MAJOR MACROECONOMIC ISSUES AND ECONOMIC GROWTH OF PAKISTAN

YAFIAH[1], ATIF KHAN JADOON[2]

ABSTRACT

In this research we have found out the impact of fiscal deficit, trade volume, unemployment rate and exchange rate on the GDP of Pakistan. The data was collected from 1981- 2020. We have used Unit root test for checking the stationarity of the variables. Some of the variables were stationary at level and some of them were stationary first difference. Autoregressive Distributed Lag (ARDL) approach was used for the purpose of checking long term and short-term relation between the variables. None of the variables was stationary at second difference fulfilling the assumption of ARDL. The long run results showed that trade volume and exchange rate have positive impact on the GDP growth of Pakistan but as the unemployment decreases GDP grows so it has an inverse relation with the GDP. Fiscal deficit has negative and significant relation with the GDP. By applying the diagnostic tests, we found that all the selected variables were fit for use in the research.

KEYWORDS: Economic growth, Fiscal deficit, Trade volume, Exchange rate, Unemployment rate, ARDL

1. INTRODUCTION

One of the most significant issues affecting economies throughout the world is unemployment. The nature and severity of the problem fluctuate slightly depending on the developed or developing countries. The economic collapse in advanced nations, i.e., the European crisis, has resulted in a notable surge in unemployment (Abbas, 2014). The ineffective utilization of labor resources is shown by high unemployment. As a result, since it maximizes production, full employment should be a top macroeconomic priority for all governments. It has drawn much attention due to its crucial function as a macroeconomic building component, not just because of the solid empirical regularity (Noor, Nor, & Ghani, 2007).

One of the most significant global challenges and a crucial research area is the topic of economic growth and unemployment (Akeju & Olanipekun, 2014; Calmfors & Holmlund, 2000; Kreishan, 2011). If output declines, it will have a series of effects on several indices, including rising unemployment, low income, and a low usage level, resulting in a further drop in production(Gordon & Clark, 1984; Hall & Kudlyak, 2022). The goal of legislators everywhere is to keep unemployment rates as low as possible since they serve as one of the most necessary gauges of the success or failure of socioeconomic programs (Kukaj, 2018). The primary goal of this study is to examine the relationship between unemployment and GDP growth, as well as other included variables like fiscal deficit, unemployment rate, trade volume, and exchange rate. A country's various economic and social facets are demonstrated through the alarming occurrence of unemployment.

In 2012, Pakistan saw roughly 532 million dollars in foreign direct investment, according to the Pakistan Economic Survey 2011–12, compared to the country's GDP growth rate of around 3.7 percent, continuously declining over the previous ten years. In the year 2021-2022, Pakistan experiences a quite low growth rate of 1.98%. Pakistan is a growing nation with many social issues including poverty, education and unemployment (A. K. Jadoon, 2021; Saleem et al., 2023). In 2020, Pakistan's unemployment rate was 6.80 percent. A wide range of factors influences the rate of unemployment in Pakistan.

Several factors support an export-focused strategy. Trade expansion could boost long-term growth by enabling the economy to focus on industries with economies of scale due to research and development and other factors. Long-term growth is stimulated by trade (t. K. Jadoon, Rashid, & Azeem, 2015). Trade is a crucial element of the development path and has, therefore, increasingly contributed to economic growth in most countries. While in some studies, the authors have also proved negative effects of trade on the economic growth (Qasim, Majid, & Jadoon, 2021).

Even though the theoretical literature focuses on the benefits of global trade on economic growth, its influence is still contentious among experts (Fetahi-Vehapi, Sadiku, & Petkovski, 2015). The value of one currency stated in terms of another is called the exchange rate. It establishes the relative costs of domestic and imported commodities and the degree to which the external sector participates in world trade. Interest rates and the regime of exchange rates continue to be hot topics in both developed and developing countries, with more economies accepting trade liberalization as a requirement for economic progress (Adeniran, Yusuf, & Adeyemi, 2014;

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[1] Scholar, School of Economics, University of the Punjab Lahore, Pakistan
[2] Assistant Prof, School of Economics, University of the Punjab Lahore, Pakistan

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Lardy, 2005). However, in Pakistan, the exchange rate fluctuates, as a result of currency depreciation, imported items become more expensive, and causing individuals to consume native goods instead.

