

# **TRANSMISSION CHANNELS OF FISCAL POLICY: A CASE STUDY OF PAKISTAN**



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## CERTIFICATE

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## ABSTRACT

This study mainly investigates fiscal policy transmission channels in the context of Pakistan. Aiming to understand how components of fiscal policy like government expenditure and taxes affect different macro-economic variables of the economy. The study adopted the Three Stage Least Square SUR estimation method to investigate transmission channels of fiscal policy. This model is basically used when the study has some common explanatory variables and have the problem of endogeneity. As this study have government expenditure and taxes as common variables in all transmission channels of fiscal policy that are investigated. Independent variables of this study is Investment, Exchange rate, Trade deficit, consumption, inflation, Stock market, and Employment. This study uses time series data from Pakistan. The time span of the given study is 1979-2022. The major findings of the study reveal that fiscal stimulus has a positive relation with the interest rate, exchange rate, trade deficit, consumption, inflation, and the stock market. On the other hand, fiscal stimulus has a negative relation with investment and employment. When government expenditure increases and taxes decrease then government borrowing increases this leads to an increase in interest rate and a decrease in investment then as a result employment also decreases. An increase in interest rate also attracts foreign investment due to which domestic currency appreciates, the exchange rate increases, and the trade deficit also goes up. On the other side when government expenditure increase and taxes decrease then the disposable income of individuals also increases which lead to an increase in consumption, saving, and aggregate demand due to this two effects happen if we have constant supply then inflation increase otherwise increase in aggregate demand lead to an increase in investment which boosts the stock market. This study suggests that Policymakers should carefully balance government expenditure and taxes to avoid excessive government borrowing and rising interest rates. The aim should be to stimulate economic growth without crowding out private sector investment. This balance is crucial for maintaining macroeconomic stability.

**Key Words:** Government Expenditure, Taxes, Transmission Channels, Seemingly Unrelated Regression Model. Three Stage Least Square SUR Model.

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## **LIST OF ABBREVIATIONS**

AD: Aggregate Demand

CONS: Consumption

ER: Exchange Rate

EMP: Employment

FBR: Federal Board of Revenue

FRDL: Federal Responsibility and Debt Limitation Act (2005)

FDI: Foreign Direct Investment

FC: Foreign Capital

GDP: Gross Domestic Product

GE: government Expenditure

i: Interest Rate

INF: Inflation

IFS: International Financial Statistics

INV: Investment

KSE: Krachi Stock Exchange

MOF: Ministry of Finance

MTBS: Medium Term Budgetary Strategy Paper

PFMA: Public Finance Management Act

SM: Stock Market

SBP: State Bank of Pakistan

SBGI: State Bank General Index of all Share Prices

SAV: Saving

SUR: Seemingly Unrelated Regression Model.

3SLS: Three Stage Least Square

TD: Trade Deficit

VAT: Value Added Tax

VAR: Vector Autoregression Model

WDI: World Development Indicator

Ydt: Disposable Income

# CHAPTER 1

## INTRODUCTION

### 1.1 Background

Economists use different policy measures to affect the economy. Generally fiscal policy and monetary policy are the two tools that are used to check the different effects on the economy mainly by policymakers. Monetary policy is controlled by state bank of the economy while fiscal policy is controlled by financial administrators of the economy. Fiscal policy, on the other hand, plays an important role in modeling the economy of any country. Fiscal policy mainly has two tools government spending and taxes through which they influence the economy and achieve desired objectives. The key objectives of fiscal policy are full employment, economic stability, encouraging investment, optimal resource allocation, and capital formation. However, the effectiveness of fiscal policy depends on the transmission channels through which it impacts the economy. The Investment channel, Inflation channel, Exchange Rate and Trade Deficit channel, Consumption channel, Employment channel, and Stock Market channel are the transmission channels of fiscal policy that needs to be investigated.

In FY23, Pakistan's economy shrinks after two years of strong growth, with a 0.6 percent decline in real GDP. The downturn was primarily due to adverse factors, including flood-related damage to agriculture, import restrictions disrupting supply chains, high fuel and borrowing costs, political uncertainty, and surging inflation. Pakistan's trade intensity is also low as compared to other neighboring countries due to the nation's aversion to international trade, with a focus on selling goods and services in the domestic market. The root cause of Pakistan's economic boom-and-bust cycles lies in this trade aversion, as it leads to a growing disparity between imports and exports, resulting in an unsustainable current account deficit.

The IMF's Stand-By Arrangement (SBA) in 2023 provided external financing, averting a balance of payments crisis, but low reserves continue to necessitate import controls, limiting economic recovery. Projected real GDP growth is modest at 1.7 percent in FY24 and 2.3 percent in FY25, with some recovery expected in agriculture and industry due to eased import restrictions. High inflation and depreciation are likely to restrain economic activity, while private investment and

exports may see limited improvement without broader reforms. The economic outlook depends on SBA implementation, fiscal restraint, and external financing, but financial sector instability and policy issues pose risks, potentially increasing vulnerability to poverty for millions just above the poverty line.

Achieving a more substantial recovery requires a comprehensive medium-term reform agenda addressing fiscal consolidation, revenue enhancement, expenditure rationalization, private sector confidence restoration, and energy sector efficiency improvements. So, there is need to work on fiscal side in Pakistan.

Government affects the used resources in an economy, so a general equation of national income which measures GDP as equal to the sum of consumption, investment, government expenditure, and net exports shows how this affect happens. These all are the sources of aggregate demand or spending in the economy. The equation of national income makes it clear that government directly affects the overall economy by restricting government spending (G) and indirectly influencing open and closed economies through transfer payment and change in taxes (Horton & Ganainy, 2022). A change in government spending increases aggregate demand which is called expansionary fiscal policy. By contrast, if changing government spending decreases aggregate demand it is called contractionary fiscal policy.

Changes in government spending or changes in taxes affect the different macroeconomic variables in different ways. (Lupu & Viorica, 2021) analyzes that fiscal policy tools have negative effect on economic activity and inflation in the long-term. (Rendhal, 2016) examines that dynamics of unemployment equilibrium significantly increase the efficiency of fiscal policy. When there is an increase in government spending or decrease in taxes it increases output and causes a fall in the unemployment rate. Fiscal policy instrument negatively affects inflation and economic growth in the long term while in the short term, it is insignificant (Asandului, 2021).

Fiscal policy has different transmission channels. This study aims to investigate transmission channels of the demand side, the supply side, the financial market side, and how the economy will be affected by these channels i.e., investment, exchange rate and trade balance, inflation, public debt, consumption, employment, and the stock market channel by using seemingly unrelated regression model (SUR). In which we estimate eight equations simultaneously. As when government spending increases taxes decreases, government borrowing increases so

demand for loanable funds increases then the ultimate interest rate increase so people prefer to save rather than to invest so investment will decrease. The second channel is the exchange rate and trade balance. Due to fiscal stimulus interest rate increases. This will attract foreign investors that will help to increase the capital inflow, and ultimately domestic currency will appreciate. Third, due to fiscal stimulus the exchange rate increases, exports will decrease, and imports will increase which will cause a trade deficit. Fourth, due to fiscal stimulus the disposable income and consumption will increase, which will increase demand but due to constant supply inflation will occur (Stupak, 2019). Furthermore, other remaining channels are explained in this study.

## **1.2 Overview of the Fiscal Scenario in Pakistan**

Pakistan's fiscal side of the economy refers to the government's revenue collection and expenditure activities, as well as the overall management of public finances. Here is a detailed overview of Pakistan's fiscal side of the economy:

### **Revenue Collection**

Pakistan's tax system is based on both direct and indirect taxes. Direct taxes include wealth tax, income tax, and corporate tax, while indirect taxes include sales tax, customs duty, and excise duty. The main portion of taxes comes from indirect taxes. Although direct taxes show a significant improvement. But they are still low compared to indirect taxes. According to the organization for economic co-operation and development the tax-to-GDP ratio in Pakistan is relatively low, at around 10-12%, compared to other countries with similar income levels. As Pakistan's tax-to-GDP ratio in 2020 was 10.4% which was low. From 2019 to 2020 Pakistan's tax to GDP ratio increased by 0.4 % from 10.0 % to 10.4 %. Pakistan's tax-to-GDP ratio increased by 1.3 percentage points between 2011 and 2020, rising from 9.1% to 10.4%. During this period, the highest tax-to-GDP ratio was 11.4% in 2017, while the minimum was 9.0% in 2012. This is due to a combination of factors, including a large informal economy, low tax compliance, weak tax administration, and tax evasion.

To address these issues, the government has introduced various tax reforms over the years, including the introduction of a value-added tax (VAT) to replace the sales tax, the simplification of tax laws and procedures, and the computerization of tax collection. However, progress has been slow, and tax evasion and corruption remain significant challenges.

## **Expenditure**

Public expenditure is divided into current (non-development) spending and development spending. Development spending includes investment in infrastructure, education, health, and other social sectors, while non-development spending includes defense, debt servicing, and other recurrent expenses.

Over the years, The government of Pakistan has faced challenges in managing public finances, with high levels of expenditure, particularly on defense and debt servicing. The military feels that a reduction in their available funds would affect their ability to oppose multiple threats that a country face. So, they are unwilling to decrease their spending to create fiscal space for the government to accommodate the needs of the people. On the other hand, Pakistan's debt servicing amount is also very high due to which a large part of government revenue is lost to pay interest amount on principal. Due to this a low portion of government revenue is left for the welfare and development work of the country. So, GDP growth is also low which is the cause of low development and economic growth. Which leads to persistent fiscal deficits. As a result, the government has introduced various fiscal consolidation measures, including reducing public spending, increasing tax revenue, and improving debt management. However, progress has been slow, and the fiscal deficit has remained high.

## **Debt Management**

Pakistan's debt burden has increased significantly over the years, with both internal and external debt rising. During the period from 2008 to 2013 external debt of Pakistan increased from 42.8 billion US dollars to 52.4 billion US dollars. After 2013 the external debt of Pakistan increases from 52.4 billion US dollars to 75.3 billion US dollars in 2018. Then from 2018 to 2021 Pakistan's external debt increased from 75.3 billion US dollars to 110.6 billion US Dollars. This trend shows that Pakistan's debt burden is increasing over time which decreases economic and GDP growth.

The government's debt management has been a significant challenge, with high levels of debt servicing leading to reduced fiscal space for development spending. The government has introduced various debt management reforms, including debt rescheduling and debt

restructuring, to manage the debt burden. However, the effectiveness of these measures has been limited, and the debt burden remains a significant challenge.

In general, fiscal scenario in Pakistan has faced significant challenges over the years, with low revenue collection, high government expenditure, persistent fiscal deficits, and a large debt burden. While progress has been made in certain areas, such as tax reform and debt management, much remains to be done to achieve sustainable financial stability and promote economic growth. The government will need to continue its efforts to increase tax compliance, reduce public spending, and manage the debt burden effectively.

### **1.3 Problem Statement**

The method through which the government changes its revenue and spending to influence the larger economy is identified as fiscal policy. By changing the level of government spending and tax revenue, the government can manipulate the economy by either lowering or rising economic activity in the short run. For example, it is claimed that when the government has a budget deficit, it is engaged in fiscal incentive, which increases economic activity, and that when the government has a budget surplus, it is engaged in fiscal contraction, which slows down economic activity. Government can devote fiscal contraction or fiscal stimulus to affect economic activity by changing their spending or taxes or by a mixture of both. The main research problem is to investigate the fiscal policy transmission channels of the demand side, the supply side, and the financial market and to see the indirect effect of fiscal policy shock on these variables, and how they interlink with each other from the evidence of Pakistan. In which we include interest rate, investment, exchange rate, trade deficit, inflation, consumption, stock market, and employment channel. As when government spending increases and taxes decrease then government borrowing will increase so demand for loanable funds will increase then the ultimate interest rate increases so people prefer to save rather than invest so investment will decrease. The second channel is the exchange rate and trade balance. Due to fiscal stimulus interest rate increase. This will attract foreign investors so capital inflow will increase and ultimately the exchange rate will reduce. In same way remaining channels are investigated in this study. Previously many studies had worked on transmission channels of fiscal policy, but they separately define these channels and their effects on the economy even in the case of Pakistan. As (Malik, 2013) worked on



private investment and fiscal policy in Pakistan and (Madni, 2014) work on fiscal deficit taxation and inflation in Pakistan. All these above-mentioned channels of fiscal policy are important to maintain high economic growth, full level of employment and stabilize the prices and wages in the economy.

#### **1.4 Research Problem**

Based on the problem statement as described in above mentioned text. I am limiting my research problem to “**Transmission Channels of Fiscal Policy: A Case Study of Pakistan**” and have operationalized my study by following research questions and research objectives.

#### **1.5 Research Objective**

The main objective of this study is

- To examine transmission channels of fiscal policy to focus on real side variables like investment exchange rate, trade deficit, consumption, employment, and stock market.
- To investigate transmission channels of fiscal policy to raise inflation and policy rate.

#### **1.6 Research Question**

This study will raise the following questions.

- What are the inflation, interest rate, exchange rate, trade deficit, consumption, employment, stock market, and investment transmission channels of fiscal policy?
- How does changes in fiscal policy instruments affect different variables of the demand side, supply side, and financial market side of the economy?

#### **1.7 Significance**

This research is significant for policymakers, government officials as well as the entrepreneurs of the country. First, the estimation of fiscal policy shocks on different variables of demand, supply, and financial market and the assessment of their transmission channels are helpful for policymakers to assess the benefit and cost of this fiscal policy stance. The second reason for

investigating the fiscal policy transmission channels is that transmission channels of monetary policy in Pakistan are weak so it is more important to work on the fiscal policy transmission channel. As Ahmad (2016) analyses that in Pakistan interest rates and monetary policy stance have a negligible effect on output fluctuation. So as a backdrop work on fiscal policy channels will help the government to achieve sustainability and growth in the economy. Third the fiscal policy channel is important to study as it works as a demand management tool for any economy. So, this study will be helpful for entrepreneurs as well as from the investment perspective and help them to get higher returns. Another important reason to study transmission channels of fiscal policy in Pakistan is as it is a developing country and there is a need for good public infrastructure to run private investment.

### **1.8 Organization of Study**

The second chapter of this study contains a literature review in which the theoretical and empirical study incorporates the fiscal policy transmission mechanism. In chapter three the methodology of this study is discussed. In chapter four this study discusses the graphical representation of variables and empirical results from the data analysis. The chapter five contain qualitative analysis in which the views of different officials of ministry of finance and planning commission are mentioned about this study and policy review analysis where different policies are discussed that are helpful in fiscal policy decisions. Finally, chapter 6 concludes the main findings of the research with policy recommendation.

## CHAPTER 2

### LITERATURE REVIEW

Fiscal policy is a demand management policy, and it is a main tool of macro management. There is a great debate over how fiscal spending affects output and other fundamental macro factors. A study of relevant literature, for example, (Fontana, 2009) notes that there is little argument among contemporary views regarding the consequences of fiscal policy. There are mainly two theories, the new Keynesian and neo-classical theory that provide the basis for the explanation of transmission channels of fiscal policy.

