



Private Investment Decision-making, Foreign Direct Investment Nexus: A Way Forward to Promote Sustainable Economic Growth in Pakistan

Salma Mouneer¹, Hina Ali², Mahmood ul Hassan³, Sohail Naseer⁴

¹ Lecturer, Department of Economics, The Women University Multan, Pakistan. Email: salmamouneer@wum.edu.pk

² Associate Professor, Department of Economics, The Women University Multan, Pakistan. Email: hinaali@wum.edu.pk

³ Assistant Professor, Department of Economics, University of Sargodha, Pakistan. Email: mahmood.hassan@uos.edu.pk

⁴ M.Phil. Scholar, Department of Management Sciences, Air University School of Management, Air University Islamabad, Pakistan. Email: sohailnaseer@yaho.com

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ABSTRACT

This study emphasizes the importance of private investment in the economy of Pakistan. Pakistan's economy decreased daily due to less development in the foreign and trade sector. This study utilized time series data from the period 1982 to 2020. Additionally, the researcher examined the ARDL bound testing Method for the empirical analysis of the data under consideration. The data set has been collected from the State Bank of Pakistan, the Economic Survey, and the Handbook of Statistics. This study integrates private investment as the dependent variable and gross domestic product, domestic saving, foreign direct investment, indirect taxes, subsidies, and terms of trade as the independent variable. The analysis of this study showed that the gross domestic product and subsidies have a positive and insignificant impact on private investment, and Terms of Trade and Indirect Taxes have a negative and significant effect. In contrast, foreign direct investment has a positive but significant impact on private investment, and domestic saving has a positive and significant impact on private investment. The main purpose of this study is to ensure that the economy of Pakistan is maintained if the structural condition, political stability, and Government interference should be applied.

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Corresponding Author's Email: hinaali@wum.edu.pk

1. Introduction

Since 1947 Pakistan faces many problems such as unemployment, poverty, illiteracy, child labor, inflation, instability in trade, political unrest, increase in population, pollution, corruption, low level of saving, and low level of private and public investment. To maintain the investment level in the 1970s implemented structural reforms on private investment to increase the growth rate of the economy. The programmer also pays attention to public investment. Because public and private investment is the two main types of investment. Increasing public investment like building new roads, better telecommunication systems, better transportation, a better environment for trade, etc. are reasons to increase private investment. The impact of public investment on private investment is positive and significant.

The meaning of private investment is the investment by the business owned by the owners and the owners wanted to maximize their output level by using new technologies. According to the Financial Times, Lexicon "Investment made by companies and financial organizations as opposed to the government is referred to as "private investment" from the perspective of macroeconomic stability. Private investment is the acquisition of a capital asset that is anticipated to create income, appreciate, or do both" (study .com). The impact of private investment in Pakistan is positive or negative. On the one side Because of private investment increases the economic condition of Pakistan. The economy moves to the boom level. The growth rate of private investment in the economy of Pakistan in the year 1975 is 35.63% in 1989 23.94%

and in the year 2005 or 2006 it becomes to reach its maximum level than the last years is 38.3%,40.51%. But on the other side, it negatively impacts the economy when unexpected crises and situations such as war, earth quacks, floods terrorism, etc. are the reason for the low level of private investment as in the year 1982 it is only 7.97%, in 1999 it becomes its lowest point of all previous years is -11.44. So, the impact of private investment in Pakistan is positive or negative.

Private investment has much importance in the economy of Pakistan. Because of private investment, Pakistan maintained its economic condition by using new technologies. New technologies don't mean new recourses it means the use of previous technologies in a better way. Due to private investment, public investment also developed. Private investment also makes relationships with other countries. It helps the foreign investors in which whose policies governments are interested to adopt in their own country. Private investment also plays a positive role in developing and underdeveloped countries because it provided opportunities for foreign traders to execute their production or their business. The importance of Private investment can be explained with the definitions of different scholars who have appreciated the PI.

