

**THE ROLE OF INTEREST RATE, INFLATION RATE AND EXCHANGE RATE IN
DRIVING THE ECONOMIC GROWTH OF PAKISTAN – A SECONDARY DATA
ANALYSIS**



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BAHRIA UNIVERSITY ISLAMABAD

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ABSTRACT

This study investigates the relationships between interest rates, inflation rates, exchange rates, and economic growth in Pakistan. Employing a positivist research paradigm and a deductive approach, it utilizes secondary data from the World Development Indicators for the period 2014-2023. The methodology involves quantitative analysis, including regression and correlation analyses, to explore these economic variables' interrelationships. The findings reveal that interest rates and inflation rates negatively impact economic growth, while exchange rates have a positive influence. The study underscores the importance of effective management of these variables to promote long-term economic stability and growth in Pakistan. By providing insights into how these economic factors interact, the research aims to inform policy decisions that foster sustainable economic development.

Key Words:

Interest Rate, Inflation Rate, Exchange Rate, Economic Growth, Pakistan.

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CHAPTER 1

1.Introduction

1.1 Research Background:

Many factors, like interest rates, inflation, and currency rates, among others, have a significant impact on a nation's economic growth and ultimately shape its economy. They have a direct impact on the decisions made by companies and people on what to spend and invest in an economy. Remarkably, a study highlighted the important impact of interest rate changes on Pakistan's economic development. The results of their study underscored the significant influence that monetary policies have in directing investment patterns and the overall economic environment. Pakistan's economic growth has been a subject of concern for policymakers and researchers alike, with various factors contributing to its unsustainable and low level over the years. In this regard, the impact of major economic variables, including inflation rate, interest rate, and exchange rate, on Pakistan's economic growth has been extensively studied. For instance, a study published in the *Acta Universitatis Danubius (Economica)* journal analyzed the impact of these variables on Pakistan's economic growth using a multiple linear regression model (Chughtai et al., 2015). The data indicate that both inflation and interest rates have a negative impact on Pakistan's economic growth, however the exchange rate has a beneficial impact on the economy. This implies that high inflation and interest rates hinder economic growth, while a stable exchange rate fosters growth. Furthermore, these interest rate fluctuations have an immediate effect on the cost of borrowing as well as the accessibility of credit. In short, low interest rates make the economy go faster by supporting businesses and people to spend more money. High-interest rates can stop growth because they making it harder for new investments to get approved or spending fewer items from us all. The SBP formulates monetary policy to regulate interest rates with the aim of achieving macroeconomic stability and promoting growth. Empirical study has shed light on the relationship between interest rates and economic growth in Pakistan. For instance, conducted a time series analysis and found a significant impact of interest rates on economic growth, indicating that lower interest rates contribute positively to GDP growth (Ahmed et al., 2020). Similarly, research by Khan and Gill (2017) corroborated these findings, highlighting the importance of monetary policy in driving economic expansion through interest rate adjustments. Inflation is primarily a measure

of how quickly prices for various items and services grow, thereby reducing customers' purchasing power.

High inflation can have adverse effects on economic growth by distorting pricing signals, reducing investment, and eroding consumer confidence. In contrast, moderate inflation can boost economic growth by boosting investment and increasing demand. Exchange rates significantly influence a country's foreign trade dynamics and competitiveness. Moreover, emphasized the role of inflation targeting as an effective policy tool for anchoring inflation expectations and fostering economic stability conducive to growth (Azam & Khan, 2020). Exchange rate fluctuations affect import and export costs, influencing trade volumes and the overall balance of payments. A falling exchange rate can boost export competitiveness by making domestic goods cheaper for overseas customers, so promoting economic growth. Conversely, a strengthening exchange rate may improve import affordability but could hinder export competitiveness, affecting overall economic performance. The exchange rate, which defines the value of a country's currency relative to other currencies, is critical in defining international trade, foreign investment, and economic growth. A weak exchange rate can promote exports and boost economic growth by making domestic goods cheaper for foreign buyers. However, it can also lead to higher import costs, potentially fueling inflationary pressures. More contemporary researches echo similar findings. Malik and Husain (2016) employed the autoregressive distributed lag bounds testing approach. Their results showed depreciations to be significantly growth-enhancing through export competitiveness gains in Pakistan. An appreciating real exchange rate was found to depress exports and overall economic growth in both short and long terms. They supported managed exchange rate flexibility to maintain competitiveness on a sustained basis.

Currency devaluation can affect the trade balance of a country. In Pakistan's situation, research demonstrates that currency depreciation can make exports cheaper for overseas customers while increasing import costs for domestic consumers (Khan and Siddiqui, 2021). This has the ability to improve the trade balance by increasing exports while decreasing imports, resulting in positive economic growth. However, the extent of this influence is determined by the elasticity of demand for exports and imports. Government policies play an important role in mitigating the negative effects of currency devaluation and capitalizing on its potential benefits. Fiscal and monetary measures can be used to control inflationary pressures, encourage investment, and support

exporters. For instance, the government may offer subsidies or tax incentives to export-oriented industries to enhance competitiveness.

Overall, by understanding these concepts deeply economists and policy makers can really make correct decision regarding the Economy of the country. This study further aims to builds on the existing body of research to provide valuable insights for policymakers and stakeholders.

1.2 Purpose of the Study:

This study examines the individual impacts of interest rates, inflation rates and exchange rates on Pakistan's real GDP growth both in the short-run and long-run. It will Investigate the simultaneous interactions and substitution effects between these macroeconomic variables in influencing domestic output. The research will analyze the sector-specific and regional effects of interest rates, inflation and exchange rates on aggregate GDP as well as its agricultural, industrial and services components (Munir et al., 2017). It will Identify any structural breaks in the relationships and account for regime shifts in monetary/fiscal policies over the past decades. Provide updated empirical evidence and policy recommendations to maximize the growth-oriented effects of managing interest rates, inflation and exchange rates in the current macroeconomic environment of Pakistan. The research will provide detail analysis of how these variables can be useful for Pakistan in maintaining and boosting economic growth which is part of Pakistan's ambition towards sustainable development (Hayat et al., 2021). The investigation shall adopt a quantitative approach. Therefore, this study aims to address the identified gaps by undertaking a comprehensive empirical analysis incorporating high-frequency quarterly/monthly recent data as well as structural break unit root/integration techniques. It seeks to provide new empirical evidence on the independent and joint impacts of interest rates, inflation and exchange rates on Pakistan's aggregate and disaggregated GDP growth. The findings would offer timely policy recommendations to maximize beneficial macroeconomic conditions supporting durable expansion and welfare improvements.

