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MONETARY POLICY AND THEIR IMPACT ON GDP GROWTH (A CASE STUDY OF PAKISTAN FROM 2014 TO 2023)

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ABSTRACT
Inflationary trend is one the main economic conditions which represent the economic growth and stability of the country. An average rise of 2 to 3 percent in prices shows a positive growth of the country. But the rapid rise in prices of goods and services are very dangerous because they snatch the purchasing power of the people. This research paper includes inflationary trends in Pakistan from 2014 to 2023. Secondly, the data of monetary policy tools like Interest rate and money supply (M2) has been collected to show its impact on inflation and GDP growth rate in Pakistan. Here, the GDP growth rate has been taken as dependent variable, while interest rate, money supply and inflation are taken as independent variables. The research goes ahead to find out the impacts of monetary tools and inflation on the GDP growth rate of Pakistan in these 10 years. Through regression analysis it has been concluded that Interest rate has positive relationship with the GDP Growth of the country. Though it is nearly 0.51% increase in GDP growth with 1 percent increase in interest. While, Money supply growth has much positive impact on GDP growth of Pakistan. It is nearly 0.98% increase in GDP growth by increasing 1% of Money Supply.
Keywords: *Inflation Rate, Interest Rate, Money Supply, GDP Growth.*

INTRODUCTION

Today, most of the economists agree at the point that 2.5% to 3.5% increase in the GDP growth in a year is safe to maintain economy without causing any negative side effects. (Ryan Barnes, 2023) In his research in Thailand found that Monetary Policy affects real GDP growth and inflation in the country. (Jiranyakul K, 2016). Monetary policy affects the overall life of the poor people. It influences poverty, inequality and many other social outcomes. (Sajid Amin Javed, 2021) Concludes that monetary policy actions affect poor people and rich people in different ways. It impacts on income, consumption and wealth inequalities. It means there is a significant distributional effect on all these. (Hansen, et al., 2021). Bank for International Settlements, 2021 research suggests that central banking and monetary policy contributes distributional effects like income, consumption, wealth inequalities and climate change. (SBP, 2008) State Bank of Pakistan Clears that ‘policies in an economy aim to enhance the welfare of the people, and monetary policy helps achieve its objectives that focuses on price stability. (Hossain, 1986) Local factors and global factors influence inflation in Pakistan. The modern international economic conditions represent complicated issues among various economic factors. There is a dire need of macroeconomic stabilization, economic growth and improvement in overall standard of living. As countries need balance among sustainable development, economic needs, inflationary trends, monetary policy frameworks and econometric analysis.

TERMS DEFINITION IN CONTEXT OF PAKISTAN

(i) Inflation:

Inflation is said to be increase in prices of goods and services during the time period (one year) in an economy. Pakistan has been facing diverse situations in inflation within the country from 2014 to 2023. The highest recorded inflation in Pakistan is 19.57% in 2022 The lowest inflation is found in 2015 which is 2.53%.

(ii) Interest Rate:

The Central Bank of the country uses the tool of interest rate to control the inflation in the country. In Pakistan the state bank performs the role of controlling inflation through increasing and decreasing the interest rate. The highest recorded interest rate is 22% in 2023 and lowest 5.75% in 2016.

(iii) Money Supply:

Every country needs its currency to circulate within economy to purchase and sell the goods and services. It is called Money supply. Money supply is an additional amount of money that adds with the circulated currency in the economy in order to meet the requirement.

(iv) Gross Domestic Products (GDP) Growth:

Gross Domestic Products are those goods and services which are produced within an Economy of the country in a specific time period of one year. Pakistan GDP Growth has remained under pressure in many fiscal years. The highest GDP Growth is 6.57% and 6.51% in 2016 and 2021. It has also gone negative -1.27% in 2020.

