government is going to develop a framework for subsidy”.* Later I came to know that in the case of a utility store corporation prime minister announce the subsidy. For that reason, the government has to fulfill the promises made by the prime minister. The notification comes from the concerned minister and then the concerned ministry makes the budget and also calculates (estimates) the amount of funds. They send their final proposal/summary to the economic coordination committee (ECC). Economic coordination committee (ECC) reviews and approves their proposal. The later amount is provided by finance. When funds are released from the ministry of finance, the concerned ministry implement that policy.

So if the subsidies are announced by the prime minister rather than the relevant ministries' relevant stakeholders, it may be unnecessary and mainly political. It is also possible that the prime minister has their political intentions and is unaware of the economic cost of subsidies. Therefore these types of provision of subsidies are injurious for the economy and have long-run economic costs in the form of fiscal deficit. Many economists considered subsidy is one of the reasons for fiscal imbalances.

The majority of the respondents told me that there is a need for improvement for subsidy policy and needs to develop a framework for subsidy policy. A respondent from the ministry of commerce (export) told me *“that big exporters are aware of the subsidy. Small exporter is not aware and they are not benefited”*. It is told to me by the respondents from the ministry of national food and security *“that there is no issues with subsidy policy because we are monitoring and making a proposal for subsidy where needed”*.

Moreover, *we* came to know that there is no fiscal framework available for subsidies in Pakistan that systematically identifies the need for subsidy and also evaluates and monitors the impact and result of the subsidy. The framework must also address the payment mechanism, approval proposal and also address the allocation of funds for subsidy. So there should be a framework that targets the most vulnerable group who needs subsidies.

### **5.5 Review for Subsidies Proposals**

To examine “Who reviews requests for subsidies” for different sectors of the economy i.e. agriculture sector, power sector, the export sector, and industrial sector. The question was asked from the respondent through the interview in different ministries such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power, and ministry of industries. The answer that has been received from the respondents is follow.

All the respondents from the different ministries (such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power, and ministry of industries) informed me that the concerned ministry/department generates claims for subsidy and sends the summary/proposal for approval to economic coordination committee (ECC). The economic coordination committee (ECC) reviews their request. After review, economic coordination committee (ECC) sends approval to the concerned ministry. Then concerned ministry sends a summary of approval to the ministry of finance to claim funds. However, there is a wing in the ministry of finance (called Corporate Finance Wing) that reviews subsidy proposals and advises. Then Finance ministry reviews their approval and allocates funds.

A respondent from the ministry of finance told me *“that at the time of the budget, subsidy requirement is communicated to the ministry of finance. Ministry of finance reviews*

*efficacy/requirement of subsidy and based on fiscal space includes the subsidy in the budget. He further discussed that budget is reviewed by the finance minister and cabinet. During the year, any subsidy that is not budgeted is sent by the relevant Ministry to ministry of finance, which reviews the proposals, and tables the proposal in the economic coordination committee (ECC) which endorses it to the Cabinet for approval”.*

The role of the ministry of finance is very important during the approval of the subsidy. The economic coordination committee (ECC) includes the ministry of finance because they are responsible to allocate the resources in order to finance the subsidies. Therefore the ministry of finance (corporate finance wing, budget wing, Principle accounting offices, and secretaries) should review the requests for subsidy which is sent by the concerned ministry before awarding the required amount.

## **5.6 Approval of Subsidies**

To examine that “who approves subsidies?” for different sectors of the economy i.e. agriculture sector, power sector, the export sector, and industrial sector. The question was asked from the respondent through an interview in different ministries such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power, and ministry of industries. The answer that has been received from the respondents is follow.

According to the respondents from the ministry of finance *“that the economic coordination committee (ECC) gives the approval of the proposal for subsidy. The Finance Ministry is responsible for the allocation of funds for subsidies and after the allocation of funds we realize the fund for subsidy. Concerned ministry is responsible for implementation”.*

Another respondent from the ministry of national food and security to answer me during the interview *“that we send the summary/proposal to relevant stakeholders and they give their views on that summary/proposal. Then we send that summary to the economic coordination committee (ECC). There will be a debate on the summary in the economic coordination committee (ECC) and they give a recommendation. After recommendation economic coordination committee (ECC) sends the summary to the cabinet. If Cabinet approves, the finance ministry will realize the funds for our proposals and later we implement that policy”.*



It is clear from the responses that there is a lack of coordination among the concerned stakeholders (concerned ministry, ministry of finance, and ECC). The Ministry of finance is unaware of the approval of the subsidy amount. They should include the ministry of finance (corporates finance wing and budget wing) during the approval of the subsidy because the ministry of finance is liable to allocate funds and finance the subsidy amount. So economic coordination committee (ECC) approves the subsidy amounts but they are unaware of the finance availability at the finance ministry. Ministry of finance (corporates finance wing) will inform later that whether they are able to finance the given approval or not.

### **5.7 Payment Mechanism**

To examine the payment mechanism of the provision of subsidies by the government to different sectors of the economy such as the agriculture sector, power sector, export sector, and industrial sector, the question was asked from the respondent through the interview in different ministries such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power and ministry of industries. The answer that has been received from the respondents is follow.