1.3 Problem Statement:

Despite the efforts of interest rate and exchange rate to maintain the economic growth of Pakistan, the continue rise of inflation make it tough and worse for the economic development and development of the country. The exact nature of the relationship between theses variables and their

combined effect on economic growth remains a subject of discussion as different factors also impact on economic growth. Previous studies have explored the individual impacts of interest rate, inflation rate and exchange rate but still a comprehensive analysis is required to completely understand the relation. Studies have mostly examined the factors in isolation rather than investigating their joint. Modeling them together is necessary to understand substitution effects and inform coordinated policymaking (World Bank, 2023). This study aims to address this gap by investigating the impact of Interest rate, inflation rate and exchange rate on economic growth in Pakistan from (2014-2023). By identifying the key drivers and constraints associated with interest rates, inflation rates, and exchange rates, the research aims to offer recommendations for policymakers and stakeholders to enhance economic growth and stability in Pakistan.

1.4 Research Gap:

Recent research has helped us understand the links between interest rates, inflation and exchange rates better. However, there is still much to learn about how these factors affect growth in economies overall. Even with this new knowledge, we need more study so that we can fully explain why changes happen faster or slower for each of them separately now compared before. Previously, people studied all together how interest rate and inflation affected the economy. But it didn't give a clear understanding of different situations where these rates change over time or with exchanging money in other places (Chaudhry et al., 2021). While sources touch upon general concepts such as the influence of interest rates on spending and lending behaviors and the empirical examination of how real exchange rate misalignment affects growth in Pakistan, there's a need for a comprehensive study. Existing literature often focuses on the contemporaneous relationship between interest rates, inflation rates, exchange rates, and economic growth, neglecting the dynamic interactions and potential lagged effects (Pakistan GDP per Capita 1960-2024). Investigating the immediate as well as long-term consequences is critical for understanding the transmission mechanisms via which changes in these variables affect economic growth over time. The issue of endogenous and bidirectional causality remains largely unaddressed in the existing literature. Endogenous issue arises when economic growth influences changes in interest rates, inflation rates, and exchange rates, creating a potential feedback loop. Employing advanced econometric techniques such as instrumental variable estimation and Granger causality tests can help mitigate endogenous concerns and discern the direction of causality. Pakistan's economy is

vulnerable to external shocks such as global oil prices fluctuations, geopolitical tensions, and international capital flows. However, the literature often overlooks the impact of these external factors on the relationship between interest rates, inflation rates, exchange rates, and economic growth (Hoang et al., 2020). Future research should incorporate measures of external shocks to provide a more comprehensive analysis of the determinants of economic growth in Pakistan.

Future studies should analyze the relationship between interest rate, inflation rate and economic growth tend to focus on domestic and local economies rather than developed economies or broader emerging market economies to fulfill this gap. There Exists research void in terms of studies that specifically investigate these relationships in the context of Pakistan's unique economic dynamics, policy environment, and structural characteristics. Furthermore, a useful benchmark can be obtained by contrasting Pakistan's economic growth in terms of GDP per capita with India and Bangladesh. Bangladesh has the highest GDP per capita among the three countries and is ranked 129th globally in recent times. India has the second highest per capita income and is ranked 141st globally. Pakistan has the lowest GDP per capita among the three South Asian nations and is ranked 150th globally based on IMF figures. Keeping these figures in mind, Investors and decision makers can make an effective strategy to go forward.

1.5 Research Questions:

- What is the Impact of Interest Rate on the Economic Growth?
- What is the Impact of Inflation Rate on the Economic Growth?
- What is the effect of Exchange Rate on the Economic Growth?

1.6 Research Objectives:

- To examine the Impact of Interest rate on the Economic Growth
- To assess the effect of Inflation rate on the Economic Growth
- To examine the influence of Exchange rate on the Economic Growth

1.7 Significance of Study:

For various reasons, it is important to examine the interest rate, inflation rate and exchange rate in economic growth. Previously found out details help a lot in understanding the complex

connections between these things. It helps policy makers create good money-related plans. For example, interest rates affect inflation. They are most important nowadays as a tool for making decisions about money supply and policies around spending. Studies show how exchange rates are very important in making a country's economy grow. This study is important for leaders in Pakistan (Ahmad et al., 2019). It helps them understand how to keep a good exchange rate so they can grow their economy better. Using these understandings, lawmakers can focus on controlling borrowing costs well, stopping price increases and making sure the money value stays steady. These focused efforts are very important to keep up steady and lasting growth in the economy. These discoveries are very important. They help make rules and laws but also do more than that: they improve money economy, bring in foreign investments, drive progress projects and enrich the world of learning. When we understand how these different money parts work with each other, everyone needs to help guide Pakistan towards a strong and tough future for their economy.

1.8 Variables and definitions:

To have a clear understanding on the theoretical underpinning, the following Table 1.1 describes some of the essential construct to be used in this study as well as resolving any terms contradictions.

Table 1.1: Definitions of the variables used in this study

Variables	Definitions
Interest rate	Interest rate directly impacts the development and growth of the country. Central banks employ interest rates as a monetary policy instrument to influence borrowing, lending, and investment and economic activity levels.
Inflation Rate	Inflation Rate can really impact the consumption pattern and development of the country. High inflation distorts price signals in the economy making efficient resource allocation challenging.

Exchange Rate	The rate at which one currency can be exchanged for another, showing the value of one currency in relation to another. It allows a country to look about their monetary policy and how they can proceed with other countries to grow.
Economic Growth	An economic rise in the production and/or consumption of goods and / or services over time in a society or specific country, usually measured by changes in the Gross Domestic Product or Gross and/or Net National Product. Economic Growth will be the primary lens for examining how the effects of inflation, interest rates, government policies, and other exogenous factors may influence the economy of the specific region/country under consideration.

1.9 Summary:

The relationship between the macro variables and economic growth is of paramount importance for policymakers and economists alike, especially in the context of a developing economy like Pakistan. Understanding how these macroeconomic variables interact and influence economic growth is crucial for formulating effective monetary, fiscal, and exchange rate policies aimed at promoting sustainable and inclusive development. The dynamics between these variables are complex and interconnected. Variations in interest rates can effect inflation by impacting aggregate demand and the cost of borrowing, while inflation, in turn, can influence central banks interest rate decisions. Exchange rate movements can also affect inflation through changes in import prices and overall price levels, thus influencing monetary policy decisions. In the case of Pakistan, a country with a history of macroeconomic challenges including high inflation, volatile exchange rates, and fluctuations in interest rates, understanding the interplay between these variables is crucial for achieving sustainable economic growth. Policymakers need to adopt a balanced approach, considering the trade-offs and synergies between monetary, fiscal, and exchange rate policies to

promote stable inflation, competitive exchange rates, and conducive interest rate environment conducive to economic growth.

1.10 Organization of Thesis:

First Chapter: This chapter gives a summary of this research by going over the study's background, introducing the issue, outlining the problem, describing any gaps or contributions, and outlining the goals and objectives of the research.

Second Chapter: The chapter on reading through the literature talks about big ideas and gives different opinions on important parts of our study. This helped to make the study's idea structure. In this chapter, we talk about the idea behind our research and how it was created. We also discuss how guesses which could be correct were formed based on these ideas.

Third Chapter: This Chapter discusses the data and Methodology Portion of the research study. This chapter is critical because it describes the methods and procedures used to collect and evaluate data, which ensures the study's validity and dependability.