Pakistan's fiscal strategy is crucial to the country's economic success because of the very significant budget deficit it is now facing. The nation's growing reliance on outside resources (in the shape of loans and other supports) is the cause of the enormous fiscal shortfall (A. K. Jadoon, Batool, & Mehmood, 2014). In order to pay off debts, these loans are requested from donors. As a result, budget shortfalls are exacerbated, and the deficit increases yearly. Debt service accounted for over 9% of Pakistan's GDP. By discussing all the factors, i.e., unemployment rate, exchange rate, fiscal deficit, and trade volume on the GDP, we will also determine their significance as growth plays a vital role in any country. It predicts the future of any country. This research seeks to evaluate how different important macroeconomic variables affect Pakistan's GDP. In particular, the study will examine how the fiscal deficit, unemployment rate, trade volume, and exchange rate affect the economic expansion of the nation.

2. LITERATURE REVIEW

The developing countries like Pakistan face common macroeconomic issues including poverty, unemployment, exchange rate, fiscal deficit and trade deficit. Out of these unemployment is major concern due to low demand causing slower economic growth rates. The local manufacturing sectors are dealing with many macroeconomic issues that must be more balanced with their economic performance and prevent them from producing enough jobs to accommodate an expanding labor force. In order to boost economy, efforts should be made to improve the domestic business climate (Abbas, 2014).

In emerging economies, unemployment is a significant problem. High unemployment indicates inefficient use of labor resources (Noor et al., 2007). Output growth is the total amount that an economy could create if all its components, particularly human resources, were engaged or used to their fullest extent. The highest possible output level can be sustained over time without creating economic strain or, more specifically, without accelerating inflation. They discovered that the unemployment rate is negatively and significantly impacted by economic growth (Abdul-Khaliq, Soufan, & Shihab, 2014). Similarly, Sarwar, Jadoon, and Azeem (2017) also highlighted that employment level contributes positively towards economic growth of Pakistan.

Li and Liu (2012) in a research found the interaction mechanisms between China's unemployment rate and economic growth. The relationship between the unemployment rate and economic growth was negative without considering other variables. Economic growth was negatively correlated with unemployment. While considering the impact of fiscal deficit on GDP growth, it was found that Fiscal deficit negatively impacts the nation's economic growth. Pakistan is experiencing this unfavorable circumstance of the long-standing fiscal deficit. There are various causes for this like it is clear from economic history that the process of generating money or tax collection needs to be improved. These facts combined to produce the fiscal deficit position (Fatima, Ahmed, & Rehman, 2011).

In this regard, Rana and Wahid (2017) found that in the case of Bangladesh, the fiscal deficit is about 5% every year. According to the findings, Bangladesh's economic growth was adversely affected by the government budget deficit in a statistically significant manner. Another study's findings supported the notion that the budget imbalance in the South Asian nations it examined has a detrimental effect on economic growth (Navaratnam & Mayandy, 2016).

Mohanty (2012) found that in the case of India, there is a long-term, significant, and negative relationship between fiscal deficit and economic growth. While some research finds a positive correlation between fiscal deficit and economic growth, other studies suggest a negative relationship. These contradictory results indicate a potential nonlinear link between the fiscal deficit and economic growth. This implies the existence of might be a fiscal deficit limit that reflects the degree to which fiscal expansion can be used as a growth-promoting policy tool (Iqbal, ud Din, & Ghani, 2017).

In this regard Iqbal et al. (2017) employed the smooth transition autoregressive (STAR) model to look at the potential existence of a fiscal deficit threshold. They discovered that Pakistan's fiscal deficit must be at most 5.57 percent of GDP. Due to the fiscal deficit Pakistan's economic growth has historically suffered. Bhari, Lau, Aslam, and Yip (2020) examined the connections between Malaysia's fiscal imbalance and economic expansion. Their findings, showed a long-run relationship between the budget deficit and real GDP.

