



Research Article

## **Impact of Exchange Rate, Budget Deficit and Money Supply on Economic Growth: An Analysis from Pakistan**

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### **Abstract**

As a small economy, Pakistan is actually or meaningfully feeble to the external shocks with its trade relations regarding trade. The economic strategy has a significant effect on the exchange rate policy for Pakistan. In this research, we have tried to highlight effects of exchange rate, budget deficit and money supply on economic growth of Pakistan by using data from 1986 to 2024. The economic growth was used as dependent variable. However, exchange rate, budget deficit, money supply and trade openness were taken as independent variables. The authors have used OLS regression model for this analysis. The findings showed that exchange rate has increased economic growth of Pakistan economy. Moreover, trade openness affected positively the growth of the economy. Finally, money supply has also increased the welfare of the economy. In addition to it, budget deficit has resulted in decreased growth in this analysis. The study suggested for more stable environment for increasing investment, production and economic growth. There should be more capital accumulation for more growth. Additionally, country must improve the volume of exports and trade to have more economic growth. Finally, there should be less domestic shocks.

Keywords: Exchange rate, Money supply, External shock, Pakistan.

## **Introduction**

To maintain the growth in the financial system of a state, it is essential to ensure the energy supply, which is an essential input. The actuality that current account deficit is one of the fundamental macroeconomic fragilities of the economic system in a state increases the significance of the work done and to be done on this topic covering the precedent 2 year-period when the energy prices went down. Capital inflows are shared in nations of underdeveloped states. The foremost methods of capital inflows include foreign direct investment, workers' remittances, and portfolio investment. Such flows have extremely augmented over the past years and the composition and extent of the different capital flows have practiced noteworthy variations over the previous decade (Ibhagui, 2019).

Remittances have been recognized as the major financial flows to emerging economies, frequently exceeding foreign direct investment and official development assistance. They are referred to as monetary done by migrants to their households and groups of people in their country of origin, either through proper channels for instance, banks and money transfer operators, or through informal networks (Ratha, 2013). The exchange rate significantly manages the global business. It is the cost of home money with regard to overseas money. Moreover, it is the cost at which home money is altered into distant money (Gillis et al., 1996). It is unchanging, hovering, or there occurs some difference between the two. For a fixed rate of exchange, home

money cost for overseas money might be decreased or greater than before, as on the purpose of foreign exchange administration, through depreciation or revaluation, respectively. For a floating exchange rate, the cost of home money against overseas currency could be diminished or greater than before during depreciation or appreciation, which is influenced by the market fundamentals before, as an idea of foreign exchange strategy.

Trade deficit is related by means of the foreign exchange funds. An elevated trade shortfall tends to decrease the foreign exchange reserves. Having such reserves is necessary for outside businesses to nations whose currencies hardly seem to have reserve money. Therefore, keeping up firm stage of foreign exchange reserve is a strategy purpose going to economies by non-reserve money. These are liquid overseas possessions accessible to the central bank to interfere in foreign exchange market to hold up its financial and foreign exchange policies. Pakistan is even yet facing to with issues on mutually the local and worldwide fronts, one of the main issues amongst them being the war against radicalism, the energy crisis, and the impulsiveness of Pakistan's foreign inflows. When a nation is indulged in debt, the just technique to get out of it is to borrow funds from additional economies. The budget deficit is one of the most simple instrument that analysts have at their disposal to assess the condition of economy's wealth (Khieu, 2021). The economic inequity is an important obstruction that numerous underdeveloped economies have to control issues. The deficit generates an adverse environment for the administration to work in. The unfounded growth of the money supply is inadequate, and the exchange rate is steady, so as to stop inflation (Azra, 2020). Due to their inadequate ability to lift revenue and assemble home resources, in 1960, Pakistan's BD % of GDP was 2.1, in 1970 was 5.3%, and in 1980 was 7.1%. The deficit was expected to be lessened and maintained at 4% of GDP in 1990 but in its place, it remained at 6.9% of GDP, merely slightly healthier than the shortfall of the 1980s. The average annual BD was 4% from 2001 to 2010. From 2010 to 2013 it averaged 7.4% of GDP, but in 2014 it was decreased to 5.5%. Targeted development expenses on the low end and non-tax revenues on the high end resulted foe such development. The government gap shrank additional in 2015-2016, in place of a lesser share of GDP. Managing existing expenditures and raising tax collections assisted in bringing the fiscal deficit down to 4.6% of GDP in 2015-2016 from 5.3% in 2014-2015 (Hassan et al., 2020).

