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THE IMPACT OF MONETARY POLICY ON ECONOMIC GROWTH: A COMPREHENSIVE STUDY OF BALOCHISTAN PAKISTAN

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ABSTRACT
This research investigates how monetary policy affects economic expansion in Pakistan's Balochistan, with data spanning 1990 to 2022, a province dealing with serious economic difficulties. In order to evaluate how well monetary policy is influencing Balochistan's economic performance, the analysis primarily focuses on important monetary policy variables and indicators, such as interest rates, inflation, money supply, GDP growth rates, inflation rates, and investment levels. In order to capture the short-term and long-term dynamics of the link between monetary policy and economic development, the Autoregressive Distributed Lag (ARDL) bounds testing technique was developed. The results show a complicated relationship between economic growth and monetary policy. While there are certain beneficial benefits of monetary policy on economic growth, such as its overall efficacy, these advantages are frequently lessened by inflationary difficulties such political instability, a lack of adequate financial infrastructure, external shocks, and investment volatility. The study contrasts eras when restrictive policies led to economic slowdowns with periods of notable expansion associated with favorable monetary circumstances. The results ultimately point to the necessity of a more tailored, equitable, and flexible framework for monetary policy in order to meet the unique economic requirements of Balochistan.
Keywords: *Monetary policy, Pakistan, Balochistan, economic growth, inflation, interest rates.*

INTRODUCTION

Monetary policy is recognized as a component of the economic strategy and approaches to create an atmosphere favorable to economic growth and public well-being (1). Interest rate changes, adjustments to bank reserve requirements and sustaining inflation are examples of monetary policy tactics. Monetary policies are utilized by the central bank or monetary authority of a country to regulate the overall quantity of money in circulation, encourage economic expansion, maximum employment, stable prices, and implement policies like adjusting bank reserve requirements and interest rate revisions (2, 3). The accomplishment of these objectives is contingent upon the efficient operation of monetary policy and the efficient transmission of monetary policy activities throughout the economy (4). Evidence suggests that the short-term interest rate is a useful instrument for affecting economic growth and managing inflation in industrialized nations(5). The necessary reserve ratio and the short-term policy interest rate are two of the primary tools that monetary policy makers in emerging economies usually use to accomplish their desired macroeconomic goals (6). The two primary categories of monetary policy are contractionary and expansionary (7). It is now widely acknowledged that one of the most crucial elements of the finest central banking procedures is openness in the communication and decision-making processes around monetary policy (8, 9).

An important tool for judging the community's standard of living, scrutiny and progress of a country is economic growth (10, 11). The state bank of Pakistan (SBP) sets monetary policy in Pakistan for achieving fuller use of the economy's growth and ensuring monetary stability in order to controlling inflation, ensuring payment system and financial stability, preserving foreign exchange reserves, and supporting private investment (12, 13). However, not all areas are affected equally by Pakistan's monetary policy; for instance, the economic and developmental circumstances in the province of Balochistan differ greatly from those in other areas (14). Pakistan's biggest province, Balochistan, faces particular sociopolitical, economic difficulties, low degree of industrialization, lack of financial infrastructure, and predominantly rural economy, all of which is severely hampered economic progress (15, 16). It is crucial to research the particular economic dynamics of the province since the national monetary policy tools and the distinctive economic environment of Balochistan could not have the same effect there as they do in more affluent provinces like Punjab or Sindh.

The current study intends to investigate the unique obstacles and constraints in this area by examining the effect of monetary policy on economic growth in Balochistan. The research centers on inflation, money supply, and interest rates as the main monetary policy factors that affect economic growth. The Autoregressive Distributed Lag (ARDL) bounds testing technique is used in the study to investigate the connection between monetary policy and economic growth in Balochistan. We was abled to examined both short- and long-term patterns regarding to the province's changing economic dynamics as studying the data of the years 1990–2023.

Methodology

Data collection

In present study, a combination of quantitative and qualitative techniques was used to comprehensively evaluate the effect of monetary policy on economic growth in Balochistan, Pakistan.

Quantitative data

The money supply (M2) and other important quantitative data on monetary policy tools including inflation and the discount rate were taken from SBP's public records (17). In a comparable way, we analyzed data from the Pakistan Bureau of Statistics (PBS) to get information on economic indicators at the province level, including GDP growth, sectoral production, and job openings (18). The World Bank's official source was used to get the additional data on macroeconomic factors and global economic progress (19).

Qualitative data

In order to find out just how monetary policy impacts the area, interactions of local lawmakers and business owners were undertaken. In this context, policymakers' and economists' remarks and online interviews were also noted.