The degree to which nations have integrated into the global economy is frequently seen as a critical factor influencing the disparities in growth and prosperity between nations. Busse and Königer (2012) found evidence that trade growth, including its resulting access to new technology, also significantly impacts income growth. Javed, Qaiser, Mushtaq, and Iqbal (2012) studied the effects of the overall exports and imports on the gross domestic product (GDP). According to the estimated findings it was indicated that trade has a substantial and positive impact on the economy.

Amna Intisar, Yaseen, Kousar, Usman, and Makhdum (2020) examined how trade openness and human capital affected economic growth. According to the findings, trade openness and human capital are significantly and favourably correlated and positively impact GDP growth. In the case of Pakistan, a study was proposed from 1980-2010 and it hypothesized that trade openness had a favourable effect on economic growth and sought to

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determine whether this was true for Pakistan. The study indicated a short-term favorable association between trade openness and national GDP growth. (Ali & Abdullah, 2015).

The exchange rate is a significant economic variable that is used to calculate a country's level of global competitiveness (Durand & Giorno, 1987; Morina, Hysa, Ergün, Panait, & Voica, 2020). It is viewed as a measure of the effectiveness of any currency in any nation. Danmola (2013) examined how exchange rate volatility affected macroeconomic indicators. The study's results revealed that exchange rate volatility has a beneficial impact in a positive manner on GDP, investment from abroad.

Jayachandran (2013) empirically tested the effect of exchange rate volatility on net exports and imports in India studied. His findings suggested that the exchange rate has a considerable negative influence on real exports and imports, suggesting that real exports in India tend to decline when the currency rate is more volatile.

Adeniran et al. (2014) investigated the effect of exchange rates on economic development from 1986 to 2013 in Nigeria. The findings showed that, albeit not significantly, exchange rates have a favourable impact on GDP. However, our study found that fiscal deficit negatively impacts the GDP, which means our results favour neo-classical thought. In some countries like Malaysia, it was found that 'fiscal deficit positively impacts GDP. In our research, the exchange rate's impact was positive and insignificant in the long run.

The literature review suggested that Pakistan has problems of unemployment, exchange rate, fiscal deficit and trade deficits. The present study has been design to check how these problems are effecting the economic growth of Pakistan.

3. DATA AND METHODOLGY
3.1. DATA AND MODEL
In this research, we found the impact of the unemployment rate on GDP growth in the case of Pakistan. Besides this, some other independent variables are also considered to check out the impact. These include the growth rate of trade volume, fiscal deficit, and exchange rate. The data was collected between 1981- 2020. The data for the present study has been taken from the World Development Indicator (WDI) and various issues of Economic Survey of Pakistan. The annual time series data has been used to obtain the results. The regression equation of this study is as follows.

$$GDPG = \alpha_0 + \alpha_1\, UR + \alpha_2\, ER + \alpha_3\, FDGDP + \alpha_4\, GTV + \varepsilon t$$

Here
GDPG: Gross domestic production growth annually
UR: Unemployment rate
ER: Exchange rate
FDGDP: Fiscal deficit as %age of GDP
GTV: Trade volume growth rate

This study will determine the impact of the unemployment rate, exchange rate, fiscal deficit, and trade volume on GDP growth. The reduction in unemployment and fiscal deficit causes an increase in GDP growth. Moreover, the trade volume may increase the GDP growth.

3.2. METHODOLOGY
In the first step, unit root test is applied to test the stationarity of data. Some of the selected variables are stationary at level and some are at first difference. In this research Autoregressive Distributed Lag (ARDL) approach is used to find the short-run and long-run relation between variables. The ARDL approach was proposed by Shin and Smith in 2001. The ARDL method is well suited for investigations in which the order of integration is zero and one of the variables. Furthermore, when the optimal lag length is chosen, the regression coefficient can be calculated using ordinary least squares (OLS). The ARDL estimate method also addresses the model's endogeneity issue. The bound test is used for the verification of the long run relationship among variables. The lag length was found using the least square method. We set the lag length at 1 after finding out the results using the Schwarz value. Diagnostic tests are utilized to examine various issues in statistical analysis, including Functional form, heteroscedasticity, normality, and serial correlation.

