

Comparing the Impact of External Debt and Foreign Direct Investment on Pakistan's Economic Growth

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Abstract:

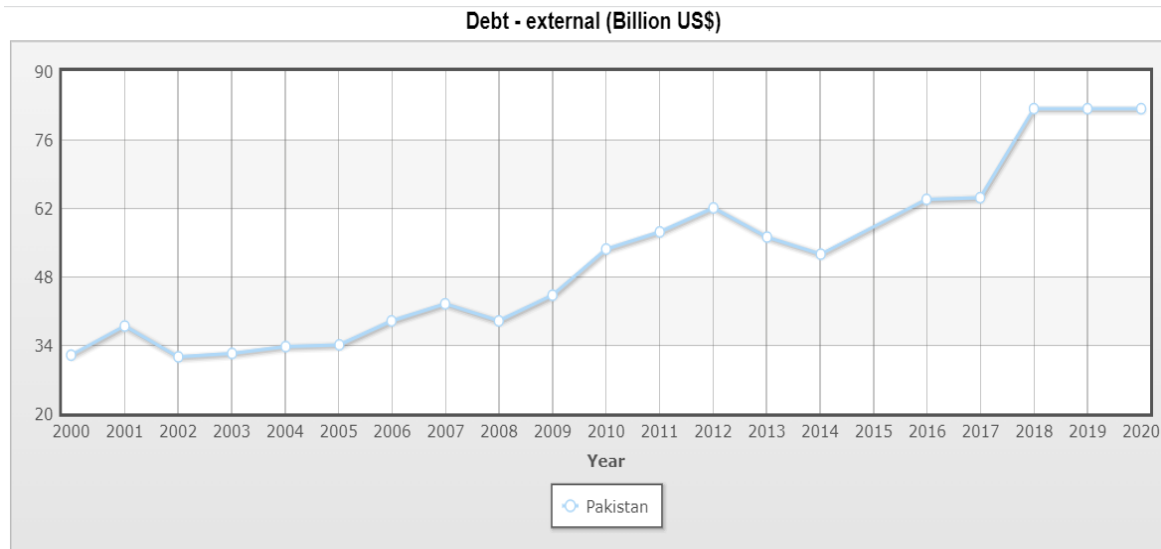
This research paper is intended to compare the impact of FDI and external debt on Pakistan's economy. To analyze how (FDI) and external debt have affected Pakistan's economic growth, this article uses gross domestic product (GDP) as a stand-in for an indicator of economic growth. The paper is focused on analyzing which out of both FDI and external debt are contributing towards the economy of Pakistan more. Applied method Pesaran et al. (2001) the ARDL is used to investigate the relationship between the study's variables. The 29 years from 1991-2019 are investigated and for analysis, data is collected from World Development Indicators (WDI). The findings suggested that external debt had a detrimental effect on Pakistan's economy, although foreign direct investment (FDI) and GDP were discovered to be positively correlated. Johansen's cointegration analysis technique was used to determine the variables' long-term connection with one another along with the ARDL technique. Because few prior research studies have examined the effects of FDI and external debt on the economy of Pakistan, this study is distinctive.

Keywords: External debt, Foreign direct investment, Economic growth, Gross domestic product, Pakistan.

1. Introduction:

FDI's during the 2020-21 fiscal year, Pakistan spent (84.65 percent) on debt repayment and interest expenses (Paracha, 2022). External debt is not the only financing source to bring the funds to the country; foreign direct investments (FDI) are essential for the expansion of the economy. To, answer this question of whether external debt helps the economy of Pakistan grow more or foreign direct investment; this research is focused on finding the answer to this question. Since its inception, Pakistan has received a huge amount of foreign aid from different channels in the name of financial and economic development. According to the Index Mundi site, Pakistan's external debt graph is represented in **Fig 01** given below: The graph shows the pinnacle of external debt in the year 2020.

Fig: 01



Source: Index Mundi

The FDI history of Pakistan since 1947, is such that initially Siemens was the first German company to be launched in the telecom industry of Pakistan. Onwards, a British firm named ICI chemical and pharmaceutical manufacturing company came into Pakistan then Unilever and Imperial Tobacco Company later Shell and Burma Oil. Later in the 50s and 60s after looking at the significant economic growth in Pakistan's economy, the FDI was discouraged (Javaid, 2016).

