Implications of Fiscal Policy on Economic Growth

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ABSTRACT

This study's objective is to evaluate Pakistan's growth-oriented fiscal policy elements from 1980 to 2023. This research uses secondary sources of data. The paper utilized the Autoregressive Distributed Lag (ARDL) model as analytical techniques to assess the short- and long-term dynamics between Pakistan's fiscal policy components and economic growth. According to our regression estimations, government expenditure slows down economic expansion, whereas taxes have a growth-oriented effect. The investigation also examined the significant and negative impact of debt. Interest rates, the control variable, strongly and adversely impact growth. The analysis concludes that shifting the balance of government spending from non-development to development goals is the only way to achieve sustained growth. In addition, the government ought to ensure political stability, create laws that will encourage business, build infrastructure using foreign loans, and use debt to develop human capital.

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1. Introduction

Every economic nation in the world, including Pakistan, aspires to sustainable economic growth. To do this, macroeconomic factors must be able to solve any current economic issues. Macroeconomic difficulties often include unemployment, GDP growth, inflation, and balance of payments problems. Fiscal policy is one way that the government can affect these macroeconomic issues. One useful tool for encouraging equitable and sustainable growth is fiscal policy. A well-structured fiscal policy ensures the effective use of public resources. By promoting efficient public expenditure and freeing up funds for important investments, it fosters an atmosphere that is conducive to greater economic growth. But maintaining the fiscal restraint that is necessary to improve economic performance and protect economic stability is just as crucial (Rana & Wahid, 2017). In developed nations, the goal of fiscal policy is to raise the marginal propensity to save and decrease consumption. However, primary goals of fiscal strategy in developing nations are the establishment of an equitable income distribution and the redirection of available resources from wasteful to beneficial uses. Lack of money traps Pakistan and other emerging nations in a cycle of poverty. In contrast to developed nations, developing nations frequently struggle to effectively deploy their own internal resources. Under developed nations partially attribute this failure to a smaller tax base, a higher GDP share in the farm sector, institutional issues like tax administration corruption and tax exemptions and a reckless expenditure plan. However, the question remains as to why fiscal policy failed to produce results in emerging nations and what prevents them from effectively mobilizing domestic resources and implementing an efficient expenditure plan. The answer to this query could be due to fiscal managers' inadequate understanding of the ideal fiscal position, which stems from their inadequate study of the rapid changes in global scenarios (Tan, Mohamed, Habibullah, & Chin, 2020). Pakistan, like other developing nations, has to deal with the mystery of budgetary deficits as a result of growing meddling in economic matters. People now believe

that a persistent budget deficit significantly harms the economy. It escalates the balance of payments disturbance, deters investment and harms a country's reputation as a creditor abroad. As a result, the fiscal deficit has piqued the interest of politicians and policymakers and frequently becomes a topic of conversation. Comparably, emerging nations are more aware of the fiscal deficit problem and believe it to be the primary source of other macroeconomic imbalances in the economy (Hanif, 2023).

Pakistan's economy has not grown in a steady, predictable manner since 1990. Throughout this period, the economy experienced an uneven growth trajectory, with sporadic growth spikes accompanied by recessions. In addition, the nation is dealing with the issue of twin deficits. Consequently, in light of the nation's declining foreign exchange reserves, debt payment accounts for a sizable amount of the federal budget. Furthermore, the slow pace of adequate policy solutions has largely ignored structural economic barriers for decades, linking them to contemporary macroeconomic imbalances (World Bank, 2020). According to official statistics, Pakistan has grown at a moderate average rate of 4.74% during the last 5 years, falling short of the 5.4% target. Consumer spending has driven the majority of economic growth throughout this time. Over the years, unplanned and ineffective public spending coupled with slow revenue growth has resulted in fiscal deficits; conversely, large imports and low exports have caused current account deficits. Following increases of 6.2% in 2022 and 5.8% in 2021, real GDP growth shrank by 0.2% in 2023. Pakistan failed to meet its GDP growth goal, achieving 2.38 percent in FY 2023-2024 instead of the projected 3.5%. Due mostly to contractionary macroeconomic policies and political unpredictability, the investment-to-GDP ratio decreased from 14.14% in FY2023 to 13.15% in FY2024. The savings to GDP ratio decreased slightly, from 13.21% in FY2023 to 13.1% in FY2024. Additional official data shows that, with average expenditures of 20.5% of GDP and average revenue of 14.9% of GDP, the average fiscal deficit in FY2023 was 7.7% of GDP, marginally less than the 7.9% in FY2022. Based on the CPI, the average inflation rate for the previous ten years has been 8.0%, reaching 20.7% in March 2024. According to data, the primary causes of this noteworthy fall were a 11% spike in remittances and a 6% reduction in the trade deficit(Pakistan Economy Survey, 2023-2024). It is important to note that Pakistan is experiencing significant changes in its revenue structure, when examining the tax system during the previous three decades. In the same vein, the budgetary space designated for rainy days was not spared by political turmoil, uneven growth policies, disasters, and internal unrest. Hence, there is a greater need for research on this topic (Pakistan Bureau of Statistics, 2019).