$\Delta GDPGt = \Phi_0 + \Phi_1\, t + \Phi_2\, (UR)_{t-1} + \Phi_3\, (ER)_{-1} + \Phi_4\, (FDGDP)_{t-1} + \Phi_5\, (GTV)_{t-1} + \sum \delta l \Delta GDPGt - l\, p\; l=1 + \sum \Psi m \Delta\, (UR)\, t-m\, p\; m=0 + \sum \Psi n \Delta\, (ER)t-n\, p\; n=0 + \sum \Psi o \Delta\, (FDGDP)\, t-o\, p\; O=0 + \sum \Psi \Delta\, (GTV)\, t-q\, p\; q=0 + \mu t$

VECM checks the convergence from short run to long run. So, the equation for VECM will be as follows:

$\Delta GDPGt = \Phi 0 + \Phi_1 t + \sum \delta l GDPGt - lp l=1 + \sum \Psi m\, (UR)\, t-mp\; m=0 + \sum \Psi \Delta\, (ER) - np\; n=0 + \sum \Psi o \Delta\, (FDGDP)\, t-o\, p\; O=0 + \sum \Psi q \Delta\, (GTV)\, t-q\, p\; q=0 + \mu t$

4. RESULTS AND DISCUSSION
Before applying any test, the variables' stationarity is checked so the unit root test is applied in such a scenario. Table 1 shows the result of the selected integrated variables using the Augmented Dicky Fuller (ADF) test. The unit root test showed that the following independent and dependent variables are integrated of order zero or order 1. Here, we can conclude that ARDL bound test approach can be used to check the long run relationship among variables as none of the variable is integrated of order two. We can use the ARDL Bound test to estimate our model.

Table 1: Unit root test results

Variables	At level t-stat value	At level Prob. value	At first difference t-stat value	At first difference Prob. value
GDPG	-4.435444	0.0011*	-6.855303	0.0000*
Exchange rate	2.912859	1.0000	-3.745629	0.0071*
Trade Volume growth rate	-6.727730	0.0000*	-11.40743	0.0000*
Fiscal Deficit % of GDP	-2.807217	0.0665**	-6.332015	0.0000 *
Unemployment Rate	-2.011997	0.2807	-5.884279	0.0000*

*, ** (1% and 10% significance level)

The ADF test results show that three of five variables, including GDP, trade volume, and fiscal deficit, were stationary at a level. Moreover, the exchange rate and unemployment rate are stationary at first difference. These results show that the ARDL test can be applied to check the variables' long-run and short-run results.

In this research, our first step is to find the long-run relationship of the variables using a bound test. The bound test provides the upper bound (UB) and lower bound (LB) values. If the calculated value of F statistics is greater than UB we conclude that their exist long run relationship among variables. We conclude that the results will be inconclusive if the F-value falls between the LB and UB. Our null hypothesis is that there exists no long-run relation among variables.

Table 2 Bound tests

F-Statistics	Bound values (99% coincidence interval)		Bound values (95% coincidence interval)	
	Upper bound	Lower bound	Upper bound	Lower bound
6.894007	5.06	3.74	4.01	2.86

The bound test findings estimate that the F-statistics has a value of 6.89. The F-statistics value is higher than the UB value. We can conclude that an LR relationship exists between variables based on the F-value. The optimal lag length is determined after examining the LR relationship among variables. The SBIC criterion was applied in this research, and the maximum lag length for the model was found to be one.

Table 3: Long Run

Variables	Coefficients	Standard errors	t- stat	Probability values
UR	-1.394236	0.473298	-2.945792	0.0075
ER	0.010758	0.013433	0.800861	0.4318
FDGDP	-1.012718	0.400625	-2.527846	0.0192
GTV	0.021313	0.040730	0.523259	0.6060
F-stat	P- value	R- square		
4.238993	0.001451	0.714682		

As the p-value is less than 0.05, the results of the LR connection indicated that the entire model is a good fit, as the R square value shows the model's goodness.

