ASYMMETRIC EFFECTS OF FOREIGN DIRECT INVESTMENT AND HUMAN CAPITAL ON ECONOMIC DEVELOPMENT: NEW EVIDENCE FROM PAKISTAN

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ABSTRACT

The aim of the current study is to examine the asymmetric nexus between FDI, human capital and economic development in Pakistan for the period of 1980-2021. Using a nonlinear autoregressive distributed lag model (NARDL), we investigate the impact of positive and negative shocks in FDI and Human capital on economic development. The NARDL bound test indicates evidence of co-integration between the variables used in the model. The results show that FDI has asymmetric effect on economic development in Pakistan, with positive shocks having a significant and positive effect on economic development in the long run and short run. While negative shocks in FDI has adverse influence on economic development. Similarly, human capital is found to have asymmetric effect on economic development, with increases in human capital having a positive and significant impact on economic development, while decreases in human capital have a negative and significant impact. In the long run labor force and natural resources have positive and significant relationship with economic development, but in the short run it is negative and significant link with economic development. In the last, this study recommended policies that the government encourages spill-over effect and diversify FDI to reduce dependence on a single sector, develop high-skilled workers by invest in education and training, increase flexibility and reduce rigidities in labor market, encourage entrepreneurship, implement sustainable management practices, invest in infrastructure and logistic to improve the efficiency of natural resources.

Keywords: FDI, Human Capital, Natural resources, NARD Model, Pakistan

INTRODUCTION

In the process of making world economy globalized, foreign direct investments (FDI) have a significant role in economic growth and development of a nation economy. FDI transfer information technology provides cheap labor and energy to the host country and hence accelerating the development and economic growth of the host country. The home country benefited from high technology, skills, research and development (R&D), and know that there are only some basic factors that attract foreign direct investments (Iamsiraroj, 2016). The nexus between FDI and economic development has been investigated by many research studies, but there is still

controversy. Some studies argued that FDI has boosted economic growth of the host country (Agosin and Machado, 2005; Falki, 2009); while some research studies provide the opposite results (OECD, 2012, 2001). Additionally, the third research group suggesting that impact of FDI on the host economy depends on their level of human capital, labor force and natural resources (Alfaro *et al*, 2004; Hafeez and Rahim, 2019).

Human capital is a strategic tool to promote output growth and total factor productivity on a sustainable basis (Agbettor, 2018). It increases the level of total productivity and prospective incomes of the work force (Robeyns, 2006). Human capital is also assessed by the labor qualification, experience, skills and ability to make new products (De Oliveira, 2000). A country can increase human capital through specialization of labor division, development in basic education, professional training, appraisement of self-employment and the creation of new business opportunities (Shutt, 2003; Bottazzi *et al*, 2004). An effective human capital also fascinates FDI, which fuel economic growth (Cleeve *et al*, 2015; Majeed and Ahmad, 2008). Endogenous growth theory shows economic growth is the main consequence of interior forces. Furthermore, with regard to this theory knowledge and innovation are important to economic growth. This theory concerted on the positive spillover effect of knowledge that eventually leads a nation on the route to development (Kohler *et al*, 2006).

Labor is one of the crucial factor of production used in the production process. In economic theory it is a cause for economic development. Labor force participation rate and the growth rate are needed to be equal and keep unemployment rate unchanged. The number of countries where growth rate rises more than labor force participation rate but unemployment rate rises steadily (Kargi, 2014).

Natural resources are essential for economic development. Natural resources are the valuable intermittent resources that we get from the earth that includes all the features of nature, such as magnetism, gravity etc. Each individual considered soil and water is a natural aTEIKresources. Additionally, coal and gas that people used for production of energy are also considered natural resources. The core conditions for human survival can be satisfied by using these resources either in their raw or processed form satisfies (Wang *et al*, 2021). Since, man cannot produce natural resources as they are naturally found.

This study contributed to the literature by investigating the asymmetric influence of FDI, human capital, labor force and natural resources on economic development in Pakistan by using non-linear ARDL model. The past studies have found ambiguous results based on the research methodology and used different indicators for human capital variables (i.e. Education and health related variables). To fill this gap, in this study we used Penn World Table (Version 10.01) variable for human capital.

PROBLEM STATEMENT

Pakistan has struggled to achieve sustainable economic growth and development, despite efforts to attract foreign direct investment and develop its human capital. The country faces significant challenges, including low human development indicators, inadequate infrastructure and a lack of economic diversification. While FDI has the potential to bring in new technologies, management practices and capital, its impact on economic development in Pakistan is not well understood.