Analytical techniques

The Autoregressive Distributed Lag (ARDL) bounds testing technique was utilized in this work to investigate the relation between Balochistani economic development and monetary policy factors (20). Short-term and long-term dynamics are especially well-suited for the AEDL model, which can handle variables with varying degrees of integration ((0) and I(1)).

$$\mathbf{GDP}_{it} = \alpha + \beta 1\mathbf{InterestRate}_{it} + \beta 2\ \mathbf{MoneySupply}_{it} + \beta 3\mathbf{InflationRate}_{it} + \beta 4\mathbf{Controls}_{it} + \epsilon_{it}$$

GDP_{it}: Represents the economic growth of province at time, used as the dependent variable.

α:. The intercept term, this measures economic growth at its basis.
β1InterestRate $_{it}$: Impact of inflation on economic expansion.
β2 MoneySupply$_{it}$: The impact of the money supply on economic expansion.
β3InflationRate$_{it}$: The effect of interest rates on economic expansion.
β4Controls $_{it}$: The Represents other control variables, including trade openness and government spending, that take into consideration additional growth-influencing factors.
ϵ $_{it}$: The error term accounts for the variation in GDP growth that cannot be explained by the variables included in the model.
In order to determine how every factor adds to the region's financial standing over time, this ARDL model makes it possible to analyze the short- and long-term effects of monetary policy variables on economic growth in Balochistan.

Results and discussion
The goal of this research is to use data from 1990 to 2023 to assess how monetary policy affects economic growth in Balochistan, Pakistan; by examining the main monetary policy factors of inflation, money supply, and interest rates. This study aims to elucidate the short- and long-term effects of these variables on province GDP growth. The study can capture subtle dynamics, especially the differences between immediate and persistent impacts, because of the Autoregressive Distributed Lag (ARDL) bounds testing technique. Short-Term Effects.

Short-Term Effects
Although there is significant variance in the degree and relevance of the responses of inflation, money supply, and interest rates to changes in monetary policy variables, the short-term results show a moderate response of Balochistan's GDP growth with these changes.

Interest Rates
The analysis shows that changes in interest rates have a statistically significant but relatively modest impact on short-term economic growth in Balochistan (21). Increased interest rates frequently resulted in job losses, especially in industries that depended on credit. During the 2009 peak interest rate period, for example, several companies ceased plans to expand, which resulted in job losses. Interest rate increases are often linked to a little slowdown in GDP growth, indicating that increased costs of borrowing may restrict individual and company expenditure. Business investments in Balochistan dried up during excessive-interest years 2008–2011 because of the expensive nature of borrowing. Lower interest rates encouraged increased investment in local companies and infrastructure starting in 2012, which was correlated with faster GDP growth rates. With lower interest rates post-2020, job creation in retail and services increased as businesses expanded operations in a recovering economy. But compared to other developed regions, the impact is less pronounced, possibly as a result of Balochistan's weaker private sector activity and insufficient banking infrastructure. Because of lower investment and consumer expenditure, higher interest rates have historically been associated with lower economic activity.

Money Supply
One of the most important factors affecting economic activity and growth is the money supply, specifically expressed as M2 (22). A rise in the money supply (M2) seems to boost economic development in the short term by increasing liquidity, which encourages investment and consumer spending. Consumption-driven industries including retail and services had a sharp increase starting in 2011, which had a favorable effect on Balochistan's overall economy because M2 growth helped to cut borrowing costs. Balochistan saw large new investments in infrastructure and local businesses thanks to the spike in M2 between 2012 and 2020, and growth rates benefited from the additional liquidity. Job creation is frequently correlated with an expanding money supply, For instance, as firms expanded operations in the years after the pandemic's strong M2 growth, job prospects increased in the construction and service industries. According to the research, Balochistan's economic development from 1990 to 2023 is significantly impacted in the short term by changes in the M2 money supply.

Inflation

Economic growth patterns are significantly shaped by inflation, especially when it is impacted by monetary policy (23). Employing data on inflation rates and GDP growth, this study examines the short-term impacts of monetary policy-driven inflation rates on Balochistan economic growth from 1990 to 2023. Investor confidence tends to decline as inflation rises over 8–10%. Likewise, due to uncertainties and growing expenses, corporate investments in Balochistan were muted during times like 2011–2015, when inflation was noticeably high, resulting in poor growth rates. The spending of consumers is negatively impacted by higher inflation as it reduces buying power. In 2020 and 2023, for instance, as inflation was at its highest, consumers prioritized necessities, which caused retail and other non-essential industries in Balochistan to expand more slowly. Moreover, in the formal sector, the creation of jobs is adversely affected by high inflation. Companies faced rising operating expenses in 2022 and 2023, for example, which caused them to downsize rather than expand, which slowed the creation of jobs. Economic growth seems to be correlated with moderate inflation, maybe as a result of consumers increasing their spending in anticipation of price increases. High rates of inflation, however, have the opposite impact, decreasing buying power and deterring investment. This double effect highlights how crucial stable inflation rates are to preserving economic stability.