All of the coefficients show the anticipated signs. The unemployment rate is negatively and significantly related to GDP growth. Moreover, the exchange rate has a positive impact on GDP growth. This means that with the increase in the exchange rate, the GDP also grows. In addition to fiscal deficit has a significant impact on GDP growth. Moreover, in the end, our last independent variable, trade volume, also causes an increase in GDP growth.

The following are the short run results of the variables depicted in the table 4.

The short-run results show the convergence towards the long-run equilibrium. For appropriate results, the value of ECM must be less than one and should be negative. Moreover, they should also be statically significant. The results found from the test are significant at 5%, with a value of 0.84%. The value of the ECM term, which is -0.84, shows that co-integration exists among variables, and deviation from the equilibrium will be corrected by 84% in one year.

Diagnostic tests are utilized to examine various issues in statistical analysis, including functional form, heteroscedasticity, normality, and serial correlation. The White test is used to identify heteroscedasticity issues.

The Jarque-Bera (JB) test is applied to assess the problem of normality, and the LM test is utilized to examine Serial correlation problems.

Table 4: Short Run

Variables	Co efficient	St. Error	t-statistics	Prob
UR	-0.799124	0.356057	-2.244370	0.0352
FDGDP	-0.243018	0.207745	-1.169787	0.2546
TV_ GR	0.018015	0.034812	0.517503	0.6100
ER	0.083054	0.051178	1.622846	0.1189
ECM	-0.845298	0.185823	-4.548939	0.0002

Table 5: Diagnostic tests

Problems	Test	F-stat/ Chi sq.	P- values
Serial Correlation	LM Test	0.318606	0.6846
Normality	Jarque Bera (JB)	0.676474	0.713026
Hetro scedasticity	White	1.086624	0.3962
Functional Form	Ramsey Reset Test	1.491837	0.2303

All these tests show that the selected variables are suitable for research purposes. The null hypotheses of Ramsey, White, LM and JB tests state the presence of the problems of Functional form, Heteroscedasticity, serial correlation and Normality issues. The results of the tests showed that the p-values are greater than 0.05. These results confirm that there is no problem of Functional form, Heteroscedasticity, serial correlation and Normality in the model. As observed from the test results, the chi-square value for white test is more than 0.05, which means no heteroscedasticity. The JB test was used to check the normality issue. Normality tests tell us about the distribution of disturbances. If the value of JB probability is more than 0.05, we can reject the null hypothesis that disturbances are not distributed normally. Hence according to our results that the disturbances are distributed normally.

LM test value is used to check the serial correlation test. The null hypothesis of LM state that there is no serial correlation in the residual series. The Ramsey Reset test is used to check the functional form. The white test is used to check the problem of heteroscedasticity. The null hypothesis of the White test indicates the problem of heteroscedasticity. The results of all the diagnostic tests show that the p-values of all these tests are larger than 0.05, indicating that the null hypotheses are rejected in all four tests. All tests reveal no issues with Functional form, heteroscedasticity, Serial Correlation, or normality.