Similarly, the role of human capital in driving economic growth and development in Pakistan requires further investigation.

RESEARCH OBJECTIVES

The research objectives of this study are as follows:

a. To evaluate the asymmetric effect of FDI on economic development in Pakistan.
b. To analyze the asymmetric effect of Human capital on economic development in Pakistan.

LITERATURE REVIEW

FDI and Economic Development

Many studies found that FDI has positive and significant impact on economic development (Ateik *et al*, 2023; Dang *et al*, 2023; Mustafa and Malik, 2023). Ateik *et al*, (2023) conducted a study on 3 Asian nations Pakistan, India and Bangladesh over the period 1991 to 2020. Their findings indicated that providing a favorable environment for investors can raise foreign investment, bring to enhance per capita GDP growth within the country. Studied 63 cities in Vietnam, (Dang *et al*, 2023) suggested that FDI contributed to add funds, technology, managerial capability, industry ability, logistic ability and participated in the global supply chain in Vietnam making it an important capital for growth and global economic amalgamation. Mustafa and Malik (2023) witnessed a highly positive association between FDI and economic growth in Pakistan, arguing that foreign investment can serve as a strong factor for economic development. Another study on Pakistan (Waqas and Mehak, 2023) highlighted that foreign direct investment shows a positive trend in the economy which pay considerably to the growth of resources, infrastructure and economic growth. Alam *et al*, (2022) employed non- linear ARDL technique (NARDL) to examined asymmetric influence of FDI on economic growth in India for the period 1991 to 2019. They concluded that a positive shock in FDI inflows positive affect on GDP growth whereas negative shock in FDI inflows negatively effect. The study of Abdi *et al*, (2024) argued that both positive and negative shocks in FDI increase the economic growth of Somalia in short run and long run.

In contrast, numerous investigators found negative connection between FDI and economic growth. Su and Nguyen, (2020) concluded that FDI inflows has negative significant effect on economic growth. They explained that FDI failed to develop economic growth in African countries because of its crowding-out influence on domestic investment. Alfaro *et al*, (2004) scrutinized the correlation between FDI and economic growth in 20 OECD member nations. They observed negative link between FDI and economic growth. They concluded that FDI indicates no robust rise of growth in developed countries. Similar result found by Herzer, (2012) discovered that FDI negatively influence economic growth due to primary exports dependence. Recently, Intisar *et al*, (2020) analyzed the relationship between FDI, trade openness, human capital and economic growth in 19 Asian (Western and South Asia) countries during the period 1985 to 2017. The findings revealed positive significant effect of FDI on GDP per capita in South Asia but in case of Western Asia FDI has negatively and statistically significant relationship with GDP per capita.

Human Capital and Economic Development

The idea of human capital can be interrelated to other types of capital. Investments in human capital produce income and other advantages for long time Oluwatobi and Olurinola (2011). (Adeleye *et al*, 2022) conducted research on 19 Middle East and North African countries from the period of 1980 to 2020. The outcomes reveal that education decrease inequality gap to some workforce engagement and enhance economic opportunities and production capabilities of individuals with total impact on economic growth. Hafeez and Rahim (2019) checked the association between human capital and economic growth in Pakistan for 1981 to 2013. They pointed out that education generates alertness among the individuals, so better level of education leading well health which as a result help in increasing output. Healthier workers are more proficient of making more output. Sarwar *et al*, (2021) revealed that human capital has a positive and considerable effect on economic growth. Mushtaq *et al* (2023) investigated the asymmetric effect of human capital and other variables on economic growth in Pakistan during the period of 1982-2020. The result of NARDL model revealed that human capital has asymmetric impact on output growth because of low spending in the educational sector.

Labor Force and Economic Development

Labor force is a crucial determinant of a country's potential rate of economic growth and a vibrant workforce is referred to as country' asset. To provide this evident, Shahid, (2014) examined the relationship between labor force participation and economic growth in Pakistan using data of 1980 to 2012. The results of Johnson Co-integration and vector error correction techniques indicated long run positive connection between labor force participation and economic growth. Ul Haque *et al*, (2019) argued that education producing skilled labor, mutual relationship of public private institutions to train the workforce technically. Stadler (2003) gave stressed on the quality of labor force rather than quantity for economic growth. He emphasizes on funding education and qualification of labor force and said that it was the increase in qualification and not enhance in quantity of labor force that played the conclusive role in growth.