Private investment decision-making and foreign direct investment (FDI) are crucial factors for promoting sustainable economic growth in any country, including Pakistan. Private investment plays a critical role in capital formation, which is essential for economic growth. When individuals and businesses invest in productive assets such as machinery, infrastructure, and technology, it increases the country's productive capacity, leading to higher output and employment opportunities. Private investment often drives innovation and technological advancements. By investing in research and development, businesses can develop new products, processes, and services, enhancing productivity and competitiveness. This, in turn, fosters economic growth and creates a conducive environment for sustainable development. It generates employment opportunities, which are crucial for poverty reduction and inclusive growth. When businesses invest, they expand their operations, leading to the creation of new jobs. Increased employment not only improves living standards but also stimulates consumer demand, further fueling economic growth.

To promote sustainable economic growth in Pakistan, policymakers should focus on creating an enabling environment that encourages private investment decision-making and attracts foreign direct investment. This requires implementing investor-friendly policies, improving infrastructure, enhancing the ease of doing business, investing in education and skills development, and ensuring political stability and good governance.

2. Literature Review

The factors influencing investment in Pakistan were looked at by Bibi et al. in 2020. The study used time series data and applied OLS techniques of econometrics. They took the variables investment, real capital formulation, domestic saving, GDP, and trade openness. The result of this study is that capital-perfect mobility caused a saving increase due to an increase in investment. When trade had open capital more chances to flow out of the economy.

In Pakistan, the factors influencing governmental and private investment have been examined by (Saghir & Khan, 2012). They used the time series data and took the variables investment, private investment, and flow of loan and aid. The outcome of this study is that a negative relationship was found between private and government investment that supports the existence of a crowding-out effect as expected. Kehinde, Ramonu, Babaremu, and Justin (2020) examined the determinants of domestic private investment in Nigeria. The time series data employed in this study and applied OLS techniques of econometrics. They took variables GDI as the dependent variables and annual interest rate, domestic ratio, external reserve, GDP, nominal exchange rate, and public investment as independent variables. This study emphasizes and focused on private investment by increasing domestic credit. The main objective of this study was to examine whether economic factors affected private investment significantly and capital formulation and investment behavior to determine the relationship between private and public investment (Ali, Khan, Yasmin, & Shaheen, 2019).

The combined effect of governmental and private investment on Pakistan's economic growth was examined by (Fatima, 2012). This study employed time series data and the

econometric Johnson co-integration method. GDP served as the dependent variable in this study whereas real interest rate, private investment, governmental investment, and government revenue served as the independent factors. This study's major goal was to demonstrate the beneficial effects of both governmental and private investment on Pakistan's economic development. The ratio of public to private investment needed to be raised by the government. Foreign direct investment's impact on Pakistan's economic growth was examined by Yasin and Ramzan in 2013. Secondary data was used, and they used an auto-regressive distributed lag model. They used investment and foreign direct investment as independent variables, with GDP as the dependent variable. They also applied statistical test techniques. The result of this study was that there is no long-run relationship between independent and dependent variables. Foreign Direct Investment and export volume had less contributed to economic growth. Rafiq, Salim, and Smyth (2016) examined the determinant of private investment in the United Arab Emirates. This study used the time series data and applied the Dickey-Fuller and Phillips Peron Test and Johnson Cointegration test. This study used the variables private investment as dependent and non-oil GDP and real public expenditure. The result of this study was that private investment in UAE mostly depends on the level of aggregate demand. The government played an important character to maintain economic activities and more specifically the private sector.

In 2013, Bayai and Nyangara looked at the examination of the factors influencing private investment in Zimbabwe. This study used the time series data and applied the Partial regression coefficient, Correlation coefficient, Coefficient of determination, and Adjusted R-square techniques of econometrics. Inflation, political risk, interest rates, GDP, domestic saving, public investment, national debt saving, and trade terms were evaluated as independent variables for this research, whereas private investment was employed as a dependent variable. The main objectives of the research were, among other things, attracting foreign direct investment (FDI), fostering political stability, facilitating organized public-private interaction, and providing government support for infrastructure development (Ali et al., 2019).