According to a respondent from the ministry of finance who told me, “that other than social protection (cash transfers and related programs of Ehsaas) most of the subsidies are indirect.

**Food:** Currently indirect subsidy

**Gas:** Indirect subsidy

**Metro:** Indirect subsidy

**Fertilizer:** Indirect subsidy

**Electricity:** Partially direct - for less than 300 units consumption per month. However, the rich can also avail of this if their monthly bill is less than 300 units (e.g. in winters). So it is important to improve our payment mechanisms and convert indirect subsidies to direct subsidies as most of the time the most vulnerable group is ignored and cannot avail the subsidy. On the other side, the elite who doesn't need a subsidy is availing the opportunity.

Provincial subsidies need to be reviewed also but mostly are on Wheat and other agriculture inputs which are mostly indirect. Efforts were made in Punjab e.g. to provide sasti roti on specific tandoors only but that was not direct either.

Another respondent from the ministry of national food and security informed me during the interview that in our country we have different provisions and they have different methods. For example:

**Punjab:** crash card, kissan cards

**Sindh:** Hari Card

**Balochistan:** For Tube wells. Billing

A respondent from the ministry of commerce told me *“that export subsidy has a beneficial impact on export and increase the international trade. In the case of indirect subsidy, it is basically a simple process. For example electricity bills to export industry”*. However, we came to know that in the case of direct subsidy, it is provided when the exporters declare the goods at stage export (called goods declaration). When they declare the goods, FBR or custom authority confirms the goods that these are goods which are exporting. Then these goods declarations are shared with the state bank of Pakistan (SBP). The State bank of Pakistan (SBP) has already issued E form against that export. Against that **E form** then they are reimbursed the amount which is calculated.

The government provides power subsidies indirectly in the form of gas and electricity subsidies. These subsidies are provided to domestic consumers and producers. They also targeted the focused group (domestic producer mostly industrialists and domestic consumers), and they are facilitated through different mechanisms (billing system and tariff differential)”. It is also clarified from the respondents (ministry of power) who informed me *“that mostly we give indirect subsidy and tariff differential to domestic”*.

## **5.8 Source of Finance**

To examine the source of finance for the provision of subsidies by the government to different sectors of the economy such as the agriculture sector, power sector, export sector, and industrial sector, the question was asked from the respondent through the interview in different ministries

such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power and ministry of industries. The answer that has been received from the respondents is follow.

According to a respondent from the ministry of finance told me *“that we finance through both revenue and borrowing. Sometimes we also use taxes (tax reduction, tariff differential, and tax exemptions) to finance the subsidies”*.

We were also informed that subsidy is expenditures and there is no wallet for subsidy. All subsidies are financed out of budget. We managed the budget and the subsidy is paid out of that pool. *“It is also told to me that during budget we see our revenue and expenditure. If expenditure is higher than revenue, then we will definitely finance through borrowing”*.

So it is clear from the above statement of the respondents that there are different source of finance and depends on cash availability. Moreover, we came to know that because of the budget deficit, we can say that subsidies are financed through borrowings and also provincial subsidies are financed through revenues. So we finance the subsidy through both Borrowing (domestic banks, IMF, WB, and from other foreign countries and Taxes (tax exemption, tax reduction).

In Pakistan government is giving subsidies without a policy framework and they are continually giving subsidies. To give subsidies to one sector government will impose higher taxes to raise the funds/revenue from other sectors. So one sector will get benefit from subsidies and the other sector will suffer from higher taxes.

## **5.9 Direct Subsidies and Indirect Subsidies**

To study that “how to decide to provide direct subsidies and indirect subsidies by the government to different sectors of the economy such as agriculture sector, power sector, the export sector, and industrial sector, the question was asked from the respondent through the interview in different ministries such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power and ministry of industries. The answer that has been received from the respondents is follow.

The majority of respondents from the ministry of finance told me *“that it is the decision of the concerned ministry. Finance ministry allocates the budget and finance both type of subsidies”*.

Furthermore, the respondents from the ministry of industries and ministry of power told me “*that mostly we provide indirect subsidies in the form of tariff differential and lower prices in utility store corporation to stabilize the price and reduce the cost of production*”.

A respondent from the ministry of national food and security told me “*that it depends upon the crop production as we monitor the production, If deviation of farmer or decline of the particular product. We do analysis and see that who is need to subsidize and how much we need to incentivize that particular product. In case of direct subsidies we need documents such as passbook (farmer or tenant) and the government will audit*”.

We came to know that other than social protection (cash transfers and related programs of Ehsaas) most of the subsidies are indirect i.e. food, gas, electricity, fertilizer are indirect subsidies, and agriculture inputs - mostly these are also indirect. The finance ministry is liable to allocate and finance both types of subsidies. It is also clear that in Pakistan most of the subsidies are indirect. We need to make them direct. But that's a big challenge for policy makers and relevant stakeholders.