Keynesian economics, founded by John Maynard Keynes, emphasizes that in the short run, there can be a trade-off between inflation and unemployment. This concept is often associated with the Phillips Curve, which shows an inverse relationship between the inflation rate and the unemployment rate. Keynesians believe that government policies, particularly fiscal policy, can be used to manage this trade-off. For example, during economic downturns, the government can engage in deficit spending, which means increasing government expenditures or reducing taxes to stimulate demand and reduce unemployment. According to Keynesians, increasing aggregate demand through government spending can temporarily reduce unemployment. However, it may also lead to inflation if the economy is operating near full capacity. They argue that this inflation is typically seen as a short-run issue, and the government can use fiscal and monetary policies to manage it. Keynesians acknowledge that expectations matter. If people expect inflation to continue, it can become self-fulfilling. However, they believe that these inflationary expectations can be managed through policy interventions and that, in the long run, inflation and unemployment are not negatively related. On the other hand, Neoclassical economists, often influenced by the ideas of the Phillips curve in its long-run form, are more skeptical about the existence of a long-term trade-off between inflation and unemployment. They emphasize the long-run relationship between these two variables. They argue that in the long run, there is a natural rate of unemployment, which is determined by structural and frictional factors. Inflation and unemployment are not negatively related in the long run; rather, they are determined by different factors. Neoclassicals point out that exploiting the short-run trade-off can lead to changes in inflation expectations. If people anticipate that policymakers will continually use

expansionary policies to reduce unemployment, it can result in inflationary expectations and wage-price spirals, ultimately leading to higher inflation. Neoclassical economists contend that policies aimed at reducing unemployment through expansionary fiscal or monetary measures are unlikely to lead to a permanent reduction in unemployment. They argue that such policies may have short-term benefits but can also create distortions and ultimately hinder long-term economic growth.

Fiscal theory of the price level is also helpful for explaining transmission channels of fiscal policy. As Fiscal Theory of the Price Level (FTPL) is an economic theory that challenges the traditional view of central banks as the primary drivers of inflation. this theory explains that fiscal policy, particularly government budget decisions, significantly influences the price level. In this framework, fiscal deficits, when financed by government borrowing or money creation, play a key role in determining inflation. Expectations of future fiscal policies, government behavior, and the interplay between fiscal and monetary policy are central to Fiscal theory of price level, highlighting the complex relationship between fiscal choices and price levels, in contrast to the conventional Quantity Theory of Money. This theory has extensive implications for understanding inflation and policy decisions, emphasizing the importance of fiscal policy in shaping an economy's price dynamics.

Jones et al. (1993), and Hendricks (1999) contend that higher taxation has long-term negative outcomes on economic growth and that the exclusion of distortionary taxes significantly increases the growth rate, in contrast to (Robert E. Lucas, 1990) and (Zou, 1996) who claim that fiscal policies have no long run growth effects.

## **2.1 Investment**

When the government increases its spending and decreases taxes the government expands its deficit and takes debt to finance this fiscal stimulus. Due to which interest rate increase. At any time, the pool of funds has a limited amount of loanable able money that can be borrowed at any time by private parties and government entities. The price of these loanable funds or money is the interest rate and when the government starts to borrow a large amount of this saving pool the

demand for these loanable funds rises. The cost of borrowing these funds increases as the demand for loanable funds increases without a twin increase in the availability of these funds. so it becomes more costly for businesses to borrow money and make investments in their companies. This increase in interest rate generally hurts economic activity.

The fiscal expansion increases aggregate demand through one or two channels. Firstly, if the government increase its expenses but keeps taxes constant it directly increases demand. Secondly, when the government increase transfer payments and decreases taxes it increases the disposable income of people, and their consumption increases. This will raise aggregate demand. Due to this the government faces a budget deficit and meets its expense by issuing bonds and offering higher interest rates because here the government compete with private borrowers. Holding other things constant fiscal expansion rise interest rate and crowd out private investment and reduce the output from private investment. (Weil, 2008).

(Alesina & Ardagna, 2002) uses a panel of OECD countries to analyze the impact of fiscal policy on investment. The findings of this paper show that there is a negative impact of public spending and its wage component on business investment and profits. Fiscal contraction increases private investment in high income countries. Reduction in government budget deficit increases private investment through reduced real interest rate and external stability and enhanced price. (Emanuele Baldacci, 2004) . Moreover (Peren & Arin, 2004) by using unbalanced panel data suggests that government spending and household taxes negatively affect private investment and income growth. While (Sineviciene & Vasiliauskaite, 2012) in his research conclude that there is a direct strong relationship exist between private investment and fiscal policy. By showing the importance of fiscal policy to private investment. Then (Afonso & Jalles, 2015) by using large panel data from ninety-five countries claims that government spending negatively affects private investment. Subsidies, Social Security payments, and interest payments hurt investment while government health expenditure has a positive effect on investment.

(Min, Wen, & Wang, 2022) found that in China monetary policy and government expenditure policy has insignificant impact on domestic saving. And interest rate also hurts domestic investment. (Kim & Nguyen, 2020) reveals that increases in government expenditure affect

corporate investment negatively by reducing first investment opportunity and highlighting the importance of the labor market as a fundamental mechanism.

(Malik, 2013) analyses that it is better to use different aspects of fiscal policy instead of fiscal variables. Different categories of expenditure and revenue have different impacts on private investment. Mostly there's a non-linear relationship that suggests the significance of certain threshold levels for different fiscal instruments that encourage private investment.

## **2.2 Exchange Rate and Trade Deficit**

When government spending increases and taxes decrease then government faces a budget deficit. To overcome this deficit the government can borrow more due to which demand for loanable funds increases. When demand increases then prices also increase, and the price of loanable funds is the interest rate so as a result interest rate increases. Investors regularly look for investments when domestic interest rates increase compared to overseas rates because relatively higher interest rates link to relatively higher returns on investment. However, when foreign investment comes into the country, interest rates may begin to decline as the sum of loanable capital increases, potentially negating the stimulus' initial rate increase. Foreign investors' increased demand for investment means that demand for that currency increases as investors exchange various foreign currencies for this currency, so they invest. The value of that currency increases due to the increasing demand, as it's known as appreciation. When a currency increases in value, it becomes more expensive when compared to other currencies; as a result, it costs more in foreign currency to "buy" the same amount of goods and services domestically than they do abroad, which rise imports and lower exports. As a result of the decline in exports and rise in imports from abroad, the trade deficit often increases in the long run. All other things being equal, an increase in the trade deficit indicates that domestic consumption and production are falling, partially offsetting the stimulus rise in aggregate demand.

Fiscal policy affects the exchange rate through price change, interest rate, and income change. Price change: When the government increases its spending or decreases taxes it increases the disposable income of people, consumption increases because of aggregate demand increase which pushes prices up. When prices increase this makes our imports cheaper and exports

expensive for other countries. Demand for foreign currency increases as compared to domestic currency. This lowers the exchange rate.

Interest rate: When the government increases its spending or decreases in taxes it gets this money from selling bonds which raise interest rates. Higher interest rates cause the foreign currency to follow in the country because foreign investors are attracted toward higher interest rates which give them more return. Increased capital flow pushes the exchange rate up.

Income change: When the government cut taxes it puts more money in the pockets of people due to which consumption increases and as a result aggregate demand increase. This means more imports. When imports rise people convert more domestic money to foreign currency due to which domestic currency depreciates and the exchange rate decreases. (*Aaron Hill*)

(Perotti, 2007) uses structural VAR to estimate a series of OECD countries. And show that in all countries increase in government expenditure stimulates a reduction in the trade deficit and real exchange rate. However, in the US the impact on the trade deficit is small. (Kim & Roubini, 2008) discovered that the real exchange rate depreciates when government spending increases or taxes decrease. (Karras, 2011) in his study show that fiscal policy is more efficient under fixed exchange-rate regimes than under flexible exchange-rate regimes. While (Born & Juessen, 2013) and (Born & Muller, 2019) note that the real exchange rate increases under the regime of a fixed exchange rate. And (Ilzetki, 2013) by using the SVAR model claimed that the reaction of real exchange rate is affected by the sample size.

(Cebi, 2014) also uses the structural VAR framework and shows that the positive shock of government spending increases the exchange rate and trade deficit also. But the effect of shock in government investment persists insignificant. However, (Ferrara, Natoli, & Siena, 2021) analyze that increasing government spending raises the exchange rate and creates inflationary pressures.

(Lane & Perotti, 1998) in his study analyze that an expansion in wage, government spending leads to a decrease in exports and a worsening of trade balance, especially when exchange rates are flexible. Then (Egwaikhide, 2002) indicates that a budget deficit caused by increased government expenditure has negative impact on trade balance. Regardless of whether it is funded by money or through external borrowing. (Erceg, Guerrieri, & Gust, 2005) use the open

economy model DSGE. Their Findings show that fiscal deficits have a smaller impact on the us trade balance unrelatedly of the source from where they change either by an increase in government spending or a tax decrease. Moreover (Koray & McMillin, 2006) by using the VAR model analyze that increase in government expenditure cause a sustained rise in budget deficit, an immediate expansionary impact on output, and a long-term positive impact on the price level, but also a drop in the real interest rate. Simultaneously, and by interest parity, the real exchange rate falls while trade balance improves.

According to (Aslan & Buyrukoglu, 2015) Long-run study demonstrates that increases in government spending and revenue, as well as an appreciation of the local currency, hurt the trade balance. Then (Kim & Lee, 2018) claimed that when government expenditure increases it became the cause of real appreciation and a decline in the trade balance. While (Rosensweig & Tallman, 1993) analyze these issues by combining a five-variable VAR model and prove that increase in government budget deficit appreciates the dollar and supports the twin deficit that government deficit cause increase in the trade deficit.

### **2.3 Inflation**

When the government increases spending or decreases taxes, it increases the disposable income of consumer due to which saving, and consumption of people increase as a result it boosts the economy's overall demand. This change in government spending and taxes can cause an unsustainable higher demand for goods and services, that the economy is incapable of supplying when it's already working close to full capacity. Prices increase when there is a gap between demand and supply for goods and services and this phenomenon is called inflation, this occurs due to fiscal stimulus. Although economists typically see low and stable inflation as a clue to a well-managed economy. A rise in inflation can cause economic distortions and impose unneeded costs on businesses and people. As a result, an increase in inflation rate can decrease the effect of fiscal stimulus on economic activity by obstructing the economy's ability and increasing individual costs to allocate resources efficiently.

(Rother, 2004) in his study using panel estimation through which he suggests that active fiscal policies may have a significant impact on inflation volatility. While (Karras, 1994), (Ashra, Chattopadhyay, & Chaudhuri, 2004) in India and (Hang, 2010) in Vietnam claim that budget



deficit as a tool of fiscal policy has no significant effect on inflation. Then (Khundrakpam, 2010) highlights that fiscal deficit influences the inflation process through higher aggregate demand or growth of base money. Their work analyses the importance of fiscal planetary in India in terms of not only the usual output-steadying role of fiscal policy but also the need for the use of fiscal measures to contain pressure that mostly increase from temporary but huge supply shocks. And (Surjaningsih, Utari, & Trisnanto, 2012) analyze the impact of fiscal policy on inflation and output by using the Vector Error Correction Model on quarterly data from 1990 to 2009 period. The findings of their work are that taxation has a positive impact on long term economic growth. While it has negative effects in the short term but government spending has positive effects in the short term. Higher inflation can cause tax increase and decrease in government spending.

(Nguyen, 2015) use the general method of moment (GMM) and pooled mean group method for estimation. Through both techniques of estimation, the budget deficit, government spending, and interest rate statistically became significant indicators of inflation. However, (Sujoudi, 2015) analyze that the growth rate of government spending, the growth rate of GDP, and the exchange rate had no substantial impact on inflation. Then (Vdovychenko, 2018) uses the Blanchard-Perotti approach to analyze the effect of fiscal policy on inflation and GDP. The findings of their work shows that fiscal multipliers in Ukraine in absolute values are high for budget expenses than taxes. Both budget expenses and taxes have a positive effect on inflation. (Montes & Lima, 2018) analyses that countries that have a higher degree of fiscal transparency had lower inflation rates and reduce inflation volatility as well as lower inflation rates and lower volatility in inflation expectations. This study also shows that fiscal transparency has a higher effect on inflation in developing countries.

(Asandului & Lupu, 2021) show that in the long run fiscal policy hurts both inflation and economic growth while in the short run, these effects are insignificant. Moreover (Coibion & Gorodnichenko, 2021) discover that information about deficit levels or current debt does not influence inflation expectations, but that information about future debt causes them to predict higher inflation in both the short term and in long term. (Othman, Pascal, & Philip, 2023) examine that, even in the absence of a discretionary policy response to high energy costs and inflation, the eurozone budget balance could be significantly affected by present high inflation in the long run.

## **2.4 Stock Market**

When the government increases their spending or decreases taxes it increases the disposable income of consumers or improves their purchasing power due to which consumption and saving of people increase. As a result, the demand of the overall economy increases. To fulfill this increase in demand, people start a new project and invest more as they have now more income in their hands. Investment will increase due to which the economy will flourish, and stock markets go up as now more people do investment because they must face less risk because of high demand.

Empirical evidence on stock market performance and fiscal policy is limited. In early studies (Darrat, 1988) show that changes in fiscal policy stance play a significant role in shaping stock returns. Even though when path excluded interest rates. (Laopodis, 2009) explore that current stock returns are negatively affected by previous budget deficits and suggest that the market is inefficient concerning information about future fiscal policy action. Moreover (Filis & Chatziantoniou, 2013) by using structural VAR model analyses that both monetary and fiscal policy effect stock market through indirect or direct transmission channels. This study also suggests that interaction of these both policies are more important to explain stock market performance or development. Then (Pasquale Foresti, 2017) explore how fiscal policies affect the stock market and show as public deficit increase stock market directories go down. (Ghafoor & Qureshi, 2019) Suggest that there is a negative relation between stock market return and bond flows in the existence of monetary and fiscal policy in the case of developed countries. But in developing countries stock market return follows the previous trend of bonds. (Andreea Stoian, 2020) by using the ARDL Bounds testing approach to show that past fiscal policy fully reflects stock prices in the long term. But in the short-term Romanian stock market responds efficiently only to unforeseen fiscal policy news.

## **2.5 Consumption**

When government spending increases or taxes decrease consumers' disposable income increases. When income increases, people's consumption and saving also increase economy will grow.

(Boskin, 1988) show that statistically fiscal policy affects consumption. But the stimulative effect of tax cuts on spending is significantly less than traditional Keynesian MPC out of existing disposable income. Then (Fatas & Mihov, 2001) by using the VAR model analyze that when government spending increases in result output increases with greater proportion to one. This rise is primarily due to increases in private consumption. while Increases in government spending have little effect on investment. (Morita, 2011) find that when government spending increases or taxes decrease stock return increase due to which GDP and consumption also increase. As pointed out in recent literature expansionary effects of fiscal policy reduced GDP and consumption but still this paper has a positive impact on these variables. Moreover (Alwagdani, 2014) by using the VAR model analyses that when government expenditure increases it increases private consumption.

(Odior, 2019) by using the DSGE model for the period 1981-2017 also examine that government spending has a positive effect on consumption and employment of poor households. While (Shaheen, 2019) shows that government spending has a negative wealth impact on private consumption in the short term. And positive impact on working hours. In the same way, tax shocks also hurt private consumption. However, (Tagkalakis, 2004) and (Woldu, 2022) claim that contractionary fiscal policy has a greater impact as compared to expansionary fiscal policy. Their finding also shows that the increase of fiscal policy on output effect through private consumption as compared to investment and private consumption has a higher effect in the recession period. Then (Zhu & li, 2023) by using the VAR model show that government spending shock increases private investment in both industrial and developing countries. However, the increase in developing countries is greater than in industrial countries.