Mukhtar, Asif, Siyal, and Zaman (2014) looked into how to attract foreign direct investment in Pakistan. The Unit Root Test, Johnson Conflagration, Granger Causality, and Error Correlation Model econometric techniques were utilized in this work to analyze time series data. Foreign direct investment served as the dependent variable in this study, whereas real GDP, the inflation rate, POP, URPOP, R, LWO, CR, P, and T served as the independent variables. According to the study's findings, taxes, law-and-order conditions, and inflation all significantly impacted foreign direct investment. The major goal of this study was to use Johnson's co-integration technique to examine the link between FDI and macro and institutional factors in Pakistan. Hussein and Benhin (2015) looked at economic growth in Iraq and governmental and private investment. This study examined time series data using the econometrics method known as the Error Correlation Model. The variables level of production, stock of physical output, and labor force were employed in this study. According to the findings of this study, real gross domestic product is favorably and considerably impacted by both private and governmental investment, labor force expansion, and increases in oil income.

The examination of factors affecting private investment in the Indonesian province of North Sumatra was looked at by (Nainggolan & Daulay, 2015). They implemented the Error Correction Model using time series data. They employed GDP, government investment, interest rates, exchange rates, investment credit, inflation, international interest rates, and economic crises as dependent variables and used variable private investment as an independent variable. This analysis demonstrated that while government investment, interest rates, inflation, and economic crises had large but negative effects on private investment, they also had significant but positive effects on exchange rates, investment credit, and GDP. Private investment was negatively or negligibly impacted by the global interest rate.

Li et al. (2021) analyze data from 85 countries for entrance laws for new enterprises and find that most nations have a high cost of entry. Higher degrees of informality, corruption, and poor democracy are more widespread in these nations, lending credence to public choice theory; where political hierarchy benefits more from entrance obstacles. Local governments' efforts to streamline investment processes have a significant impact on increasing market size. The ease of doing business is used as an indicator to analyze a collection of complimentary criteria like investor protection, beginning a firm, property registration, and so on.

3. Theoretical Framework

The theory of investment behavior and the neoclassical theory were introduced by Robert Eisner and M.I.Nadiri. According to this theory, the relative price as a determinant factor of demands received great attention in previous work. Impotent work is performed by Dale Jorgenson who has presented along with various estimated results and certain policy conclusions that is called the "theory of investment behavior based on the neoclassical theory. The Jorgensen theory's burden was that most investment works had erroneously disregarded replacement factors. Although he concedes that the demand for capital stock is a function of the number of products produced, he contends that it is also a function of the relative prices of output and capital. The replacement of capital stock that is degrading and distributed lag adjustment make up the investment. Also, according to Jorgenson, a specific extension of the method used by Chenery and Koyck for estimating lag applies to quarterly data. Jorgenson calculates the pricing or substitution impact of an investment using several unit capital service metrics. In the original, it depends on the price of capital goods' q 's and the rate of depreciation ' δ ' and the rate of interest 'rather relative change rate is q /the rate direct taxation is μ and the proportion of v, ω, χ of depreciation, cost of capital and capital losses. With the help of these terms, the equation is generally ignored in empirical analysis. In the production function of Cobb Douglas, Jorgenson explains the capital stock as

$$K^* = \alpha pQ/c \dots \dots$$

Where the parameter α shows the elasticity of output concerning capital.

Simply the Jorgenson model is explained that "the theory of investment is based on the neoclassical theory of capital accumulation provides a high a satisfactory explanation of actual investment expenditure for our sample period". The results of the Jorgenson suggested that the policy instruments that play a role in the determination of investment expenditure include the tax structure and instruments that affect the capital stock The Jorgenson analysis showed that the approximately three quarterly elapses between the changes in desired capital and the first actual investment expenditure.

4. Data Collection & Methodology

The primary sources of the data analyzed in this analysis are the Pakistan Economic Survey, the Pakistan State Bank, and the Handbook of Statistics. This collected data covered variables 39 financial years time period from 1982 to 2020.