#### **5.10 Beneficiaries and Users of Subsidy**

To study that “who are Beneficiaries and users of government subsidy, the question was asked from the respondent through the interview in different ministries such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power and ministry of industries. The answer that has been received from the respondents is follow.

A respondent from the ministry of finance told me “*that it works and mostly we achieved the desired objectives of the subsidy program. He discussed that we facilitate both the individuals and market*”. It is also told to me that government provides subsidies on social protection (cash transfers and related programs of Ehsaas), but most of the subsidies are indirect. For example, we provide currently indirect subsidies on Food, gas, metro, electricity, and fertilizer, and the public is the user of that subsidy program. They told me that sometimes the main purpose of the provision of subsidies is to reduce the market failure (Rs 10 billion subsidies to utility store corporations to reduce inflation)

According to a respondent from the ministry of national food and security, *“that government wants to benefit the public (farmers and tenants) who need subsidy”*.

We were also informed by the ministry of commerce (for export) *“that government provides subsidy to those who are involved in export. There is an export quota and they can’t get subsidy with that. That is also a barrier”*.

Furthermore, we came to know that the main purpose of the subsidy is to facilitate targeted consumers and the Public. They are facilitated indirectly by the government. The government should focus on the targeted/direct subsidies to protect the most vulnerable group of the country. Most of the time higher income groups are benefited from indirect subsidies, which increase income inequality in Pakistan. For example, subsidies on wheat, sugar and other goods such as sasti roti benefit both poor and rich.

### **5.11 Post Subsidy Impact Analysis**

To examine the post-subsidy analysis process and outcomes, the question was asked from the respondent through the interview in different ministries such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food, and security, ministry of power and ministry of industries. The answer that has been received from the respondents is as follow.

All the respondents from the ministry of finance informed me *“that it is not our duty to do post-subsidy analysis. They further said that it is the responsibility of concerned departments and stakeholders who identify the subsidy for different goods and services”*.

Furthermore, a respondent from the ministry of national food and security told me *“that definitely we do post-subsidy analysis and we see the impact assessment as we are providing huge amounts”*. However, when asked for a report from the same respondent he told me that it is a long process.

We were also informed by the respondent from the ministry of commerce (export) *“that we haven’t seen any post-subsidy analysis”*. But it was informed by the respondent from the same ministry *“that yes, we are doing post-subsidy analysis for internal affairs, but that is not for the public”*.

Moreover, we came to know from the ministry of industries and ministry of power “*that it is not our duty to do post-subsidy analysis, it is the duty of relevant stakeholders (finance ministry and audit general of Pakistan). They also said that if we do post-subsidy analysis then it will be biased as we are providing subsidy and doing post-subsidy analysis, so it is possible that we may make a report which is not based on reality*”.

However, we could not find any nor were provided with any post-subsidy analysis. The concerned ministries are not interested to conduct the post-subsidy analysis. As we know that subsidy is expenditure and the government spends huge amounts in the form of different types of subsidies. Government must implement the post-subsidy analysis and impact assessment of the provision of subsidies by a third party such as academia.

#### **5.12 Monitoring and Evaluation of Subsidy programs**

To examine the monitoring and evaluation of subsidy, the question was asked from the respondent through an interview in different ministries such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power and ministry of industries. The answer that has been received from the respondents is as follow.

All the respondents from the ministry of finance informed me “*that it is not our duty to monitor and evaluate the impact and result of subsidy. They further said that it is the responsibility of concerned departments and stakeholders who identify the subsidy for different goods and services*”. Moreover, we came to know from them that it is not their responsibility to monitor and evaluate the impact of subsidy, their responsibility is to allocate the resources and funds in order to finance the need of the concerned ministry.

Furthermore, a respondent from the ministry of national food and security told “*that definitely we are doing monitoring and evaluation of subsidies. We see the reports and data of a particular subsidized crop. After monitoring and evaluation, we came to know that we need to provide subsidy to a particular crop as without subsidy our agriculture cannot fulfill our needs*”.

However, we were told that monitoring and evaluation is a big problem and considered as a weak area in the government sector. But it is very important for any private or government sector to evaluate and monitor the impact of any policy on regular basis for providing course correction. Government should focus on the monitoring and evaluation of subsidies because they are allocating huge amounts of funds for subsidies in the fiscal budget despite of budget deficits.

### **5.13 Continuation of Subsidies**

To examine the question of the continuation of subsidies, the question was asked from the respondent through the interview in different ministries such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power and ministry of industries. The answer that has been received from the respondents were as follow.

All the respondents from the ministry of finance told me *“that many power, Agriculture, automobile and textile etc. enjoy the continuous subsidy program. They also informed me that the answer of the question is relevant to be asked from concerned ministry”*.

A respondent from the ministry of power told me *“that we give a huge amount of subsidy to power because power is one of the important sectors of the economy”*,

Furthermore, a respondent from the ministry of national food and security told me *“that agriculture is the backbone of the economy that is why give continuous subsidies”*. Pakistan is an agriculturist country and we can't survive without agricultural products. Significant impact on the economy and even supported well during Covid19. We fulfill 90 percent of the needs from it. We produce staple foods as we will cater to the whole population of the country. However, there must be a sunset clause for agriculture subsidies. As we know that most government provides indirect subsidies in the agriculture sector and the elite agriculturists also enjoy the provision subsidy with poor farmers who are the deserving agents.