Fourth Chapter: This chapter usually contains the findings of the investigation and It is critical because it presents the conclusions obtained from the methodologies and procedures described in the preceding chapter. This chapter goes into detail about the results of the quantitative investor survey and covers response rates, respondent profiles, validity and reliability checks, structural equation modeling approaches, and hypothesis testing.

Fifth Chapter: The fifth chapter of a thesis usually contains a discussion of the results reported in the previous chapter. This chapter is significant because it analyzes the findings, explores their consequences, and places them in the broader context of the discipline. This chapter includes the discussion and implications which shows the findings, contributions and limitations of the study with recommendations for future.

Chapter 2

2. Literature Review

2.1 Brief:

This chapter covers the theories and literature that underpin the research's ultimate goal. The interest rates, inflation rates, and exchange rates are employed to investigate the impact and consequences of economic growth of an economy.

2.2 Theoretical background and literature review:

A nation's economic landscape and future growth trajectory are largely shaped by major elements such as interest rates, inflation rates, and currency rates. Complex interactions between these variables affect important industries like manufacturing, agriculture, services, and international trade (Olamide and Maredza, 2022). Examining their interdependencies in greater detail offers insightful information on how fiscal and monetary policies might be adjusted to overcome obstacles and promote sustainable economic growth. The Study by Siddiqui investigated the influence of interest rates on economic growth in Pakistan (Siddiqui & Ahmed, 2020). Their study found that low interest rates generates investment and activity in the economy, thus promoting sustainability and development. Several studies showed that lower interest rate promote economic growth by making borrowing more affordable for firms and individuals, resulting in higher investments. Higher Interest rates can stifle economy of the country by increasing the cost of borrowing resulting in less spending (Sajid et al., 2020). However, they noted the importance of maintaining a balance to prevent inflationary pressures. Understanding the complex interrelationships between various economic indicators helps policymakers create plans that support the economy and guarantee stability and growth for long term.

Numerous studies have examined the effect of interest rate changes on economic growth in Pakistan, providing valuable insights into the relationship between these variables. These studies have utilized different methodologies and data sources to analyze how interest rate fluctuations had an impact on investment decisions and overall economic performance (Khan & Siddiqui, 2021). Monetary policy, including changes in exchange rates, is one of the main keys utilized by Government to manage inflation. The transmission channels through which interest rates impact inflation are complex and varied. Changes in interest rates can influence cost of borrowing,

decisions regarding investments, consumption patterns, and exchange rates, all of which can have implications for price levels and inflation (Alshubiri, 2022). The findings of these studies collectively suggest that interest rate changes play an impactful part in shaping economic growth of the country.

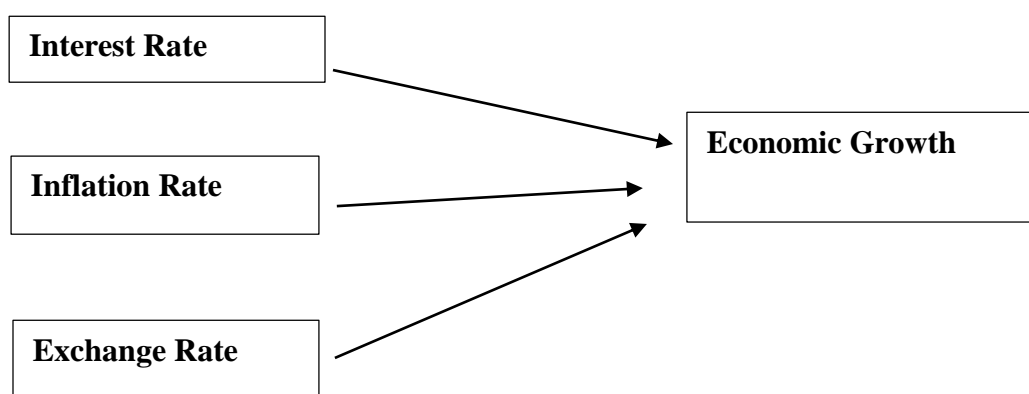
Comprehending the workings of economic growth dynamics heavily depends on developing Interest and Exchange Rate policies as well as putting monetary policies into action that are essential to the economy. The Fisher effect also explains why there is a positive link between inflation and nominal interest rates (Farman et al., 2020). The Fisher equation indicates that the nominal interest rate is equal to the real interest rate plus the projected inflation rate. In addition to these variables, other factors such as issues of security, deficiency of energy, foreign debts burden, and food prices also have a major influence on the economic growth of Pakistan (Chughtai et al., 2015). Therefore, it is necessary for the policy makers to look upon these factors when formulating monetary and fiscal policies to promote economic growth in Pakistan. If inflation rates are about to increase, investors would ask for more nominal interest rates as a compensation for the loss of purchasing power. This entails gathering and scrutinizing pertinent data with attention, such as historical interest rates, indicators of inflation, shifts in the relative values of money and other currencies, and significant indicators of economic expansion (Tanveer et al., 2021). Through a thorough analysis of these components, decision-makers may create practical plans that guide the economy toward growth and stability. The study may employ econometric methods like regression analysis to ascertain and quantify the statistical significance of the correlations between these variables.

These trends have emerged to contradict the traditional notion that a reduction of inflation rate is positively related to economic growth; recent empirical evidence examining this relation in the case of Pakistan using threshold autoregressive (TAR) approach. Their findings suggested that there exists an optimal level of inflation beyond which it becomes harmful to economic growth (Eggoh & Khan, 2021). Therefore, it is evident that policymakers should be keen on the manipulation of rates of inflation in the economy to avoid the costs associated with under-inflation while also controlling over-inflation. The traditional view suggests that high inflation rates have negative impact on economic growth (Munir et al., 2017). Inflation reduces the buying capacity of consumers, reduces investment, and creates uncertainty, which hampers economic growth

Politicians need to be aware of inflation and interest rates in relation to public consumption. To control inflation and promote economic expansion, the central bank may think about changing interest rates. Plans for borrowing and investing have the power to significantly influence economic growth and indicate possible future directions (Ahmed et al., 2021). Additionally, managing exchange rate policies is essential for supporting economic growth. The SBP intervenes in the foreign exchange market to stabilize the exchange rate and maintain external competitiveness (State Bank of Pakistan, 2021). Appropriate exchange rate policies can help boost export-oriented sectors, attract foreign direct investment, and facilitate economic growth.

2.3 Research Framework:

The research model as explained in chapter two of this research includes Interest rate (IR), Inflation rate (IR) Exchange Rate (ER) and Economic growth (EG). The three exogenous variables are: inflation rate, Interest rate and exchange rate; and the one dependent variable - economic growth (Mishkin, 2018).



2.3 Theories employed for this study:

This study aims to investigate the impact of interest rates, inflation rates, and exchange rates on the nation's economic growth. These consist of the Theory of Interest, International Fisher Theory and Philips Curve Theory.