## **2.6 Employment**

When the government increases its spending and decreases taxes its budget deficit increases to fulfill this deficit government borrow more due to which interest rate increase and people invest less. When investment decreases, employment also decreases. And if we look through the disposable income side when government spending income increase disposable income increase due to which consumption increase and aggregate demand also increase. When demand increases investment also increases and as a result employment also increases.

(Ardagna, 2001) by using the general equilibrium model analyses that, an increase in government purchase of final goods, and public employment has a negative impact on the economy. Even though the increase is financed by lump-sum taxes. Then (Mavetera & Choga, 2013) found that government consumption and taxation has a beneficial effect on unemployment, however, government investment spending has a negative impact. (Tagkalakis A. O., 2013) , (Bidemi, 2016 ) and (Rendahl, 2016) argue that fiscal policy instruments have negative effects on the unemployment rate whenever government expenditure increase or tax cuts the unemployment rate decrease in the economy.

(Tafuro, 2015) by using a panel of seventeen OECD countries to investigate whether fiscal policy can influence the trend of employment or not. This study found that fiscal shock can change the employment equilibrium level while not affecting potential output. However, (Rendhal, 2016) analyses that equilibrium dynamics of unemployment can considerably improve the effectiveness of the fiscal policy. In response to a shock that causes the economy to fall into a liquidity trap. As an increase in government expenditure increases output and becomes the cause of the rise in Employment. Then (Alimi & Maku, 2018) analyze the effect of fiscal policy on employment generation by using the Augmented dickey fuller test (ADF). The findings of this study show that government spending can create more jobs. If they spent on relevant capital projects that are capable of supporting job development and smoothly connecting rural-urban centers while not increasing migration. Moreover (Omran & Bilan, 2020) analyzes how fiscal policy shocks respond to the unemployment rate by using annual time series data from 1976 to 2018. And examine that increase in government spending hurts the unemployment rate while an increase in taxes has a positive effect on the unemployment rate. This study suggests that to reduce the unemployment rate the government needs to go with an expansionary budget.

## **2.7 Literature Gap**

Empirical work and existing literature on fiscal policy transmission channels in Pakistan are limited. Several people work on transmission channels of fiscal policy, but they define these transmission channels separately. Here we try to cover all these channels in one piece of paper. And we will also check the indirect impact of fiscal policy shocks on all variables. This research is superior in the sense of methodology as well. Existing research used mostly the var model to

build fiscal policy transmission channels, but this study uses the seemingly unrelated regression (SUR) model.

## CHAPTER 3

### RESEARCH METHODOLOGY

#### 3.1 Introduction

This chapter is divided into four sections. The first section discusses the research strategy. The second section discusses the research design. After that seemingly unrelated regression (SUR) model in case of endogeneity discussed than in last part, this study discusses the description of variables.

#### 3.2 Research Strategy

Research strategy is a process that provides overall direction to research. This study basically used a mixed methodology in which we have both qualitative and quantitative analysis. For quantitative analysis, we use the seemingly unrelated regression (SUR) method to estimate the transmission channels of fiscal policy by using time series data of Pakistan from 1979 to 2022. Secondary Data were collected from the website of the World Bank (WDI), International Monetary Fund (IFS), and from the State Bank of Pakistan (SBP), of interested variables that are used in this study. However, for qualitative analysis interviews will be taken to discuss the topic and results of the study from the Ministry of Finance, Ministry of Planning, Development, and Special Initiatives, and from other relevant government officials.

#### 3.3 Research Design

In this study we estimate these set of simultaneous equations

$$\square \text{ Investment} = \beta_{21}G_t + \beta_{22}T_t + \beta_{23}i_t + \mu_{2t} \text{ ----- (3.1)}$$

$$\square \text{ Exchange rate} = \beta_{31}G_t + \beta_{32}T_t + \beta_{33}i_t + \beta_{34}FC_t + \mu_{3t} \text{ ---- (3.2)}$$

$$\square \text{ Trade deficit} = \beta_{41}G_t + \beta_{42}T_t + \beta_{43}i_t + \beta_{44}FC_t + \beta_{45}ER_t + \mu_{4t} \text{ ---- (3.3)}$$

$$\square \text{ Consumption} = \beta_{51}G_t + \beta_{52}T_t + \beta_{53}Yd_t + \mu_{5t} \text{ ----- (3.4)}$$

$$\square \text{ Inflation} = \beta_{61}G_t + \beta_{62}T_t + \beta_{63}Yd_t + \beta_{64}S_t + \beta_{65}C_t + \beta_{66}AD_t + \mu_{6t} \text{ ---- (3.5)}$$

$$\square \text{ Stock market} = \beta_{71}G_t + \beta_{72}T_t + \beta_{73}Yd_t + \beta_{74}C_t + \beta_{75}S_t + \beta_{76}INV_t + \mu_{7t} \text{ ---- (3.6)}$$

$$\square \text{ Employment} = \beta_{81}G_t + \beta_{82}T_t + \beta_{83}i_t + \beta_{84}INV_t + \mu_{8t} \text{ ----- (3.7)}$$

Now we can write these equations as follows.

$$Y = XB + U \text{ ----- Model(A)}$$

Model A fulfils all the standard assumptions, i.e.

$$E(U) = 0, \text{Var}(U) = \delta^2, \text{Cov}(U_1, U_2) = 0 \text{ and } \text{Cov}(U_1, U_2) = \delta$$

### Steps of Estimation

Step 1. The estimations start with the GLS (FGLS)

Where, consider the initial value  $\omega^0 = \sigma^2 I$ , and Apply GLS

$$\hat{\beta}_1 = (X' \omega_0^{-1} X)^{-1} X' \omega_0^{-1} Y = (X' X)^{-1} X' Y = \hat{\beta} \text{ OLS}$$

Compute regression residuals  $e_1^{\wedge} = Y - X \hat{B}$  and compute  $\sigma^{\wedge 2}, \sigma^{\wedge} = \omega^{\wedge}$

Step 2. Using  $\sigma^{\wedge} = \omega^{\wedge}$  Again apply GLS and find regression coefficients.

$$\hat{\beta}_2 = (X' \omega_1^{-1} X)^{-1} X' \omega_1^{-1} Y$$

Compute  $e_2^{\wedge} = Y - X \hat{\beta}_2$

Then compute  $\widehat{\sigma^2}, \widehat{\sigma} \Rightarrow \omega_2^{\wedge}$

### Step 3

This procedure will continue till convergence occurs.

$$\hat{\beta}_3 = (X' \omega_2^{-1} X)^{-1} X' \omega_2^{-1} Y$$

### 3.4 Seemingly Unrelated Regression (SUR) Model in Case of Endogenous Independent Variables

(Bilbie, Meier, & Muller, 2008) uses the vector autoregression (VAR) model to examine the reason behind the changes in U.S. transmission channels of fiscal policy. In contrast (Raashid, 2020) uses the Dynamic Stochastic General Equilibrium (DSGE) model to explain the

transmission channels of fiscal policy. This study has some common variables i.e., government spending and taxes in all equations due to which the Seemingly Unrelated Regression (SUR) model is used to estimate.

A seemingly unrelated regression analysis is developed by Arnold Zellner in 1962 that is the generalization of linear regression model contains multiple regression equations each of which has a distinct dependent and explanatory variable. The SUR model also allows for the estimation of the regression coefficients for each model while considering the correlation between the errors. By doing so, it improves the accuracy of the estimates and gives a more accurate understanding of the relationships between the different variables. SUR is also used when we have common variables in multiple equations. The importance of SUR lies in its ability to address the issue of correlated errors that may exist between the different regression models.

This study also has some endogenous variables as explanatory variables, such as interest rate (i) in equation (2), (3), (4) and (8) and investment (INV) in equation (7) and (8). This study uses the SUR model, but another dilemma comes from that the study has some endogenous variables as explanatory variables. Due to these assumptions, the SUR model is not fulfilled here. To deal with this, the study will use the Three Stage Least Square SUR model.

These Three steps are required for this procedure.

- Calculate the expected values of endogenous variables. By regressing each endogenous variable against all exogenous variables that are used in the system of equations.
- Now by using the least square estimate structural equation substitute the expected values from step 1 for the endogenous right-side variables.
- Now again estimate the structural equation using the SUR model, considering the estimated variances and covariances of the residuals obtained from Step 2.



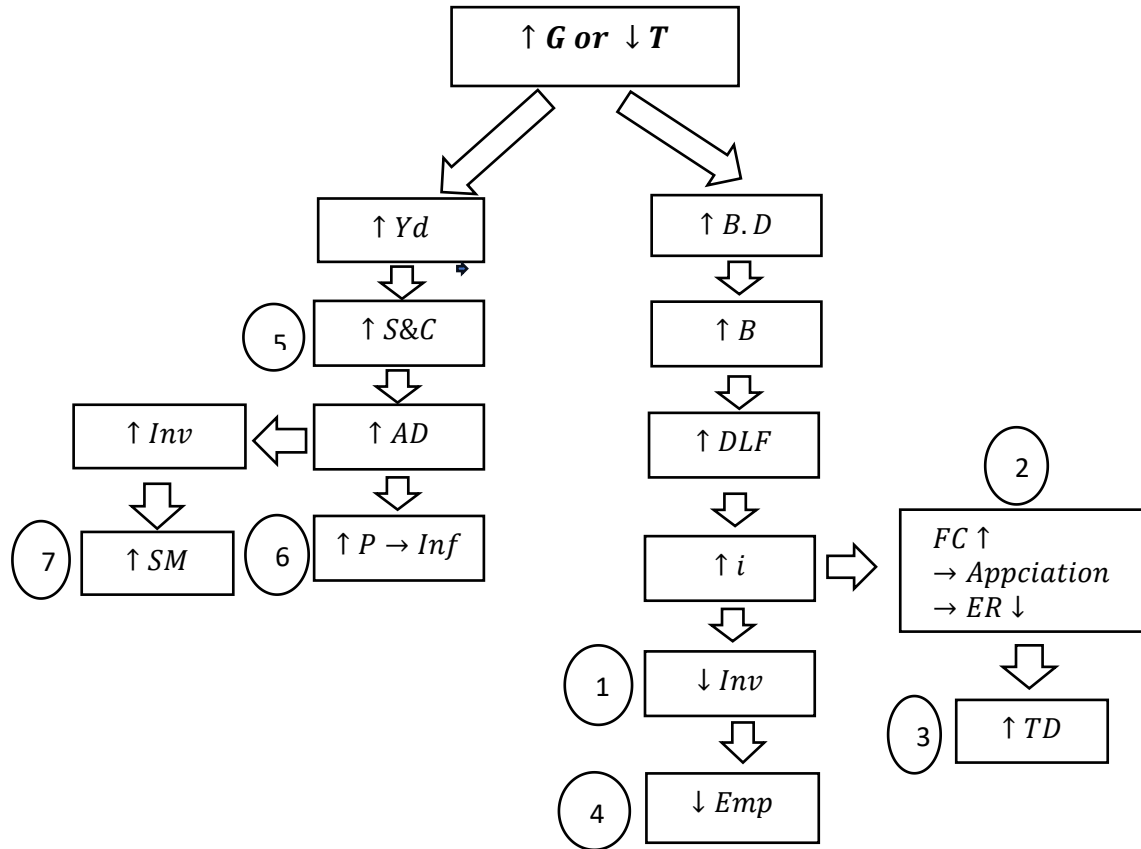
### 3.5 Description of Variables

**Table 1:** Description of Variables

Variables	Symbols	Description	Unit of Analysis	Source
Interest rate	i	Call money rate as a measure of interest rate.	Ratio	International Financial Statistics
government spending	G	Total government expenditure as an indicator of government spending.	Rs in Millions	State Bank of Pakistan
Taxes	T	Total Tax revenue.	Rs in Millions	State Bank of Pakistan
Investment	INV	Gross fixed capital formation is used to measure investment.	Rs in Millions	State bank of Pakistan
Exchange rate	ER	The official exchange rate is taken as a measure of the exchange rate.	Ratio	World Development Indicators
Foreign capital	FC	Net Foreign direct investment.	Rs in Millions	State Bank of Pakistan
Trade deficit	TD	The trade deficit is measured by subtracting the value of imports from exports.	Rs in Millions	State Bank of Pakistan
Disposable income	Ydt	Disposable income is measured by using this formula $GDP/Y^*-NT$	Rs in Millions	State Bank of Pakistan
Net taxes	NT	Net taxes are measured by using this formula $(SAVG/PGDP+CGV)/Y^*$	Rs in Millions	State Bank of Pakistan
Government surplus	SAVG	Fiscal balance is used for government surplus.	Rs in Millions	State Bank of Pakistan

GDP deflator	PGDP	-	Ratio	State Bank of Pakistan
government consumption	CGV	General government consumption expenditure are used to measure government consumption.	Rs in Millions	State Bank of Pakistan
Potential GDP	Y*	Y* measure through HP-filtered.	-	-
Consumption	C	Total consumption expenditure.	Rs in Millions	State Bank of Pakistan
Saving	S	National savings is used to measure saving.	Rs in Millions	State Bank of Pakistan
Inflation	Inf	Consumer price index as a measure of inflation.	Ratio	International Financial Statistics
Aggregate demand	AD	Gross domestic product (GDP) is taken to measure the aggregate demand of the economy.	Rs in Millions	State Bank of Pakistan
Stock market	SM	KSE all indexes. And state bank general index for all share prices before 1997.	Rs in Millions	State Bank of Pakistan
Employment	Emp	Labor market, employment, persons, is used to measure employment.	Rs in Millions	International Financial Statistics

**Flow chart of the transmission mechanism of fiscal policy**



**Figure 1:** Flow Chart of Transmission Channel of Fiscal Policy

Government Expenditure (G), Taxes (T), Disposable Income (D.I), Saving (S), Consumption (C), Investment (INV), Aggregate Demand (D), Price (P), Stock Market (SM), Budget Deficit (BD), Borrowing (B), Demand for loan Funds (DLF), Interest (i), Foreign capital (FC), Appreciation, Exchange rate (ER), Trade Deficit (TD) and Employment (Emp).

# CHAPTER 4

## RESULTS AND DISCUSSION

### 4.1 Introduction

In chapter four empirical results of this study are discussed.

### 4.2 Results and Discussion

#### 4.2.1 Investment Equation

The second equation of the 3SLS model is of investment against government expenditure, taxes, and interest rate as follows:

$$\square \text{ Investment} = \beta_{21}G_t + \beta_{22}T_t + \beta_{23}i_t + \mu_{2t}$$

By using 3SLS model output result are as follows:

**Table 2:** Investment

Coefficients	Investment EQ
G	0.4768809 0(0.000)
T	0.7099559 (0.000)
I	-41024.56 (0.037)

#### Government Expenditure Coefficient

In the estimated result the value of the G coefficient is positive which is 0.4768809. Which shows that when government expenditure increases by 1 unit then investment rises by unit 0.4768809. The probability value of G is 0.000, which is less than 0.05 which indicates a significant effect of G. It's stated that Government Spending has a positive and significant impact on investment. Government expenditures have a positive relation with investment when government expenditure impacts more on public investment then public infrastructure improve and demand for various goods and services increase to meet this increase in demand private investor also expand their business due to which overall investment increase.