CUSUM (cumulative sum) and CUSUM Square (cumulative sum of sq) are used to check the stability of the variables in the long run and short run. The resultant CUSUM and CUSUM sq test lines must fall below the 5% level of significance boundaries, indicating that the calculated parameters are stable. The results of both tests are shown in the Figures 1 and 2.
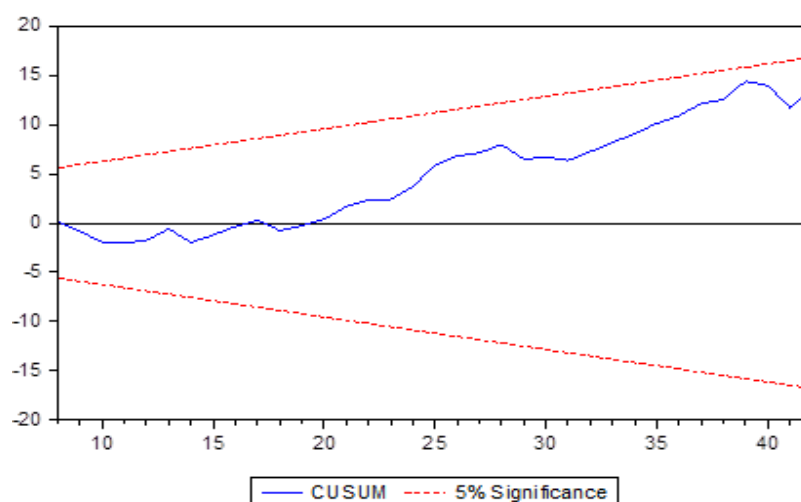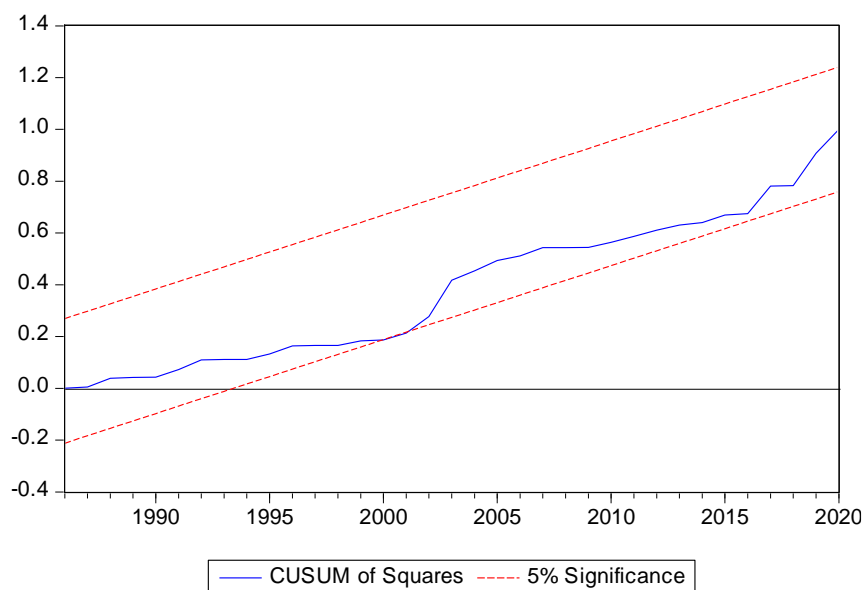

Figure1: CUSUM Test

Figure 2: CUSUM sq Test

5. CONCLUSION AND RECOMMENDATION

This study examined the effects of Pakistan's fiscal deficit, trade volume, unemployment rate, and exchange rate on its GDP. The data was gathered through secondary research between 1981 and 2020. We employed the unit root test to determine if the variables were stationary. At the level and the initial difference, every variable was stationary. The second difference, none of them were immobile. Because the R square was 71%, the model was fit. For the goal of examining the long- and short-term relationships between the variables, the ARDL technique was adopted.

The long-term results revealed that trade volume and exchange rate favorably impact Pakistan's GDP growth. However, this impact is inversely related to the unemployment rate, negatively impacting GDP growth. A negative and strong relationship exists between the fiscal deficit and GDP. Every coefficient displays the expected signs due to the negative and strong relationship between the unemployment rate and GDP growth. The unemployment rate falls as the GDP increases and vice versa.

Additionally, the growth of the GDP is positively impacted by exchange rates. It implies that as the exchange rate rises, so does the GDP. Economic growth causes the budget imbalance to shrink. Furthermore, based on our findings, it significantly affects GDP growth. Finally, our last independent variable, trade volume, contributes to a rise in GDP growth. Because there will be fewer imports and more exports, there will be an increase in foreign reserves, which will improve GDP. We found that all the chosen variables were appropriate for inclusion in the research using diagnostic tests.

Following policies can be recommended by considering the research results, such as the Fiscal deficit can be made positive if the government uses all the debts on development projects instead of wasting them. These development projects will create jobs for the people, reducing the unemployment rate in Pakistan. Moreover, trade can be enhanced by increasing the exports of that country. An increase in exports will bring more foreign exchange which can strengthen our currency. It will also increase the foreign reserves and reduced dependence on foreign debt.

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