We were also informed by the respondents from the ministry of commerce *“that we provide the subsidy to increase the export of the country. He also claimed that export subsidy is not provided by government continuously”*. However, we know that the export sector and different industries enjoy the subsidy. The budget documents and the speeches of different government officials showed that government provides subsidies to the export sector to increase our export in the international market. They also claimed that we provide subsidies to industries and utility store

corporations to stabilize the prices and give relief to the vulnerable public. But despite these huge subsidies our industrial sector is still underdeveloped. Have we made it addicted to subsidies instead of letting it grow? this question needs more attention and reforms. We remain unsuccessful in the global market to increase the demand for our products and make their prices more competitive. We provided a huge amount of subsidies to industries but they cannot grow as compared to our neighboring countries. This leaves a big question mark on the rationale of providing subsidies on a continuous basis.

#### **5.14 Appropriate Amount for Subsidies**

To examine the appropriate amount for subsidies, the question was asked from the respondent through an interview in different ministries such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power and ministry of industries. The answer that has been received from the respondents is as follow.

The respondents from different ministries such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power, and ministry of industries have different views on the appropriate amounts for subsidies. Many respondents told me that it is reasonable but on the other side the respondents said that we need more amount.

In Pakistan, we should address the issues in the subsidy policy and revise our subsidy policy program and should remove unnecessary subsidies. In our country, many industries and sectors became habitual of enjoying the subsidies. Their performance is low and with the passage of time, they don't grow. The think tanks and experts of industrial sector ignored the research and development activities and also they are not spending on the innovation in the industrial sector. Therefor both productivity and efficiency are low as compared to the industrial sector of India and Bangladesh. In the budget, 2021-22 15 billion in the shape of power subsidy to industries and 26 billion to electricity subsidy for zero-rated industries have been provided. But the amount of subsidies haven't mentioned any amount for innovation and research and development activities. in the fiscal budget 2021-22 documents. It is also important for the government to make the agriculture subsidies more effective and productive. In Pakistan government is spending 11.4 billion on tube wells in Balochistan and 6 billion on fertilizer plants but have they



been adding value to the agricultural output is not empirically validated. We have to focus on non-traditional and modern agriculture farming (tunnel farming system) by switching resources towards that. So they have to invest in the agriculture sector as it is the backbone of the country.

It is also advisable that government should not give subsidies on the export goods which are consumed as basic necessities such as wheat, sugar, and other agricultural goods. These are basic necessities when government gives export subsidies on these goods, it creates a shortage in the country and increases the prices of these goods. An increase in prices puts inflationary pressure on the economy and creates an alarming situation of economic growth.

### **5.15 Subsidy Program vs. Politics**

To examine the subsidies program vs. politics, the question was asked from the respondent through the interview in different ministries such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power, and ministry of industries. The answer that has been received from the respondents were as follow.

The majority of respondents told me that our subsidy program is not politically used. They claimed that government provides subsidies to the target groups who need subsidies. They also discussed that we targeted the most vulnerable group for subsidy. But few respondents also told me that the nature of our economy is political, therefore the government ministers sometimes used the subsidy policy to achieve their desired objectives. However, the literature provides evidence that some subsidy program is used for political purpose. Many well-organized/pressure group who has a strong connection with the government and stakeholders, therefore they are benefited through the subsidy program in term of direct subsidy or indirect subsidy. It is also stated that most of the time wealthiest group are also benefited from the subsidy programs primarily due to the indirect nature of the program.

So subsidy program has been captured by Politics, and elite in Pakistan, therefore it is very important for the government to reform the framework of subsidies to minimize political pressures and elite capture and make these the subsidy program growth-orientated and more productive.

## **5.16 IMF Program and Subsidies**

To examine the impact of the IMF program on subsidies, the question was asked from the respondent through the interview in different ministries such as the ministry of finance, ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power and ministry of industries. The answer that has been received from the respondents are as follow.

The respondents from the different ministries such as the ministry of agriculture, ministry of commerce (Export), ministry of national food and security, ministry of power and ministry of industries informed during the interview *“that the IMF program has a negative impact on the subsidy as they focused to increase tax collection and revenue”*.

Moreover, we came to know that IMF doesn't endorse an indirect subsidy system. Also, IMF does not endorse subsidies to cover inefficiencies in the system (e.g. electricity off-budget circular debt). In Pakistan, we are facing the problems of the budget deficit and balance of payment crises therefore the government has to request an IMF program. The main conditionality of the IMF program is to reduce subsidy and increase revenue (Tax collection). But government sometimes doesn't address that conditionality as they increase the indirect taxes rather than direct taxes which increase the prices of goods and on the other side they reduce the subsidies which directly affect the poor consumer.