### Tax Coefficient

The value of the tax coefficient is 0.7099559 positive. This means that whenever taxes increase by 1 unit investment increase by 0.7099559 unit. The prob value is less than 0.05, that is 0.00 which shows a significant impact of taxes on investment. Results indicate that taxes have both a positive and significant relation with investment. When taxes decrease government revenue reduce which can limit the governments ability to invest in public infrastructure and reduce public investment which create depressing environment for business growth and overall investment. This shows a positive relation between taxes and investment.

### Interest Rate Coefficient

In above mention table value of the i coefficient is 41024.56 which is negative and indicates that when the interest rate increases by 1 percent then investment decreases by 41024.56 unit. The prob value is less than 0.05 which is 0.037 which shows that interest rate has a significant impact on investment. It's stated that interest rates have a negative and significant impact on investment. When interest rates increase investment decline because higher interest rates can increase the cost of borrowing due to which businesses may reduce or delay their investments. Which leads to a decrease in overall investment level.

#### 4.2.2 Exchange Rate Equation

The third equation is of exchange rate whose independent variables are government expenditure taxes interest rate and foreign capital.

$$\square \text{ Exchange rate} = \beta_{31}G_t + \beta_{32}T_t + \beta_{33}i_t + \beta_{34}FC_t + \mu_{3t}$$

Output results are as follows of exchange rate equation by using 3SLS estimation method.

**Table 3: Exchange Rate**

Coefficient	Exchange Rate EQ
G	0.0000363 (0.0000)
T	-0.000019 (0.019)
I	-0.603202 (0.671)
FC	0.000021 (0.302)

### **Government Expenditure Coefficient**

G coefficient shows a positive relation with the exchange rate as its value is 0.0000363. this means that when government expenditure increases by one unit as a result the exchange rate increases by 0.0000363 units. The prob value is less than 0.05 that is 0.000, which shows a significant effect of government spending on the exchange rate. These results indicate that government expenditure has a positive and significant relation to the exchange rate. As increase in government expenditure led to higher domestic interest rate which attracts foreign capital, due to which capital inflow increase and appreciation of exchange rate occur.

### **Taxes Coefficient**

The value of the tax coefficient is negative which is -0.000019. means that a 1 unit increase in taxes brings a 0.000019-unit decline in the exchange rate. The p-value is less than 0.05 as it is 0.019 here which means taxes have a significant impact on the exchange rate. It's noted that taxes have a significant but negative effect on the exchange rate. This means lower taxes can make the economy more attractive for foreign investors as when taxes decrease than disposable income increase which mean now people have more money for consumption. This increase in economic activity and the potential for higher return attract foreign investors due to which demand for domestic currency increase and appreciation of exchange rate occur.

### **Interest Rate Coefficient**

It is revealed that the coefficient value of the interest rate is 0.603202 negative. This indicates that when the interest rate rises by one % then the exchange rate decreases by 0.603202 %. The prob value is greater than 0.05, which is 0.671 which shows the insignificance of the interest rate. The estimated result shows that the interest rate has a negative and insignificant effect on the exchange rate. When higher interest rate can be a result of central bank tightening monetary policy to control inflation or stabilize the economy. This can lead to the reduction of liquidity and increased borrowing costs. Due to which consumer spending, business investment, reduced and economic growth slow down. These effects can weaken market sentiment and lead to a decrease in the exchange rate.

## Foreign Capital Coefficient

The value of the FC coefficient is 0.0000214, which shows a positive relation. Meaning that when foreign capital increases by 1 unit then the exchange rate increases by 0.0000214%. The prob value is greater than 0.05, that is 0.302, which means that FC has an insignificant effect on the exchange rate. It's stated that foreign capital has an insignificant but positive impact on the exchange rate. The relationship between foreign capital and the exchange rate is weak or not statistically significant could be due to limited foreign capital inflows. As if a country has attractive polices for foreign investor but on other side also country also have political instability, corruption, week governance and uncertain environment then these factors can discourage foreign investors to invest in that country in that situation a country have limited foreign capital inflows. Due to which exchange rate either decreases or has no significant effect by changing foreign capital, and there become week positive relation between exchange rate and foreign capital.

### 4.2.3 Trade Deficit Equation

The fourth equation is of trade deficit where independent variables are government expenditure, taxes, interest rate, foreign capital, and exchange rate.

$$\text{Trade deficit} = \beta_{41}G_t + \beta_{42}T_t + \beta_{43}i_t + \beta_{44}FC_t + \beta_{45}ER_t + \mu_{4t}$$

Output results are as follows of the trade deficit equation:

**Table 4:** Trade Deficit

Coefficients	Trade Deficit EQ
G	-2.363037 (0.000)
T	3.250348 (0.000)
I	296284.9 (0.000)
FC	0.8900689 (0.456)
ER	19538.5 (0.024)

### **Government Expenditure Coefficient**

It is stated that the value of the G coefficient is negative 2.363037. This means that if government expenditure increases by 1 unit then the trade deficit decreases by 2.363 unit. The value of probability is 0.000, that is less than 0.05 which shows that government expenditure has a significant effect on the trade deficit. It's noted that government expenditure has a significant but negative relationship with the trade deficit. Government expenditure and trade deficit have a negative relation because of income and demand effect. As when government expenditure increases, it adds additional income into the economy, either through direct spending or transfers to households. This increase in income can lead to higher domestic consumption and demand for goods and services. As domestic demand rises, it increases production and reduces the need for imports. This decrease in imports, relative to exports, can contribute to a reduction in the trade deficit.

### **Taxes Coefficient**

The value of the tax coefficient is 3.250348. which shows that whenever taxes increase by 1 unit trade deficit increases by 3.25 units. The p-value is less than 0.05 as its 0.00 which means that taxes have a significant impact on the trade deficit. It's noted that taxes have a positive and significant effect on the trade deficit. Higher taxes can affect the competitiveness of domestic industries. As increase in taxes can raise the production costs and make domestic goods more expensive compared to imported goods. This increase can lead to a decrease in exports competitiveness and an increase in imports due to which trade deficit increases.

### **Interest Rate Coefficient**

It's known that the value of the i coefficient is 296284.9. mean that when the interest rate increases by 1 unit then the trade deficit increases by 296284.9 unit. The probability value is less than 0.05, that is 0.000, which implies that the interest rate has significant effects. It's stated that the interest rate has a significant and positive relationship with the trade deficit. When the interest rate increases this will attract foreign investors due to which capital inflow increases and domestic currency appreciates. This appreciation of currency leads to an increase in imports demand as imports are cheaper than domestic commodities and this increase in imports lead to increase in trade deficit.



### Foreign Capital Coefficient

The value of the FC Coefficient is 0.8900689. this means that whenever foreign capital increases by 1 unit it brings a 0.8900689-unit change in the trade deficit. The prob value is greater than 0.05, that is 0.456, indicating the insignificant effect of foreign capital on the trade deficit. These results show that foreign capital has a positive and insignificant impact on the trade deficit. When foreign capital declines then foreign investment decreases and the level of overall investment also decline due to which exports decreases as compared to imports. This decline in exports leads to a rise in the trade deficit.

### Exchange Rate Coefficient

It is revealed that the value of ER coefficients is 19538.5. This means that an increase in 1 unit of exchange rate brings a 19538.5-unit change in the trade deficit. The prob value is less than 0.05, that is 0.024, which shows that the exchange rate has a significant impact on the trade deficit. It's noted that the exchange rate has a significant and positive effect on the trade deficit. When a country's exchange rate depreciates its exports become cheaper and imports become expensive. Exports become more attractive for foreign buyers while import prices discourage domestic consumers from purchasing imports. This behavior led to an increase in exports and a decrease in imports due to which the trade deficit decline.

### 4..2.4 Consumption Equation

The fifth equation is consumption against government expenditure, taxes, and disposable income.

$$\square \text{ Consumption} = \beta_{51}G_t + \beta_{52}T_t + \beta_{53}Yd_T + \mu_{5t}$$

By using 3SLS Model output results are as follows:

**Table 5:** Consumption

Coefficients	Consumption EQ
G	3.544134 (0.0000)
T	4.291769 (0.000)
Ydt	-290264.8 (0.676)

### Government Expenditure Coefficient

The value of the G coefficient is 3.544134 which shows a positive relation. Mean that whenever G increases by 1 unit consumption increases by unit 3.544134. The p-value is less than 0.05, that

is 0.00, which indicates that G has a significant impact on consumption. It is stated that government expenditure has a significant and positive relationship with consumption. When government expenditure increase it leads to an increase in income of individuals and household through different channels such as government job creation, increased wages or government transfers and benefits. With higher income, individuals have more disposable income to spend on goods and services, which lead to an increase in consumption.

### **Taxes Coefficient**

The tax coefficient has a positive value of 4.291769 which means that if taxes increase by 1 unit, then consumption increases by 4.291769 units. The Probability value is 0.00, that is less than 0.05 which shows that taxes have a significant impact on consumption. Estimated results show that taxes have a significant and positive effect on consumption. If the tax increase leads to redistribution of income from high-income individuals to lower-income individuals, consumption can increase. As we know, people who belong to low-income groups have more MPC due to which overall consumption increases.

### **Disposable Income Coefficient**

It's known that the value of the Ydt coefficient is -290264.8. This means that an increase in 1 unit of Ydt brings a 290264.8 unit decrease in cons. The prob value is greater than 0.05, that is 0.676 which means Ydt has an insignificant impact on cons. It can be noted that Disposable income has a negative but insignificant impact on consumption. When disposable income is at the level where basic needs are already fulfilled after that point increase in disposable income bring decrease in consumption because now increase in disposable income bring change in saving and investment of people. Which show disposable income and consumption have weak negative relation.

### **4.2.5 Inflation Equation**

The sixth equation of the 3SLS model is the equation of inflation in which independent variables are government expenditure, taxes, disposable income, savings, and consumption.

$$\square \text{ Inflation} = \beta_{61}G_t + \beta_{62}T_t + \beta_{63}Yd_t + \beta_{64}S_t + \beta_{65}C_t + \beta_{66}AD_t + \mu_{6t}$$

Output results are as follows:

**Table 6: Inflation**

<b>Coefficient</b>	<b>Inflation EQ</b>
G	0.0000186 (0.010)
T	0.0000174 (0.392)
Ydt	-0.8850333 (0.848)
S	0.00000975 (0.384)
C	-0.00000586 (0.196)
AD	-0.000000679 (0.314)

**Government Expenditure Coefficient**

It's revealed that the value of the G coefficient is 0.0000186 which shows a positive relation. This means that when G increases by 1 unit inflation increases by 0.0000186 %. The p-value is 0.010, that is less than 0.05, which means that G has a significant effect on INF. These results show that government expenditure has a positive but significant effect on inflation. when the government increase its spending, it injects money in the economy, increasing the overall demand for goods and services due to which inflation increase in the economy. And show positive relation between government spending and inflation.

**Taxes Coefficient**

The tax coefficient shows a positive relationship as its value is 0.0000174. means that an increase in 1 unit of taxes brings a 0.0000174 % increase in inflation. the probability value is 0.392 that is greater than 0.05, which indicates that taxes have an insignificant impact on INF. It's noted that taxes have a positive but insignificant effect on inflation. As if an economy experiences high inflation, the government may raise taxes to moderate the impact of rising prices. In that station there is a positive relation between taxes and inflation. Therefore, the insignificant relationship could indicate that taxes are not the primary driver of inflation.

**Disposable Income Coefficient**

The value of the Ydt coefficient is -0.8850333. this means that if Ydt increases by 1 unit, then inflation decreases by 0.8850333 %. The prob value is greater than 0.05 as its 0.848 which shows that Ydt has an insignificant effect on Inflation. it's stated that disposable income has a

negative and insignificant impact on inflation. if an increase in disposable income enhances saving and people reduce their spending then inflation pressure decreases and there become negative relation between disposable income and inflation.

### **Saving Coefficient**

It's known that the value of the S coefficient is 0.00000975 which means that an increase in S by 1 unit brings a 0.00000975 % increase in INF. The value of probability is 0.384 that is greater than 0.05, which shows that S has an insignificant impact on INF. Estimated results show that saving has a positive but insignificant impact on inflation. Generally Savings and inflation have a negative relation. When people save more than they reduce their immediate consumption. It leads to a decline in aggregate demand and inflation. However, increase in saving lead to increase in future consumption due to which inflation occur this show a weak positive relation between saving and inflation as here results are also show the insignificance of this relation.

### **Consumption Coefficient**

The value of the C coefficient is -0.00000586. This means that when C increases by 1 unit then inflation decreases by 0.00000586 %. The p-value is greater than 0.05 as its 0.196 which shows that C has an insignificant impact on inflation. it can be noted that consumption has an insignificant and negative relationship with inflation. if the economy has spare capacity or there is a positive supply shock then inflation pressure decrease that would arise from increased consumption. In this situation there became a negative relation between consumption and inflation and the impact of increased consumption on inflation can be insignificant.

### **Aggregate Demand Coefficient**

The coefficient value of the AD is -0.000000679 which shows a negative relation of aggregate insignificant effect on inflation. It shows that aggregate demand has a negative and insignificant impact on inflation. Inflation is influenced not only by aggregate demand but also by supply-side factors such as production costs, availability of resources, and productivity. If there are significant upward pressures on costs, such as higher energy prices or raw material costs, then inflation decrease by increasing aggregate demand. Because businesses want to cover at least their minimum cost. In such cases, the increase in aggregate demand may not be sufficient to offset the cost-driven inflationary pressures.

## 4.2.6 Stock Market Equation

The seventh equation of the 3SLS model is of the stock market.

$$\square \text{Stock Market}_t = \beta_{71}G_t + \beta_{72}T_t + \beta_{73}Ydt + \beta_{74}C_t + \beta_{75}S_t + \beta_{76}INV_t + \mu_{7t}$$

With the 3SLS model based on the above equation output results are as follows:

**Table 7: Stock Market**

<b>Coefficients</b>	<b>Stock market EQ</b>
G	-0.0020879 (0.753)
T	0.0107783 (0.671)
Ydt	-1779.493 (0.641)
S	-.0015731 (0.901)
C	-.0000345 (0.994)
INV	.0009954 (0.907)

### **Government expenditure coefficient**

The coefficient value of G is -0.002879 which shows a negative relation. It means when G increases by one unit then stock market performance decreases by 0.002879 units. The P value is greater than 0.05 which means G has an insignificant impact on the stock market. it's noted that government expenditure has a negative and insignificant effect on the stock market. when government expenditure increases it leads to higher interest rates and reduces private investment. Due to which the stock market may not respond significantly to government expenditure.

### **Tax Coefficient**

The value of the tax is 0.0107783. This means that when taxes increase by one unit then the stock market increases by 0.0107783. The probability value is 0.671 which means the result is insignificant. The estimated result of taxes shows that it has a positive but insignificant impact on the stock market. Tax increase helps government to generate more revenue which can used to reduce budget deficit and public debt. These measures contribute to economic stability and create favorable environment for investment due to which stock market boost up.