In response to the ongoing discussion about fiscal imbalances and the ensuing issues facing the economy, this study aims to look into a number of important topics. Such as: What is the function of fiscal policy indicators? What influence does it have on economic growth? This article attempts to quantify the fiscal policy's contribution to Pakistan's per capita output while taking the relative relevance of the control variable and policy indicator into account, given the significance of fiscal policy in that country. Here are the contributions this article makes in this regard: Examine the significance of fiscal policy while keeping in mind interest rates, taxes, public debt, and government spending as control variables. In the context of Pakistan, (2) investigate the relationship between fiscal policy variables and national growth inside an expanded model using insights from the Hussain, Khan, and Rafiq (2017)model, and (3) talk about the relationship between these factors and growth. This study offers suggestions for improving the effectiveness of fiscal policy instruments to considerably influence growth. To accomplish the goal, this research will adjust and calibrate the empirical model using the (Hussain, Khan, & Rafiq, 2017) model. This work will use Autoregressive Distributed Lag techniques to compute the model using the 1980–2023 data range.The paper organizes the remaining portions as follows: Section two encompasses a review of literature, while Part 3 covers the theoretical framework and modeling procedure. Part four covers the methodology and data. Section 6 offers policy recommendations, whereas the remainder of 5 discusses the empirical findings and results.

2.   Literature Review
2.1.   Fiscal policy-growth nexus in the world
Several empirical investigations have examined the interrelation between fiscal policy and economic performance, yielding varying conclusions. Research about traditional view generally lends credence to the belief that government expenditure generally crowd out private

sector investment. The government is increasing its spending and borrowing costs. Increases the demand for loan able funds and makes capital more expensive, all of which discourage private investment. On the other hand, a non-traditional perspective asserts that government spending stimulates investment, particularly when the economy's resources remain underutilized. Many emerging nations observe these perspectives, demonstrating how government spending can stimulate private investment. The conventional perspective addresses (Spencer & Yohe, 1970). Al-Saadi and Khudari (2024) examines the shaky connection between fiscal policy and expansion in the Omani economy using the most recent temporal data. The author discovers a unidirectional causal link between GDP growth, the government efficiency index and the rule of law index. Erdogan (2024)examines the positive impacts of fiscal policy using the ARDL, FMOLS, and Canonical Regression techniques. Combesanalysis highlights the unintended effects of fiscal policy. This positive causal direct effect is robust to a variety of alternative assumptions. However, not all fiscal policy laws are equal: while debt and balanced budget regulations reduce income inequality, expenditure regulations exacerbate it. In conclusion, government policy influences economic growth.

Golpe, Sánchez-Fuentes, and Vides (2023) investigate the relationship betwixt macroeconomic measures and economic upswings. Study employed the Granger causality technique to evaluate bivariate/trivariate connections, a method not previously used in previous studies. The study's findings provide new empirical evidence that underscores the significance of policy variables in the complex economic structure that emerges. Furthermore, empirical data lends credence to the notion that total spending shapes fiscal policy. Bishnoi (2023) examined how the Indian region has employed fiscal policy to govern their macroeconomic environment during the last 20 years, with an emphasis on the years 2004–2005 through 2016–2017. For GMM estimation, we use panel data from 16 Indian states. According to this analysis, the budget deficit in some Indian states exceeds the 3% GDP level, while it is still much smaller in other regions. Botta, Porcile, Spinola, and Yajima (2023) underscore the importance of productive development and structural change in shaping the dynamics of the rear end ratio and foreign debt in emerging economies. This essay presents a few industrial policies that, by encouraging price competition and diversification, eventually help macroeconomic stability. Heimberger (2023) employs the meta-regression method of 154 research studies to explore the countercyclical effects of fiscal policy. The study's conclusions show that while fiscal policy is procyclical in poor countries, it is countercyclical in industrialized countries. Over time, publishers have published a number of studies with a Pakistani focus.