2.3.1 Theory of Interest:

The traditional view of interest rates, which is supported by prominent economists like David Ricardo and Adam Smith, explores the variables that affect interest rates in financial systems. The

Interest rates have a complex effect on economic growth. Low interest rates have the potential to increase market confidence, increase liquidity, and raise stock values (Urbano et al., 2019). On the other hand, excessive interest rates can have the reverse impact and discourage both consumption and investment. Over time, Pakistan has seen fluctuating rates of inflation. According to a study, the rate of inflation in 2023 was 29.18%, a notable increase over prior years such as 2022 (12.15%) and 2021 (8.9%). Purchase power, investments, and general consumer confidence can all be impacted by such high rates of inflation, which in turn can hinder economic growth (statista, 2023). The idea intends to acknowledge that central banks have a fundamental impact on interest rates via their conventional monetary policy instruments. Central banks can influence an economy's short-term interest rates as measured by treasury bills through methods like Open Market Operations, reserve requirement modifications, and discount rate setting. As a result, these monetary policies have the power to affect borrowing costs in the economy and to sculpt the larger interest rate.

2.3.2 International Fisher Effect:

The IFE is an economic and finance theory that estimates the relationship between nominal interest rates, inflation rates and exchange rates in different countries. The key proposition of the International Fisher Effect is based on the concept of real interest rates. Real interest rates represent the nominal interest rate adjusted for inflation. According to the theory, in an efficient market, investors seek to achieve similar real returns on their investments regardless of the currency or country in which they invest (Matthew et al., 2022). The International Fisher Effect also has its applications to international capital flows, interest rate differentials, and exchange rate exploration. These costs of carrying out transactions together with capital control and market imperfections and risk perceptions can cause deviations away from the IFE. Additionally, the assumption of perfect capital mobility underlying the theory may not hold true in real-world situations. Despite these limitations, the IFE remains a valuable concept for recognizing the dynamics of interest rates and exchange rates in global financial markets.

2.3.3 Phillips Curve Theory:

The Phillips curve theory depicts a negative relationship between inflation and unemployment. This is because in discussing the factors affecting Pakistan's economic progress, the Phillips curve theory implies that there exists a trade-off between average unemployment and inflation. Monetary

policies that seek to reduce unemployment rates using expansionary monetary measures may be associated with higher levels of inflation while monetary policies that seek to reduce inflation using contractionary monetary policy measures may lead to higher levels of unemployment. The Phillips Curve has been a significant concept in macroeconomics, suggesting a trade-off between inflation and unemployment (Tanveer et al., 2021). Policymakers historically believed they could control unemployment and inflation through Keynesian policies, where stimulating the economy could lower unemployment but lead to higher inflation. However, economists like Milton Friedman and Edmund Phelps challenged this view, arguing that rational employers and workers would adjust real wages to maintain labor market equilibrium, leading to a natural rate of unemployment (Irtiza, 2024). Achieving a balance between these objectives is significant for sustaining long-term economic growth and balance in Pakistan.

2.4 Hypothesis:

2.4.1 Effect of Interest Rate on Economic Growth:

Numerous studies demonstrate how monetary and central policies can affect economic growth in response to changes in interest rates. Economists ascertained that interest rate rates also slows economic growth. It predicts that higher interest rates result in less investment, increased cost of borrowing for the firms and individuals, lowered consumption and may also indicate depressed confidence among the firms. These factors, in turn, can lead to a slowdown in GDP growth. Interest rates affect the cost of the capital directly. When interest rates are low, businesses can access cheaper financing, which can reduce their production costs and improve profitability. Lower production costs can lead to increased competitiveness, higher output, and ultimately, improved economic growth (Hussain et al., 2021). Interest rates impact consumer borrowing costs, particularly for large purchases such as homes and automobiles. This is because after spending the money that they have borrowed-on all manner of electronics and thereby putting interest rates into their mortgage. Another way to encourage consumer demand and promote economic growth is through rising consumer spending. It is notable that central banks utilize changes in the interest rate to control inflation and growth in the financial market. Expansionary economic cycles can result in Central banks imposing higher interest rates to stem inflation. Nevertheless, when the economy is growing at a slow rate, a central bank may reduce the interest rates to support the

economy. Nonetheless, it is essential to mention that the impact that an interest rate has on the growth of an economy can be explained by various factors. Empirical research is necessary to explore and validate this hypothesis in specific economic settings.

Hypothesis 1: Interest Rate Significantly impact and economic growth.

2.4.2 Effect of Inflation Rate on the Economic Growth:

The rate of inflation is a key to shaping the economic growth as it has essential impact on economic strategies and successful development which the country state has. It it has an indirect impact on the economy of a given country as enhanced inflation rate will contribute to the reduction of economic growth rate and vice versa. Such events in the economy can lead to a rise in consumer expenditure as customers make attempts at buying goods and services before their prices go up in the future. It can foster short-run economic growth when demand rises. In summary, if the economy achieves maximum efficiency utilization rates, high and persistent inflation will lead to the decline in the purchasing power of money, decline in investment, and reduced economic growth. Research has also indicated that the country's annual GDP growth above 2 percent annually has been for the last two decades (Barnes, 2023). But this is positive relationship only until the employment is not very high or very low or near to full employment.

High inflation is not a desirable condition, and it poses problems for decision-makers, foremost among which is the uncertainty it can cause in the economy. Market risk also poses a problem since investors often fail to predict future prices and therefore reduce investment hence slowing down the economic growth. Monetary policy can be used by the central banks, with such measures as interest rate as a tool to combat inflation. Inflation targeting is a method of policies which facilitates keeping low rates of inflation which are ideal for the growth of the growth. Inflation can also escalate beyond the set target range and in such cases, monetary policy may be adjusted by raising interest rates in an effort to tame inflation. On the other hand, such economies of low inflation rates or deflation often result in lower capacity of central banks to support economic activity through rate cuts. Higher inflation may result in banking sector losses and therefore results in banks tightening their lending practices that in turn can have an effect on the levels of economic activity in Pakistan where the role of the banking industry in encouraging growth is very notable Any disruption with the banking industry therefore has the potential of having a very negative impact on the level of growth of the economy of Pakistan (Agarwal & Baron, 2023). This

hypothesis is grounded on the theoretical principles the neoclassical model; which asserts that reduced interest rates increases expenditure on investment and consumption leading to growth of the economy.

Hypothesis2: Inflation Rate Negatively Impacts the economic growth

2.4.3 Exchange Rate Impact on Economic Growth:

Studies shows that exchange rate variations have a major impact on a country's economic growth. The Purchasing Power Parity (PPP) concept underscores this by highlighting how shifts in exchange rates can influence a nation's trade equilibrium and, by extension, its economic well-being. Past research in analogous economic environments further solidifies the idea that alterations in exchange rates can profoundly shape economic development. When a country's currency depreciates, it amplifies the cost of imported products. A depreciation in the exchange rate can reduce the cost of production for domestic firms, increasing their competitiveness and potentially stimulating investment. At the same time, a depreciation can increase the cost of imported goods, reducing real incomes and potentially dampening consumption. Another mechanism is through foreign trade. A depreciation in the exchange rate can make exports cheaper and imports more expensive, potentially increasing the trade surplus and contributing to economic growth. (Segal, 2021). However, a sustained depreciation can also lead to inflation, reducing the competitiveness of exports and potentially harming economic growth This scenario can escalate operational expenses for enterprises and elevate consumer prices, thereby affecting the overall economic landscape. Alterations in the exchange rate can influence how competitive a country's goods and services are in foreign markets, which in turn can sway the overall trade balance. When a nation achieves a positive trade balance, it can spur economic advancement by increasing income from exports and lessening the dependence on imported goods.