There are several research papers on studying the effects of FDI or external debt on Pakistan's economic growth, but to the best of our knowledge, very few of these studies compare the effects of these two factors on Pakistan's economy. Most of these studies focus on the economies of other nations. The time-series data is examined for the years 1991 through 2020 using the ARDL approach. The remaining sections of the study will be broken down as follows: the theoretical and empirical backgrounds for the research paper will come after the following one, which will provide a methodology and data section on the study; the results and conclusion will come after that.

1.2 Operational Definition of Variables:

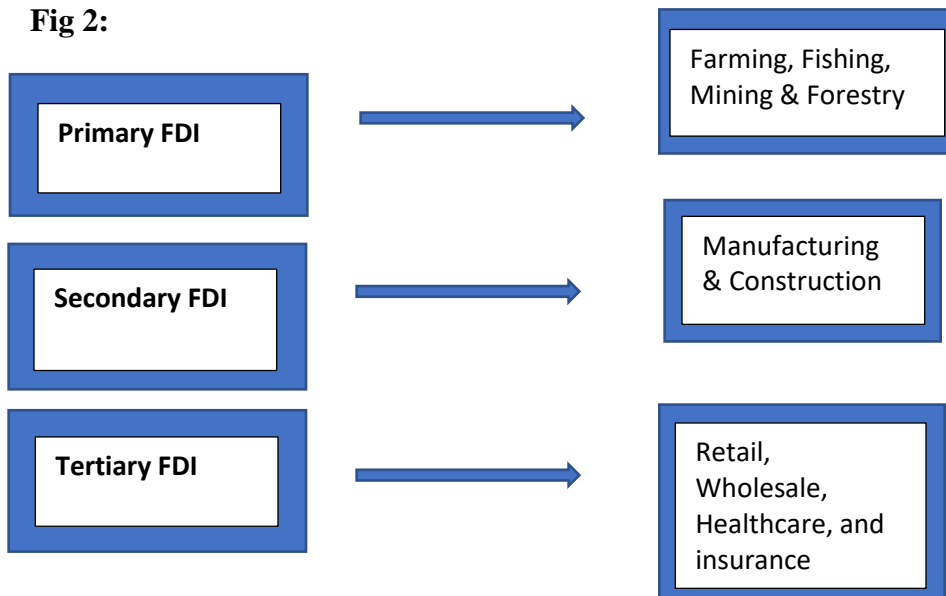
1) External Debt

A developing country borrows external debt from foreign lenders to improve its economic and financial conditions. Consequently, when external debts are not utilized productively, a country is burdened with servicing or repaying debts taken, resulting in debt crises. A default state is a state in which a country fails to pay back its debts, particularly a sovereign default. The burden of debt servicing leads to poverty and is a critical factor for the economy.

2) Foreign Direct Investment

The term "FDI" refers to cross-border investments made by foreign entities to another country to gain long-term benefits and it involves ventures, technology transfer, and expertise. FDI is also known for enhancing growth in developing countries by creating employment, technology, and skills and also improving socio-economic growth. FDI is a beneficial financing way to enhance economic growth according to (Makwembere, 2014) the economy is divided into three traditional sectors primary sector, secondary sector, and tertiary sector. The production of raw materials is a component of the primary sector like farming, fishing, mining, and forestry. The secondary sector deals with activities like manufacturing and construction that transform raw resources into completed goods and the tertiary deals with the service industry in that intangible goods and services are present like tourism, retail, wholesale distribution, banking, insurance, etc.

Fig 2:



Furthermore, FDI comes in two basic forms: brownfield and greenfield. While greenfield investments are recognized for establishing new facilities, brownfield investments are known for cross-border mergers and acquisitions.