Mortensen (2004) underscored the role of labor saying that the reforms increase labor performance and help to decrease unemployment on one hand and it boosts investment in research and development required for long-term growth.

Natural Resources and Economic Development

Several research works have explored the nexus between natural resources and economic growth. Khan, (2020) examined the impact of natural resources, labor force, financial development, trade openness and private investment on economic growth of Pakistan spanning time of 1972 to 2013. She reported that when exploring more natural resources, availability of raw materials for production increases which will raises the employment and economic growth in Pakistan. Ishfaq *et al*, (2024) pointed out that abundant natural resources can lead to attract more capital inflows, generating new industries and promoting productivity which are essential to augment economic growth. Shabir *et al*, (2020) examined how natural resources effect economic growth in Pakistan. Their findings showed that population growth and deforestation destruct economic growth while renewable water resources have a promising influence on economic growth. On the other hand, Malik *et al*, (2009) concluded negative association between natural resources and economic growth in Pakistan. They explained by the viewed that negligence of investment in human capital

is one of primary cause for the curse of natural resources. Papyrakis and Gerlagh, (2007) found that natural resources abundance decreases investment, schooling, openness, R&D expenditure and increases corruption, and these effects show negative effect of natural resources on growth.
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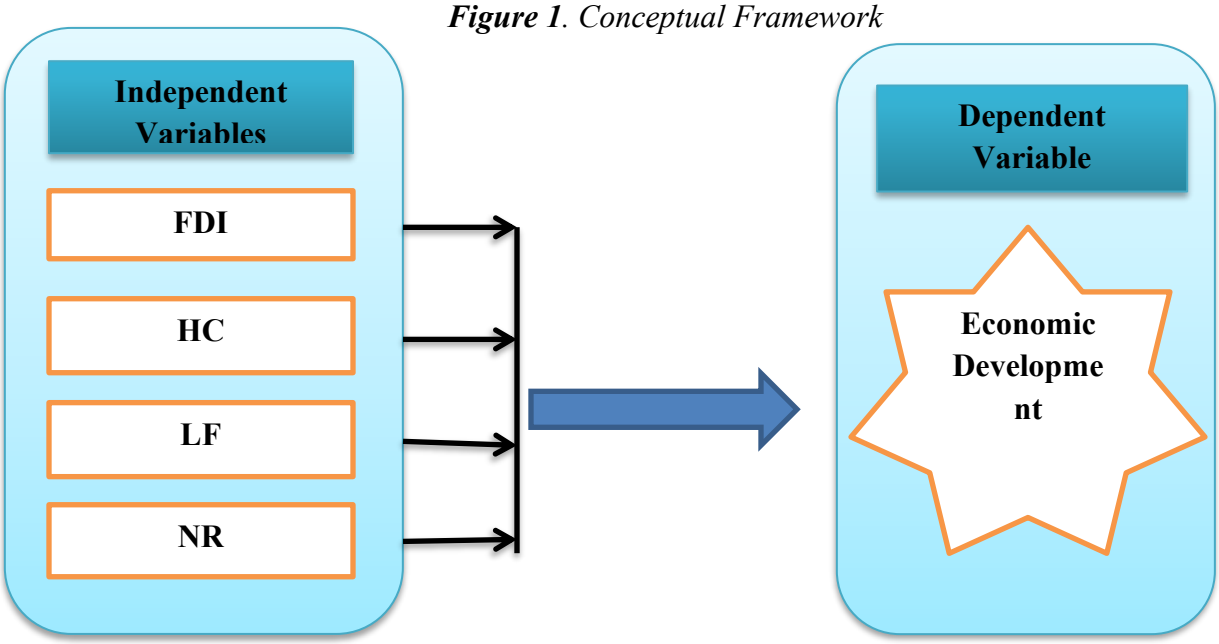
Figure 1. *Conceptual Framework*



METHODOLOGY

Data

In order to look into the relationship between FDI, human capital, labor force, natural resources and economic development of Pakistan, we will make time series data from 1980 to 2021. The data on dependent variable which is GDP per capita (constant 2015 US$) indicator of economic development, foreign direct investment as net inflow % of GDP, and total labor force participation rate as % of total population ages 15+ are independent variables collected from world development indicators, while the data on Human capital is taken from Penn World Table (version 10.01, Freenstra *et al*, 2015) as followed by (Wirajing *et al*, 2023).