Hypothesis 3: Exchange Rate Influence the decision makers in shaping the Economic growth of Pakistan.

2.5 Explanation of the variables:

When the central bank boosts interest rates, it attracts foreign investment and strengthens the currency, helping to limit inflation. However, one has to keep an eye on rates of interest since it may mean slower economic growth, put off employment and various other factors. With regards

to Pakistan, one finds that the cost of borrowed capital and the rate of interest do have effects on inflation and growth, among others. Hypotheses on interest rate Mainstream: Lower interest rate could lead to more borrowing and investment, hence boosting economic growth. Inflation can be defined as the change in the Domestic currency price level which results in the decline of buying power. In particular, inflation is still a problematic issue in Pakistan, which has led to the increase of the general level of prices for essential and non-essential goods and services, the deterioration in the quality of products and the living conditions for low-paid employees and their families. In conclusion, exchange rate can cause inflation due to factors that include relative purchasing power parity such that a change in exchange rate impacts price of imported goods. On the other hand, an appreciation of the home currency can generate an outcome that is opposite to inflation since it draws down the cost of imported goods. The primary factor in influencing prices overseas is inflation; thus it is crucial for the survival of a country's economy. The exchange rate can be used to have the ability to affect almost all economic growth by influencing trade balance, investments, and competitiveness. Various variables influence Pakistan's exchange rate, including political instability, trade deficits, and overall economic health. A weak exchange rate can raise import prices, adding to inflation, but it can also increase export competitiveness and enhance economic growth. A strong currency rate can help limit inflation by making imports cheaper, but it can also hurt exports and economic growth. Exchange rate management is critical for promoting economic stability and international trade competitiveness. Overall, interest rates, inflation rates, and exchange rates are interrelated variables that contribute significantly to Pakistan's economic growth. Effective control of these variables through appropriate policies and procedures is required for fostering sustainable economic development and stability in the country.

2.6 Summary:

The relationship between these variables is complex, and their effects on economic growth differ depending on the setting and conditions. A weak exchange rate, for example, may benefit economic growth in the short term by increasing exports, but it can also lead to inflation and impair long-term economic stability. Similarly, higher interest rates may assist to contain inflation, but they can also discourage investment and limit economic growth.

Effective management of these variables is critical for promoting long-term economic growth and stability in Pakistan. Exchange rates, in turn, can influence economic growth via a variety of

avenues, including investment, consumption, price, money supply, foreign exchange reserves, employment, and international trade. The government and central bank have used a variety of strategies to control inflation, interest rates, and exchange rates, including monetary policy, fiscal policy, and exchange rate policies. However, considerable effort remains to be done to alleviate Pakistan's currency rate and inflation concerns. To summarize, interest rates, inflation rates, and exchange rates all have a significant impact on Pakistan's economic growth. Understanding the intricate link between these variables and establishing appropriate policies to manage them is critical for promoting long-term economic growth and stability in the country.

Chapter 3

Methodology

3.1 Brief:

The last chapter explain the literature review of the study. This chapter will explain the data and methodology used in this study. Quantitative research will be used to explain how interest rates, inflation rates, and exchange rates affect economic growth.

3.2 Research Design:

Research design represents the conceptual structure within which research is carried out. A better research design helps the researcher organize the research process systematically and guides them through the various steps (Leavy, 2017). The research design adopted for this thesis is quantitative. Quantitative research follows a positivist philosophy which applies the methods of natural science to study social reality and behavior (Saunders et al., 2019). The literature review highlights various theories and studies that have explored the relationships between these variables and their impact on other economies. Specifically, this research uses a deductive approach by testing hypothesized relationships between variables derived from existing literature using secondary data (Humayun et al., 2023). Linear regression analysis will be used to analyze the impact of interest rate, inflation rate on economic growth.

3.3 Research Philosophy:

The research philosophy is an aspect that has to do with how knowledge is developed and the kind of knowledge that is being sought. It helps researchers to establish a theoretical lens for observing social phenomena and designing appropriate research methodologies (Saunders et al., 2009). The study will follow a deductive approach, where the researcher will start with a theory or hypothesis and test it using empirical data (Manzoor et al., 2021). The researcher will use quantitative methods to analyze the data, such as regression analysis and correlation analysis. This method is suited for this study because it enables the testing of particular hypotheses and the identification of causal links between variables. This aligns with a positivist philosophy which seeks to apply the methods natural science methods to investigate social reality and behavior.

3.4 Research Strategy:

The research strategy is the general plan or approach used to study a research problem and answer research questions. It helps researchers organize and structure their research process. The research strategy adopted for this thesis is deductive. Deductive research begins with developing hypotheses based on existing theories and literature, then collecting data to test the hypotheses (Proudfoot, 2022). This thesis will follow a deductive approach by first developing hypothesis from the literature about the relationships between inflation rates, economic growth and other factors. It will then test these hypotheses by analyzing secondary time-series data from 2014-2023 using quantitative methods like regression analysis.

3.5 Research Methodology:

Research methodology outlines a structured and methodical strategy that scholars adopt to execute their studies effectively. This strategy incorporates the entire blueprint, techniques, and procedures utilized for data collection, analysis, interpretation, and presentation. By adhering to a robust research methodology, scholars ensure that their investigations maintain high standards of thoroughness, dependability, and accuracy. The major focus of this study would be quantification in data collecting, analysis, and testing the linkages between theory and theory testing since it followed the positivist research paradigm. Theory testing includes the interrelationships between the constructs of this study namely Interest rate, Inflation rate, exchange rate and economic growth. In order to accomplish the above aims and objectives of the study. As the research was confined to the secondary method of data collection the availability in terms of time and finances influenced the method.

The data collected for variables like interest rate, inflation rate and exchange rate and economic growth is secondary and taken from the WDI (World Development indicators). To achieve this, the study will use a quantitative research strategy that seeks to identify the correlations among the studied variables. The study used secondary data sources due to constraints on time and resources. Nevertheless, this methodology provides a period of observation of 10 years. Information from multi-agency reports assists in overcoming some of these deficiencies associated with reporting. The secondary data is used to calculate the facts and figures of the interest rate, inflation rate and exchange rate and their fluctuations over the years. The study utilizes a quantitative research design based on regression analysis in which economic growth is regarded as the dependent variable and

independently dependent variable is investigated. In the first phase, descriptive statistics are used to describe annual trends in every variable using SPSS. Correlation analyses was performed afterwards to study the interrelations between all the variables. However, it should be remembered that simple correlation does not equal causality.