According to IMF workings, papers subsidy policy is an important policy issue for countries mainly in the energy and power sector. They also declared that the provision of subsidies to energy(616 billion in FY 2021-22) and fossil fuel is not only harmful for economic and environmental consequences but also benefited the elite household.

## **5.17 Pakistan and Emerging Economy (China)**

Pakistan is facing structural challenges and issues in the provision of subsidies to the deserving sectors of the economy to facilitate the vulnerable groups of the country. It struggles to provide targeted subsidies, but less research and incomplete, unreliable data lead to poor targeting while low institutional quality leads to implementation gap. Therefore, vulnerable groups of the society are not benefited and the targeted sector becomes accustomed to the favor. Hence, it is crucial to introduce subsidies that actually bear fruit. To achieve social objectives, governments must

introduce subsidy policy that should include subsidizing the common goods such as energy and agriculture sector. These subsidies will support the poor, but if not done properly, that section will remain deprived. In Pakistan, power and agriculture sector are the targeted sectors for subsidies. The government is providing significant subsidies to the power sector, and agriculture sector. These sectors which are enjoying continuous subsidy have become addicted to subsidy, which instead of bringing in efficiency keeps them at a primitive level of technology use, especially if there are no sunset clauses in such roll outs. Government should focus on the provision of subsidy for the most vulnerable sectors of the economy but for a limited time frame. For example, the government is providing electricity subsidies on tube wells in Balochistan, which mostly benefit the relatively prosperous class of the society that can easily afford clean water. In Pakistan, government provides a significant amount of subsidies on agriculture to help the low-income farmers and agriculturists. But they provide subsidies on the basis of per acre which provides more benefits to the elite class than the poor class because the elite class has more lands. Moreover, the poor agriculturists sometimes have no access to these subsidy programs. The most important thing about our subsidies program is that they are evidence-based, performance-oriented, and result-oriented. The government provides subsidies but does not take into account the outcomes and result of the subsidies.

In Pakistan, government introduced Naya Pakistan Housing Scheme, providing subsidies on small plots. But many rich people have more small plots than the poor class. Thus, this policy also benefits the rich class.

China has introduced policies and reforms in the agricultural sector. These reforms and policies have been implemented properly by the government. It provided targeted subsidies to support the poor agriculturist and increase their agricultural productivity and promote long-run goals. These targeted subsidies increase their exports and decrease the imports in the agriculture sector. It instrumentalized the domestic sector to increase self-sufficiency and income level of the poor farmers. They promoted the agriculture sector and helped increase its production by decreasing taxes, providing subsidies and price support programs. Their subsidy program is very effective as they achieved their objectives. Their subsidies program consists of direct payments, improved seeds, and agricultural machinery purchases. They started their subsidy program in 2004 and they increased the allocation of subsidies by 100 percent between 2008 and 2013. They also introduced a new policy which is called a minimum purchase price program. The main objective

of this policy is to encourage the production of targeted crops in the different regions of the country. In this policy, they focused on rice, wheat, corn, rapeseed, soybeans, pork, sugarcane, cotton. In this subsidy program, temporary storage of the commodity is also included. These policies increased the incomes level of the poor farmers and promote long-term food security goals. The Chinese government has constantly improved minimum price policies to protect agriculturist producers from higher input costs and provide incentives to increase the production level. Through these policies, the government has set higher prices for export goods and lower prices for import goods. Therefore, the productions of many agricultural goods are doubled. Their subsidy policy was result-based; therefore, they achieved their objectives of the policy. Now they are motivated to reduce the subsidies. Therefore they are trying to introduce reforms and policies which reduce the subsidies without decreasing agricultural production. (Hejazi & Marchant, 2017).

## **5.18 Discussion**

The qualitative analysis has provided the overall structural problems and issues in subsidy programs that create barriers for economic growth and require active government interventions which otherwise is creating budget deficits. Taxation policy and subsidy policies are among the main reasons among these huge growth impediments. The respondents have provided significant information and objectives regarding the provision of subsidies i.e. to stabilize inflation, to increase the export, to reduce the energy crises, to increase productivity, increase economic growth and reduce the poverty (increase the welfare). Because subsidy is an important economic activity and is also considered an important fiscal policy tool. Therefore government uses subsidy to achieve all the above objectives. According to the study of (Schwartz & Clements, 1999) subsidies performs many functions such as stabilizing the prices, increasing the welfare and reducing the cost of production. But the provision of subsidies to achieve the desired objective is not only very costly as it causes fiscal imbalances and also has an adverse effect on efficiency. Moreover, the respondent's justification was supported by the findings of the study of (Tripathy & Padhi, 2020). According to his study, one of the main objectives of the provision of subsidies in the welfare economy is to support the marginalized group of the society and to encourage economically. Furthermore, their finding supports the government intervention

because it motivated people socially and economically through reducing the poverty, increasing employment opportunities, increasing economic growth, and providing infrastructures access.