Arestis, Şen, and Kaya (2021), on the other hand, assert the Keynesian theory that rising government expenditures lead to rising national income. Put differently, government spending would drive output. In reality, given the likely correlation between output and public spending, the sustainability of fiscal policy is a cause for worry, particularly in light of the government's concerted efforts to contain public spending during the business cycle. Contrary to the intent and spirit of EU fiscal legislation, Cronin and McQuinn (2021)anticipate EU states to demonstrate pro-cyclical behaviour in their open government expenditure policy. Bitar, Chakrabarti, and Zeaiter (2018), among other sources, add to our understanding of the expected effects of public debt on growth and fiscal factors. We will incorporate both the interest payment and the implicit interest rates into our causality scheme to account for the potential influence of the financial sector in our study. Using the ARDL technique, Hussain, Hussain, Ali, and Ahmad (2021) assess the extent and nature of fiscal adjustment for Pakistan in both the short and long terms. Ashfaq and Padda (2019) looked at the effect of debt obligations on Pakistan's expansion. Using ARDL methods, the research finds that a debt of about 70% of GDP will hinder the chosen nation's economic growth. Moreover, Hussain, Rafiq, and Khan (2020) carefully examined how Pakistan's fiscal policy has an uneven impact on GDP growth. Utilizing the NARDL approach from 1976-2017, research exposes the detrimental effects of the expanding fiscal strategy. However, Awan, Gulzar, and Gulzar (2020) were unable to identify a long-term correlation between growth and the fiscal deficit in Pakistan. The authors used annual data (1990–2017) and ARDL approaches. Remarkably, these scholars suggested that taxes and spending are key factors in promoting Pakistan's economic stability. Awan, Gulzar, and Gulzar (2020) have examined how fiscal policy affects growth in a dynamic manner. Based on ARDL techniques, these studies found that large budget deficits impede growth.

Using a simulation model, Possas, Dweck, and Vianna (2020) investigated the effects of different fiscal rule fluctuations on the short- and long-term economic growth of Brazil. The study's conclusions demonstrate how fiscal policy can improve economic performance and lessen economic crises. Bâzgan (2019) research indicates that medium-sized financial changes have a greater impact on growth than big modifications in the context of European nations. Cuestas and Ordóñez (2018) examine how shocks to taxes and public spending affect unemployment in a group of Euro area nations using the BVAR approach. The study provides data from 2008 through 2014. The study suggests that reduced government spending may exacerbate employability. This study's approach distinguishes it from previous empirical research in several ways. Moreover, Pakistan has conducted a limited number of studies and the existing ones exhibit notable shortcomings such as a narrow data scope and the exclusion of important fiscal policy variables, potentially leading to bias or hindering researchers from comprehending crucial underlying facts. Therefore, this work adds only a little to the corpus of knowledge on fiscal policy and economic growth by applying the ARDL bound test method. Corpus of previously conducted empirical research hasn't extensively documented Pakistani disputes during the investigated period.

2.2. The study's contribution

Other countries, such as the UK, Bangladesh, Nigeria, Malaysia, China, and the US, conduct the majority of fiscal policy research. Researchers have not extensively studied the connection between GDP growth and Pakistan's fiscal policies. This study is remarkable for its uniqueness because it sheds light on a significant issue that economy is currently facing. The nation's low per capita income is the subject of this concern. This study offers a unique viewpoint by updating the data analysis and inspecting specific features of this correspondence that are special to Pakistan, a topic that has not been extensively explored in previous research. This helps to explain how fiscal policy affects economic growth. This is on top of employing the autoregressive distributed lag (ARDL) method to investigate the relationship between fiscal policy and economic growth. We should investigate the ways and extent to which fiscal policy impacts Pakistan's economy, given the current research gap in this area. Therefore, this study aims to bridge the research gap by exploring the relationship between Pakistan's fiscal policies and economic growth in this developing nation. Because it followed the ARDL technique, the current study is unique to this country.

3. Theoretical Framework and Modeling Strategy

Put another way, the purpose of the theoretical framework was to demonstrate how variables in this study traced their relationships and determined how they affected the dependent variable. This study's goal is to ascertain how fiscal policy indicators affect Pakistan's economic growth.

Figure1: Research Framework
Independent Variables Dependent Variables
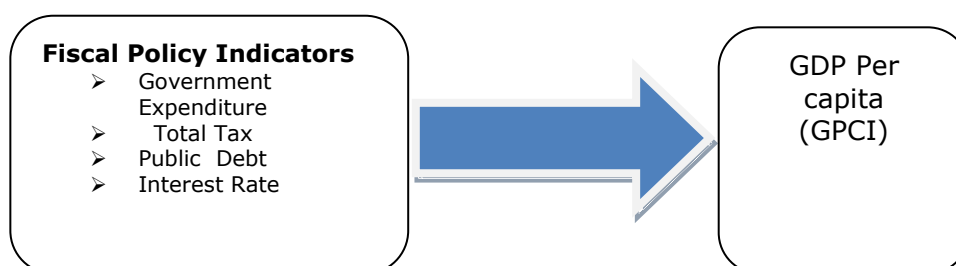
(Source: Author's own elaboration)

