

**IMPACT OF FOREIGN DIRECT INVESTMENT ON ECONOMIC GROWTH OF PAKISTAN**Khuram Naftali<sup>1</sup>**ARTICLE DETAILS****ABSTRACT****History****Revised format:**

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**Keywords**

GDP, FDI, DI, Inflation, ELF, OLS.

This study investigates the impact of FDI on Economic Growth of Pakistan. For this purpose, time series data from 1990-2018 has been collected from World Bank, Annual report and Economic Survey of Pakistan. For empirical analysis OLS technique has been used. Results of the calculations through regression analysis confirms that the variables Direct investment, employed labor force and education expenditures which are positive and are statistically significant which means that all three variables does affect economic growth. And Foreign direct investment is statistically significant and negative impact of the economic growth, Inflation is statistically insignificant and negative impact of the economic growth.

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FDI in Pakistan has remained important subject for the policy makers and economists since 1960s there have always been views of public in favor and against FDI. Some economists believe that FDI has direct relationship with the economy of any country. (Bibi et al., 2014). Increased productivity is a key driver of growth, and investment plays a key role in this. FDI brings technology and jobs to a country. It encourages the adoption of innovative production processes and increases productivity by introducing competition into the economy. Foreign direct investment also educates newcomers to management and organisational skills, as well as uncovering hidden economic markets. It lowers the obstacles to technological adoption and raises the quality of labour and capital inputs in the host economy (Anwar & Sun, 2012).

The importance of FDI as a growth driver in developing countries has long been recognised. FDI can support economic growth in the host country through a number of different routes. Technology transfer and spillovers are the most crucial (Naz et al., 2015). FDI is a crucial tool for correcting these flaws and promoting Pakistan's economic progress. FDI is critical to the growth of developing countries. One rationale is that FDI aids in the transfer of advanced technology know-how while also increasing employment in host countries. Economists argue that FDI puts pressure on indigenous enterprises while making markets more competitive through new technologies and high-standard management. Furthermore, FDI provides important and beneficial externalities to emerging economies, such as labour management and training opportunities, raising the standard of production. By transferring technology, emerging countries' economy are boosted, allowing them to stand on their own two feet. By doing so, developed countries are able to get the most out of their investments, while host countries are

able to boost their weak sectors and create more job possibilities. Pakistan, being a developing country, has struggled to improve all aspects of its economy since its independence.

### Foreign Direct Investment and Economy of Pakistan

In its report, World Bank studied the Pakistani economy for the period from 1961 to 2015 and concluded that tentative value for country remained 5.19 % with approximate value of 0.47 for the period 1971 that again stressed up to 0.27 %; whereas it was further enhanced to 11.35 % during 70s. The ratio of economic growth is calculated with existing GDP change from one calendar year to another calendar year. It foresees whether the level of production has remained at increased level or otherwise. If increased what is level and decrease in vice Versa (Javaid, 2016).

### Literature Review

The purpose of this research is to determine the influence of FDI on Pakistan's economic growth. A foreign direct investment is a corporation or entity's direct investment in another country. The market worth of all final products and services produced inside a country in a given period is referred to as GDP. It is frequently used as a gauge of a country's development and standard of living. When the cost of most products and services continues to climb, this is referred to be inflation. The consumer price index is used to calculate it (CPI). Capital inflow occurs as a result of FDI, and a country's resources grow (Sarwono, 2016).

After the industrial revolution, FDI is contemplated as one of the major component of the economic development. FDI helps the host country to improve infrastructure, standard of living and living conditions of general public (Mukhtiar et al., 2019).

### Methodology

Time series data for the period 1990-2018 has been collected from secondary sources. Data source is Annual reports of Pakistan Economics Survey and World Bank (WB). To see the impact of FDI on economic growth in case of Pakistan, we use the following regression equation.

$$GDP = f (FDI, EDUEXP, DI, EMPLF, INF)$$

Econometric Model of the study is.

$$GDP = \beta_0 + \beta_1 FDI + \beta_2 EDUEXP + \beta_3 DI + \beta_4 EMPLF + \beta_5 INF + \mu_i$$

GDP= Gross Domestic Product

FDI= Foreign Direct Investment

EDUEXP= Education Expenditure

DI= Domestic Investment

EMPLF= Employed Labour Force

INF= Inflation

$\mu_i$  = Error Term**Results****Descriptive Statistics**

	GDP	EDUEXP	FDI	DI	EMPLF	INF
Mean	135996.2	2002.551	1559.91	20465.34	44.66677	8.367535
Median	97977.77	1100.194	926.1762	14675.13	43.22	7.921084
Maximum	312570.1	6803.804	5594.2	46336.94	61.71	20.28612
Minimum	40010.42	233.6538	249.463	6921.704	29.04	2.529328
Std. Dev.	88702.78	2055.291	1479.34	12073.64	10.83404	4.162791
Skewness	0.658295	1.357466	1.488129	0.634877	-0.02788	0.637442
Kurtosis	2.012828	3.362291	4.460008	2.142859	1.463439	3.417818
Jarque-Bera	3.272069	9.065056	13.27927	2.835914	2.856654	2.17488
Probability	0.194751	0.010753	0.001308	0.242208	0.23971	0.337078
Sum	3943890	58073.97	45237.4	593494.8	1295.336	242.6585
Sum Sq. Dev.	2.20E+11	1.18E+08	61276515	4.08E+09	3286.538	485.2072
Observations	29	29	29	29	29	29

Table shows the descriptive statistics for each variable. The average value measured by mean and median, however, the variation measured by standard deviation. Each variable showing its average value, but these are just average and it may vary from time to time and the variation in GDP is measured by standard deviation as 88702.78 %, 2055.291 % in EDUEXP and similarly other variables are also showing the variation in the data. The maximum value and minimum for each series have also been mentioned.