Sugema (2005) analyzed the effect of trade on the exchange rate in Indonesia. Findings indicated that devaluation resulted in an improved trade balance of the Indonesian economy. However, the imports affected the exchange rate much. Ratha (2007) focused on remittance flows in Mexico. It was found that there was a high flow of remittances during financial crisis of 1995 in Indonesia and in Thailand in 1995. The increased remittances tended to lessen financial strain that resulted due to disaster. Such inflows were favor for aggregate demand and much growth. Rafiq et al. (2010) explained that how did the fiscal deficit affect the exchange rate and growth in United States. It was found that fiscal deficit affected very strongly the exchange rate in UK and US. Irhan et al. (2011) focused on link of trade balance and exchange rate depreciations in Turkey. Result indicated that exchange rate improved the trade balance in Turkey. Ogba (2014) emphasized on the impact of budget deficit on trade balance in Nigeria. The authors have used OLS regression technique for this analysis. Findings showed a unidirectional relationship between budget deficit and trade balance. It was also found that budget deficit affected positively the trade balance. The study suggested for policies regarding increased taxation and decreased expenditures. Turhan et al. (2016) used the CDCC model and compared relationship between oil prices and exchange rates of G20 members. Findings indicated that there was a negative relationship between the oil prices and exchange rates of the countries. Nusair (2015) found that how did oil price shocks affected the currencies of Asian economies. Results pointed out that oil shocks had asymmetrical influences on exchange rates and such effect was dependent on the current market conditions. By using data from 1991 to 2016, Başarır and Erçakar (2016) investigated that how did raw oil prices and exchange rates on current account deficit in Turkey. They used VEC model to find the results. A mutual granger causality relationship was detected between crude oil prices and current account deficit factors. Nketiah et al. (2019) investigated that how the remittance affected the real exchange rate by using data from 1970 to 2016 in Ghana. The OLS regression showed that government public debt, trade openness and capital

flow significantly affected the real exchange rate in Ghana. It was found that remittance and terms of trade hardly affected the real exchange rate. However, the changed real exchange rate improved the economic growth of the economy.

Exchange rate affects the economy's trade competitiveness, as indicated by Rauf et al. (2020). They used data from 1986 -March 2019 and also used ARDL model for this research. The study found a unidirectional and bidirectional relationship ranging from the oil price to the exchange rate. The result also showed the increased requirement for oil due to the high exchange rate. Aggarwal and Karwasra (2024) analyzed the association of trade openness and economic growth by using data from 2000 to 2022. The findings indicated that trade openness and economic growth were positively related. Hyland and Kawaleck (2025) used data from 1975 to 202 to check the relationship between exchange-rate expectations and time-varying foreign-exchange risk premia in US and UK. It was pointed out that unexpected changes in the debt ratio were split equally between revisions to expected future surpluses and discount-rate news. It was shown that surplus innovations recovered from market prices materially affected the bilateral real exchange rate. The model showed "fiscal contagion" across sovereign balance sheets. Al-Sawaie et al. (2025) examined the association of budget deficit and growth in Jordan from 2008 to 2023. The authors have used ARDL model for the analysis. Findings showed that the budget deficit decreased economic growth. The study suggested for effective strategies for collecting taxes and managing public sector expenditures. By using data from 1981 to 2024, Ekpo et al. (2025) focused on the influence of fiscal deficit on inclusive economic growth in Nigeria. The ARDL result showed that fiscal deficit increased economic growth.

This research highlights the effects of exchange rate, budget deficit, money supply and trade openness on the economic growth of Pakistan economy. In this research work, it is find out that how does economic growth is affected by of exchange rate, budget deficit, money supply and trade openness in the Pakistan economy. External shocks, money supply and trade openness affect the economy of Pakistan. The existing work has a noteworthy contribution of very significant factors, including money supply and budget deficit, affecting economic growth in case of Pakistan.

### **Hypothesis**

The study hypotheses are given as:

1. H<sub>1</sub>: There is a positive relationship between the exchange rate and economic growth.
2. H<sub>2</sub>: Higher the money supply, the higher the economic growth.
3. H<sub>3</sub>: Budget deficit affects economic growth very positively.
4. H<sub>4</sub>: Trade openness and economic growth are positively associated.

For the past decade, the importance of external shocks has increased quickly in the economy. The research work has emphasized on the factors such as exchange rate, budget deficit, money supply, and trade openness on the economic growth of the economy. This research will provide good suggestions for the high growth and development of the economy.