4.1. Methodology

This study used the ARDL bound testing approach the technique of econometrics. There are several phases in the estimating process. In this investigation, the entire estimation is carried out using the computer program E-views (9) to ensure that the data are steady. To assess the quality of this kind of data, time series data have been used. When choosing the best analytical approach, stationery is extremely helpful.

Data is stationary if the mean, variance, and covariance of a time series remain constant during the interval of time (Gujrati, 1995). When stationary time-series data is evaluated, the issue of false regression arrival is eliminated. Whereas if the mean and variance are constant, then the data is stationary, and if the data is not stationary, then it may not be possible to predict the future trend of the variables.

Unit root test has been used to look into the stationary of the detected variables. The coefficients do not possess any BLUE characteristics if the incorrect regression happens. Because of this, two economists Dickey and Fuller created the Augmented Dickey-Fuller test in 1979. (ADF test). They predicted the existence of an independent and equal proportion for the error term. This test aids in expressing what type of motion should be used for analysis as well as the sequence of additions. Then, every piece of information is level verified and expressed as $I(0)$. It demonstrates that the data is stationary and that no more steps are required to get stationery. If not, the data is verified on the first difference, where it is expressed as $I(1)$, and if it is not stationary, we continue to the second difference to do so.

- The two forms of regression are present in the Augmented Dickey-Fuller test.
- Initially, there is no trend and an intercept.
- The next two are intercept and trend.

Co-integration is the existence of a long-term association between variables that are not stationary during the process to determine co-integration among the variables, such as the ARDL approach, the Johnson and Jeselius co-integration technique, and the Engle-Granger two-way outstanding base method. The method of evaluating the coordination of variables over the short and long terms is known as the autoregressive distributed lag model. This change will make it easier to calculate the existing equation. The following kind can be used to support the ARDL's recommendation: the ARDL holds a mix of both sorts of variables that are stationary at the level and first difference. In cases where the sample size is limited, it is the strategy that is most helpful. The ARDL approach will be useful if the model uses dummy variables to estimate the co-integration. In cases where variables are stationary at the second difference, it does not produce reliable findings.

The ARDL approach works in two different ways. Initially, the bound test is used to look at the long-term link between the variable under consideration. Then, the long-run and short-run association coefficients are produced, and finally, the ARDL approach may be used to finish off the analysis. After obtaining the ARDL equation for a model, the bound test is used to determine the long-term relationship between the variables. After doing the bound test on the variables that have lag associated with them, we will calculate the value of F-Statistics. Following that, we will compare the estimated and crucial values for F-statistics. The following are the bound test's primary characteristics:

- In the model, all variables are intended to be endogenous.
- If the variables are stationary at $I(0)$ or $I,1$, this test is used (1).
- It helps determine the long-run and short-run coefficients of variables, among other things.

The upper bound and the lower limit are the two key numbers for the bound test's charted value. There is a long-term link between the variables if the bound test's value is more significant than the upper bound value. If the result of the bound test is less than the lower bound value, then the variables do not have a long-term connection. The findings are ambiguous if the upper bound is less than the lower bound using F-statistics.

The evaluation of the model's short- and long-run coefficients will then be finished. Therefore, selecting the lag duration is necessary before this process. The three metrics under which lag duration can be significant are as follows: Specifically, the Akaike Information Criteria (AIC), the Schwartz Criteria (SC), the Hannan and Quinn Criteria (HQC)

Method of Model's Coefficients' Short Run and Long Run Estimate Next, we will use the autoregressive distributed lag approach for co-integration after estimating the stationery and progress of the link between the relevant variables. The stability of the parameters should be examined to draw the most accurate conclusions possible. The strength of the coefficients may be verified using a variety of tests. We may use the Cumulative Sum of Residuals (CUSUM) and Cumulative Sum of Recursive Residuals of Square (CUSUM).