### **Disposable Income Coefficient**

Ydt shows a negative relation with the stock market as the value of Ydt is here -1779.493. This means that when disposable income increases then the stock market decreases by 1779.493 units. The p-value of disposable income shows the insignificance of the result as it's greater than 0.05. It is revealed that disposable income has a negative and insignificant impact on the stock market. When disposable income increases, consumption also increases. Consumption contributes to economic growth while stock market performance is driven by investment. Due to which stock market may not be as much affected by change in disposable income. However, this is not a strong relation as the insignificance of the result proves this.

### **Saving Coefficient**

The value of the S is -0.0015731, which means when saving increases by one unit then stock market performance decreases by 0.0015731. The probability value is 0.91, which is greater than 0.05. This means S has an insignificant impact on the stock market. Results indicate that overall savings have a negative and insignificant impact on the stock market. When individuals save money, they have the option to allocate their savings to different investment options including the stock market. However, if people invest their savings in other investment projects instead of the stock market, then there becomes a negative relation of saving with the stock market.

### **Consumption Coefficient**

It is revealed that the coefficient value of C is -0.0000345. This means when consumption increases by one unit then stock market performance decreases by 0.0000345 units. The probability value is greater than 0.05 as it's 0.994, which means consumption has an insignificant impact on the stock market. It is shown that consumption has an insignificant and negative impact on the stock market. When consumption of non-durable goods increases, the stock market may decrease. Because consumption on durable goods mostly affects stock market performance.

### **Investment Coefficient**

The value of INV is 0.00009954, which means a positive relation with the stock market. The probability value is 0.907, which is greater than 0.05, which means the investment has an insignificant impact on the stock market. It is revealed that investment has a positive but insignificant effect on the stock market. Investment and the stock market have a weak relation when we have crowding out effects of other investments. Many people invest in real estate or

other investment project as compared to stock market. Then this leads to a reduction of potential investment and profitability of stock market investments.

#### 4.2.7 Employment Equation

The eighth equation of the 3SLS model is employment:

$$\square \text{ Employment} = \beta_{81}G_t + \beta_{82}T_t + \beta_{83}I_t + \beta_{84}INV_t + \mu_{8t}$$

With the estimation of above employment equation by using 3SLS estimation method output results are as follows:

**Table 8:** Employment

<b>Coefficients</b>	<b>Employment EQ</b>
G	-0.0153188 (0.000)
T	-0.0205993 (0.000)
I	-2833.453 (0.000)
INV	.0363478 (0,000)

#### **Government Expenditure Coefficient**

The value of the G coefficient is -0.0153188. this means that when government expenditure increases by one unit then employment decreases by 0.0153188. The p-value is less than 0.05, that is 0.00 which means government expenditure has a significant impact on employment. It's noted that government expenditure has a significant but negative relationship with employment. When government expenditure increases interest rate increases or reduced capital available for private investment due to which private investment and overall employment level decrease. There has become a negative relation of government expenditure and employment.

#### **Tax Coefficient**

Taxes show a negative relation with employment as their value is -0.0205993. this means that one unit increases in taxes brings a 0.0205993 unit decrease in employment. The probability value is 0.00 that is low from the significance level, which means the result is significant. Taxes

and employment show a negative relation. When taxes increase, cost of production increase, due to which a decrease business profit that leads to a reduction in employment.

### **Interest Rate Coefficient**

The coefficient value of I is -2833.453. which means whenever the interest rate increases by 1% then employment decreases by 2833.453 units. The prob value is less than 0.05 which means interest rates have a significant impact on employment. Estimated results indicate that interest rates have a significant and negative relation with employment. When interest rate increase investment declines due to which employment also decline in this way there became a negative relation between interest rate and employment.

### **Investment Coefficient**

It's revealed that the value of INV is 0.036 3478. Which indicates that a 1 unit increase in investment brings a 0.0363478 unit increase in employment. While the prob value is less than 0.05 which shows a significant impact of investment on employment. It's stated that investment has a positive and significant impact on employment. When investment increases, then business purchases more machinery and equipment to expand their business due to which demand for labor increases who are required to run these equipment's. It means investment drives job creation and employment opportunities.



## CHAPTER 5

### QUALITATIVE ANALYSIS

#### 5.1 Introduction

This chapter highlights the qualitative analysis which includes interviews with relevant ministries, officials of the Ministry of Planning, Development and Special Initiatives and Ministry of Finance and Revenue. There was a total of 10 respondents who took part in this survey. With the guidance of the respondents, I concluded my analysis based on their answers. For this survey, there were a total of 5 questions prepared and these questions were related to my study. Here are some questions I asked the experts to know their opinions, the goals of Fiscal policy, the importance of the transmission channels of fiscal policy, and the effects on different macro variables. And policy review analysis in which this study analyses different polices that are helpful for fiscal policy decisions.

#### 5.2 Goals of Fiscal Policy

Interviews were conducted with officials of the Ministry of Planning, Development and Special Initiatives and Ministry of Finance and Revenue . I asked a question from respondents about the goals and importance of fiscal policy then the experts specify that fiscal policy mainly has two instruments revenue instrument and expenditure instrument in revenue instrument they have both tax revenue and non-tax revenue. Respondents argued that the government mainly collects its revenue through taxes. As taxes are the main component of revenue instruments. On the expenditure instrument, government spending is mainly divided into developing and non-developing expenditures. These are also known as current spending or expenditures that are mostly high in the case of Pakistan. As any unseen event occurs in the country government firstly decreases its developing expenditure to meet that situation as covid19, flood, or any disaster in the country. The respondents mentioned the main goals of fiscal policy are economic stability, sustainable growth, and improving the overall welfare of the population. Respondents also highlighted the goal of expansionary and contractionary fiscal policy. In expansionary fiscal policy stimulating economic growth, employment generation, income redistribution, and investment promotion are the main goals for focus. While on contractionary fiscal policy price

stability, fiscal sustainability, external balance, and exchange rate stability are the main goals for focus.

### **5.3 Importance of Transmission Mechanism of Fiscal Policy**

In inquiry on transmission channels of fiscal policy, most respondents answered that transmission channels of fiscal policy basically provide the way through which fiscal policy affects different macro variables of the economy. It's important to investigate transmission channels of fiscal policy in Pakistan because of policy effectiveness, economic stability, sectoral development, poverty alleviation, policy coordination, investment climate, and public accountability. Then they mentioned how expansionary fiscal policy affects different macro variables. On interest rate when there is expansionary fiscal policy then it can put upward pressure on interest rates. The increase in government borrowing to finance the fiscal deficit increases the demand for money, leading to higher interest rates. In investment, expansionary fiscal shock puts downward pressure. As when government spending increases or taxes decrease then the budget deficit increase to cover this deficit interest rate increase which leads to a decrease in investment. Changes in fiscal policy also influence the exchange rate and the trade deficit. The shock of expansionary fiscal policy when financed by government borrowing than interest rate increase which attracts foreign investment and then demand for domestic currency increases which leads to an appreciation of the domestic currency. Then imports increase as we know individuals are able to buy more imports with the same amount of money than exports decrease, which leads to an increase in the trade deficit. In inflation and consumption, Expansionary fiscal policy put upward pressure on consumption and inflation. An increase in government expenditure or decrease in taxes leads to an increase in disposable income due to which consumption, and aggregate demand increase while we have supply constant in the short run it put upward pressure on prices, and inflation increases in the economy. Respondent also discusses the effect of change in fiscal policy on the financial market as we take a stock market as the dependent variable to check the effect of fiscal policy on the stock market that represents the financial market side of the economy. Fiscal policy changes can have an impact on the stock market. An expansionary fiscal policy, by stimulating economic growth and improving aggregate demand, can lead to increased investor confidence, investment, and potentially higher stock market performance. Then on the supply side, they argue that Employment is also affected by

changes in fiscal policy. Expansionary fiscal policy, by decreasing taxes or increasing government expenditure can lead to an increase in the budget deficit to fulfill this deficit government borrowing increases, interest rate increase, and banks gave more funds to the government in the form of treasury bills because they consider them more save as compared to private borrowing which leads to decrease in private investment and employment as a result also decrease.

#### **5.4 Current Fiscal Policy**

Respondents also discussed the current fiscal policy of Pakistan as they mentioned that in FY23 the government focuses on generating more revenue by expanding the number of taxpayers. Rationalized the exemptions and simplify the overall tax procedure. They argue that these steps play a significant role in improving revenue collection and promoting a fair tax system. Respondent also argued that a change in fiscal policy is helpful for the government to manage the current economic situation of a country as fiscal policy is a demand management tool and changing fiscal policy government directly affects the economy. They also mentioned that fiscal policy is used to stimulate economic growth, manage inflation, adjust budget deficit, promote investment, and redistribution of wealth.

#### **5.5 Influence of Fiscal Policy**

The Respondent also inquired about how fiscal policy influences the economy. They argued that fiscal policy influences the Pakistani economy through several mechanisms. As first they discussed economic stability in which they suggest that fiscal policy is mainly used to promote economic stability by controlling inflation, stabilizing prices, and managing aggregate demand. The government adjusts taxes and government spending to slow down economic activity as needed. Then they talk about revenue generation which suggests that fiscal policy is the main tool through which government collects its revenue by increasing or decreasing tax rates. Then these revenues government used to finance public expenditures, including infrastructure development social welfare programs, and public services. They also argued that fiscal policy is used to promote income redistribution and reduce income inequality. They said that the government tries to impose a progressive tax system in which high-income individuals and corporations pay a large share of taxes. Then these revenues are used to finance social welfare

programs, education, health, and other programs that aim to promote the welfare of low-income groups. After that, they also discussed investment and growth promotion through changes in fiscal policy. In which they highlight that fiscal policy affects private investment and economic growth. As government provides tax incentives and subsidies to encourage private investment and attract foreign direct investment through which economic growth increases. Then lastly, they highlight that fiscal policy is an important tool for maintaining budgetary characteristics and managing public debt. They suggest that the government needs to balance its expenditure through an increase in revenue and reduce excessive borrowing which can lead to an increase in unsustainable debt levels and economic stability. In general, they discuss fiscal policy is an important component through which government directly affects the economy as when the economy is moving toward recession then government imposes expansionary fiscal policy due to which economic activities boost up and the economy starts moving. while when there is a boom in the economy the government tries to impose a contractionary fiscal policy in which the government increases taxes and decreases its expenditure due to which economic activities slow down and the economy is moving toward the normal situation. They argue that as in the case of Pakistan specifically government mostly applies expansionary fiscal policy. As almost in every year we have an unseen event like the flood in last year. Then the government is required to increase its non-developing expenditure. To increase its non-developing expenditures government mostly decreases developing expenditures because of the country's circumstances it's not easy for government to increase its revenue urgently as it's a time taking phenomenon.

## **5.6 Policy Review Analysis**

### **5.6.1 Fiscal Responsibility and Debt Limitation Act (2005)**

#### **Overview**

The Fiscal Responsibility and Debt Limitation (FRDL) Act 2005 is a legislation that aims to ensure fiscal discipline and reduce the burden of government debt. It was enacted in August 2005 and came into effect on July 5, 2006. FRDL was based on the frame of constitutional provision not on the base of economic condition of the nation. Only federal government is the jurisdiction of FRDL act provincial governments are not. The FRDL Act lays down certain rules and guidelines that the central government must follow to achieve fiscal responsibility. The Act requires the government to set targets for various fiscal indicators such as revenue deficit, fiscal

deficit, and public debt. According to this act The government is also required to publish a Medium-term budgetary Statement (MTBS), fiscal policy statement and debt limitation act every year, before the national assembly which outlines its fiscal policy objectives. The FRDL Act also imposes a limit on the amount of government debt that can be issued. The government is required to maintain the public debt-GDP ratio at 60%, and any deviation from this ratio must be justified to the Parliament. Positive suggestion of FRDL is that spending on alleviation of social and poverty protected up to 4.5 % of GDP for any year. However, FRDL dos not response on provincial government spending about poverty and social issues. A critical review of this act is as follows:

### **Strengths**

- The act encourages the government to be careful with its spending and borrowing, which helps maintain financial discipline.
- The act includes rules that require the government to share information about its finances with the public. This helps create a more open and accountable system.
- This act requires the publication of a Fiscal Policy Statement, Medium-term Budgetary Statement (MTBS), and Debt Limitation Act every year, before the national assembly that outlines its fiscal policy objectives.
- The act sets limits on how much the government can borrow, which is important to prevent excessive debt that can lead to financial problems.

### **Weaknesses**

- Sometimes, it can be difficult for the government to effectively put the act's rules into practice. This can happen due to limited resources, lack of commitment, or other obstacles.
- The act may not be adaptable to changing economic conditions or unexpected events. This lack of flexibility can make it harder for the government to respond appropriately to new challenges.
- The act may not have enough provisions to handle unforeseen situations like financial crises or natural disasters. This could limit the government's ability to respond effectively in times of need.

- Political pressures and influences may affect the way the act is implemented. This can lead to decisions that deviate from the act's objectives or weaken the enforcement of fiscal responsibility measures.

## **5.6.2 Public Finance Management Act 2019**

### **Overview**

The Public Finance Management Act (PFMA) 2019 in Pakistan is a significant piece of legislation aimed at improving the management of public finances and promoting fiscal discipline. The Public Finance Management Act, 2019 of Pakistan establishes a comprehensive framework for the effective management of public finances. It focuses on promoting transparency, accountability, and responsible financial practices in government operations. The Act covers various aspects of public finance management, including budgeting, financial management, monitoring and evaluation, control of public funds, treasury management, accounting and reporting, and oversight of public entities. It emphasizes the efficient and responsible use of public resources, proper maintenance of public infrastructure assets, and the maximization of returns on public assets. The Act also grants the government the authority to make rules and regulations for its implementation. Overall, the Public Finance Management Act, 2019 aims to ensure effective and prudent management of public finances in Pakistan. Here is a critical review of the act:

### **Strengths**

- The PFMA 2019 provides a comprehensive framework for public financial management, which could help improve transparency, accountability, and efficiency in the use of public funds.
- The act establishes clear rules and procedures for budget preparation, execution, reporting, and publication of annual financial statements and audit reports, which could help prevent wasteful spending corruption and reliability of financial information.
- The act requires the establishment of an independent Auditor General's office, which could help ensure the integrity and independence of the audit process.
- The PFMA 2019 includes provisions for public participation and oversight in the budget process, which could help promote accountability and reduce the potential for corruption.

- The act provides for the establishment of a Public Accounts Committee, which could help ensure that government spending is consistent with legislative intent and priorities.

### **Weaknesses**

- The PFMA 2019 may not fully address the root causes of fiscal mismanagement in Pakistan, such as political interference in public finances or lack of political will to undertake fiscal reforms.
- The act may be too complex or bureaucratic, which could limit its effectiveness or make it difficult to implement in practice.
- The PFMA 2019 may not provide sufficient protection for individuals who report instances of corruption or misuse of public funds and incentives or penalties for compliance or non-compliance, respectively, which could limit its effectiveness.

### **5.6.3 Medium-Term Budget Strategy Paper 2022-23 – 2024-25**

#### **Overview**

The medium-term Budget Strategy Paper is a vehicle for expressing the government's strategic priorities and medium-term goals. The Medium-Term Budget Strategy Paper was prepared under the requirements of the Public Finance Management Act 2019. The Medium-Term Budget Strategy Paper for FY 2022-23 to FY 2024-25 focuses on increasing revenue, lowering inflation, economic stabilization, boosting exports, resolving energy challenges, and protecting disadvantaged elements of society.