Model Specification

A large number of past studies had revealed that FDI, Human capital, labor force participation rate and natural resources effect economic development. In order to study the association between FDI, Human capital, labor force participation rate and natural resources and economic development in Pakistan, this research made a simple empirical research model, denoted by equation 1.

$$Y = \alpha_0 + \beta_1 FDI + \beta_2 HC + \beta_1 LF + \beta_1 NR + \upsilon \quad (1)$$

To ensure the correctness and reliability of the results, the variables employed in this study were converted to logarithmic form using natural log. This was carrying out to simplify estimations,

decrease the problem of heteroskedasticity and produce more precise findings than basic linear method. The above equation 1 is converted to its log format as follows:

$$\boldsymbol{lnY_t = \beta_0 + \beta_1 lnFDI + \beta_2 lnHC + \beta_1 lnLF + \beta_1 lnNR + \varepsilon_t} \quad \textbf{(2)}$$

β_0 reveals intercept, β_1, β_2, β_3 and β_4 denote the coefficients of independent variables respectively. $\boldsymbol{\varepsilon_t}$ is the error term in the model.

Unit Root

In time series data analysis, it is essential to understand stationarity and non-stationarity. Stationary shows that the data has a constant mean and variance. But in non-stationary case, the mean and variance of the series are not constant. Furthermore, the shocks duration of stationary data is short period but shocks in non-stationary data are long period of time. Hence, in order to examine the non-linear relationship by (NARDL) approach, the series are mixture *I(0)* and *I(I)* . Augmented Dickey-Fuller (ADF) tests are generally utilized for analysis of stationary data. In the case null hypothesis is rejected, it shows that data is stationary and eligible for next estimation.

NARDL Model

In the present literature, a nonlinear relationship among the variables are making as one of the basic developments. The idea of nonlinear relationship is proposed by Shin *et al*, (2014) in the empirical work. He presented a new nonlinear equation that contains positive and negative shocks in the independent variables. It is extensively well-known as the nonlinear autoregressive distributed lag (NARDL) approach. In this research, to examine the asymmetric impact of FDI and human capital on economic development, equation (1) is converted into non-linear form by sepating FDI and human capital into increasing and decreasing values. The NARDL is used in the current literature of (Alam *et al*, 2022). The raising and reducing values of FDI and human capital are indicated by the following equations:

$$FDI_k^+ = \sum_{k=1}^{t} \ln FDI_k^+ + \sum_{k=1}^{t} \text{Max}\,(\Delta \ln FDI_k, 0) \quad (3)$$

$$FDI_k^- = \sum_{k=1}^{t} \ln FDI_k^- + \sum_{k=1}^{t} \text{Min}\,(\Delta \ln FDI_k, 0) \quad (4)$$

$$HC_k^+ = \sum_{k=1}^{t} \ln HC_k^+ + \sum_{k=1}^{t} \text{Max}\,(\Delta \ln HC_k, 0) \quad (5)$$

$$HC_k^- = \sum_{k=1}^{t} \ln HC_k^- + \sum_{k=1}^{t} \text{Min}\,(\Delta \ln HC_k, 0) \quad (6)$$

Now following Shin *et al*, (2014), the non-linear co-integration equation can be obtained by adding the positive and negative shocks of FDI and human capital into the linear ARDL co-integration equation and NARDL as the following:

$$\begin{aligned}\Delta \ln GDP_t = {} & \alpha_0 + \sum_k^n \beta_{1k}\, \Delta \ln GDP_{t-k} + \sum_{k=0}^n \beta_{2k}\, \Delta \ln FDI_{t-k}^+ + \sum_{k=0}^n \beta_{3k}\, \Delta \ln FDI_{t-k}^- \\ & + \sum_{k=0}^n \beta_{4k}\, \Delta \ln HC_{t-k}^+ + \sum_{k=0}^n \beta_{5k}\, \Delta \ln HC_{t-k}^- + \sum_k^n \beta_{6k}\, \Delta \ln LF_{t-k} + \sum_k^n \beta_{7k}\, \Delta \ln NR_{t-k} \\ & + \gamma_1 \ln GDP_{t-1} + \gamma_2 \ln FDI_{t-1}^+ + \gamma_3 \ln FDI_{t-1}^- + \gamma_4 \ln HC_{t-1}^+ + \gamma_5 \ln HC_{t-1}^- + \gamma_6 \ln LF_{t-1}\end{aligned}$$