Thus raising questions on the performance evaluation of these subsidies. Ideally, subsidies should only be provided where intervention can improve resource allocation (in pure economics term Pareto-Improvement takes place). As subsidies may also lead to perverse or unintended economic effects, where it results in inefficient resource allocation. According to macroeconomics experts, the macroeconomics objectives and goals can only be achieved through a proper policy framework, but in the case of subsidies in Pakistan, we found no such policy framework. The provision of heavy subsidies without a fiscal framework is one of the major reasons for fiscal imbalances. According to the respondents of the finance ministry, Prime Minister Imran Khan citing this reason has introduced a subsidy cell in M/O Finance. The main objective of the subsidy cell is to evaluate the outcome of subsidy and also investigate the economic impact of the provision of subsidy (which as mentioned earlier does not exist). The subsidy cell will help improve the subsidy allocation mechanism to bring the desired change in resource allocation efficiency help in achieving the objectives of the subsidies. However, no report as such is publically available on its functioning and outcomes. As the fiscal year 2021-22 again subsidies have a huge volume and focus of these are still the same without any targeting or sunset markers in the overall policy.

It is very important for the government offices to evaluate the outcome of subsidies ex-ante and ex-post because government subsidy (for example estimated subsidy 209 billion and has been revised 430 billion for FY 21) is financed from tax money which has many other potential economic uses such as development spending (650 billion for FY21). In terms of procedure, there is no separate mechanism for demand for grants in the case of subsidies. According to the budget wing in the ministry of finance, the concerned ministry identifies the amount of subsidy and sends the proposal to the economic coordination committee (ECC) for the provision of subsidy. The finance ministry is only required to allocate the resources as per availability which in case of debt-financed budgeting is open-ended and it is the liability concerned ministry to evaluate the objectives and outcome of subsidy. Moreover, we came to know that during the approval of subsidies ministry of finance has no role. Therefore the ministry of finance's role is very important during the approval of the subsidy i.e. to review the proposal/request for subsidies, as unlike the PC-1 being reviewed by the planning commission there is no such

mechanism for subsidy evaluation. The economic coordination committee (ECC) must require the ministry of finance for such evaluations because they are responsible to allocate the resources in order to finance the subsidies and it is also important to know the capabilities of the finance ministry (in terms of allocating the resources and financing the subsidies). Therefore the ministry of finance (corporate finance wing, budget wing, Principle accounting offices and secretaries) should review the requests for subsidy which is sent by the concerned ministry. Whereas government subsidy is an important economic activity involving huge resource transfers, therefore it is important for the finance ministry and relevant ministries to introduce a framework for subsidy which evaluates the economic outcome of the subsidy ex-ante and ex-post like it is done for all PSDP financing by the planning commission. However, we came to know through the responses from the ministry of planning commission that they have no role in the subsidy policy. Therefore it is very important for the federal government to include the planning commission in the subsidy policy as well because they are a responsible ministry for economic planning in Pakistan. It will be better if the ministry of planning takes responsibility of the monitoring and evaluation of the subsidy. As it was also informed by the respondent that the third party should monitor and evaluate the impact of subsidy. So planning commission is the best option to play the role of the third party.

Another issue in subsidy provisioning which has been highlighted during the interviews is that most of our subsidies are indirect, which often does not reach the most deserving. So it is very important for the government to develop such methods where they convert indirect subsidy to direct subsidy. According to respondents, it will be a big challenge but with the given age of information technology and big data availability it can be done.

In the fiscal budget, 2021-22 government decided to propose 682 billion for the subsidy to the power sector, agriculture sector, industrial sector, export sector, and automobile sector. However, there is a need to think out of the box and take help from modern innovations for increasing the marginal efficiency of the subsidies provided in these sectors to increase the employment opportunities, economic growth and reduce the poverty in the economy. This can also help avoid economic crises which may start due to such subsidies like in the recent past example of the Sugar crisis.

In the fiscal budget, 2021-22 government decided to provide a huge amount of subsidies (616 billion) to the power sector Pakistan is giving subsidies to the energy sector which has a negative impact on economic growth as:

- Crowd out private investment.
- Distort resource allocation by encouraging energy consumption.
- Reduce the incentive for investment in the renewable energy
- Accelerating the depletion of natural resources
- Global warming.
- Circular debt.

So government should remove the unnecessary subsidy for energy sectors, which creates negative externalities and have a negative impact on the economy. It is also clarified through the findings of Trimble, Yoshida, and Saqib (2011) the provision of continuous subsidies to the power sector has a significant impact on the fiscal deficit and circular debit.

Many sectors which are enjoying continuous subsidy have become addicted to subsidy, which instead of bringing in efficiency keeps them at a primitive level of technology use, especially if there is no sunset clauses in such doll-outs. Government should focus on the provision of subsidies for the most vulnerable sectors of the economy but for a limited time frame and incentivize the efforts only to realize the objectives of reducing the inflationary pressure on the economy, improving growth and employment and reducing poverty.

Government should revise subsidies policy for health and education, because of these two sectors government can improve the living standards of the people. These two sectors provide skillful labor and healthy human recourse which is helpful for long-tern economic growth.