3.1. Framework of the model

The goal of the paper is to investigate fiscal policies that will promote growth; hence, it uses a modified version of the Hussain, Khan, and Rafiq (2017) model, in which the control variable was the increase of private fixed capital creation. Explanatory variables include government current spending, development spending, the tax-to-GDP ratio, and the amount of public expenditures. The dependent variable is GDP per capita. Hussain, Khan, and Rafiq (2017) proposed an original model that looked like this:

$$GPCI = (GPFCF, LTGDP, GCEX, GDEX, GSIZE)$$

In order to measure fiscal policy, we adjusted the model by adding government spending, total taxes, public debt, and interest rate as control variables. Our model, which is based on research by Hussain, Khan, and Rafiq (2017), will examine the connection betwixt fiscal policy and GDP growth.

$$GPCI = f(GEXP, Tax, PD, INT) \tag{1}$$

First of all, for estimation purposes, we've expressed the specified model as follows:

$$GPCI = \beta 0 + \beta 1 GEXP + \beta 2 Tax + \beta 3 PD + \beta 4 INT + \mu \tag{2}$$

$\beta 0$ is equal to the intercept. A measure of connection among independent and dependent variables is the coefficient of variability ($\beta 1$). It might be positive or negative.

4. Data and Methodology

Consistent outcomes necessitate the use of precise and valid data. The objective of econometric analysis is to investigate the correlation between variables by scrutinizing data collected between 1980 and 2023. Our analysis takes into account the existing data, present circumstances, the level of ongoing debates, and the limited number of empirical studies on fiscal policy. Table 1 presents a comprehensive compilation of sources from which the study gathered its data.

Table1: Variable: Description and Sources

Variables	Description	Data Source
GPCI	GDP per capita (% annual)	World Development Indicator (WDI)
GEXP	Government Expenditure (% of GDP)	World Development Indicator (WDI)
TAX	Tax Revenue (% of GDP)	World Development Indicator (WDI)
PD	Public Debt (% of GDP)	International Financial Statistics
INT	Interest Rate (% annual)	World Development Indicator (WDI)

Source: Author's own elaboration

4.1. Unit root

In order to find out if one of the variables was stable at second difference, this study checked the order of variable integration before doing the ARDL co-integration exercise. Consequently, the prevalence of I(2) variables impedes the test's efficacy. In order to reduce the likelihood of regression analysis errors, the study implemented two popular types of unit root tests: the ADF and PP tests. The present study implemented these experiments to verify the stationary characteristics of variables under investigation. Levels and initial differences were the foundation of both investigations (Phillips & Perron, 1988).

4.2. Test of Co integration

Cointegration is a technique for modeling time series that preserves their long-run information. The concept of cointegration was originally formally defined by Engle and Granger (1987); Granger (1981). Cointegration denotes a specific stationary linear combination of independently integrated, non-stationary variables, integrated to an order, I (d). According to Perron and Perron and Campbell (1993), it becomes essential to keep working with variables in differences if it is unable to demonstrate the cointegration among the underlying variables. However, the absence of long-term data is a significant concern (Hendry, 1986).

5. Results and Discussion
5.1. Descriptive statistics and Correlation Matrix

A descriptive analysis, which summarizes the data's graphical representation and statistical correlation matrix, is the first step in every effective empirical investigation. As a result, this investigation begins with a study of basic empirical data. Use a straightforward method utilizing a variety of metrics, such as the average, median, minimum, maximum, standard deviation, skewness, kurtosis and the Jarque-Bera statistic, to have a better understanding of the distribution of the data. Table 1 displays the model's statistical conclusions.

Table 2: **Descriptive Statistics and Correlation Matrix**

	GPCI	GEXP	TAX	PD	INT
Mean	2.07	11.38	11.22	70.01	11.85
Median	1.87	10.92	10.90	69.35	11.75
Maximum	5.82	16.78	13.71	102.01	16.63
Minimum	-2.97	8.66	3.70	47.10	7.25
Std. Dev.	2.03	1.74	2.11	13.41	2.37
Skewness	-0.17	1.21	-1.05	0.11	-0.03
Kurtosis	2.71	4.31	4.82	2.27	2.18
Jarque-Bera	0.36	13.29	13.47	1.01	1.17
Probability	0.84	0.00	0.00	0.60	0.56
GPCI	1	-0.10	0.09	-0.39	-0.44
GEXP	-0.10	1	0.62	0.43	-0.17
TAX	0.09	0.62	1	0.26	0.07
PD	-0.39	0.43	0.26	1	-0.06
INT	-0.44	-0.17	0.07	-0.06	1