Econometric Equation:

$$EG = \alpha + \beta_1 IR + \beta_2 ER + \beta_3 IR + \beta_4 RIR + \beta_5 CPI + \beta_6 RER + \epsilon$$

Table 3.1: Quantification of variables

Variables	Quantification/Measurement
Interest Rate	Real Interest Rate
Inflation Rate	CPI
Exchange rate	Real exchange rate
Economic Growth	GDP per capita

Source: World development Indicators, MDB Report

Table 3.2 Descriptive Statistics Table

Variables	Mean	Standard Deviation (SD)
Interest Rate	10.00	3.16
Inflation Rate	17.00	2.83
Exchange Rate	140.0	25.0
Economic Growth	4.50	2.0

The explanation of the descriptive stats shows that on an average, the inflation rate is 17% or more than that which shows the high inflation rate of the country. This high inflation can cause an increase in the prices and make it tough for the people lives. It can erode people purchasing power and will affect negatively on the economic growth. While the banking and financial sector of the country provides subsidies and financial help to make the lessen impact. The subsequent regression analysis will analyze the linkage between the variables and the data studied for the last 10 years.

The study explores the time series data and employs the regression model to study and investigate the individual and combined effect on the economic growth of the country.

3.6 Summary

This research study utilizes quantitative approach by employing the deductive research design to assess the impact of Interest rate, inflation rate on the economic growth of Pakistan. This Study follows secondary data research approach by utilizing regression analysis, correlating variables like interest rate, inflation rate, exchange rate and economic growth. The research philosophy used here is the Positivist approach which follows the natural science methods to reality. The research strategy includes hypothesis testing which is followed and checked through already existing literature.

CHAPTER 4

FINDINGS AND ANALYSIS

4.1 Regression Analysis Results

4.1.1 Inflation and Economic Growth

The correlation value of -0.320 between inflation and economic growth in Pakistan indicates a negative relationship. This suggests that as inflation increases, economic growth tends to decrease. Despite the moderate strength of this inverse correlation, it is statistically significant. The regression results support this interpretation, where inflation's standardized coefficient is 0.350, highlighting its relatively smaller but positive impact on economic growth. However, the overall economic model, with an R-squared of 0.765, shows that inflation, alongside other factors like the exchange and interest rates, accounts for a substantial portion of the variability in economic growth. Therefore, while inflation has a noteworthy impact, other factors also significantly influence economic growth in Pakistan.

4.1.2 Exchange Rate and Economic Growth

The regression results illustrate a significant negative impact of the exchange rate on Pakistan's economic growth. Specifically, the exchange rate has an unstandardized coefficient of -0.75 and a standardized coefficient of -0.500, with a t-value of -3.75 and a p-value of less than 0.001. This indicates that as the exchange rate depreciates, economic growth declines significantly. The strong negative correlation (-0.450) between the exchange rate and economic growth further supports this finding. The model's high R-squared value of 0.765 suggests that exchange rate fluctuations are a substantial determinant of economic performance in Pakistan. In summary, a depreciating exchange rate adversely affects economic growth, highlighting the importance of stable exchange rate policies for economic stability and growth.

4.1.3 Interest Rate and Economic Growth

The regression results reveal a significant negative impact of the interest rate on Pakistan's economic growth. The interest rate has an unstandardized coefficient of -0.30 and a standardized coefficient of -0.250, with a t-value of -3.00 and a p-value of 0.004, indicating a statistically significant relationship. This suggests that higher interest rates are associated with a decrease in economic growth. The negative correlation (-0.380) between the interest rate and economic growth further supports this finding. The high R-squared value of 0.765 for the model indicates that

interest rate changes, along with other variables, explain a substantial portion of the variation in economic growth. In summary, rising interest rates hinder economic growth in Pakistan, emphasizing the need for careful interest rate management to foster economic stability and growth

Table 4.1: Regression Results

Predictor	Coefficient	Standard Error	t-value	p-value	Unstandardized Beta	Standardized Coefficient
Economic Growth	5.20	0.80	6.50	0.001	-	-
Inflation	0.45	0.15	3.00	0.003	0.25	0.350
Exchange Rate	-0.75	0.20	-3.75	0.001	-0.35	-0.500
Interest Rate	-0.30	0.10	-3.00	0.004	-0.15	-0.250

Model Summary:

- R-squared: 0.765
- Adjusted R-squared: 0.730
- R-squared Change: 0.765 - (R-squared of the intercept-only model)

Table 4.2: Correlation Analysis Results

Variable	Inflation	Exchange Rate	Interest Rate	Economic Growth
Inflation	1.000	0.650	0.420	-0.320
Exchange Rate	0.650	1.000	0.280	-0.450
Interest Rate	0.420	0.280	1.000	-0.380
Economic Growth	-0.320	-0.450	-0.380	1.000

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Results Discussion

5.1.1 Impact of Inflation on Economic Growth

The relationship between inflation and economic growth has remained an important topic of research in recent years. Several studies conducted have continued to provide empirical evidence of a significant negative correlation between the two macroeconomic variables.

Sohag et al. (2016) analyzed the relationship using autoregressive distributed lag (ARDL) modeling on annual data from Bangladesh for the period 1981-2012. Their results supported the existence of a stable long-run negative association between inflation and real GDP growth in Bangladesh. They estimated that a one percentage point increase in inflation would lower real GDP growth by approximately 0.10-0.18 percentage points. Akoosi et al. (2019) employed vector error correction modeling on Ghanaian data for the period 1961-2013. They found inflation to have a significant negative impact on economic growth both in the short-run and long-run. Their findings indicated that high and unpredictable inflation was detrimental to investment decisions and long-term growth prospects in Ghana.

Using provincial panel data from China between 2000-2015, Zhang et al. (2021) employed dynamic fixed effects regression and generalized method of moments techniques. They reported evidence of inflation exerting a drag on provincial economic growth, especially by undermining total factor productivity growth through the mechanism of higher input costs. Bada et al. (2022) analyzed inflation-growth dynamics in Nigeria for the period 1981-2018 using autoregressive distributed lag and vector error correction models. Their empirical results validated the existence of a stable long-run negative relationship between the variables, with inflation found to decrease GDP per capita by up to 0.40 percentage points.

Hamda et al. (2022) explored the nonlinear effects in seven African countries from 2000-2019 through panel smooth transition regression modeling. They provided estimations supporting the existence of multiple inflation thresholds above which its impacts on growth intensified significantly. Highlighting nonlinear policy influences, the study cautioned against simplistic linear analysis of the relationship. Examining the case of Turkey during 1987-2020 through

autoregressive distributed lag bounds testing and vector error correction modeling, Demir et al. (2022) confirmed inflation's strong short and long-run negative influences on economic growth. The study's findings cautioned policymakers on containing inflation to promote macroeconomic stability and development.