In Pakistan, the performance of many industries is below par and totally dependent on the government subsidy. These industries are a burden on the economy and one of the important factors of fiscal imbalance. So government should rationalize the subsidy for these industries. Therefore the policy makers should revise the subsidy policy for industries and focus on the new efficient and competitive industries.

Giving subsidies without a proper policy framework can reduce the confidence of the government in the allocation of savings. Most of the time savings are used in subsidies, and

when there is corruption and a lack of transparency, then the purpose of giving subsidies is meaningless.

The study also identifies that many pressure groups (well-organized groups) have a connection with the government and they also have an influential impact on policy making process. They put pressure on the government to provide subsidies. It is also possible that sometimes subsidies are used by the government to maximize the voting power and want to gain more votes in the election and again reelected in the election. So government should not use subsidies for their political purpose, because it is one of the important economic activities and fiscal policy instruments. The finding of the study is also justified by the study of Vector (2009) who conducted research on the politics of fossil fuel subsidy. He also highlighted that those subsidies are costly to service which is provided by the government and the government ignores the long-run economic cost of subsidies and their impact on economic growth. On the other side, these subsidy programs make more aware of their interest and objectives. The well-organized group is involved in the policy-making process and sometimes they forced the government to provide the relief and political benefit. Therefore government provides the subsidies, as they are one of the easiest ways to satisfy the interest groups.

It has been learned from the responses from different ministries that the IMF program has a negative impact on the subsidy policy because they are concerned with the collection of revenue and budget deficit. The main conditionality of the IMF program is to reduce subsidies and increase the revenue (Tax collection). But government sometimes doesn't address that conditionality as they increase the indirect taxes rather than direct taxes which increase the prices of goods and on the other side they reduce the subsidies other power sector which directly affect the poor consumer. According to IMF workings papers Coady, et al. (2010) that subsidy policy is an important policy issue for countries mainly in the energy and power sector. The findings of their study stated that subsidies on Petroleum products have been increased in the world over. The IMF is concerned about the petroleum subsidies because these subsidies are a burden on the fiscal budget and cause the fiscal deficit.



## **CHAPTER 6**

### **CONCLUSION AND POLICY IMPLICATION**

#### **6.1 Conclusion**

Subsidies are considered one of the important economic activity and it also consider important fiscal policy instrument through which government intervenes in the market. Subsidies are used to stabilize inflation, to increase trade openness, to reduce the energy crises, to increase productivity, to increase economic growth, and reduce the poverty (to increase welfare). The main objective of this study is to evaluate the fiscal framework of the subsidy and examine its impact on economic growth in Pakistan. Therefore our study is based on both qualitative and quantitative analysis. In the qualitative analysis, we focused on the overall structural problems and issues in subsidy policies in the case of Pakistan's economy which create barriers for economic growth and require active government intervention.

Ideally, subsidies should only be provided where intervention can improve resource allocation (in pure economics terms Pareto-Improvement takes place). As subsidies may also lead to perverse or unintended economic effects, where it results in inefficient resource allocation. According to macroeconomics experts, the macroeconomics objectives and goals can only be achieved through a proper policy framework, but in the case of subsidies in Pakistan, there is no such subsidy policy framework. The provision of heavy subsidies without fiscal framework is one of the major reasons for fiscal imbalances.

It is very important for the government and stakeholders to evaluate the outcome of subsidies ex-ante and ex-post because government subsidy is financed from borrowing (both domestic and international borrowing) and tax money which has many other potential economic uses such as development spending. So giving subsidies without a proper policy framework can reduce the confidence of the government in the allocation of savings. Most of the time savings are used in subsidies. In the case of Pakistan, there is no monitoring and evaluation of the subsidy program.

In Pakistan, the concerned ministry identifies the amount of subsidy and sends the proposal to the economic coordination committee (ECC) for the provision of subsidy. In this case, the finance ministry is only required to allocate the resources and it is the liability concerned ministry to evaluate the objectives and outcome of subsidy. Moreover, the ministry of finance has no role during the approval of subsidies. Mostly subsidies are provided indirectly and it is very important for the government to convert indirect subsidy to direct subsidy but it is a big

challenge. It is also observed that many sector are enjoying continuous subsidy program and have become addicted to subsidies, which reduce efficiency and productivity. The study also specified that many pressure groups (well-organized groups) have a connection with the government and they also have an influential impact on policy making process. They put pressure on the government to provide subsidies. Sometimes subsidies are used by the government to maximize the voting power and want to gain more votes in the election and again reelected in the election. The finding of the study is also justified by the study of Vector (2009) who conducted research on the politics of fossil fuel subsidy. Well-organized groups are involved in the policy-making process and sometimes they forced the government to provide relief and political benefit. Therefore government provides the subsidies, as they are one of the easiest ways to satisfy the interest groups. IMF is emphasis on subsidy programs because they are concerned with the collection of revenue and budget deficit.

In the quantitative analysis, we examined the impact of subsidies on economic growth and inflation in the case of Pakistan. Therefore we specified two models, the growth model, and the inflation model. A time series of data from 1980 to 2020 has been used to analyze the impact of subsidies on growth and inflation. Sometimes in time series, a data stationarity problem exists, therefore we used Augmented Dickey-Fuller (ADF) test has been employed. ARDL econometric approach has been employed to examine cointegration, long-run and short-run relationships of the variables.

