

Impact of Foreign Direct Investment, Government Expenditure, Inflation Rate & Oil Price on Economic Development of Pakistan

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Abstract

This study is aimed at determining the impact of foreign direct investments, government expenditures, inflation rates, and oil price on GDP growth of Pakistan. A time series data on annual basis is used for the period of 1990 to 2016, which is taken from different sources. The significance of variables has also been checked which shows that inflation rates, foreign direct investments and government expenditures have significant impact on GDP of Pakistan while oil prices has an insignificant impact on GDP growth of Pakistan

Keywords: *Foreign Direct Investment, Economic Growth, Inflation Rate, Oil Prices*

1. Introduction

Malik and Chowdhury (2001) defined the economic growth as the Changes in the Gross domestic product (GDP) of the country. Pakistan's Economy is not having an adequate development over past six years. Numerous factors like high inflation rate, decrease in exports, increase in imports, political instability, exploitation, defective lending system with high interest rate, and over population are liable for this inadequate economic growth.

Shahzad and Al-Swidi (2013) determined that when a country's economic growth rate, exports and imports are very high then the country will exert a pull on a higher amount of foreign direct investment. On the other hand, the flow of foreign direct investment into an economy will inversely be influenced by inflation.

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Wagner's law (1883) and Keynesian approach (1936) have examined that there is an essential association between economic growth and government expenditure. Wagner's law states that public expenditures are caused by the national income. Whereas, the Keynesian approach focused that effective economic growth can be improved by government expenditure. Though at the same time, the process of economic growth may slow down when extremely high government expenditure can crowd out private investment.

Furthermore, Petty (1674) explained that GDP growth rate refers to change in GDP in terms of percentage from one period to another and the value is generally intended on annual basis. Kuznets in 1934 prepared further modification in it. He determined that when GDP has a declining trend for two successive quarters, the economy will be in recession while when GDP grows too rapidly and has rising development then doubts of inflation rate arises, and, consequently, the interest rate will be increased by the central bank in order to encourage the economy (World Bank, 2015).

The impact of microeconomic variables on GDP has been determined previously in many countries including Pakistan. However, the effect of macroeconomic variables (foreign direct investment, government expenditure, inflation rate and oil price) on GDP of Pakistan has not been determined for the recent years. Consequently, this research has been conducted for the period of 1991–2016 in order to include the recent years and to determine the relationship over a long period of time to get a clear picture.

2. Literature Review

All countries of the world whether developing or developed, have economic growth consistency as the most essential goal of macroeconomic policy. Diverse macroeconomic variables such as foreign direct investment (FDI), inflation, exchange rate, government expenditure, export/import, balance of payment (BOP), interest rate, oil price etc. can affect any country's gross domestic product.

Moosa, (2002) concluded that the growth and productivity of a host country is affected by both government expenditure and FDI. In majority of the studies the impact of FDI on economic growth is positive, however, the degree of this kind of impact relies on capability of home nation that comprises of trade policies, level of human capital, infrastructure, economic and institutional development (Makki and Somwaru, 2004).

Inyiama (2013) suggested that GDP can be affected by macroeconomic variables for several reasons and found out association among GDP of Nigeria and interest rate, exchange rate and inflation rates for the period of 1979 to 2010. The result shows indirect association between GDP of Nigeria with a single digit rate of inflation and a direct association among GDP of Nigeria and interest rate and exchange rate.

Ahmad and Ali (2013) conducted a research for the period of 1975-2011 to find out the affiliation among economic development of Pakistan and exchange rate, inflation rate and foreign direct investment. The results show indirect association between exchange rate and inflation rate.

2.1.Foreign Direct Investment and Economic Growth

Foreign direct investment is a venture organized to gain a long-standing management concentration in an enterprise for extended working in a country other than that of financial specialist clear as per citizenship (World Bank, 1996). FDI could perform an affirmative role in improving a state's GDP and promote financial growth. Sun (1998) has established that there is a positive correlation between GDP and foreign direct investment in China. Moreover, Alfaro et al. (2003) has argued that when there is a well-developed financial market then foreign direct investment encourages GDP.

Borensztein et al. (1998) and Findlay (1978) concluded that a positive effect of FDI on GDP is linked with the administration performance, developed technology and marketing skills by the foreign organization such that the host nation will profit from it. Additionally, according to Fan and Paul (2000), through different ways, the foreign direct investment contributes towards GDP development. Through being a cause of resources formation, (containing the formation of manufacturing works), innovative machinery and better transportation, it openly influences growth.