3) Economic Growth

Maynard Keynes asserts that the idea of an economy is composed of four elements (consumption, investment, government purchases, and net exports). When demand increases; any component out of these four components increases and vice versa coming to define economic growth; it is the process by which the wealth of a nation increases over time. Globalization in other words is termed as foreign direct investment and trade liberalization. The research was conducted

focusing on the area of the negative impact of globalization on Pakistan. In Pakistan, the effects of FDI on employment, poverty, and income inequality were examined and data for analysis was gathered from research articles, books, and reports published. Globalization's impact is positive or negative on a country it depends on the country's political and economic stability developed societies benefit more from globalization than developing ones. Instability in the country's dimensions of globalization will work against the country's growth and stability (Muhammad et al., 2022).

Pakistan is dependent on foreign aid because of the poverty plague, low incomes, low investments, and no sustainable development. The government should remain focused on utilizing the funds effectively on profitable projects to extract the maximum output and benefit the country's economic situation but the situation is otherwise (Nadeem et al., 2021). Using the Granger causality economic growth method, the study looked at the long-term relationship between Pakistan's institutions and the growth of the economy from 1984 to 2006. Results concluded that for the implementation of sound policies, strong institutions should be formed otherwise corruption and nepotism will not let the policies remain sustained for a longer period (Siddiqui & Ahmed, 2019).

Another investigation into the relationship between debt and growth was conducted. The findings of the study suggested debt accumulation is negatively associated with growth (Lim, 2019). Research conducted by (Salman & Ali, 2022) studied the relationship between economic growth and external debt and discovered that inappropriate handling and utilization of external debt can have a significant negative impact on the economy. Institutional quality and economic performance in Pakistan were analyzed (Siddiqui & Ahmed, 2019) employing the methods of Granger causality testing and Johansen cointegration for the years 1984–2006. The study's findings revealed a strong, one-way link between the factors. Regression analysis was utilized to arrive at the study's conclusions after looking at the impact of FDI on Zimbabwe's economic growth from 1991 to 2017. The findings indicated a favorable link between FDI and GDP.

4) Trade:

The system of imports and exports on a global level is termed as trade. The impact of trade openness, FDI, and domestic investment was analyzed from 2002-2017 for a sample of 24 Asian countries the fixed and random effect models were used for analysis. The study's results suggested trade permeability and FDI inflows have a positive impact on the growth of the economy (Sofien et al., 2019).

(Zafar & Zafar, 2022) states that utilizing annual series data from the years 1980 to 2020, the impact of Pakistan's external debt on growth was examined. The study's findings suggested that total debt and multilateral debt hurt the GDP growth rate, whereas foreign direct investment and short-term debt have a positive impact (Salman & Ali, 2022). They also found that there is no significant long-term relationship between economic growth and external debt. Pakistan has had significant issues with external debt since its creation as a result of its strong reliance on borrowing, expensive imports, and depreciation of its currency with high-interest rates for debt repayment. External debt's impact on Ghana was analyzed by (Prah & Ofori, 2022) on attracting the FDI

results suggested the detrimental effect of debt towards FDI. In addition to this, the study suggests when funds are borrowed should be well utilized for economic growth so that it can neutralize the negative impact of debt (Abdullahi et al., 2015) studied how foreign debt affected the capital formation of Nigeria using the ARDL method the effects of foreign debt on capital formation were found to be negative. Pakistan is one out of 52 countries facing a debt crisis. The debt servicing or repayment of borrowed funds has greatly reduced the spending on education and healthcare. Pakistan ranks 154th on the Human Development Index, lower than Sri Lanka (72), Bangladesh (133), and India (131) (Khaliq, 2021).