Source: Authors' calculations

Table 2 displays the statistical data for the variables collected and tracked between 1980 and 2023. The Jarque Bera test results indicate that the distribution of GDP per person, taxes, government spending, public debt and interest rates is consistent. The correlation analysis reveals that taxes and per capita GDP are positively correlated. GDP per capita, government spending, public debt and lending rate are all negatively correlated. There is a negative relation among government spending, GDP per capita and lending rates. GEXP, tax and public debt are positively related to each other.

5.2. Unit root

Table 3 presents the results of the unit root test, along with an intercept and trend. Study has utilized two tests, namely the Augmented Dickey-Fuller and Phillips Perron tests. The test results pointed out that all the variables in the model, namely GEXP, Tax, PD and INT, are stationary at I (1). The P-values of the two coefficients indicate that the data is generally stationary. However, GPCI exhibits stationarity at I (0) or the level. The unit root test findings show that certain variables are stationary at the level and others at the first difference, which justifies the use of the ARDL approach. When examining a unit root, each variable provides evidence against the null hypothesis.

Table 3: Stationary Test Results

Variables	I(0)		I(1)		Conclusion
	Augmented Dickey-Fuller	Phillips-Perron	Augmented Dickey-Fuller	Phillips-Perron	
GDP Per Capita	-4.828505 0.0003	-4.828505 0.0003	-7.715464 0.0000	-11.87151 0.0000	I(0)
Government Expenditure	-1.730563 0.4088	-1.897017 0.3304	-6.004301 0.0000	-6.004057 0.0000	I(1)
Tax	-2.556231 0.1102	-2.375742 0.1546	-6.613199 0.0000	-15.50596 0.0000	I(1)
Public Debt	-1.824819 0.3639	-1.854328 0.3501	-6.892791 0.0000	-6.876077 0.0000	I(1)
Lending Interest Rate	-3.275588 0.0228	-2.362958 0.1582	-5.359311 0.0000	-5.353469 0.0000	I(1)

Source: Author's calculations

5.3. Results of Co-integration ARDL Analysis

The Augmented Dickey Fuller and Phillip Perron tests confirm the stationary nature of the data, ruling out any potential variables that could compromise the statistical reliability of the result. By conducting an analysis, it can evaluate the cointegration relationship between the variables. This paper conducted bound test research to evaluate the long-term association between the variables and hypothesis testing.

Considering the outcomes of the bound test, it is clear that the computed value of the model's F-statistics is 10.35, surpassing the upper bound critical values at 5% and 10%, which are 3.09 and 3.49, respectively. It is evident from the data that the computed values of F-Statistics exceed the critical value at both the 5% and 10% significance levels, as evidenced by

the data. Specifically, the F-Stat values of 10.35 and 3.49 are greater than the respective critical values of 3.09 and 3.49. Study will reject the null hypotheses and accept the alternate hypothesis.Research will adopt the alternative hypothesis over the null hypothesis, which assumes that there is no cointegration. Based on the data, the alternative hypothesis implies that there is a long-term link between the variables and cointegration in the model.

Table 4: Bound Test Analysis

Model	F- Statistic	5% Critical Value		10% Critical Value		Remarks
		I(0)	I(1)	I(0)	I(1)	
GPCI / GEXP, Tax, PD, INT	10.35	2.56	3.49	2.2	3.09	H0: Reject (No cointegration)
						H1: Accept (Cointegration exist)

Source: Authors' calculations

Table 5: Long-run results

Dependent Variable: GPCI				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GEXP	-0.3488	0.1616	-2.1583	0.0393
TAX	0.5434	0.14988	3.6255	0.0011
PD	-0.0607	0.0154	-3.9172	0.0005
INT	-0.4718	0.0947	-4.9787	0.0000
C	9.6601	1.6913	5.7116	0.0000