4.2. Model Specification

To investigate the connection between private investment and GDP, DS, FDI, INT, SUB, and TOT, this study used the ordinary least squares approach. The following function has been provided in the multiple regression equation to assess how these factors affect private investment:

$$PI = f(GDP, DS, TOT, SUB, FDI, \text{ and } INT) \tag{1}$$

Where PI is dependent variable, which is a private investment, GDP is Gross Domestic Product, DS is Domestic Saving, TOT is Terms of Trade, SUB is Subsidies, FDI is Foreign Direct Investment, INT is Indirect Taxes,

This can be specifically expressed in explicit econometric form as:

$$PI = \beta_0 + \beta_1GDP + \beta_2TOT + \beta_3SUB + \beta_4FDI + \beta_5INT + \beta_6DS + \mu \tag{2}$$

4.3. Description of Variables

4.3.1. Gross Domestic Product (GDP)

is a commonly used measure of economic activity within a country. It represents the total value of all goods and services produced within a country's borders during a specific period, typically a year. GDP is calculated by summing up the value added at each stage of production across all industries in an economy.

4.3.2. Domestic Saving

refers to the portion of a country's income that is not consumed and is instead set aside for future use. It represents the amount of money that households, businesses, and the government save within the domestic economy.

4.3.3. Terms of Trade

refer to the ratio at which a country's exports exchange for its imports in international trade. It is a measure of the relative prices of a country's exports and imports and reflects the purchasing power of a country's exported goods and services in terms of the goods and services it imports.

4.3.4. Subsidies

refer to financial assistance or support provided by the government or public entities to individuals, businesses, or industries to promote specific activities, products, or sectors of the economy. They are typically aimed at achieving certain policy objectives, such as stimulating economic growth, fostering innovation, addressing market failures, promoting social welfare, or protecting domestic industries.

4.3.5. Foreign Direct Investment (FDI)

refers to an investment made by a company or individual from one country (the investing country) into another country (the host country) to establish a lasting interest in an enterprise operating in the host country. FDI involves a direct ownership stake in the foreign enterprise and a significant degree of influence or control over its operations.

4.3.6. Indirect taxes

refer to taxes imposed on the consumption, sale, or use of goods and services, rather than directly on individuals or businesses. These taxes are levied on goods and services at various stages of production and distribution, and the burden of the tax is typically passed on to the final consumer

Table 1: Descriptive Analysis

Variables	PI	DS	FDI	GDP	INT	SUB	TOT
Mean	15.0271	11.000	778.5862	4.9460	272167.6	74643.38	71.0771
Std.Dev	10.6603	3.9445	1362.810	1.9932	313623.2	134904.3	18.5976
Skewness	0.3780	0.3224	2.3602	0.0676	1.5112	2.1395	0.3696
Kurtosis	3.6694	1.7299	7.5412	2.4847	4.4235	6.4376	1.9599
J.B	1.6571	3.2966	69.7232	0.4612	18.1388	48.958	2.6460
Probability	0.4366	0.1923	0.0000	0.7940	0.0001	0.0000	0.2663

Source. Author's calculation (EViews 9.0)

The exogenous variables are all represented in this table. In research projects, empirical analysis is crucial because it demonstrates the degree of interdependence between dependent and independent variables. Results are evaluated using the ARDL approach and data collected between 1982 and 2020. Skewness and kurtosis are two more methods for gauging the distributional moments that shape the probability distribution that is included in this examination. When the skewness value is 0, it may be inferred that the distribution is symmetric. If the kurtosis value is three or greater, the distribution is leptokurtic; if it is three or less, the distribution is platykurtic.

The correlation between the model's variables is displayed in the above table. Except for domestic saving, indirect taxes, subsidies, and terms of trade, the dependent variable, private investment, has a positive relationship with other explanatory variables. Private investment, foreign direct investment, and GDP are all positively correlated. If two variables have correlations between them that are more significant than 0.9, as indicated by the diagonal of the correlation

matrix, then there is a multi-co-linearity issue. There is no Multicollinearity issue because all of the numbers, in this case, are less than 0.9.