The Federal Government approves the Medium-Term Budget Strategy Paper for providing quantitative macroeconomic and fiscal projections. The paper outlines the strategic aims of the government's revenue and spending plans, as well as indicated spending amounts for major federal divisions and offices.

This Budget Strategy Paper also demonstrates the government's significant emphasis on fiscal management efficiency, transparency, responsive budgeting, and accountability. The continuity of fiscal policies, as well as the new planned policy government spending, will help the government to meet the targets and objectives set in the yearly budget presented to Parliament.

## **Main Objective**

This Paper proposes a two-pronged fiscal plan.

- First, it entails optimal revenue mobilization through increasing and deepening the tax base and expanding the tax net, eliminating irrational exemptions, simplifying procedures, and augmenting revenue administration capacity, particularly through IT-enabled services such as the track and trace system.
- Secondly, it is based on reducing non-development spending like expenditure on subsidies and increase in pensions without compromising the government's development and social priorities.

## **Time Span for Budget Strategy**

Medium-term predictions have been developed on a rolling three-year basis. Budget for Fiscal Year 2022-23 will serve as the foundation for the first year of the medium term, while projections for the subsequent two years have been developed based on resource and expenditure forecasts that are consistent with the incoming government's policy objectives and priorities.



## CHAPTER 6

### CONCLUSION AND RECOMENDATION

#### 6.1 Introduction:

This chapter is divided into two sections. The first section discus the conclusion of this research. The second section shows policy recommendations of this research that is based on empirical results.

#### 6.2 Summary and Conclusion:

This study investigates the transmission mechanism of fiscal policy with major macro variables. By using the Three-Stage Least Square method that is basically an extension of the SUR model. This model is basically used when the study has some common explanatory variables and have the problem of endogeneity. As this study have government expenditure and taxes as common variables in all transmission channels of fiscal policy that are investigated.

Fiscal policy refers to the use of government spending and taxation to influence the overall state of the economy. It can be used for both demand management and supply-side purposes, depending on the specific goals and strategies employed by policymakers. Fiscal policy is used to address market imperfections of the economy. The fiscal policy transmission mechanism is a process that measures the effect of fiscal policy on the economy. These transmission channels play a significant role in the economic growth of any country. By changing government expenditure and taxes fiscal policy try to encourage macroeconomic stability and economic growth.

The aim of this study is to investigate the transmission channels of fiscal policy of major macro variables. After analyzing the transmission channels of fiscal policy this study found that in the investment channel, fiscal policy indirectly affects investment through increases in government borrowing and debt level. When fiscal deficit increases then government borrow more due to which interest rate increase and investment decline. The exchange rate and trade deficit channel are another channels that are also influenced indirectly by fiscal policy, when the government has a fiscal stimulus in the economy it leads to an increase in demand for fiscal policy due to this currency appreciates and the trade deficit also increases. Consumption is an important factor in aggregate demand. Which can be affected by government expenditures and taxes. As if the

government has fiscal stimulus then disposable income increase due to which consumption increases that lead to an increase in economic growth or activity. Inflation basically shows an increase in the price level over time. Inflation is also affected by fiscal policy. When the government has an expansionary fiscal policy, it leads to a rise in government spending and a decline in taxes then disposable income increases due to which aggregate demand and inflation increase. The channel of stock market can also be influenced by fiscal policy. Expansionary fiscal policies have a positive effect on sustainability and economic growth. Which leads to an increase in stock prices and stock market activity. In the employment channel Fiscal policy indirectly affects employment through an increase in government borrowing. This leads to a rise in interest rates and a decrease in investment then in response employment also decreases.

After the discussion with the experts the study concludes that economic stability, sustainable growth and improving overall welfare are the main goals of fiscal policy to fulfill these objectives government collect revenue. There is a need for an increase in tax revenue and development expenditure to increase economic growth and stability in the economy. To investigate transmission channels of fiscal policy are important because transmission channels are the way that tell how fiscal policy effect different macro variables and effectiveness of fiscal policy also depend on these transmission channels. The government focus on generating more revenue by expanding the no of taxpayers and simplifying the tax procedure. Fiscal policy influences the economy by promoting economic stability, generating revenue, increasing growth, trend managing the budget deficit.

Overall fiscal policy in Pakistan has the potential to impact different characteristics of the economy. Including investment interest rate trade deficit exchange rate inflation employment consumption and stock market. it is necessary for policymakers to carefully implement and design fiscal policies to achieve sustainable growth and outcomes.

### **6.3 Policy Recommendation:**

When we investigate the fiscal policy transmission channels in the context of Pakistan, several policy recommendations can be made to enhance the effectiveness and efficiency of fiscal measures. Here are some key recommendations:

- Policymakers should carefully balance government expenditure and taxes to avoid excessive government borrowing and rising interest rates. The aim should be to stimulate

economic growth without crowding out private sector investment. This balance is crucial for maintaining macroeconomic stability.

- To address the negative relationship between fiscal stimulus and investment, policymakers should focus on improving the investment climate in the country. This includes reducing regulatory barriers, providing incentives for private sector investment, and ensuring a stable and predictable business environment.
- Recognizing the impact of fiscal policy on the exchange rate and trade deficit, measures should be taken to promote exports. These may include trade diversification, trade infrastructure development, and cost reduction for exporters to enhance competitiveness in international markets.
- The positive impact of fiscal stimulus on consumption and aggregate demand, along with increased disposable income, suggests the importance of policies that promote income redistribution and poverty reduction. Social safety nets and targeted programs can help ensure that the benefits of fiscal stimulus reach low-income households.

## REFERENCES

- Afonso, A., & Jalles, J. T. (2015). How does fiscal policy affect investment? Evidence from a large panel. *International Journal of Finance & Economics*, 20(4), 310-327.
- Ahmad S, Pasha F, Rehman M (2016) The role of money in explaining business cycles for a developing economy: The case of Pakistan, state Bank of Pakistan Working Paper Series
- Alesina, A., Ardagna, S., Perotti, R., & Schiantarelli, F. (2002). Fiscal policy, profits, and investment. *American economic review*, 92(3), 571-589.
- Alwagdani, O. (2014). The asymmetric effects of fiscal policy shocks on private consumption in Saudi Arabia. *European Scientific Journal*, 10(4), 1857-7781.
- Arin, K. P. (2004). Fiscal policy, private investment, and economic growth: evidence from G-7 countries. *Private Investment and Economic Growth: Evidence from G-7 Countries (April 2, 2004)*.
- Asandului, M., Lupu, D., Maha, L. G., & Viorică, D. (2021). The asymmetric effects of fiscal policy on inflation and economic activity in post-communist European countries. *Post-Communist Economies*.
- Asandului, M., Lupu, D., Maha, L. G., & Viorică, D. (2021). The asymmetric effects of fiscal policy on inflation and economic activity in post-communist European countries. *Post-Communist Economies*.
- Ashra, S., Chattopadhyay, S., & Chaudhuri, K. (2004). Deficit, money and price: The Indian experience. *Journal of policy Modeling*, 26(3), 289-299.
- Aslan, M., Buyrukoglu, S., Oz, E., & Nazlioglu, S. (2014). Does fiscal policy matter for trade balance in the OECD countries? Panel vector error correction estimation. *International Journal of Trade and Global Markets*, 7(4), 271-284.
- Baldacci, E., Hillman, A. L., & Kojo, N. C. (2004). Growth, governance, and fiscal policy transmission channels in low-income countries. *European Journal of Political Economy*, 20(3), 517-549.

- Barth, J. R., Iden, G., Russek, F. S., & Wohar, M. (1991). The effects of federal budget deficits on interest rates and the composition of domestic output. In the Great Fiscal Experiment, Rudolph G. Penner.
- Born, B., D'Ascanio, F., Müller, G. J., & Pfeifer, J. (2019). The worst of both worlds: Fiscal policy and fixed exchange rates.
- Born, B., Juessen, F., & Müller, G. J. (2013). Exchange rate regimes and fiscal multipliers. *Journal of Economic Dynamics and Control*, 37(2), 446-465.
- Bouabdallah, O., Checherita-Westphal, C., Freier, M., Jacquinot, P., & Muggenthaler, P. (2023). Fiscal policy and high inflation. *Economic Bulletin Articles*, 2.
- Cebi, C., & Çulha, A. A. (2014). The effects of government spending shocks on the real exchange rate and trade balance in Turkey. *Applied Economics*, 46(26), 3151-3162.
- Chatziantoniou, I., Duffy, D., & Filis, G. (2013). Stock market response to monetary and fiscal policy shocks: Multi-country evidence. *Economic modelling*, 30, 754-769.
- Claeys, P., Moreno, R., & Suriñach, J. (2010). Fiscal policy and interest rates: the role of financial and economic integration. *Progress in Spatial Analysis: Methods and Applications*, 311-336.
- Coibion, O., Gorodnichenko, Y., & Weber, M. (2021). *Fiscal policy and households' inflation expectations: Evidence from a randomized control trial* (No. w28485). National Bureau of Economic Research.
- Correia-Nunes, J., & Stemitsiotis, L. (1995). Budget deficit and interest rates: Is there a link? International evidence. *Oxford Bulletin of Economics and Statistics*, 57(4), 425-449.
- Dai, Q., & Philippon, T. (2005). Fiscal policy and the term structure of interest rates.
- Darrat, A. F. (1988). On fiscal policy and the stock market. *Journal of money, credit, and banking*, 20(3), 353-363.
- Devarajan, S., Swaroop, V., & Zou, H. F. (1996). The composition of public expenditure and economic growth. *Journal of monetary economics*, 37(2), 313-344.

- Egwaikhide, F. O. (1999). Effects of budget deficit on trade balance in Nigeria: a simulation exercise. *African Development Review*, 11(2), 265-289.
- Erceg, C. J., Guerrieri, L., & Gust, C. (2005). Expansionary fiscal shocks and the US trade deficit. *International Finance*, 8(3), 363-397.
- Evans, O., Nwaogwugwu, I. C., & Odior, E. S. O. (2019). The distributional effects of fiscal policy on consumption and employment in Nigeria: A Bayesian DSGE Approach.
- Faini, R. (2006). Fiscal policy and interest rates in Europe. *Economic policy*, 21(47), 444-489.
- Fatás, A., & Mihov, I. (2001). The effects of fiscal policy on consumption and employment: theory and evidence. *Available at SSRN 267281*.
- Ferrara, L., Metelli, L., Natoli, F., & Siena, D. (2021). Questioning the puzzle: fiscal policy, real exchange rate and inflation. *Journal of International Economics*, 133, 103524.
- Hendricks, L. (1999). Taxation and long-run growth. *Journal of Monetary Economics*, 43(2), 411-434.
- Ilzetzki, E., Mendoza, E. G., & Végh, C. A. (2013). How big (small?) are fiscal multipliers? *Journal of monetary economics*, 60(2), 239-254.
- Jones, L. E., Manuelli, R. E., & Rossi, P. E. (1993). Optimal taxation in models of endogenous growth. *Journal of Political economy*, 101(3), 485-517.
- Karras, G. (1994). Macroeconomic effects of budget deficits: further international evidence. *Journal of International Money and Finance*, 13(2), 190-210.
- Karras, G. (2011). Exchange-rate regimes and the effectiveness of fiscal policy. *Journal of Economic Integration*, 29-44.
- Khundrakpam, J. K., & Pattanaik, S. (2010). Fiscal stimulus and potential inflationary risks: An empirical assessment of fiscal deficit and inflation relationship in India. *Journal of Economic Integration*, 703-721.
- Kim, H., & Lee, D. (2018). The effects of government spending shocks on the trade account balance in Korea. *International Review of Economics & Finance*, 53, 57-70.

- Kim, S., & Roubini, N. (2008). Twin deficit or twin divergence? Fiscal policy, current account, and real exchange rate in the US. *Journal of international Economics*, 74(2), 362-383.
- Kim, T., & Nguyen, Q. H. (2020). The effect of public spending on private investment. *Review of Finance*, 24(2), 415-451.
- Koray, F., & McMillin, W. D. (2007). *Fiscal shocks, the trade balance, and the exchange rate*. Louisiana State Univ., Department of Economics.
- Lane, P. R., & Perotti, R. (1998). The trade balance and fiscal policy in the OECD. *European Economic Review*, 42(3-5), 887-895.
- Laubach, T. (2011, May). Fiscal policy and interest rates: The role of sovereign default risk. In *NBER International Seminar on Macroeconomics* (Vol. 7, No. 1, pp. 7-30). Chicago, IL: University of Chicago Press.
- Li, Y., & Zhu, X. (2023). The effects of government spending on consumption and the real exchange rate: a comparison between developed and developing countries. *International Journal of Emerging Markets*.
- Lucas Jr, R. E. (1990). Supply-side economics: An analytical review. *Oxford economic papers*, 42(2), 293-316.
- Madni, G. R. (2014). Taxation, fiscal deficit and inflation in Pakistan. *The Romanian Economic Journal*, 53, 41-60.
- Maku, E. O., & Alimi, O. Y. (2018). Fiscal policy tools, employment generation and sustainable development in Nigeria. *Acta Universitatis Danubius. Œconomica*, 14(3).
- Malik, A. (2013). Private investment and fiscal policy in Pakistan. *Journal of economic development*, 38(1), 83.
- Mehrara, M., & Sujoudi, A. (2015). The relationship between money, government spending and inflation in the Iranian economy. *International Letters of Social and Humanistic Sciences*, 51, 89-94.

- Min, F., Wen, F., & Wang, X. (2022). Measuring the effects of monetary and fiscal policy shocks on domestic investment in China. *International Review of Economics & Finance*, 77, 395-412.
- Monacelli, T., & Perotti, R. (2006). Fiscal policy, the trade balance, and the real exchange rate: Implications for international risk sharing. *manuscript, IGIER, Universita Bocconi*, 6, 1-57.
- Montes, G. C., & da Cunha Lima, L. L. (2018). Effects of fiscal transparency on inflation and inflation expectations: Empirical evidence from developed and developing countries. *The Quarterly Review of Economics and Finance*, 70, 26-37.
- Morita, H. (2012). *Expansionary effect of an anticipated fiscal policy on consumption in Japan*. Institute of Economic Research, Hitotsubashi University.
- Murwirapachena, G., Choga, I., Maredza, A., & Mavetera, N. (2013). Fiscal policy and unemployment in South Africa: 1980–2010. *Mediterranean Journal of Social Sciences*, 4(6), 579.
- Nguyen, B. (2015). Effects of fiscal deficit and money M2 supply on inflation: Evidence from selected economies of Asia. *Journal of Economics, Finance and Administrative Science*, 20, 49-53.
- Nguyen, T. T. H., & Nguyen, D. T. (2010). *Macroeconomic determinants of Vietnam's inflation 2000-2010: Evidence and analysis*. Vietnam National University Hanoi.
- Obayori, J. B. (2016). Fiscal policy and unemployment in Nigeria. *The International Journal of Social Sciences and Humanities Invention*, 3(2), 1887-1891.
- Omran, E. A. M., & Bilan, Y. (2020). The impact of fiscal policy on the unemployment rate in Egypt. *Montenegrin Journal of Economics*.
- Qureshi, F., Khan, H. H., Rehman, I. U., Qureshi, S., & Ghafoor, A. (2019). The effect of monetary and fiscal policy on bond mutual funds and stock market: An international comparison. *Emerging Markets Finance and Trade*, 55(13), 3112-3130.