Source: Author's calculations

By examining the long-term correlations between various fiscal policy variables and control factors, Study can gain insights into the impact they have on Pakistan's per capita GDP over time. According to Table 5, the long-term data show a clear link between per capita GDP and tax, suggesting a positive correlation. As a result, a one percentage point increase in taxes leads to a 0.5434% increase in GDP per capita, assuming no other factors are considered. Therefore, there is a positive relation to tax and GPCI. The findings of Addison and Levin (2012)support this conclusion. Government spending has a negative coefficient, with a value of 0.3488. The P-value of 0.0393 indicates statistical significance. Economists frequently support this relationship by considering the concept of the crowding-out effect. Several studies have supported these findings, including those by Anderson, d'Orey, Duvendack, and Esposito (2018); Fölster and Henrekson (2001); Halkos and Paizanos (2013). The public debt, or PD, is the third independent variable and is valued at 0.0607. It shows a negative correlation with the GPCI. This value of 0.0005 is statistically significant. Based on the coefficient value of PD, a slight increase of 1% in PD will lead to a small decrease of 0.0607% in per capita output. When the government borrows to fund its expenses, it can have a negative impact on the economy. This is because it crowds out private investment and investors, as the increased interest rates make it less attractive for them. Investment falls due to high borrowing costs, which in turn negatively impacts economic growth. This is a concern for investors. Research supports the findings of Égert (2015); Law, Ng, Kutan, and Law (2021); Mehrotra and Sergeyev (2021); Panizza and Presbitero (2014).In addition, the interest rate coefficient has a negative value of 0.4718 and it is significant. The results are consistent with studies byKhatkhate (1988); Lee and Werner (2018); Mehrotra and Sergeyev (2021).

5.4. Error Correction Analysis

Researchers often use an Error Correction Model (ECM), a type of multiple time series model, to examine data exhibiting a long-term common stochastic trend. This is also known as cointegration. One can employ ECMs to estimate the short and long-term effects of one time series on another (Yule, 1926).

There is a significant error correction term (ECT) in the data, indicating a long-term relationship between the selected variables. The negative sign (-0.2564) of the ECT supports this. Based on the ECM term coefficient, it appears that a temporary shock will correct itself within a timeframe of less than one year.

Table 6: Short Run Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Dependent Variable: GPCI				
D(GEXP)	-0.061075	0.214474	-0.284766	0.7778
D(TAX)	0.138531	0.123953	1.117617	0.2729
D(TAX(-1))	-0.297310	0.134281	-2.214095	0.0348
D(INT)	-0.311750	0.123188	-2.530681	0.0171
D(INT(-1))	-0.365066	0.121200	-3.012091	0.0053
CointEq(-1)*	-0.256425	0.147215	-8.534602	0.0000

Source: Author's calculations

5.5.   Diagnostic Test
5.5.1. Heteroscedasticity Test

It is fundamental in linear regression that the residuals exhibit equal variance across at every level of predicted factor. We refer to the premise as heteroscedasticity. When it deviates from this assumption, study labels the residuals as heteroscedastic. Regression compromises the credibility of the results. This implies that there is no heteroscedascticity present in the models. This reinforces the econometric assumption that a model should not encounter any issues with heteroscedasticity (Sari, Ewing, & Soytas, 2008).

Table 7: Heteroskedasticity Test: Breusch-Pagan-Godfrey

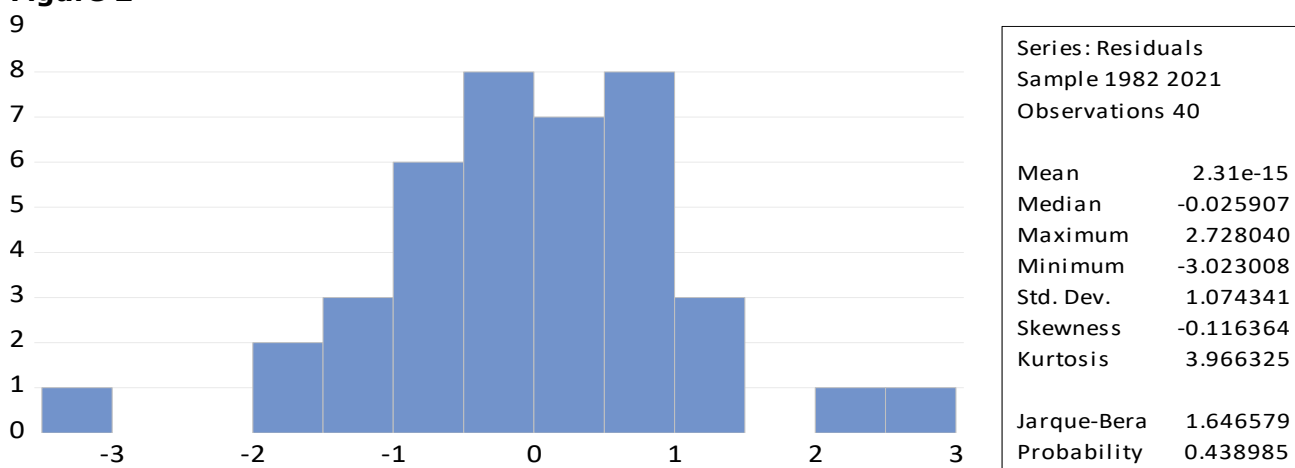| Null hypothesis: Homoskedasticity			
F-statistic	0.441918	Prob. F(10,29)	0.9129
Obs*R-squared	5.289394	Prob. Chi-Square(10)	0.8710
Scaled explained SS	4.123545	Prob. Chi-Square(10)	0.9416

5.5.2. Serial Correlation

Godfrey and Breusch are in a serial relationship. The LM test can determine the autocorrelation of a regression model's errors. For time series data, it is called serial correlation. Additionally, it verifies if TS error words carry over from one period to the next (Tursoy & Faisal, 2016).