Long Term Effects

More noticeable impacts of monetary policy variables on Balochistan's economic growth are seen in the long-term study, suggesting that consistent monetary policy interventions are essential for promoting stability and growth over long stretches of time.

Interest Rates

Interest rates have a more substantial long-term impact on economic growth, with higher rates continually having a negative effect. According to historical statistics, interest rate decreases, especially between 2011 and 2015, were correlated with a rise in investment in Balochistan from the public and private sectors. As an instance, there was a significant increase in small company and building projects, which resulted in the creation of jobs and economic growth. Consumer borrowing became more costly at high-interest rate times, like 2020–2023, which reduced expenditure. Slower growth rates throughout these years are evidence of it. Consumer borrowing became more costly at high-interest rate times, like 2020–2023, which reduced expenditure. Slower growth rates throughout these years are evidence of it. Lower interest rates generally encourage businesses to expand and hire more workers. The increase in rates after 2020 has caused many businesses to postpone recruiting. On the other hand, employment prospects, particularly in the construction and services industries, increased during times of interest rate reductions.

Table 1: Trends in GDP Growth, Interest Rates, Inflation, and Investment in Balochistan (1990–2023).

Year	Average Interest Rate (%)	GDP Growth Rate (%)	Inflation Rate (%)	Investment as % of GDP
1990	12.5	6.0	8.0	15%
1995	14.0	4.5	10.0	13%
2000	10.5	5.2	6.5	12%
2005	9.0	6.5	5.0	14%
2010	13.0	4.0	15.0	10%
2015	11.0	3.5	8.0	8%
2020	7.5	2.5	10.0	6%
2022	8.0	3.0	12.0	7%
2023	9.0 (projected)	3.0 (projected)	9.5 (projected)	7% (projected)

Money Supply

It is discovered that the money supply has a greater impact on long-term growth than on short-term growth. Economic growth is positively correlated with a steady and growing money supply, maybe as a result of the liquidity it offers for investments in the public and private sectors. Both corporate and state investments in Balochistan increased significantly during periods of fast money supply expansion, especially between 2011 and 2015. Balochistan's economic development and money supply growth are positively correlated, according to historical data from 1990 to 2023. This is especially true during the significant monetary expansion that took place between 2011 and 2015. A substantial money supply promoted consumer consumption and investment, which aided in the expansion of the economy. GDP growth also steadied, albeit at slower rates, during times when the expansion of the money supply was restrained. An expanded money supply helped the long-term transition to service-oriented industries and infrastructure investments, but careful policy management was needed to strike a balance between growth and inflation control.

Table 2: A Historical Overview of the Effect of Money Supply on Monetary Policy in Balochistan, Pakistan (2010–2023).

Year	Money Supply (M2) Growth Rate (%)	GDP Growth Rate (%)	Inflation Rate (%)	Investment as % of GDP
1990	15.0	6.0	8.0	15%
1995	12.0	4.5	10.0	13%
2000	20.0	5.2	6.5	12%
2005	18.0	6.5	5.0	14%
2010	15.0	4.0	15.0	10%
2015	10.0	3.5	8.0	8%
2020	25.0	2.5	10.0	6%
2022	20.0	3.0	12.0	7%
2023	15.0 (projected)	3.0 (projected)	9.5 (projected)	7% (projected)

Inflation

In order to evaluate the long-term impacts of inflation caused by monetary policy decisions on Balochistan, Pakistan's economic growth, the present study looks at historical patterns, correlations, and the role that inflation plays in influencing regional economic results from 1990 to 2023. Data from different time periods shows that inflation and GDP growth in Balochistan are inversely related. Economic growth has usually slowed throughout the high inflation cycles of 2008 and 2021–2023, underscoring the depletion of real income and diminished purchasing power of consumers caused by inflation. On the other hand, economic growth recovered between 2016 and 2020 when inflation was kept under control, indicating that stable pricing levels foster an atmosphere that is favorable to investment and consumption. Inflation rates rose as a result of monetary policies (such as post-measures) that raised the money supply after the 2008 economic collapse. On the other hand, attempts to control inflation by raising interest rates have traditionally done so while limiting economic expansion, which might result in trade-offs between the goals of the policy.