- Rendahl, P. (2016). Fiscal policy in an unemployment crisis. *The Review of Economic Studies*, 83(3), 1189-1224.
- Rosensweig, J. A., & Tallman, E. W. (1993). Fiscal policy and trade adjustment: are the deficits really twins? *Economic Inquiry*, 31(4), 580-594.
- Shaheen, R. (2019). Impact of fiscal policy on consumption and labor supply under a time-varying structural VAR model. *Economies*, 7(2), 57.
- Sineviciene, L., & Vasiliauskaite, A. (2012). Fiscal policy interaction with private investment: The case of the baltic states. *Engineering economics*, 23(3), 233-241.
- Stupak, J. M. (2019). Fiscal policy: economic effects. *Congressional Research Service*, 1-8.
- Surjaningsih, N., Utari, G. A., & Trisnanto, B. (2007). The impact of fiscal policy on the output and inflation. *Bulletin of Monetary Economics and Banking*, 14(4), 367-396.
- Surjaningsih, N., Utari, G. D., & Trisnanto, B. (2012). The impact of fiscal policy on the output and inflation. *Buletin Ekonomi Moneter dan Perbankan*, 14(4), 367-396.
- Tafuro, A. (2015). The Effects of Fiscal Policy on Employment: an Analysis of the Aggregate Evidence. *University Ca'Foscari of Venice, Dept. of Economics Research Paper Series No, 3*.
- Tagkalakis, A. (2004). The Asymmetric effects of Fiscal Policy on private consumption over the Business cycle.
- Tagkalakis, A. O. (2013). The unemployment effects of fiscal policy: recent evidence from Greece. *IZA Journal of European Labor Studies*, 2, 1-32.
- Vdovychenko, A. (2018). How does fiscal policy affect gdp and inflation in Ukraine. *Visnyk of the National Bank of Ukraine*, 244, 25-43.
- Weil, D. N. (2008). Fiscal policy. *The Concise Encyclopedia of Economics*, 18.
- Woldu, G. T. (2022). The asymmetric effect of fiscal policy on private consumption and private investment over a business cycle: Evidence from Sub-Saharan African countries. *Regional Science Policy & Practice*.

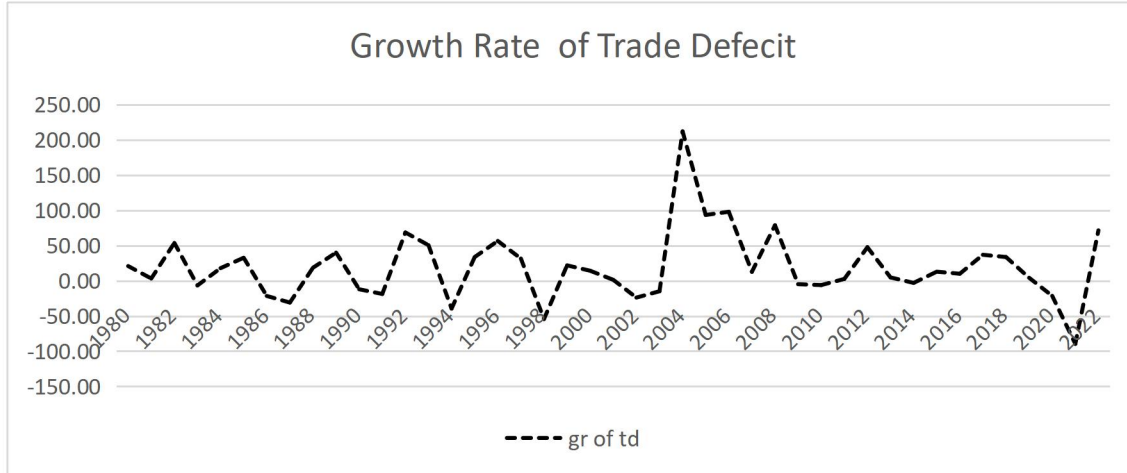
## **APPENDIX A**

### **Questioner For Interviews**

- What are the goals of Fiscal policy?
- What are the goals of an expansionary and contractionary fiscal policy?
- What are the instruments of fiscal policy?
- Why it's important to investigate the transmission channels of fiscal policy in Pakistan?
- How do they affect the interest rate, investment, exchange rate, trade deficit, inflation, public debt, employment, consumption, and the stock market?
- What is the current fiscal policy of Pakistan?
- Can fiscal policy work in the short run or long run?
- If fiscal policy changes, how do they affect the demand side supply side and financial market side?
- Is a change in fiscal policy helpful for the government to manage the current situation of the country?
- What are the main things that fiscal policy does to influence the economy?
- Which type of Policy documents do you use?
- Who is responsible for the decision-making?
- What is a Budget strategy paper?
- What is MTDf/MTBF?

## APPENDIX B GRAPHICAL REPRESENTATION OF VARIABLES

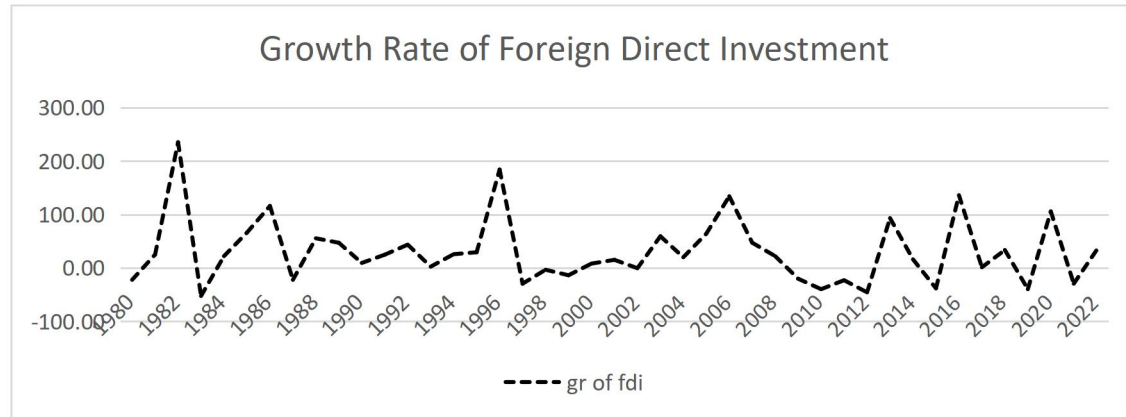
### Trade Deficit



The growth rate of the trade deficit in Pakistan showed a continuing trend of increasing until 2003 with positive growth rates indicating an expanding deficit. This suggests that the value of imports exceeded the value of exports during this period.

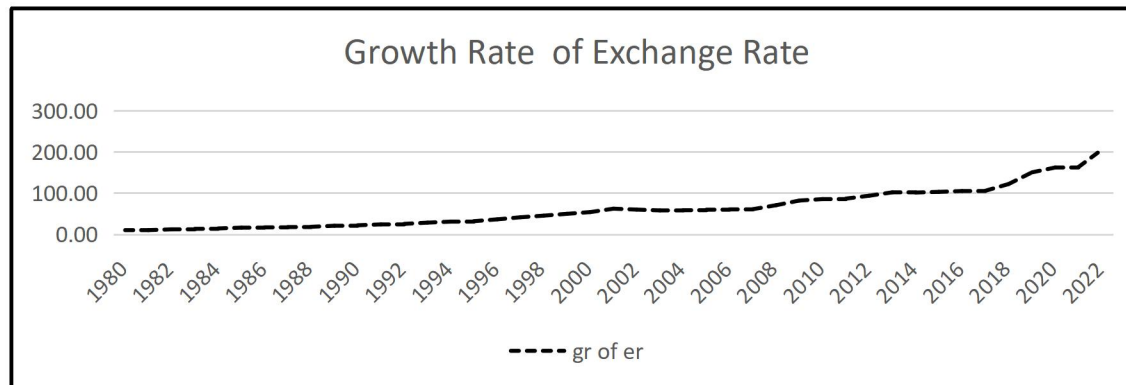
But in 2004 there was a shock in the trade deficit with a higher increase in imports due to the extraordinary economic growth experienced by Pakistan, particularly in the manufacturing sector. This growth led to increased consumer purchasing power and domestic demand, driving the need for more imported goods. After the shock in 2004, the growth rate of the trade deficit followed a similar trend as before, indicating a continued increase in the deficit over time.

## Foreign Direct Investment



The data on foreign direct investment (FDI) from 1980 to 2020 demonstrates a consistent and positive trend in terms of its growth rate. This means that over the entire period, the FDI in Pakistan has been increasing at a relatively steady rate. However, in 1982 net FDI of Pakistan increased at a high level because of investment-friendly policies in the early 1980s.

## Exchange Rate

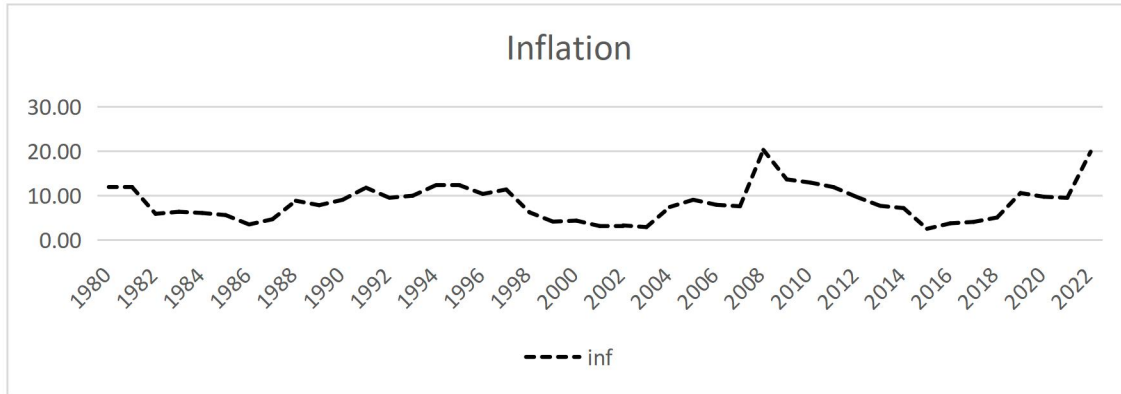


From 1980 to 1999, Pakistan's exchange rate followed a similar increasing trend, indicating relative stability in the exchange rate during this period. However, in 2001, there was a positive shock in the exchange rate. This positive shock was a result of an economic crisis that occurred in the early 2000s.

Afterward, from 2004 to 2017, the exchange rate showed a positive trend again. This suggests that the exchange rate increased steadily during this period. In 2018, there was another significant increase in the exchange rate, after which again the exchange rate faced an increasing

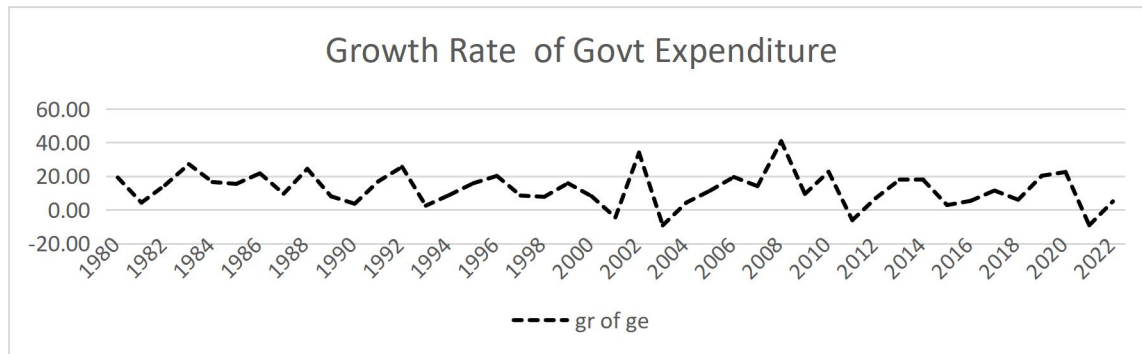
trend. primarily due to factors such as the General Elections and External Economic Factors. Pakistan faced a balance of payments crisis due to an increase in current account deficit and decrease in foreign exchange reserves. Additionally, rising global oil prices, increased imports, a slowdown in remittances inflow, and political instability further exerted pressure on Pakistan's external sector.

### **Inflation**



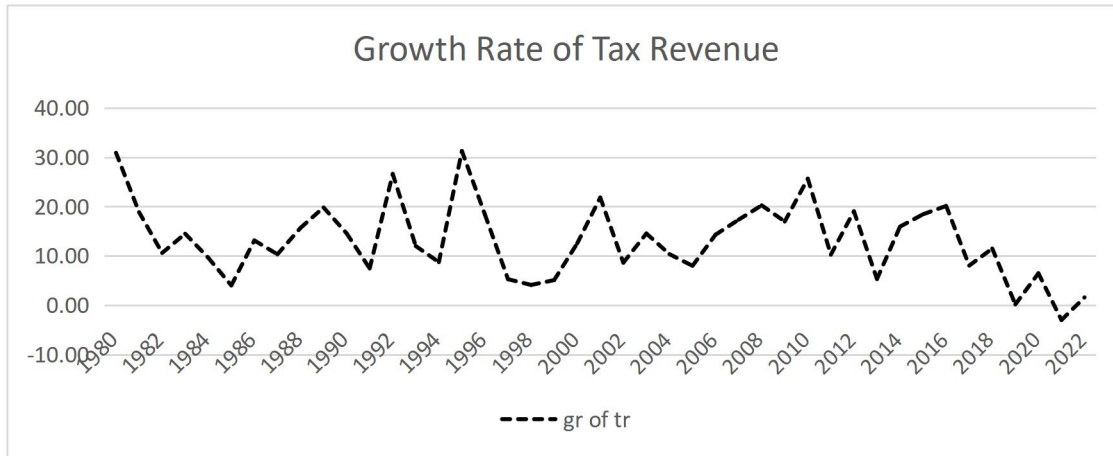
Pakistan's inflation data indicates a general rise in inflation from 1980 to 2022. However, it highlights a particular period in 2008 when inflation increased significantly due to these factors such as the energy crisis and the depreciation of the exchange rate.

### **Government Expenditure**



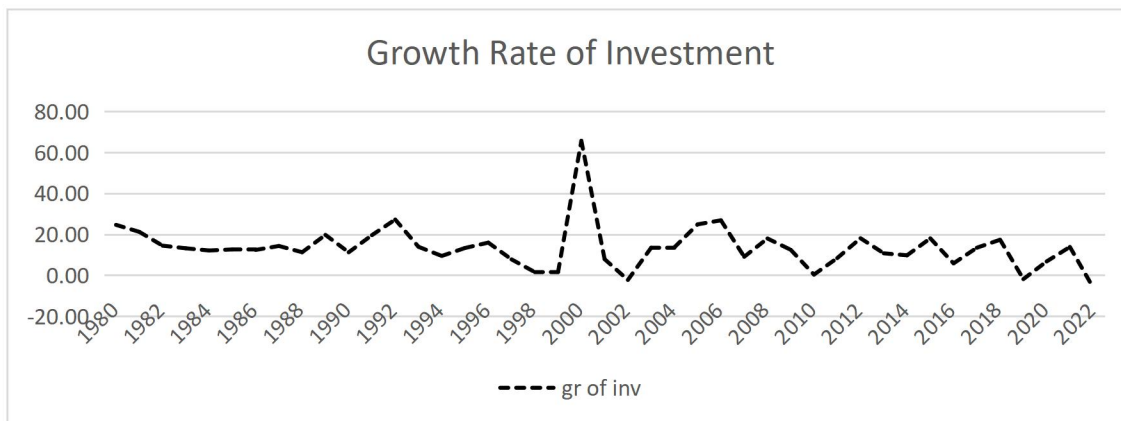
The graph of the growth rate of government expenditure shows a continuously decreasing trend but with mostly positive values from 1980 to 2022. This means that over this period, the rate at which government expenditure is growing has consistently been positive.