Table 8: Breusch-Godfrey Serial Correlation LM Test

Null hypothesis: No serial correlation at up to 2 lags			
F-statistic	7.733336	Prob. F(2,27)	0.0622
Obs*R-squared	14.56829	Prob. Chi-Square(2)	0.0007

5.5.3. Normality Test

To assess normality of the residuals, use Jarque-Bera test. By utilizing calculated P values and Jarque-Bera statistics, researcher can evaluate the null hypothesis regarding a normal distribution. Study accepts the null hypothesis for each variable, given the P-values indicating its normal distribution (Department of Accounting, Okafor, Shaibu, & Department of Business Administration, 2016).

Figure 2

Series: Residuals	
Sample 1982 2021	
Observations 40	
Mean	2.31e-15
Median	-0.025907
Maximum	2.728040
Minimum	-3.023008
Std. Dev.	1.074341
Skewness	-0.116364
Kurtosis	3.966325
Jarque-Bera	1.646579
Probability	0.438985

Source: Author's calculations

5.5.4. CUSUM Test

To assess the stability of the long run coefficients of estimated variables, the model uses CUSUM tests. The researcher plots CUSUM against plotted lines at a significance level of 5%. A CUSUM plot within the crucial boundaries at a significance level of 5% indicates the regression model's steadiness (Brown, Durbin, & Evans, 1975). Figure 1 displays the CUSUM and CUSUMSQ statistics, respectively. The CUSUM and CUSUMSQ values consistently remain below the critical 5% threshold, suggesting the coefficient's stability and validating the enduring correlations among the variables.
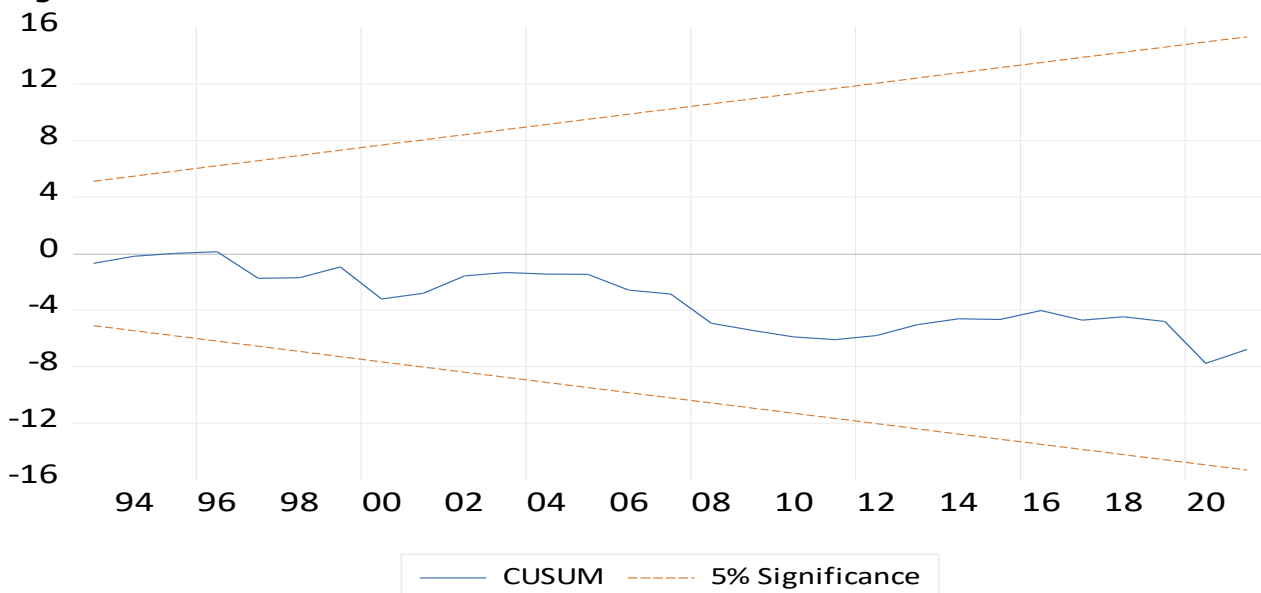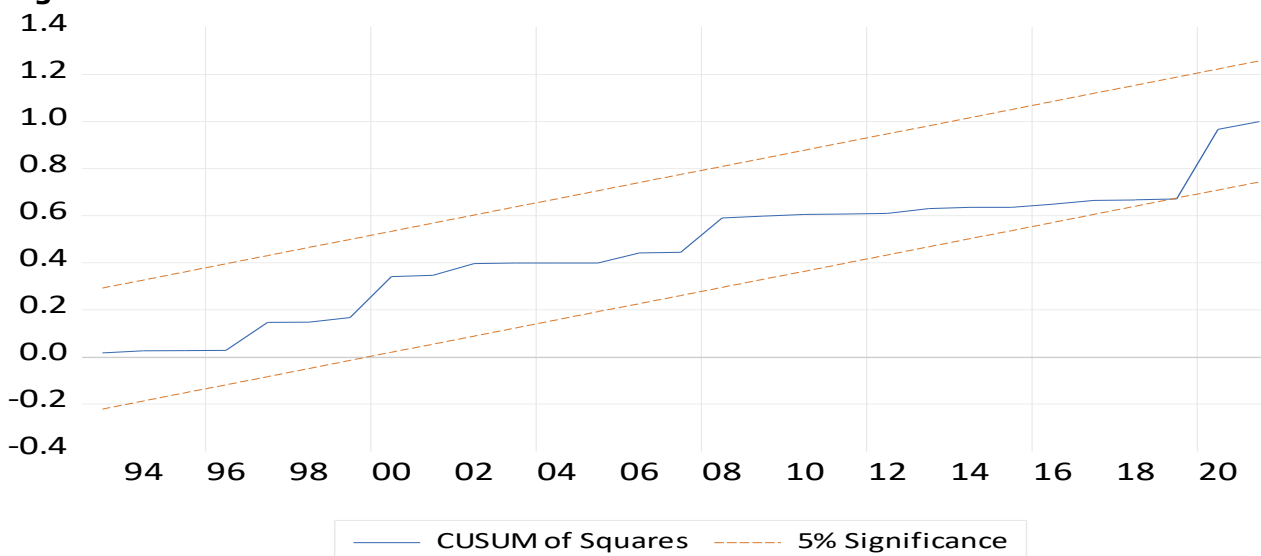
Figure 3