SCOPE OF STUDY

The study will focus to investigate that how the changes adopted in the monetary policy affects the economic growth of Pakistan. It takes inflation a key factor. Inflation is the most important topic to be research in the present time because it puts some serious effects on growth and income distribution. If we take the case of Pakistan it would be seen that access in money supply is major factor which is really responsible for inflation. The topic clearly indicates that the monetary policy has a direct linkage with inflation either with tight policy or loose policy. On the other hand the monetary policy also impacts on the overall growth of the country. Therefore the research will determine that how GDP growth in Pakistan would pay respond to the change in money supply, interest rate and the inflation rate in the economy.

LITERATURE REVIEW

(Tasos S, et al., 2020) They suggest that the primary causes of Inflation are expansion in monetary and supply shocks. In the statement the researcher found that the expansion of the money is main cause of the inflation in any economy.

(Babatunde M & Shuaibu M, 2011) There is a positive relationship found between capital formation, money supply (M2), and economic growth and a negative correlation found in between growth and inflation. In the research work of babatunde M and Shuaibu M, it is concluded that Money supply helps improve GDP growth but the inflation which is caused by money supply discourages the GDP Growth of the country.

(Azam M & Rashid, 2015) From the point of view of the monetarist theories it is found that money supply has had a little impact on inflation in Pakistan. While, significant effects are suggested by wheat, oil, and import prices. It is therefore suggested to stabilize food supply and reduce import costs. (Chughtai and Aftab, 2015) estimated the impact of economic variables on the economic growth. It was found that inflation and interest rate hurt economic growth. There was positive effect of exchange rate on economic growth. (Denbel F, et. al., 2016) There is a two-way relationship in between Inflation and Money Supply. If the money supply is reduced the inflation decreases. (Hussain & Zafar, 2018) There is strong short-term and long-term relationship between money supply, inflation, government spending and economic development. From all the results found in above research works it is clarified that money supply and interest rate has impact on inflation directly and these have collective impact on GDP growth of the country.

(Narayan P.K., et. al) There is co-integration among inflation, money supply, and deficit. Whereas, a casual relationship is found between money supply and deficits in long run. (Chaudhry et al., 2015) While using data of Inflation, Money Supply, GDP and Interest Rate from 1973 to 2013 it was found that money supply has a dominant reason for causing Inflation in Pakistan. (Mahmood and Khalid, 2017) found positive relationship among money supply, government expenditure & inflation rate and negative relationship between Interest rate and GDP growth. (Malik et al, 2020) concluded in his studies the positive effect of exchange rate and money supply on economic growth of Pakistan.

RESEARCH METHODOLOGY

The design of study plays a vital role to form a structure of whole research process. It helps in serving as a tool which guide in data collection process firstly, secondly it helps in analysis of the data, and lastly it helps in finding results and interprets them to fulfill the aims of research and its objectives. (Alam, 2021 Mashuri 2022; Blankenagel & Hunziker 2024).

DATA COLLECTION

Time series data was used. The data for research has been taken from State Bank of Pakistan and World Bank official websites. The time duration is from 2014 to 2023. Total four variables have been taken: Inflation rate, Interest rate, Money Supply and GDP growth rate. The table of Data has been given below. Where GDP growth rate is dependent variable and all other three variables are independent variables.

REGRESSION ANALYSIS

Model of GDP Growth

$GDP = \beta_0 + \beta_1 \times ROI + \beta_2 \times ROInf + \beta_3 \times SOM + \mu$

Whereas,

GDP = Gross Domestic Products

ROI = Interest Rate

RO Inf = Inflation

SOM = Money Supply (M_2)

μ = Error Terms

DATA ANALYSIS SOURCE

In this research the data was analyzed through SPSS version 16 which gave authentic view of the results.

HYPOTHESIS

As gone through the study of literature, a hypothesis is made on some basis:

(H_1) There is a direct relationship of Interest rate and GDP.

(H_2) Growth of money supply (M2) has also a good relation with GDP.

RESULTS AND DISCUSSIONS

In this work the tool of linear regression analysis was used to see the connection between Independent variable and dependent variable.