## Tax Revenue



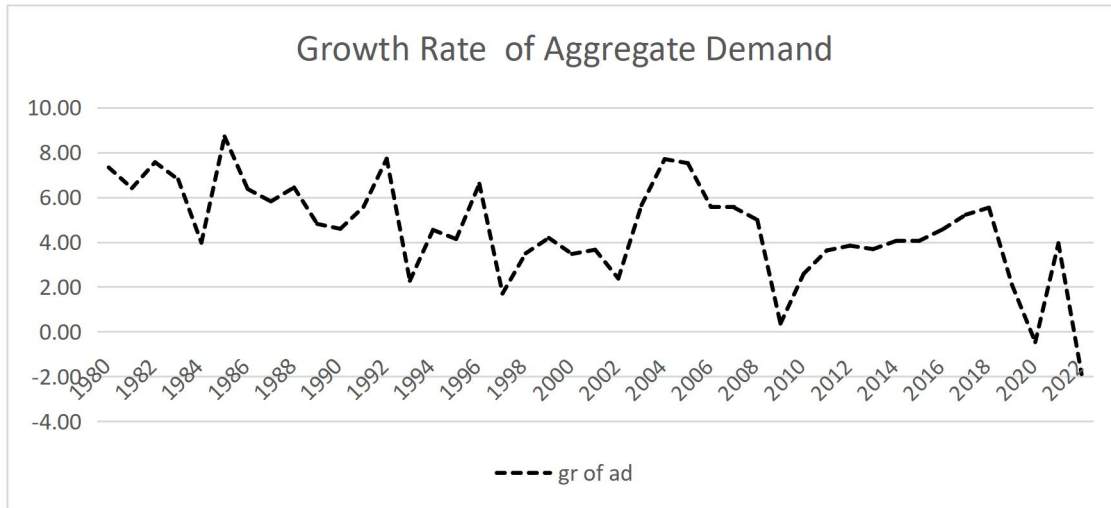
Tax revenue experienced a significant decrease from 1980 to 2022, indicating a decreasing trend in the data. This implies that over this period, the amount of revenue generated through taxes decrease slowly. Furthermore, the graph of the growth rate of tax revenue also shows a downward trend over time.

## Investment



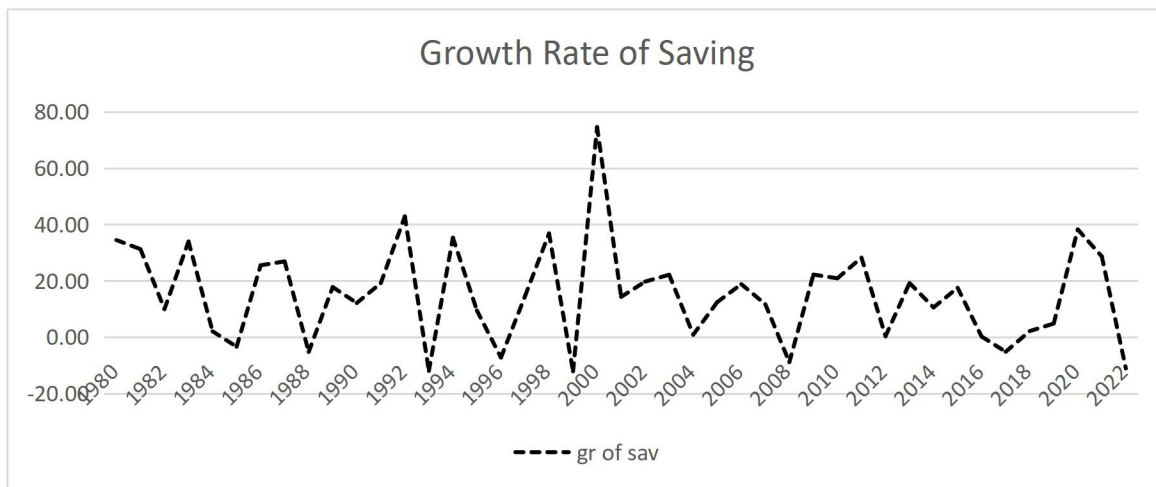
From 1980 to 1999, the graph shows a generally positive trend, meaning that the growth rate of investment increased during that period. However, in the year 2000, there was a sudden shock or disturbance in the investment. This shock was caused by a significant increase in private investment, which had a noticeable impact on the overall investment growth rate. After this shock in 2000, the graph shows that the growth rate of investment resumes its previous trend. In other words, it continues to exhibit a similar positive trend to what was observed from 1980 to 1999.

## Aggregate Demand



To measure aggregate demand, we use GDP as an indicator. The growth rate of GDP over the period from 1980 to 2022 shows a decreasing but still positive trend. However, it is noted that there was no significant increase in GDP from 2019 to 2020. This lack of GDP growth can be attributed to an economic slowdown. Because of covid 19.

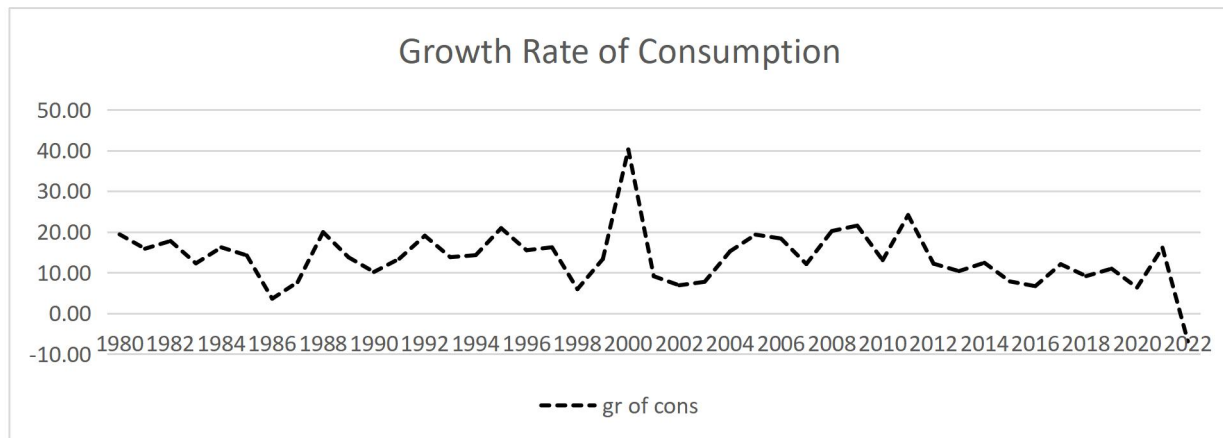
## Saving



This graph represents the historical data on the growth rate of saving from 1980-2022. The growth rate of saving demonstrates a positive trend from 1980 to 1999. However, in the year 2000, a shock occurred in the national saving. This shock was caused by a significant increase in private savings, which had an impact on overall national saving. During this time public savings

are negative. After the shock in 2000, the graph shows that the growth rate of saving returns to its previous trend. In other words, it resumes the positive trend observed from 1980 to 1999.

## Consumption



From 1980 to 1999, the graph displays a consistent and positive trend in the growth rate of total consumption. This suggests that the rate of total consumption increased steadily during that period. However, in the year 2000, a shock occurred in total consumption. This shock was caused by a significant increase in private consumption, like what was observed in private investment and saving. This indicates that individuals and households were consuming more, which had an impact on the overall level of consumption.

After the shock in 2000, the graph shows that total consumption follows a similar trend as before. It continues to exhibit an overall positive trend, indicating that total consumption is still increasing over time. But there is a slight reduction in the growth rate of total consumption from 2015 to 2020. This means that while total consumption is still increasing, the rate of growth has slowed down during this period.

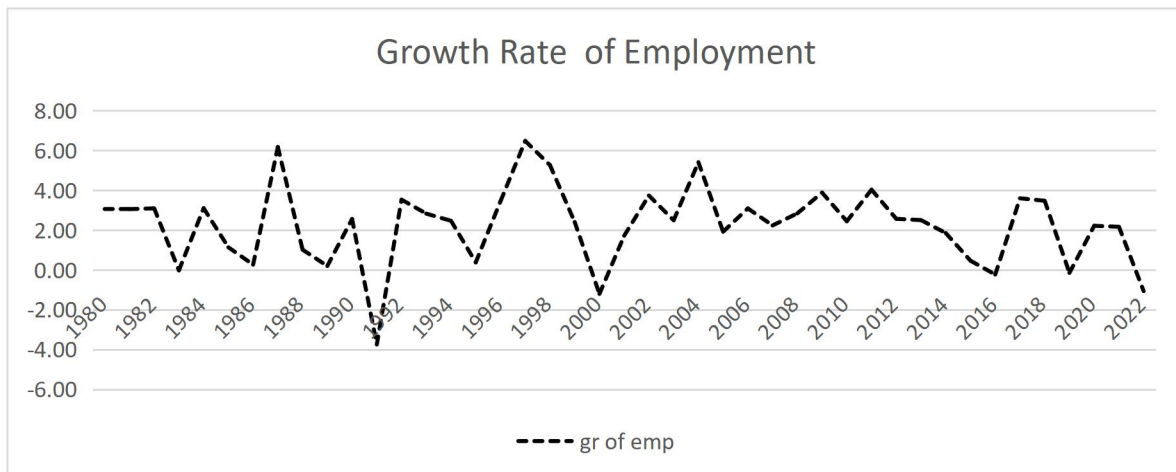


## Interest Rate



The graph shows that interest rates generally increased over time, indicating that borrowing costs and returns on savings were rising during this period. However, there is a notable shock in interest rates in 2002-2003. During these years interest rates decreased. This decrease can occur because of monetary policy adjustments made by the State Bank of Pakistan. These adjustments aimed to stimulate economic activity and stability of the exchange rate by lowering interest rates during that period.

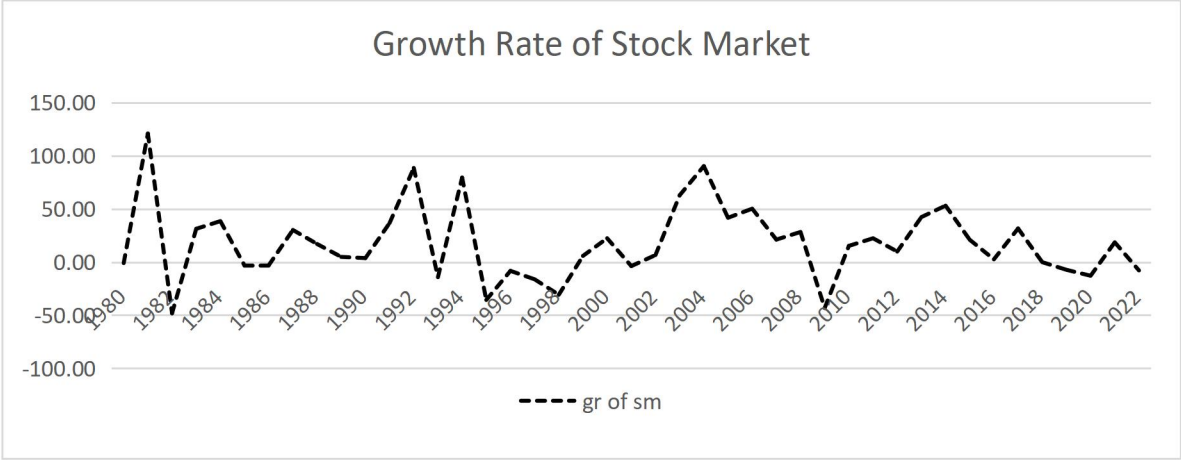
## Employment



The graph shows that the growth rate of employment generally followed a positive trend over the entire period, indicating an overall increase in employment levels.

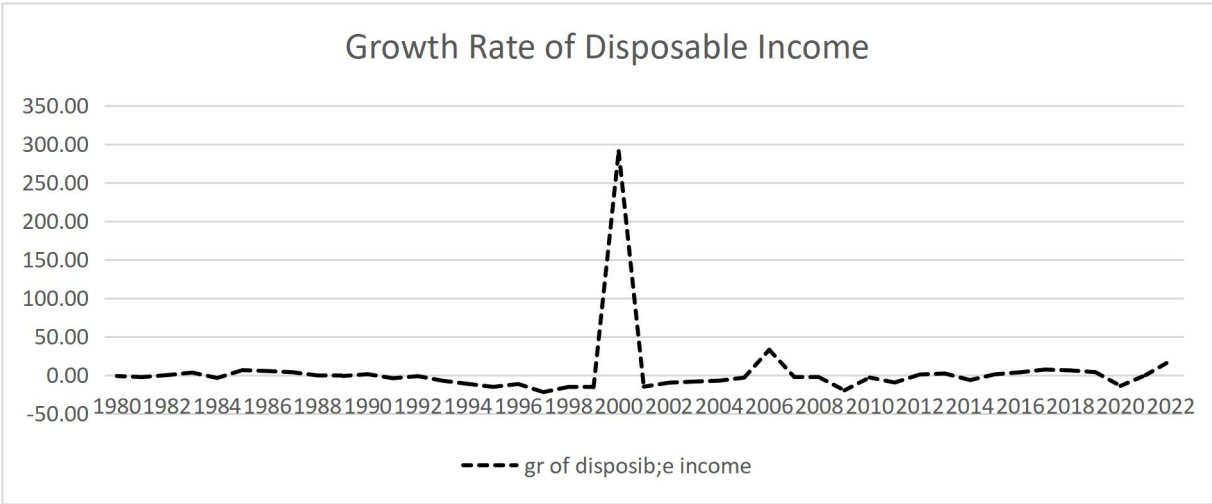
However, in 1991, there is a noticeable decline in employment. That was a result of an economic downturn caused by the suspension of US aid and disputed national elections, which affected government spending and business confidence.

**Stock Market**



The graph shows that the growth rate of the stock market mainly follows a positive trend over the period 1980 to 2022. However, in 1981 there is a shock in the stock market because of the strong economic growth in the 1980s. At that time government of Pakistan have investment-friendly policies such as market liberalization, tax incentives, and deregulation which encourage investment. Then in 2004 again Pakistan experienced unexpected growth. GDP growth reached 8.4%. At that time Pakistan’s stock market has become the best performing market in the world. After that, the stock market again follows the same positive trend as before.

# Disposable Income



From 1980 to 1999 the graph shows a consistent and almost positive trend in the growth rate of disposable income which means disposable income increased slowly over the period. However, in 2000 there is a shock in disposable income because of the increase in private consumption and private saving as we calculate disposable income by using data of real consumption and savings and net taxes. After that, the growth rate of disposable income also follows the same trend as before 2000.