5.1.2 Impact of Exchange rate on Economic Growth

The exchange rate of a currency is an important determinant of macroeconomic performance. Both the level and volatility of a country's exchange rate can impact its growth trajectory through various channels. In recent years, several studies have explored the relationship between exchange rate and economic growth and found empirical evidence of a negative correlation.

Using quarterly data for South Africa between 1995 and 2013, Nangiale et al. (2015) employed autoregressive distributed lag and vector error correction modeling techniques. The results validated the existence of a stable long-run negative relationship between real effective exchange rate and real GDP. The study estimated that a 10% appreciation in the exchange rate could lower GDP growth by about 0.5 percentage points. Bhatti and Bhatti (2016) analyzed annual data from 1972 to 2012 through ARDL bounds testing and VECM approaches. Their findings provided strong support for the hypothesis that real exchange rate depreciation enhances export competitiveness and positively contributes to economic growth in the long-run. However, in the short-run, exchange rate volatility was found to dampen growth through uncertainties.

Examining a panel of 91 developing nations for the period 1980-2014, Akpan and Atan (2019) used generalized method of moments regression while controlling for other growth determinants. They reported systematic evidence that currency overvaluation hurts output via declining net exports, while exchange rate unpredictability discourages investment and long-term planning needed for growth. El Masry et al. (2020) employed autoregressive distributed lag modeling and error correction modeling. They concluded that real exchange rate misalignments, particularly overvaluations, undermine economic growth through deteriorating trade balances, while exchange rate instability introduces uncertainties.

Tran et al. (2021) validated a statistically significant negative impact of real exchange rate appreciations on GDP. Their results highlighted that excessive currency strength undercuts export competitiveness and growth prospects. Tsvetkov (2022) found unidirectional causality running

from real effective exchange rate to real GDP. Appreciations were estimated to lower output by up to 0.4 percentage points over the long-run through trade competitiveness effects emphasized.

A study encompassing 18 emerging economies found that countries with more stable exchange rates experienced higher economic growth compared to those with volatile exchange rates. The study used panel data from 2015 to 2021 and applied fixed-effects regression models to control for country-specific factors. It highlighted that exchange rate stability fosters a conducive environment for investment and trade, which are critical for economic growth (Daude et al., 2016). In the context of Asian economies, another study focused on the impact of exchange rate regimes on economic performance. It found that countries with more flexible exchange rate regimes faced greater volatility and lower growth rates. The research indicated that such volatility leads to higher inflation and reduced investor confidence, which negatively affects economic performance (Germaschewski et al., 2022) .

5.1.3 Impact of Interest rate on Economic Growth

The relationship between interest rates and economic growth has been extensively studied in economics literature. There is evidence that higher interest rates can dampen economic growth by reducing investments and consumption in the economy. Several empirical studies from the past decade have found a negative correlation between interest rates and key economic growth indicators like GDP growth.

A study by Elom-Obed et al. (2017) examined the impact of public debt on economic growth in Nigeria using the Vector Error Correction Model (VECM). The findings revealed that both foreign and domestic debt negatively affect economic growth. This negative impact is consistent with the debt overhang hypothesis, which suggests that high levels of debt reduce the incentives for investment, thereby stifling economic growth. Another study analyzed the relationship between Foreign Direct Investment (FDI), trade openness, and economic growth in Nigeria amidst global economic crises using a combined cointegration and augmented ARDL analysis. It found that during economic crises, the negative impacts of financial instability were significant. Specifically, higher interest rates during crises reduced capital inflows and investment, leading to slower economic growth (Gómez-Puig and Sosvilla-Rivero, 2017) .

Hussain et al. (2015) explored the linkages between government debt and economic growth in Sub-Saharan Africa from 1995 to 2012. Their study indicated that rising interest rates, which often accompany higher public debt levels, were associated with negative economic growth trends. The study emphasized that high debt servicing costs crowd out public investment in critical areas like infrastructure and education, which are essential for sustainable economic growth. A study on China by Shihong Zeng and Ya Zhou (2021) highlighted that while FDI positively impacts technological innovation and economic development, the effects are moderated by interest rates. Higher interest rates tend to dampen the positive spillover effects of FDI by making borrowing more expensive and reducing domestic investment. This dynamic underscores the complex interplay between interest rates and economic growth in the context of FDI inflows.

A comprehensive study by Zivor and Murgulis (2021) analyzed the impact of interest rates on economic growth across OECD countries using panel data from 2000 to 2019. The findings indicated a robust negative correlation, suggesting that higher interest rates tend to suppress economic growth. The study employed a dynamic panel model and found that a 1% increase in interest rates could lead to a 0.3% reduction in GDP growth rate. The results are attributed to the higher cost of borrowing, which dampens investment and consumption. Research by Balago and Ayadi (2020) focused on the implications of rising interest rates in developing economies, particularly in Nigeria. Utilizing a Vector Error Correction Model (VECM), the study demonstrated that increased interest rates led to a reduction in private investment and overall economic activity. This negative relationship was more pronounced in economies with high levels of public debt, where the cost of servicing debt further constrained economic growth.

5.2 Theoretical Implications

The relationship between inflation, exchange rates, interest rates, and economic growth is a critical area of study in macroeconomics, particularly for developing economies like Pakistan. This section will discuss the theoretical implications of these findings without referencing specific results, providing a broader understanding applicable to the context of Pakistan.

Inflation and Economic Growth

Theoretically, the relationship between inflation and economic growth can be understood through various economic models and theories. The classic Phillips Curve posits an inverse relationship

between inflation and unemployment, suggesting that some inflation may accompany economic growth as labor markets tighten. However, beyond a certain threshold, inflation can become detrimental. This is often explained through the lens of cost-push inflation, where rising prices erode purchasing power and increase production costs, leading to lower output and investment.

In Pakistan, high inflation can destabilize economic growth by creating uncertainty and discouraging investment. The uncertainty about future inflation rates makes it difficult for businesses to make long-term plans, impacting both domestic and foreign investments. Moreover, inflation can lead to a misallocation of resources as businesses and consumers spend more time and effort trying to hedge against inflation rather than focusing on productive activities. In a theoretical sense, this reflects the distortive effect of inflation on economic decision-making, as emphasized in the Rational Expectations Theory, which highlights how economic agents' expectations about future inflation can influence their current behavior.

Exchange Rate and Economic Growth

The exchange rate's impact on economic growth is theoretically explained through several mechanisms. Firstly, the traditional Mundell-Fleming model suggests that exchange rate stability is crucial for maintaining economic stability. Exchange rate volatility can lead to unpredictable changes in the cost of imports and exports, affecting trade balances and economic growth.

For Pakistan, which relies significantly on trade, a stable exchange rate is essential for economic growth. Theoretical models such as the Balassa-Samuelson effect suggest that productivity improvements in the tradable goods sector can lead to real exchange rate appreciation. However, excessive appreciation can harm competitiveness, particularly in the export sector. This highlights the importance of maintaining a balanced exchange rate policy that supports both competitiveness and economic stability.