Figure 4

6.   Conclusion and Policy Recommendations

This study sought to analyze the broader economic effects of fiscal policy on Pakistan's growth. Study's analysis utilized time series data from 1980 to 2023. Through rigorous analysis, research conducted a study on the impact of fiscal policy on economic growth in a small, open economy such as Pakistan. This research considered various factors, including government expenditure, tax policies, public debt and interest rates. For our investigation, study employed various statistical techniques such as vector error correction; ARDL bound testing approach to assess the model. It is evident from the cointegration results that there is a sustained association among various elements of fiscal policy and economic growth. There is a sustained association among various elements of fiscal policy and economic growth. This implies that all the variables move together in sync over a period of time. Based on the ARDL approach's findings, it is clear that most fiscal variables (excluding tax) have a negative impact

on economic growth. Specifically, variables such as GXP, PD and INT exhibit a negative effect. Based on the study's findings, it is evident that there exists a negative relation to government expenditure, public debt, lending rate and economic growth. Finally, study conducted CUSUM and CUSUMSQ tests. Out of all the tests, the CUSUM test stands out as it effectively showcases the stability of the coefficients and confirm the long-term correlations between variables. The study's conclusions offer a number of suggestions for boosting the prosperity of Pakistan. This research indicates that fiscal policy can be highly effective. Government expenditure, taxes and public debt can effectively promote growth. A recent study found that the accumulation of debt negatively impacts Pakistan's economic growth. It is highly advisable to effectively manage these debt stocks, as suggested by the study. (4) This study suggests that it would be beneficial for the government to utilize taxes in a more effective manner. Effective utilization of these internal factors can contribute to economic growth promotion. There were certain limitations to this study. To achieve its goal, the analysis relies on secondary data spanning a specific time period from 1980 to 2023. We obtain secondary data from sources like the WDI, IFS and Pakistan Economic Survey. However, the precision of data collection limits its accuracy. It solely focuses on the correlation between fiscal policy and economic growth. This study, through extensive research, has uncovered the profound effect of fiscal policy on Pakistan's economic growth. Completing this task suggests conducting a study on the impact of monetary and fiscal policies on Pakistan's economic growth.

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