The value of the skewness is showing that the data of GDP, DI, EMPLF and INF is negatively skewed as they have skewness as negative, while other variables have the data as positively skewed. The value of Kurtosis is showing the peakedness of curve of the data. The value of kurtosis of FDI, INF is greater than 3, which means the curve is leptokurtic and other variables have their curve as platykurtic as the kurtosis for these variables is less than 3. The Jarque-Bera for each variable is showing the probability greater than 0.05 except FDI so these two series are non-normal.

**Correlation Matrix**

	EEXP	FDI	DI	LF	INF
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EEXP	1	0.479845	0.578247	0.593767	-0.50355
FDI	0.479845	1	0.834527	0.765258	0.092447
DI	0.578247	0.834527	1	0.963086	-0.10525
LF	0.593767	0.765258	0.900086	1	-0.27843
INF	-0.50355	0.092447	-0.10525	-0.27843	1

Correlation Matrix is used to check the statistical association among the variables. The relationship will be shown positive or negative between the variables if the working variables are increase or decrease together. However, if one variable is increasing and other is decreasing then the correlation between the variables is negative. Nature of the correlation is shown through the signs of the coefficient. Outcomes of the table depicts the associations of the sequence between each other.

EEXP is positively correlated with the Foreign Direct Investment (FDI), Domestic Investment (DI), Labour Force (LF) and Inflation (INF).

FDI is positively correlated with the Domestic Investment (DI), Labor force (LF) and Inflation (INF). Domestic Investment (DI) is positively correlated with the Labor force (LF) and Inflation (INF). Employed Labor force (LF) is positively correlated with the Inflation (INF).

**Auto-Correlation**

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Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.12803	Prob. F (2,21)	0.3425
Obs*R-squared	2.813276	Prob. Chi-Square (2)	0.245

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By applying the Breusch-Godfrey Serial Correlation LM Test the results of the study predict that auto-correlation is existing in the current study. F-Statistic is 1.12803 and obs\*R-squared is 2.813276. P. Value of the test is 0.3425 and Square (2) is 0.245 that is less than 5%. The presence of auto-correlation has negative impact on the data analysis

**Heteroskedasticity Test**

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Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.656965	Prob. F (5,23)	0.6594
Obs*R-squared	3.624143	Prob. Chi-Square (5)	0.6047

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Scaled explained SS	1.272634	Prob. Chi-Square (5)	0.9377
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By applying the Heteroskedasticity Test, the outcomes of the study show that heteroscedasticity that is the error term problem exist in the current study. Heteroskedasticity test Breusch-Pagan-Godfrey show the results that F-Statistic is 0.656965, obs\*R-squared is 3.624143 and Scaled explained ss is 1.272634. P. Value of the test is 0.6594, square (5) is 0.6594 and square (5) is 0.9377 that is less than 5%.

### Heteroskedasticity Test: White

Heteroskedasticity Test: White			
F-statistic	0.709972	Prob. F(20,8)	0.7473
Obs*R-squared	18.54928	Prob. Chi-Square(20)	0.5513
Scaled explained SS	6.513662	Prob. Chi-Square(20)	0.998

Heteroskedasticity show the result that F-Statistics is 0.709972, obs\*R-squared is 18.54928 and scaled explained is 6.513662. P Value of the test is 0.7473, square (20) is 0.5513 and square (20) is 0.998 that is less than 5%.

### Regression Results of OLS Estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EEXP	0.014953	0.020711	0.722009	0.4779
FDI	-0.02909	0.03617	-0.80431	0.4298
DI	0.713016	0.101388	7.032558	0
INF	-0.00301	0.032595	-0.0922	0.9274
ELF	0.976941	0.253396	3.855393	0.0009
EEXP*DI	0.210082	0.104412	2.012042	0.0566
EEXP*ELF	0.541275	0.311142	1.739643	0.0959
R-squared	0.994114			
Adjusted R-squared	0.992509		F-statistic	619.2652
Durbin-Watson stat		2.0152		

This table shows the OLS results of Foreign direct investment on economic growth of Pakistan. GDP (Gross Domestic Product) is dependent variable while the Foreign Direct Investment (FDI), Domestic Investment (DI), Education Expenditure, Inflation, Employee labour force are the independent variables. Coefficients of the variables show the strength of the variables but positive and negative signs of the coefficients show the direction of the variables either they are working in the same direction or opposite.

Results of the table show that when Direct Investment will increase by 1 unit then the change in the GDP will be 0.713016 unit. Direct Investment has statistically significant and positive impact on the GDP of the Pakistan.

Results show that when Education Expenditure will increase by 1 unit then the change in the GDP will be 0.014953 unit. Education Expenditure has statistically significant and positive impact on the GDP of Pakistan, Employee Labor Force will increase by 1 unit then the change in the GDP will be 0.976941 unit. Employee Labour Force has statistically significant and positive impact on the GDP of Pakistan,  $EEXP*DI$  will increase by 1 unit then the change in the GDP will be 0.210082.  $EEXP*DI$  has statistically significant and positive impact on the GDP of Pakistan,  $EEXP*ELF$  will increase by 1 unit then the change in the GDP will be 0.541275.  $EEXP*ELF$  has statistically significant and positive impact on the GDP of Pakistan, Inflation has statistically insignificant and negative impact on the GDP of Pakistan. And Foreign direct investment has statistically significant and negative impact on the GDP of Pakistan.

## Conclusion

The core objective of this thesis is to explain the impact of FDI on economic growth in Pakistan of the period 1990-2018. For empirical analysis OLS technique has been used. Results of the calculations through regression analysis confirms that the variables Direct investment, employed labor force and education expenditures which are positive and are statistically significant which means that all three variables does affect economic growth.

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