Table 2: Correlation Matrix

Variables	PI	DS	FDI	GDP	INT	SUB	TOT
PI	1						
DS	-0.06	1					
FDI	0.26	0.06	1				
GDP	0.12	-0.27	-0.13	1			
INT	-0.29	-0.02	0.42	-0.32	1		
SUB	-0.28	-0.13	0.23	-0.40	0.87	1	
TOT	-0.17	0.37	0.07	-0.03	0.15	-0.01	1

Source: Author's calculation (EViews 7.0)

From the short-run estimation, it is discovered that there is the long-run association between examined variables of this study. The cointEq value predicted that in the long PI is determined by DS, FDI, GDP, INT, and TOT.

Table 3: Short Run Estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(DS)	-0.6695	0.7880	-0.8496	0.4027
D(FDI)	0.0072	0.0029	2.4626	0.0202
D(GDP)	0.0000	0.0000	1.2877	0.2084
D(INT)	0.2304	0.0000	0.1816	0.8571
D(SUB)	0.4500	0.0000	0.9909	0.3302
D(TOT)	0.0298	0.1977	0.1507	0.8812
CointEq(-1)	-0.9653	0.2177	-4.4326	0.0001

Source: Author's calculation (EViews 9.0)

The macroeconomic stability of private investment in Pakistan's economy is displayed in the table above. The influence of a few variables on private investment that have a positive or negative/significant or negligible impact on the Pakistani economy was also shown in this table. The effect of each independent variable on each dependent variable is shown in this model. GDP has a small but favorable influence on private investment. DS has a good and substantial effect on private investment. The effects of FDI are considerable and good. Although negative, TOT has a large influence. INT has a negative yet significant effect. SUB has a favorable influence, although it is negligible.

Table 4: Long Run Estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DS	0.6936	0.8813	-2.7870	0.0079
FDI	0.0897	0.0021	4.4215	0.0006
GDP	0.0133	0.0000	-0.8580	0.3981
INT	-0.1250	0.0000	7.1811	0.0056
SUB	0.1732	0.0000	0.8692	0.3921
TOT	-0.0305	0.2079	2.1486	0.0829
C	1.3519	7.4365	2.9260	0.0067

Source: Author's calculation (EViews 9.0)

Findings indicated that there is long-run cointegration between the variables under research, and the study's analyzed model is statistically stable.

Table 5: Bound Test Estimation

Test Statistic	Value	k
F-statistic	7.687349	6
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.12	3.23
5%	2.45	3.61
2.5%	2.75	3.99
1%	3.15	4.43

Source: Author's calculation (EViews 9.0)

5. Conclusions and Policy Recommendations

This study's primary goal is to identify the factors that influence private investment in Pakistan's economy. Several establish which are significantly impacted by Pakistan's economy. The second and primary goals of this study are to describe the effects of private investment on Pakistan's economy. The OLS model demonstrated how independent factors affected private investment. Some of the independent variables have a positive and significant impact and others have negative/significant or insignificant impacts. Domestic savings have an appositive or significant effect on the PI. As we know, saving is the function of investment as the saving increases the level of investment also increased. So as the level of domestic saving increases the opportunities for private investment will also increase. Similarly, Indirect taxes have a negative but noticeable impact on private investment. The level of investment will decline as investment regulation rises but the low level of taxes promotes investment opportunities. Simply this study concluded that private investment exists in Pakistan if the determination of PI will be controlled with the help of Government policies. The Government should take radical steps to promote Private investment and also provide opportunities for foreign and local investors.

- The govt. should apply fiscal policy to increase private investment.
- Increasing imports and export should help to improve the investment level.
- Increasing the saving level should also promote the investment level because saving is the function of investment.
- Implement policies that promote inclusive growth, such as targeted social welfare programs, skill development for marginalized communities, and measures to reduce income inequality.
- Promote sustainable practices and environmental regulations to ensure that private investments and FDI align with sustainable development goals. Encourage green technologies, renewable energy projects, and environmentally friendly production methods.

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