2.2.Government Expenditure and Economic Growth

The fiscal policies have some significant instruments including Government expenditures. Different extremists recommended different views about Government expenditure and GDP. It is presented by most extremists (Classical) to facilitate the refusal of association between economic growth and Government expenditure. However, this was

rejected by the Keynesians. They recommend that GDP is wholly affected by fiscal expansion. According to Lin (1994), the maintenance of a clear relationship between Government expenditure and GDP or Economic growth is essential for a successful growth development strategy. The government expenditure and GDP has affirmative relationship which was predicted by some of the economic theories.

Furthermore, Barro (1995) came up with providing some helpful implications, which are concerned with the choices on the subject of Government expenditure policies. The study concludes that when there is a boost in Government spending on some advance actions that results in development of growth then it provides support to raise the saving rate up to a maximum value.

Additionally, Fan and Rao (2003) suggest that government expenditure impacts the GDP differently in different countries. The GDP in Asia is strongly affected by government expenditure or investment in agriculture, defense and education. Different resources and their allocation to different sectors (education and health) have been identified by Asghar et al. (2011) that add value to economic growth development and in order to spend more in health and education sector, the government must commence policies to encourage the private sector.

Similarly, Ranjan and Sharma (2008) examined that there is an affirmative association between GDP (Economic growth) and Government expenditure. The government expenditure affected the GDP differently as the government expenditure has positive affect in case of investment in education sector.

Furthermore, according to Abdullah (2000) the economic growth or GDP are associated with the government expenditure and it is reported that for the economic performance, the government size is very important. It is also advised by him that government must boost the expenditure activities in areas such as infrastructure, social, and economic activities.

2.3. Inflation and Economic Growth

The relationship of inflation rate and GDP has been researched widely by many researchers. Sarel (1996) observed that inflation has somewhat positive effect on GDP growth, if inflation rate is 8% at annual average. However after 8%, it has strong a negative effect on GDP. Similarly, Hussain (2005) proposed that 4-6% rate of inflation for Pakistan is supportable for GDP growth but he didn't discover any specific threshold level of inflation.

Furthermore, Iqbal (2009) has concluded that almost 6% inflation can help for a country's economic growth while above 6% may lead to adverse relation with economic progress. According to him single digit inflation level is better for Pakistan's economy.

However, Fisher (1993) studied the role of macroeconomic factors in growth to find association of inflation and economic growth for 93 countries. His study results showed that the channel through which inflation effects GDP growth negatively effects growth by declining investment and production growth.

Similarly, Barro (1995) observed that by considering variables such as fertility rate and education constant, there is a significant negative relationship between inflation rate and economic growth. Quartey (2010) also concluded that inflation is negatively associated with economic growth. He proposed that when inflation rate is low during a particular time period, the economic performance is high.

2.4. Oil Price and Economic Growth

The vital and main resource of creating power is oil. It contributes to produce 40% of the world's energy. Pakistan is totally dependent on importing oil because it produces only 20% of its requirement from internal resources and the remaining 80% is imported from Middle East. Hamilton (1983) conducted a research and concluded that prices of oil have specific effects on inflation, GDP growth and volatility in financial growth. The insights gained from the research illustrate key affiliation among prices of oil, inflation, GDP growth and volatility in financial growth.

Nooreen et al. (2007) explained that in order to run economic mechanisms in Pakistan, the country deeply relies on oil and its import. Oil is significantly one of the key

factors of macroeconomics, which has a very strong relationship with the financial markets in Pakistan and the economy. HusingYu (2007) concluded that it is not compulsory that rise in oil prices will always lead to decrease in GDP growth. He also concluded that there is a nonlinear association between Germany's GDP and actual prices of crude oil.

Rasmussen & Roitman (2012) concluded that when oil prices increase, it leads to increase in import bills and gross domestic product, which indicates direct affiliation among GDP and prices of oil for more than 80% countries of the world. Farzanegan and Markwardt (2009) indicated that in Iran's economy, there is strong direct association between oil price fluctuations and manufacturing growth. Olomola et al. (2006) found a positive association between oil prices and GDP of Nigeria, which may be due to the reason that Nigeria is a trading nation of raw petroleum.

On the basis of the above literature, following literature has been developed:

H_{01} = Oil Prices has no impact on Economic Growth of Pakistan

H_{02} = Inflation has no impact on Economic Growth of Pakistan

H_{03} = Government Expenditure has no impact on Economic Growth of Pakistan

H_{04} = Foreign Direct Investment has no impact on Economic Growth of Pakistan

3. Methodology

3.1. Data

The data has been collected from World Trade Economy of Pakistan for time period 1991 to 2016. Since this study is based on macro variables so all the macro variables are considered as population and their data is collected from different sources i.e. World Bank website, Tradingeconomics.com, Federalreserve.gov, Asian Development Bank. The sample variables are derived on the bases of data availability for last 26 years.