Discussion of Control Variables and Regional Constraints

Population Growth

Developing successful economic strategy requires an understanding of the interaction among inflation, monetary policy, and population growth, particularly in areas like Pakistan's Balochistan (24, 25). This study looks at how inflation and population increase have affected monetary policy choices and how they have affected Balochistan economic growth between 1990 and 2023. The requirement for loans is usually driven by higher population growth as more people want to invest in homes, education, and business. As the population grows quickly, local governments and infrastructure are under strain, as demand exceeds supply, an inflationary atmosphere may result. The analysis shows a strong correlation between Balochistani monetary policy,and population growth. Economic development has frequently been restrained by the central bank's responses to inflation, particularly by hiking interest rates, highlighting the fine balance that policymakers must strike.

Trade openness

Low tariffs, few import and export restrictions, and a general promotion of global commerce are all indicators of a nation's trade openness, which is the degree to which it permits unrestricted trade with other countries (26). Trade openness has a number of effects on monetary policy and economic growth in Pakistan's Balochistan. Increased rivalry in regional markets can result from trade openness, which can boost productivity and innovation and propel economic expansion. Businesses in Balochistan may access wider markets thanks to open trade policies, which raises demand for domestic products and services and raises GDP. Trade promotes diversification into higher-value and more productive businesses, moving away from traditional areas like agriculture. More vulnerability to global price swings may result from increased trade openness, which would compel the SBP to modify its monetary policy in order to reduce the risk of inflation. In order to control exchange rates and preserve economic stability, the central bank may alter interest rates as trade grows. Adaptive monetary policies are crucial for maintaining economic growth while controlling inflation, as demonstrated by the central bank's reactions to external trade dynamics and inflation.

Limited Financial Infrastructure

The strength of a region's financial infrastructure frequently determines how successful national monetary policy is. Economic growth, investment, and financial inclusion are all impacted by the inadequate financial infrastructure in Balochistan, Pakistan, which poses serious obstacles to the efficient application of monetary policy. Many parts of Balochistan lack access to basic financial services because of the country's weak banking system. Alternative financing sources are constrained by weak capital markets, poor competitiveness, and high operating costs, which indicate less overall economic prospects and less ability of monetary policy to encourage investment. A weak financial system makes people less trust in the monetary system, which makes it less receptive to economic stimulation policies. All of these shortcomings in Balochistan's financial system seriously impair the country's monetary policy's efficacy.

Political and Social Instability

A history of social disintegration, political upheaval, and violence in Balochistan, Pakistan, has made it difficult to execute national monetary policy (27, 28). Frequent strikes and an uncertain political environment impede economic growth by causing enterprises to close, preventing the creation of jobs and revenue, and discouraging both local and international investment. Political instability is linked to a weak financial sector, which restricts access to formal banking services and credit, increases unemployment and poverty, and creates a vicious cycle that impedes economic growth and policy response. Political and social instability significantly impairs the effectiveness of national monetary policy in Balochistan.

Sectoral Composition of the Economy

An economy's sectoral composition describes how economic activity is distributed among different sectors, including services, industry, and agriculture. Agriculture, mining, and services are the main industries of Balochistan, Pakistan, and they have a big impact on the country's overall economic performance and the efficacy of its monetary policy. The transmission and effects of monetary policy actions in the area are examined in this evaluation in relation to the sectoral mix of Balochistan's economy from 1990 to 2023. Economic stability is impacted by the strong reliance on agriculture, which is susceptible to market and climatic swings. It also makes monetary policy initiatives that are intended to control inflation and spur growth more difficult. Because of the industrial sector's underdevelopment, sluggish growth, and dependence, the economy is more susceptible to fluctuations in the price of commodities globally, which lessens the impact of national monetary policy intended to promote industrial growth.

Policy Implications

According to the study's conclusions, Balochistan would benefit more from a tailored monetary policy strategy. In light of the province's distinct structural and economic limitations, region-specific strategies must to be taken into account as:

Regionally Focused Inflation Targeting: Balochistan's stability depends on controlling inflation. By protecting buying power, policies aimed at low inflation may promote an atmosphere that is favorable to economic activity.

Promoting Financial Inclusion: It would be possible to facilitate wider economic involvement and assist spread the advantages of monetary policy across the province by increasing rural residents' access to banking services and credit facilities.

Infrastructure Investment: By strengthening the transmission of monetary policy, particularly in the areas of banking and transportation, increases in the money supply and credit might more successfully boost regional growth.

Conclusion

This analysis shows that although monetary policy does affect Balochistan's economic growth, regional variables including a sectorally distinct economy, political unpredictability, and inadequate infrastructure minimizes this effect. The results lend credence to the idea that Balochistan may benefit less from uniform national monetary policies, and that a customized, regionally adaptable strategy could be needed to meet the unique requirements of the province. These findings should be taken into account in future policy proposals to encourage more effective and fair economic growth throughout Pakistan's many provinces.

Conflict of interest

None

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