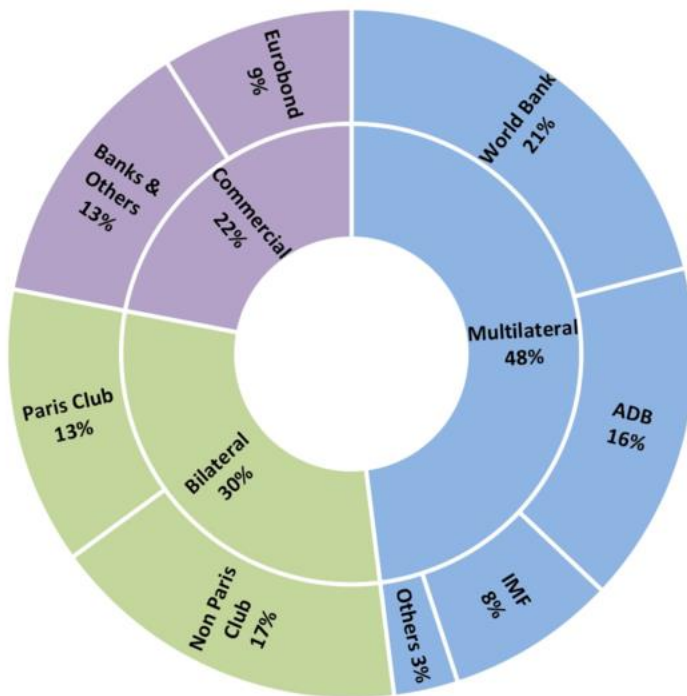


Fig: 03 Composition of external public debt – End June 2021

Source: (Khaliq, 2021)

1.3 Research Objective:

This study's goal is to investigate how foreign direct investment and external debt affect Pakistan's economy. Unlike other research, this particular research is inclined to find which pays most towards the economy of Pakistan either external debt or FDI. Using the time series secondary data of 29 years covering the period from 1991-2019.

1.4 Research Questions:

RQ1: Does external debt impact the GDP of Pakistan?

RQ2: Does FDI impact the GDP of Pakistan?

RQ3: Does trade impact the GDP of Pakistan?

1.5 Research Hypothesis:

H_{01} : There is no connection between Pakistan's external debt and gross domestic product (GDP).

H_{a1} : There is a connection between Pakistan's external debt and gross domestic product (GDP).

H_{02} : FDI and Pakistan's GDP do not correlate.

H_{a2} : There is a connection between Pakistan's GDP and FDI.

H_{03} : There is no connection between Pakistan's GDP and trade.

H_{a3} : There is a connection between Pakistan's GDP and trade.

2. Literature Review

2.1. Theoretical Framework

2.1.1. Debt-overhang Theory:

To demonstrate how external debt affects FDI and the economy the theoretical perspective of this study uses the Debt Overhang theory which says that over-accumulation of debt and inability to make the repayment leads to a condition called debt overhang. As a consequence of not being able to pay back the funds taken the investment and growth opportunities of a country are hindered. In other words, it can be said that foreign debt and investment have an inverse relationship and simultaneously it lowers capital formation. Moreover, it says that if the debt service burden is more and the country instead of making profitable investments is indulged in paying the taken loans then this is of no use the theory was defined by (Krugman, 1988) Similarly, (Deshpande, 1997) stated that heavy debt taken by a country hinders investment opportunities.

2.1.2. Crowding-Out Effect Theory:

The impact of crowding out is such that when the government goes to the private sector for funds to fulfill the expenditures, in return government increases the interest rates and taxes. The theory's basic concept is such that the cost of money grows as demand for savings rises and supply stays the same when public obligations require a higher part of national savings for investment. The crowding-out effect happens as a result of rising interest rates. Economic growth

is distorted when economies are unable to produce enough capital for investments. Moreover, the external creditors extract much in the shape of external debt service. The countries with high debt have a higher crowding-out effect (Philipp, 2021).

Author(s)	(Country) and sample period	Methodology	Findings
(Siddique et al., 2017)	Pakistan. 1975-2015	APRIL	The results declared the main reason for the declining growth of Pakistan is external debt and other variables found to have a significantly positive impact on growth.
(Kida, 2017)	Kosovo. 2007-2016	OLS	The results indicated that while external debt has a negative influence on GDP, FDI has a favorable impact.
(Prah & Ofori, 2022)	Ghana. 1991-2019	APRIL	The results suggested that external debt is having a detrimental impact on FDI inflows whereas GDP and trade used as control variables showed a positive influence on FDI.
(J.C. Sharmiladevi 2020)	India. 1990-91 & 2013-14	The dynamic regression modeling method	The results showed urbanization and inward FDI being statistically significant towards overall development and inward FDI bringing in more capital from abroad to the country.
(Joshua et al., 2021)	1990-2018	APRIL	The study's findings indicated that foreign direct investment (FDI) is essential for economic growth and that, on average, external debt, FDI, and foreign aid are more beneficial for the economies of Sub-Saharan African nations than trade openness and exchange rates. The study also suggests that to receive the best returns for the growth of the economy, borrowed money should be put into a productive stream.
(Musibau et al., 2018)	ECOWAS Member countries. 1980-2015	Causal effect	The findings suggested that external capital flows/ external