3.2. Variables

The gross domestic product (GDP) is used as proxy for dependent variable i.e. economic growth. GDP is the final value of the goods and services produced within the geographic boundaries of a country during a specified period of time, normally a year. GDP growth rate is an important indicator of the economic performance of a country.

3.2.1. Independent Variables

Foreign direct investment, Government expenditure, inflation rate and oil price are taken as independent variables. Oil Price refers to the spot price of one barrel of the benchmark crude oil.

3.3. Model specification

The model will specify the impact of oil prices, inflation, foreign direct investment and government expenditure on economic growth.

$$GDP_t = f\left(\begin{array}{c} \text{oil prices, inflation, foriegn direct investment} \\ \text{and government expenditure} \end{array}\right)_t \dots 1$$

Whereas, the econometric regression model is given below

$$\text{LnGDP}_t = \alpha_o + \beta_1(\text{OP})_t + \beta_2(\text{INF})_t + \beta_3(\text{LnFDI})_t + \beta_2(\text{LnGE})_t + e \dots 2$$

Where,

LnGDP = Natural log of Gross Domestic Product

OP = Oil Price

INF = Inflation

LnFDI = Natural log of Foreign Direct Investment

LnGE = Natural log of Government Expenditure

α_o = Constant

β = Beta (Standardized Coefficients)

t = time period

e = Error term

4. Analysis

4.1. Regression Analysis

Table 1: OLS Estimation Results

	Coefficient	Robust Std. Error	t-ratio	p-value
Constant	2.796	2.004	1.395	0.178
Oil_Price	0.318	0.191	1.667	0.110
Inflation	-0.034	0.006	-5.351	0.0001***
Ln_FDI	0.174	0.060	2.922	0.008***
Ln_GE	0.825	0.113	7.297	0.0001***

4.1. Interpretation of the results

As it can be observed that the impact of oil prices on economic growth (GDP) is insignificant. However, the impact of inflation rates, foreign direct investments, and Government expenditures on economic growth (GDP) is highly significant with 95% confidence interval. It shows that a decrease in inflation along with an increase in FDI and Government expenditure will cause an increase in economic growth i.e. GDP of Pakistan.

Table: 2: Statistics based on the weighted data

R-squared	0.905	Adjusted R-squared	0.887
F (4, 21)	49.882	P-value(F)	1.99e-10

The adjusted R-square is clarifying that model is explaining 88.70% of variations that take place in dependent variable because of independent variables. F value is greater than 4 it means that our regression model is a good fit.

4.2. Residual Analysis

Table 3: Multicollinearity

VARIABLES	VIF
Oil Price	1.272
Inflation	1.156
Ln_FDI	1.984
Ln_GE	1.683

Multicollinearity values for independent variables are less than 10, thus the model is not affected by Multicollinearity.

Table 4: Autocorrelation

No. of Observation	26
Durbin-Watson	1.807

Durbin-Watson value lies between 1.75 and 2.25 thus we can conclude that there is no issue of auto correlation.

Table 5: White's test for Heteroskedasticity

LM	25.464
P-value	0.030

After Heteroskedasticity test analysis, it was found that there is heteroskedasticity problem in the data collected, therefore, robust analysis was applied to correct Heteroskedasticity issue in regression analysis.

5. Findings and Conclusion

This research was conducted to find the effect of macroeconomic variables such as foreign direct investment, government expenditure, inflation and oil price on GDP of Pakistan. By conducting the research using Ordinary Least Square Method (OLS), it has been determined that foreign direct investment (FDI) has a positive and direct impact upon GDP of Pakistan as it is also indicated in the researches done by Ahmad and Ali (2013), Alfaro et al. (2003), Shan (2002) and Sun (1998). The impact of government expenditure on GDP of Pakistan is also observed to be significant and positive, which is also indicated in previous researches conducted by Lin, S. A. Y. (1994), Baro (1990) and Asghar et al (2011). The impact of inflation rate on GDP has been observed to be significantly negative as is also observed in the several previous studies such as Saaed (2007), Barro (1995), Hussain (2005) and Ahmad and Ali (2013). The impact of oil price on GDP is observed to be insignificantly positive as is also shown in researches conducted by Nooreen et al., (2007), Kilian (2009), Bauch (2011), Rasmussen & Roitman (2012), Farzanegan and Markwardt (2009) and Olomola et al., (2006).

This research study has great importance for stakeholders, investors, managers, economists and policy makers as the purpose of the study is to realize the effects of macroeconomics variables i.e. foreign direct investment, Government expenditure, inflation rate and oil price on the GDP growth in Pakistan. Economists and policy makers will be able to propose certain policies through this study in order to control fluctuation in these factors and achieve high GDP growth in Pakistan.

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