### **Methodology**

To check the relationship between the exchange rate, budget deficit, money supply and trade openness, and economic growth by following a simple OLS regression model in this analysis. We have utilized data from 1986 to 2024. We have used economic growth as the dependent variable and budget deficit, exchange rate, money supply and trade openness as independent variables. We have taken data from the World Development Indicators. Here, the exchange rate is the external shock affecting the growth of the economy. Data for all variables have been used from the World Development Indicators.

The model is given as in the following:

$$GDPPCT_t = \beta_0 + \beta_1 BUGDEFIt + \beta_2 EXCHRT_t + \beta_3 MSUPLY_t + \beta_4 TRADOPT_t + \mu_t \quad (1)$$

Where:

GDPPCT<sub>t</sub> = Gross domestic product per capita (\$US)

EXCHRT= Real exchange rate

BUGDEFTt = Budget deficit

MSUPLt = Broad money supply

TRADOPt= Trade openness (Exports and Imports of goods and services as % of GDP)

 $\mu t$  = Error term

## Results and Discussion

In this section, we first discuss the data and do some groundwork analysis of it. Data in Table 1 shows that GDP per capita is 125168.9 percent on average and the value of the standard deviation is less than the mean value. The exchange rate is 108.6722 percent on average in the economy. The mean value of budget deficit is -5.735897 percent. The variations have been observed in it from -7.7 percent to 3.3 percent. However, the mean value of money supply is 43.77951 percent on average. Finally, trade openness is 30.86312 percent on average in the Pakistan economy. Table 2 shows the results of ordinary least squares.

Table 1. Summary statistics.

Variables	Mean	St. deviation	Minimum	Maximum
GDP PCT	125168.9	24230.91	88586.98	168259.3
EXCHRT	108.6722	9.754336	96.48675	123.9278
BUGDEFT	-5.735897	1.124485	-7.7	-3.3
MSUPL	43.77951	6.2122333	28.6895	54.52639
TRADOP	30.86312	4.517112	21.45996	38.49932

Table 2. Regression Results, Dependent variable is economic growth.

Variables	Coefficients, Standard Errors and Z-values
EXCHRT	0.0040* * 0.0017 (2.40)
BUGDEFT	-0.0420* * 0.0130 (-3.22)
MSUPL	0.0049* * 0.0023 (2.11)
TRADOP	0.0105* * 0.0036 (2.94)
C	0.7636 0.1898 (4.02)
F-Statistics	14.07
Probability	0.000
R Square	0.62
Adjusted R-Square	0.57

\*\* p&lt;0.05, \* p&lt;0.1.

The random effect results are highlighted in Table 2. The exchange rate is a noteworthy factor affecting the economic growth of the economy. It has been observed that the exchange rate may affect economic growth very positively. The findings show that an increase in the exchange rate has resulted in 0.0040 percent in economic growth. The reason may be that this change will result in more production and growth. The result is supported by Rauf et al. (2020). The budget deficit also affects the economic growth of the Pakistani economy. It may increase the economic growth of economies. The result has shown that a one percent increase in the budget deficit results in decreased economic growth by -0.0420 percent. The result is favoured by Al-Sawaie et al. (2025).

Money supply may influence the economic growth of the nations. It has been observed that one percent increase in money supply has increased economic growth by 0.0049 percent. In addition to money supply, trade openness is also a significant factor in affecting the economic growth of the economy. More production appeals for more investment chances by the entrepreneurs. This resultantly enhances employment and more employees' job chances. It is found that a one unit increase in trade openness resulted in increased economic growth by 0.0105 percent in Pakistan economy. The finding is supported by Aggarwal and Karwasra (2024). Unemployment rate is another factor affecting flow of foreign direct investment from abroad. The result shows that one one-unit increase in unemployment rate has decreased foreign direct investment inflow from abroad by 0.0077 percent.

## Conclusions

In this section, we have focused on the influence of exchange rate, trade deficit, money supply and trade openness on economic growth of the Pakistan economy. We have used 30 years' time series data for this analysis. The trade deficit and money supply affect positively the economic growth of the Pakistani economy. Main area in this existing work was to conclude the influence of external shocks on economic growth. It is concluded that trade deficit negatively affects growth. Even as, some work shows that the exchange rate is positively associated with growth. The study result also highlights that trade openness has enhanced the economic growth of the economy. Currently, Pakistan economy is facing numerous confronts regarding inflation, political instability, trade deficit, financial crises, and technical progression. All such issues erect a gap between well-off and the deprived, which make uneven wealth distribution in addition to natural resources. However, these challenges should be removed on some suggestions. The study suggests that for a more stable political and financial environment to have more growth. There should be more investment and usage of technology in all sectors of the economy to have more growth and development.

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