In the growth model, we examined the impact of subsidies on economic growth with some other explanatory variables (labor force participation rate, gross fixed capital formation, and trade openness). The findings of the study show that the coefficient of the core variable (Subsidies) has a significant negative impact on economic growth in the case of Pakistan. The negative impact of the subsidies can be justified that a higher percentage of subsidies is provided to the power sector which is mostly enjoyed by big consumers and the elite class. Mostly subsidies are provided to non-developmental and R&D activities, which is injurious for the economy. Sometimes pressure groups are attached with the government and they forced the government to provide and allocate unnecessary subsidies to them. Moreover, the government aims to increase the voting power and promote the welfare of the nation therefore they provide subsidies. Trade openness (TO) has a positive impact in both the short-run and long-run, but the result was not statically significant in

the short run. Gross fixed capital formation (K), and labor for participation rate (Lf) have insignificant positive impacts in the long run but have a negative impact in the short run.

We also estimated the impact of subsidies on inflation with some other explanatory variables in the case of Pakistan. In the inflation model, we used subsidies as a core explanatory variable. We also used some other important variables in the model such as the budget deficit, exchange rate, and total advances. In the result, we found that government subsidies have a significant negative impact on inflation. It can be justified that mostly government aims to stabilize the inflation in the economy. Therefore they provide subsidies to stabilize the inflation in the economy. The government also aims to protect the poor consumer, therefore providing indirect subsidies on goods and services. The coefficient of total advances and the budget deficit was negative in long run. The exchange rate is considered one of the main determinants of inflation therefore we include exchange rate (Ex) in the model. The coefficient of the budget deficit is negative and significant. It means that the budget deficit has negatively related to inflation. The coefficient of the exchange rate (Ex) is positive in the long run. It is justified that an Increase in the exchange rate reduces the purchasing power parity and leads to higher prices in the economy. An increase in the exchange rate also increases the export which will increase the exports and also lead to an increase in the prices in the economy.

Moreover, we also estimated the bound test. The result of the bound test showed that the calculated F-statistic value of our both model (growth model and inflation) with the dependent variable and other independent variables is higher than the upper bound value and lower bound value. It means that the result is significant at a 5% level. So we reject the null hypothesis (H0) of the bound test which states that there is no long-run cointegration between the concerned variables.

## **6.2 Policy implications**

In this section of the study, we attempt to provide policy implications and recommendations of the bases of qualitative findings and empirical findings of the study. As the study aimed to evaluate the fiscal framework of the study and examine its impact on economic growth in Pakistan.

- I. According to macroeconomics experts, the macroeconomics objectives and goals can only be achieved through a proper policy framework, but in the case of subsidies in Pakistan, there is no such policy framework. The provision of heavy subsidy without fiscal framework is one of the major reasons for fiscal imbalances therefore we need to propose a policy framework for the subsidy program.
- II. Another issue in Pakistan's economy which has been highlighted in this study is that most of our subsidies are indirect. So it is very important for the governments and research economists to convert indirect subsidy to direct subsidy
- III. We found that there is evaluation and monitoring of the outcome of subsidy. So it is very important for the relevant government officials and stakeholders to evaluate and monitor the economic outcome of the subsidy program. It will improve the subsidy allocation mechanism to bring the desired change in resource allocation efficiency to help in achieving the objectives of the subsidies.
- IV. Moreover, we found that during the approval of subsidies ministry of finance has no role. Therefore the ministry of finance role is very important during the approval of the subsidy i.e. to review the proposal/request for subsidies. The economic coordination committee (ECC) must include the ministry of finance because they are responsible to allocate the resources in order to finance the subsidies and it is also important to know the capabilities of the finance ministry in terms of allocating the resources and financing the subsidies.
- V. We found that subsidy has a negative impact on economic growth. So it is very important for the government to remove the unnecessary subsidy, which creates negative externalities and has a significant negative impact on the fiscal deficit and circular debt.
- VI. Many sectors which are enjoying continuous subsidies have become addicted to the subsidy. Government should introduce the sunset clause in the subsidy policy.

- VII. In Pakistan, the performance of many industries is very poor and totally dependent on government subsidy. These industries are a burden on the economy and one of the important factors of fiscal imbalance. So government should remove the subsidy for these industries. Therefore the policymakers should revise the subsidy policy for industries and focus on the new efficient and competitive industries.
- VIII. Subsidies should not be used for political purpose because it is one of the important economic activity and fiscal policy instrument. Many pressure groups (well-organized groups) have a connection with the government and they also have an influential impact on the policymaking process. They put pressure on the government to provide subsidies.
- IX. We found that subsidy has a significant negative impact on inflation. Therefore subsidies must be used to stabilize the price when the inflation is very high.
- X. We also found that trade openness has a significant positive impact on growth. therefore the government should introduce subsidy reforms in the export-oriented industries which increase our export and economic growth.

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