			debt can stimulate economic growth if utilized productively.
(Jilenga et al., 2016)	Tanzania. 1971-2011	APRIL	Results concluded that the external debt if utilized productively boosts economic growth whereas the FDI inflow showed a negative impact on the economic growth of Tanzania.
(Azeez et al., 2015)	Nigeria. 1990-2013	Error correction modeling approach	The findings indicated that FDI inflows have a negative but less significant impact on Nigeria's economic growth than does external debt. Therefore, the impact of FDI inflows is more than the inflows through the external debt for Nigeria.
(Abueid et al., 2018)	Jordan. 1970-2017	ARDL and Bayer-Hanck cointegration	The findings revealed that FDI, aid, and trade openness had a favorable effect on Jordan's economic growth.
(Shah et al., 2018)	Pakistan. 1970-2015	APRIL	The study's findings suggested that while FDI has a negligible short-term impact on economic growth, it has a significant, positive long-term impact. In contrast, there was no evidence of an impact of external debt on economic growth over the long term, but there was evidence of a short-term negative impact.

Source(s):
Empirical literature

Own

elaboration

2.2 Foreign debt and economic expansion:

When a nation struggles to raise the necessary foreign currency and domestic savings to meet its economic or developmental objectives, it frequently turns to debt. External borrowing is not a problem or a negative option if utilized well. External debt should be induced in any economy such that the cost of borrowing remains low. The research conducted by (Malik et al., 2010) examines how Pakistan's external debt has affected the country's economic expansion. A huge portion of the balance of payment of the country is utilized to meet the debt servicing needs of the

country. Pakistan is bound to follow the strict and unfavorable conditions of the International Monetary Fund (IMF) and World Bank (WB). The time series data from the period 1972-2005 is taken into consideration and findings of the study suggested Pakistan's economic growth is adversely impacted by its external debt, and debt payment is also significantly and negatively impacted.

Asking for external debt again and again leads the country to financial crisis and this leads to financial instability in the country. The research (al Kharusi & Ada, 2018) was conducted in Oman using the auto-regression distributed lag model between the period of 1990-2015 Oman's external debt increased hugely after the decrease in the government's revenue. The study's findings indicate that Oman's external debt has a negative influence on economic growth, whereas gross fixed capital was determined to have a favorable impact on growth performance.

The purpose of the (Dey & Tareque, 2020) research was to explore the effect of Bangladesh's external debt on its economic development by applying the macroeconomic policy. The period from 1980-2017 was analyzed using an auto-regression distributed lag model and bounds testing under the newly formed policy of macroeconomic policy. The study's conclusions showed that external debt had a detrimental effect on GDP growth but the sound macro-economic policy nullifies the adverse effects of external debt.

Another study was conducted (Govdela, 2019) during the period from 1970-2016. The time series data was analyzed by autoregression distributed lag bounds (ARDL) testing approach. The results revealed that external debt has a favorable effect on economic growth and a negative effect on the consumer price index. Researchers looked into how the Philippines' external debt affected the country's exchange rate. (Mendoza & Gonzalez, 2022) analysis was done using time series data from 1980 to 2019 to determine how the variables related to one another, and multiple regression analysis was used. According to the study's findings, foreign reserves hurt the exchange rate whereas external debt and debt servicing have a favorable impact.