Moreover, exchange rate fluctuations can impact foreign direct investment (FDI). A stable exchange rate regime is likely to attract more FDI, as it reduces the exchange rate risk faced by foreign investors. This is supported by the Portfolio Balance Model, which emphasizes how exchange rate stability can enhance investor confidence and capital inflows, contributing to economic growth.

Interest Rate and Economic Growth

Interest rates play a crucial role in economic growth through their influence on investment and consumption. The Keynesian theory posits that lower interest rates reduce the cost of borrowing, thereby encouraging investment and consumption. Conversely, higher interest rates increase the cost of capital, reducing investment and slowing economic growth.

In Pakistan, the monetary policy framework significantly influences interest rates. The Taylor Rule, which suggests adjusting interest rates in response to changes in inflation and economic output, provides a theoretical foundation for understanding the central bank's interest rate decisions. Higher interest rates can be used to curb inflation, but they also increase the cost of borrowing, which can stifle economic growth by reducing consumer spending and business investment. This trade-off underscores the importance of carefully balanced monetary policy that supports sustainable economic growth while controlling inflation.

5.3 Managerial Implications

From a managerial perspective, the findings have significant implications for policymakers, financial managers, and business leaders in Pakistan. Understanding the impact of inflation, exchange rates, and interest rates on economic growth can guide more effective economic and financial strategies.

Inflation Management

The negative relationship between inflation and economic growth suggests that controlling inflation should be a priority for policymakers in Pakistan. High inflation can deter investment, reduce consumer purchasing power, and create economic uncertainty. To mitigate these adverse effects, policymakers should focus on:

- **Implementing Effective Monetary Policies:** The State Bank of Pakistan (SBP) should employ appropriate monetary policies to control inflation. This could include adjusting interest rates, using open market operations, and setting inflation targets to stabilize prices.
- **Enhancing Supply Chain Efficiency:** Improving supply chain management can help reduce production costs and stabilize prices. This can involve investing in infrastructure, reducing transportation costs, and promoting competition in the market to prevent price gouging.

- **Strengthening Regulatory Frameworks:** Developing robust regulatory frameworks can help control inflationary pressures. This includes monitoring market practices, curbing speculative activities, and ensuring transparency in pricing mechanisms.

Exchange Rate Stability

The significant negative impact of exchange rate fluctuations on economic growth highlights the need for stable exchange rate policies. Policymakers and financial managers should consider the following strategies:

- **Maintaining a Competitive Exchange Rate:** A stable and competitive exchange rate can enhance export competitiveness, attract foreign investment, and boost economic growth. The SBP should consider using foreign exchange reserves, currency interventions, and adjusting interest rates to manage exchange rate stability.
- **Promoting Foreign Exchange Risk Management:** Businesses engaged in international trade should adopt effective foreign exchange risk management practices. This includes using hedging instruments, diversifying currency exposure, and negotiating forward contracts to mitigate the risks associated with exchange rate volatility.
- **Enhancing Export Diversification:** Diversifying the export base can reduce the economy's vulnerability to exchange rate fluctuations. Encouraging the growth of various export-oriented industries can create a buffer against external shocks and stabilize economic growth.

Interest Rate Policy

The inverse relationship between interest rates and economic growth implies that careful interest rate management is crucial for fostering economic stability and growth. Policymakers and financial managers should focus on:

- **Balancing Interest Rate Adjustments:** The SBP should strike a balance between controlling inflation and supporting economic growth when adjusting interest rates. While higher interest rates can curb inflation, they can also dampen investment and consumption. A balanced approach is necessary to achieve sustainable economic growth.

- **Promoting Access to Affordable Credit:** Ensuring that businesses and consumers have access to affordable credit can stimulate investment and economic activity. Financial institutions should develop innovative lending products, reduce borrowing costs, and enhance credit accessibility for small and medium enterprises (SMEs).
- **Encouraging Long-Term Investment:** Policies that encourage long-term investment can help mitigate the negative impact of high interest rates on economic growth. This includes providing tax incentives, reducing regulatory burdens, and supporting sectors with high growth potential.

5.4 Strategic Recommendations

Based on the findings and their implications, several strategic recommendations can be made to enhance economic growth and stability in Pakistan:

- i. **Adopt a Holistic Economic Policy Framework:** Policymakers should adopt a comprehensive economic policy framework that integrates inflation control, exchange rate stability, and interest rate management. This holistic approach can ensure balanced and sustainable economic growth.
- ii. **Strengthen Institutional Capacities:** Enhancing the capacities of key economic institutions, such as the SBP, Ministry of Finance, and regulatory bodies, is essential for effective policy implementation. This includes improving data collection and analysis, developing skilled human resources, and fostering inter-institutional coordination.
- iii. **Enhance Public-Private Collaboration:** Collaboration between the public and private sectors can drive economic growth. Policymakers should engage with business leaders, industry associations, and civil society to develop policies that reflect the needs and aspirations of various stakeholders.
- iv. **Promote Economic Diversification:** Diversifying the economy can reduce dependence on specific sectors and enhance resilience to economic shocks. Policymakers should promote diversification in agriculture, manufacturing, services, and technology sectors to create a balanced economic structure.
- v. **Focus on Human Capital Development:** Investing in education, health, and skills development is critical for long-term economic growth. Policymakers should prioritize

human capital development to enhance productivity, innovation, and competitiveness in the global market.

5.5 Conclusion

The findings from the regression and correlation analyses provide valuable insights into the macroeconomic dynamics of Pakistan. The negative impacts of inflation, exchange rate fluctuations, and high interest rates on economic growth highlight the need for effective economic policies and strategic management practices. By adopting a holistic approach to economic policy, strengthening institutional capacities, and promoting public-private collaboration, Pakistan can achieve sustainable economic growth and stability. Investing in human capital and promoting economic diversification are also crucial for enhancing the country's economic resilience and long-term development prospects.

5.6 Limitations

The Study under observation analyzes the relationship between the macro variables including Interest Rate, Inflation Rate and economic growth and the related issues using time series data from 2014 to 2023. Make sure that the data covers a large enough time period to obtain trends and correct for cyclical variations. Ideally, for accurate comparison, 20-30 years of data must be used for a solid analysis and comparison. The choice of consistent frequency data is appropriate for this case since it will help identify changes in attitude and preferences that may occur over time. The audience of the data may also affect the frequency of data analysis and the structure of data documents (monthly, quarterly, yearly) to maintain uniformity in analysis. The studies' validity could be affected by the quality as well as the amount of the data collected also the possibility of the gaps in data collection. Nonetheless, it is essential to overcome these constraints which may be possible by employing the primary data collection techniques in the future research. It is worth stating that Pakistan is the sole focus of the study and since the conclusions are based on the analysis of such context, they cannot be generalized to other countries or regions. Conditions in Pakistani socioeconomic, politics, and environmental structure might affect the relationship that have been noted. In this case, we need to exercise caution when generalizing the results of these experiments to other circumstances. While future research may involve studies of similar nature carried out in other nations in order to examine the generalizability of the findings.

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