Model Summary (Table 2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.912	0.89	0.851	0.45164

a. Predictors: (Constant), ROI, ROInf, SOM

Analysis

In the table above we can see that the R is 0.912 and it is very close to 1. This means that the relationship is very strong. The adjusted R square is the value of coefficient tells us the power related to the explanation of the model or predicting. In the table above the value found in the adjusted R square is 0.851. It clearly shows the impact is independent variables on the dependent one. Here it shows that due to above variables the variation is 85 percent.

ANOVA (Table 3)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	20.07	3	6.701	49.391	0.002
	Residual	2.612	19	0.142		
	Total	22.711	22			

a. Dependent Variable: GDP

b. Predictors: (Constant), ROI, ROInf: , SOM

Analysis

The statistical validity of this model is given in the above table. The test is significant which has a value of 0.002 that is less than the standard value 0.05. The results of the regression model explained that it consists on the significant variables. The model is surely good enough to predict the impact of independent variables on the dependent variables.

Coefficients (Table 4)

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	Constant	-1.482	0.396		-3.745	0.001
	ROI	0.510	0.261	0.221	2.710	0.015
	ROinf	-0.521	0.130	-0.291	-3.481	0.004
	SOM	0.987	0.095	0.908	10.725	0.002

a. Dependent Variable: GDP

Analysis

All of the independent variables above show significant value and that is less than 0.05, therefore there is valuable impact. The direction of the relationship of the variables indicates whether linear relation is directly or indirectly related. In the table above coefficients of correlation gives such type of results. Indirect relation is shown with coefficients which are bearing negative sign with it while the direct relationship is identified with the coefficient bearing positive sign. In the model one variable has negative sign and others have no sign. This confirms that variables are positively and negatively related.

Interpretation of each independent variable

- **Interest Rate**

It can be seen above that when Interest rate is increased by 1 percent the Growth also increases by 0.51 percent. That means they have positive relation with each other. All other value remains constant.

- **Inflation rate**

At the inflation level the Growth rate has inverse impact as inflation increases the growth rate decreases by -0.52 percent. All other values take constant.

- **Money supply**

If the money supply increases by 1 percent in the above table, the GDP growth rate also increases by 0.987 percent. This shows a very positive relation between them. All other things remain at the same level.

SUMMARY OF KEY FINDINGS

By working on the significant aspect of the inflation, monetary policy, and that how it affects the GDP Growth of Pakistan from 2014 to 2023 and by having a comprehensive analysis and deep studies, some major key points have emerged out. The analyzed data shows that GDP growth in Pakistan has negative relationship with the inflation. This means that if inflation increases the GDP growth declines. While Money supply (M2) and interest rate have positive relationship with the GDP growth, which means that increase in Money supply increases GDP growth in wide area. And increase in interest rate also increases GDP growth but at small extend.

CONCLUSION

It is concluded here that monetary policy and inflation rate have impact on GDP Growth of Pakistan. Through regression analysis it was seen that inflation and GDP growth have negative relationship while Money Supply & Interest Rate have positive relation with GDP Growth.

RECOMMENDATIONS FOR ACTION

During the research work, it has been observed that there is a strong relationship among interest rate, money supply and GDP growth rate of the country. On the basis of that, there are some recommendations for future plan.

1. The State Bank of Pakistan should formulate such policies which keep inflation under suitable conditions which may not adversely affect the growth of the country.
2. The interest rate should not be much increased that attracts people to deposit in the banks rather than investing in the economy. This decreases the GDP growth of the country.
3. Money supply in huge amount increases the GDP growth. But do keep in consideration that Money supply also causes inflation.
4. A good collaboration among central banks, financial institutions and regulatory authorities is a

key to successful progress and development in GDP growth of the country specially the Pakistan

5. By conducting sectorial analyses it will be better to understand the different impacts of monetary policy on various sectors in the economy.

It will be better to evaluate the effects of alternative monetary policy frameworks and strategies which will be beneficial in achieving price stability and to promote sustainable economic growth in the country.

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