The debt's impact on the economy was analyzed by (Udemba, 2021) time series data from 1970-2016 was taken into consideration. Findings indicated that Pakistan's GDP was negatively impacted by its external debt. FDI and investments should be given maximum attention to uplift the economy. External debt reduces the total factor of productivity and growth (Beyene & Kotosz, 2022). According to economists developing countries accumulate debt to elevate economic growth. Highly indebted poor countries (HIPCs) were taken into consideration for this research. The two theories classical and Keynesian argue: the classical theory says that when debt grows in an unmanageable way it hinders the growth of a country according to Keynesians, a country's external debt is good for its growth. The study examines the effects of total factor productivity and growth on external debt from 1990 to 2017. The findings showed that highly indebted impoverished countries' economic growth is impacted by external debt.

Using an autoregression distributed lag model, research was done on Nigeria to look at how foreign debt affected the growth and development of capital formation between 1980 and 2013. The study's findings revealed that while savings had a bidirectional causal relationship between the variables, external debt had a negative and statistically significant impact on capital

formation (Abdullahi et al., 2015) Consequently, the study's findings that increased the economy's capital formation; savings should be encouraged and should be given the priority. The relationship between Pakistan's external debt and capital accumulation was analyzed from the period 1972-2016. The autoregression distributed lag model bounds testing technique was used to extract the results. The theoretical foundation was based on the debt overhang hypothesis. The results demonstrated the adverse relationship between capital accumulation and the external debt-to-revenue ratio. The higher the foreign debt the lower will be the capital accumulation in an economy; the reason for not being able to utilize the debt is due to lack of management, instability in politics, no diversified export base, and loopholes in macroeconomic adjustment policies. The country did not remain successful in utilizing the external debt in the best possible manner. The debt is therefore not opening up more growth opportunities but impeding growth (Yousaf & Mukhtar, 2020).

In another research conducted on Pakistan's external debt position was analyzed using a market-based approach that showed the marginal costs of external debt as the euro bonds and credit default swaps (CDS) are traded in international markets and yield is indicated by decline. The period that was taken into consideration is 2013-2017. With the decline in euro bonds and credit, the country's amount of external debt is at a sustainable level, according to a default swap. In this research, the conventional methods are not used to find the indebtedness of a country while the marginal cost method is used (Uppal, 2017).

3. Methodology/Research Design:

3.1. Indicators and Data:

The research study uses the data from 1991-2019 for empirical research. Economic growth is the dependent variable, and GDP is used as a stand-in for economic growth. Foreign direct investment net inflows are the additional explanatory or independent variables included (%GDP), external debt stock (% GNI), and trade (% GDP). The World Development Indicator is where the information came from (WDI). As mentioned below [displays the](#) descriptive statistics and the variables' sources.

Table 1 displays the descriptive statistics and the variables' sources.

Table 1. Descriptive Statistics and Data Source

Variable	Data definition and source	Obs	Mean	Std dev	Min	Max
GDP	Proxy of economic growth for Pakistan (WDI)	29	417	174	101	770
ED	External debt stock (% GNI) (WDI)	29	3875	1029	2579	5590
FDI	Foreign direct investment net inflows (% GDP) (WDI)	29	109	84	37	366
T	Trade (% GDP) (WDI)	29	3199	406	2470	3849

Source(s): Own elaboration

3.2. Analytical procedures:

Unit Root Tests:

To analyze if the data is stationary or non-stationary the Augmented Dickey-Fuller method is used. External debt on level and intercept with a probability value of 0.50 which is more than the significance level of 5% or 0.05 and represents the non-stationarity of data accepting the null hypothesis. External debt on 1st difference and intercept with a probability value of 0.0026 shows the stationarity of data and the null hypothesis is rejected. FDI on level and intercept with a probability value of 0.06 which is more than the significance level of 5% or 0.05 shows the non-stationarity of data and accepts the null hypothesis. Moreover, the FDI on 1st difference and intercept with a probability value of 0.020 shows the stationarity of data and rejects the null hypothesis. Trade on level and intercept with a probability value of 0.38 shows the non-stationarity of data accepting the null hypothesis. Trade on 1st difference and intercept with a probability value of 0.0002 shows the stationarity of data and rejects the null hypothesis.

Regression Analysis:

Using the conventional least squares approach to decipher the regression results. The formula is described below:

$$\text{GDP} = \alpha + \beta_1 \text{ED} + \beta_2 \text{FDI} + \beta_3 \text{T} \quad \text{Eq:01}$$

where trade, FDI, and external debt are independent variables while GDP is a dependent variable. Results of regression analysis showed implies the GDP falls by -0.016 units for every unit rise in external debt and the negative sign shows the negative relationship of external debt with GDP keeping other factors constant whereas when the FDI increases by 1 unit the GDP increases by 0.05 units and the positive sign shows the positive relationship of FDI with GDP. Moreover, the probability value is less than 5% which is 0.018 showing the relationship is significant.

Table 2 Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	687.6277	273.9945	2.509641	0.0189
FDI	0.052878	0.488785	0.108182	0.9147
ED	-0.016785	0.042419	-0.395700	0.6957
T	-0.065977	0.108627	-0.607376	0.5491

We can conclude from the result of regression analysis that external debt affects the GDP negatively and FDI's effect on the economy of Pakistan is positive.

Analysis of Cointegration:

To analyze the long-term relationship between the selected variables or to check the correlation among the variables this analysis has been done. For the analysis Johansen cointegration test is applied the null hypothesis says that there is no cointegration (no long-run relationship between the variables) the probability value is 0.0003 which is lesser than 5% or 0.05

so we will reject the null hypothesis and accept the alternative which says the variables have a long-term relationship.

Table 3 Cointegration Analysis

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.728323	75.90100	55.24578	0.0003
At most 1 *	0.679028	42.01928	35.01090	0.0077
At most 2	0.369702	12.47287	18.39771	0.2754
At most 3	0.017999	0.472248	3.841466	0.4920

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Autoregressive Distributed Lag Model (ARDL):

The Autoregressive Distributed Lag (ARDL) based boundary test created by Pesaran et al. was used to show the impact of external debt and FDI on economic growth in Pakistan over time (2001).

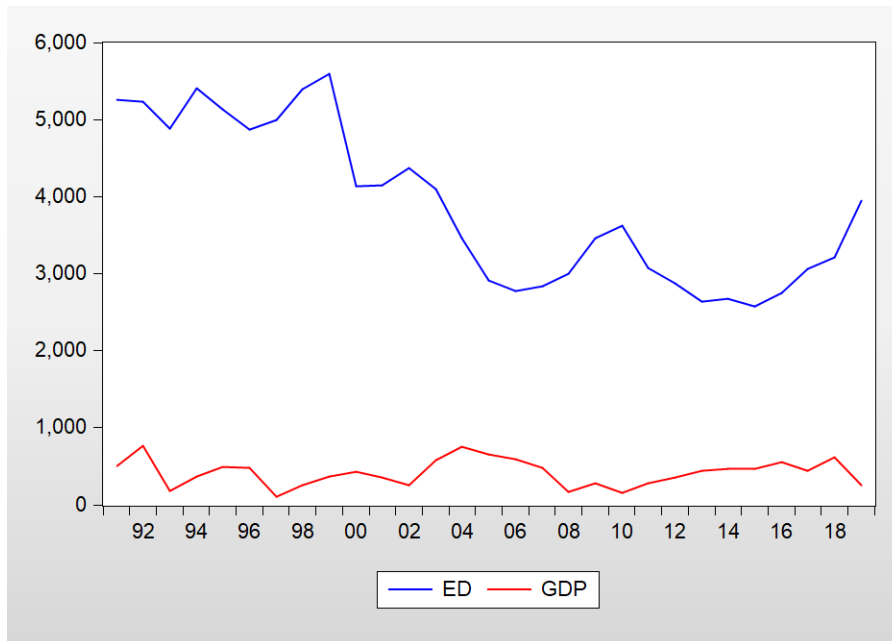
Table 4 ARDL

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
Asymptotic: n=1000				
F-statistic	6.079562	10%	2.37	3.2
k	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66
Finite Sample: n=30				
Actual Sample Size	25	10%	2.676	3.586
		5%	3.272	4.306
		1%	4.614	5.966

The fact that the F-statistics value of 6.0795 exceeds the upper bound I (1) demonstrates that there is cointegration among the variables.

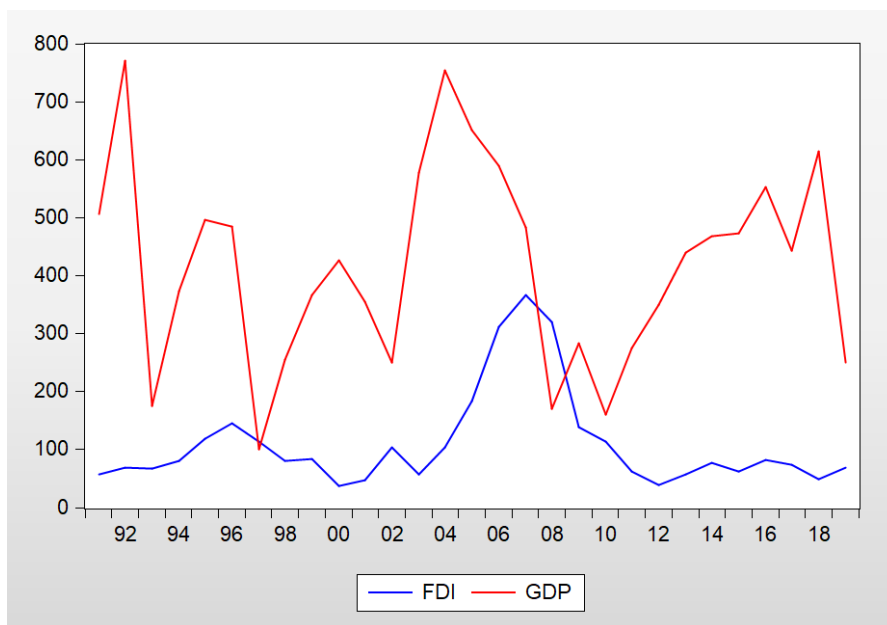
Graphical Representation:

Graph 01



Where GDP represents the gross domestic product and ED is external debt.

Graph 02



where FDI stands for foreign direct investment and GDP for gross domestic product (GDP).

Results:

All variables are non-stationary at level and stationary after the first difference, according to the results of unit root analysis using the Augmented Dickey-Fuller test (ADF).displays the descriptive statistics and the variables' sources.

Table 1 shows descriptive statistics of chosen variables.

Table 2 represents regression analysis results showing the impact of FDI on GDP, which is positive, and the impact of external debt on GDP, which is negative. Table 3 presents a cointegration analysis showing the correlation among the selected variables. The Autoregressive

Distributed Lag (ARDL) based boundary test created by Pesaran et al. was used to show the impact of external debt and FDI on economic growth in Pakistan over time (2001).

Table 4 presents the Autoregressive distributed lag model (ARDL) bounds test results. There is a long-term association between the variables, as shown by the F statistics values being greater than the I (0) and I (I) values.

Conclusion:

This study is focused on finding the answer to the question of what contributes most to Pakistan's economic expansion. The information is taken from WDI of 29 years from the period 1991-2019. Unlike previous research studies which are focused on finding the effect of FDI inflow and external debt on economic growth the goal of this study is to compare external debt and foreign direct investment to determine which contributes the most to Pakistan's GDP. The methods used for the analysis are the ARDL model given by Pesaran et al. (2001) and regression analysis. Findings of the ARDL model suggest a long-term link between the variables is present; GDP is considered a dependent variable and is used as a proxy for economic growth in contrast, FDI, trade, and external debt are treated as independent variables. The results of the regression analysis indicated that external debt had a detrimental effect on economic growth (GDP) whereas through this investigation, it was discovered that FDI contributed positively to Pakistan's economic expansion. The connection between commerce and GDP was also discovered to exist. In addition to this cointegration test suggests the presence of correlation among the variables.

Recommendations:

We might infer from the study's findings that Pakistan's economy is becoming increasingly burdened by its external debt whereas policymakers should focus on attracting more FDI inflows for enhancing the economic growth of Pakistan. If external debt is asked from outside in the name of development it should be utilized for the development and growth of the economy of Pakistan.

Limitation:

This research is focused on Pakistan only so it can be extended by comparing different countries' data by panel data analysis approach as this particular research is solely focused on Pakistan.

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