$$+ \gamma_7 \ln NR_{t-1} + \varepsilon_t \quad (8)$$

Where, n shows lag orders and $\gamma_1, \gamma_2, \gamma_3, \gamma_4, \gamma_5, \gamma_6$ and γ_7 are long run coefficients. The long-run positive and negative impact of FDI and human capital on economic development are denoted by: $\Upsilon_1^+ = -\frac{\theta 2}{\theta 1}$ and $\Upsilon_2 = -\frac{\theta 3}{\theta 1}$ where the null hypothesis of no long run asymmetric (i.e. positive and negative) impact of FDI's and HC's, on economic development is written by: $\frac{\theta 2}{\theta 1} = \frac{\theta 3}{\theta 1}$ against the alternative hypothesis $\frac{\theta 2}{\theta 1} \neq \frac{\theta 3}{\theta 1}$. Likewise, the null hypotheses of no short run asymmetric impact of FDI and HC on economic development can be written as:

$\sum_{k=0}^{n} \beta_{2k} = \sum_{k=0}^{n} \beta_{3k}$, $\sum_{k=0}^{n} \beta_{4k} = \sum_{k=0}^{n} \beta_{5k}$ against the alternative hypothesis of

$\sum_{k=0}^{n} \beta_{2k} \neq \sum_{k=0}^{n} \beta_{3k}$, , $\sum_{k=0}^{n} \beta_{4k} \neq \sum_{k=0}^{n} \beta_{5k}$

The error correction term (ECT) can be written as by the equation:

$$\Delta \ln GDP_t = \alpha_0 + \beta_{1k} \ln GDP_t + \beta_{2k} \ln FDI_t^+ + \beta_{3k} \ln FDI_t^- + \beta_{4k} \ln HC_t^+ + \beta_{5k} \ln HC_t^- + \beta_{6k} \ln LF_t + \beta_{7k} \ln NR_t + \Upsilon \text{ECT} + \upsilon_t$$

Where, Υ reveals the ECT.

RESULTS

Result of ADF test

Table 3, indicates the result of ADF test, in which FDI and labor force participation rate are stationary at level i.e. I(0), while GDP, HC and NR are stationary at first difference. So, these diverse outcomes of the ADF test validated to apply NARDL approach.

Table 4: Augmented Dickey-Fuller test

Variable	Level		1st Difference		Decision
	Stat	Prob	Stat	Prob	
lnGDP	-0.438004	0.8928	-4.593572	0.0006	I(I)
lnFDI	-3.942832	0.0042	-5.915275	0.0000	I(0)
lnHC	-1.683403	0.4317	-6.095396	0.0000	I(I)
lnLF	-5.876803	0.0000	-10.79966	0.0000	I(0)
lnNR	-2.002492	0.2847	-6.904060	0.0000	I(I)

Source: Author's Calculation

Results of NARDL Bound Test

Table 5 reveals the outcomes of NARDL model. The value of F-statistic 7.230292 is higher than the upper and lower bound at a 5% significance level, as indicates that there is co-integration among the variables used in the model. This implies that GDP, FDI and Human capital have a long run relationship in Pakistan.

Table 5: NARDL Bound Test

F-Bound test	**Null Hypothesis = No levels relationship**	
	F-statistic = 7.230292	
Significance	**Lower bound I(0)**	**Upper bound I(I)**
10%	1.85	2.85
5%	2.11	3.15
1%	2.62	3.77

Source: Author's Calculation

Long Run Results of NARDL Estimate

The long run findings of NARD model illustrated in Table 6. The long run asymmetric outcomes revealed that the positive change (shock) in FDI inflows has significant and positive influence on economic development in Pakistan, suggesting that a 1% positive change in FDI inflows increases economic development by 0.053%. This implies that increases FDI led to rises economic development of Pakistan in the long run. This outcome is same to the finding of (Abdi *et al*, 2024). Negative change (shock) in FDI inflow was adverse significant impact on economic development. The current finding of both the positive and negative shocks in FDI inflow that enhance and deplete economic development is same to the prior results of Waqas and Mehak (2023).

The coefficient of positive shock in human capital is 1.75 and statistically significant at 1%. This value portrays that a 1% rise in human capital is related with a 1.75% rise in economic development in the long run. Thus, improvements in human capital tend to be linked with the rising of economic development in the long run. The negative coefficient of negative shock in human capital is -25.92 and statistically significant at 1%. Thus, it seems that deleterious changes in human capital reduce economic development in the long run. The negative coefficient recommend that decreased human capital can lead to lower earnings and income, bring less educated workforce and poor health outcome which hindering economic development. This finding agrees with the past researches of (Sarwar *et al*, 2021; Mushtaq *et al*, 2023).

Regarding to the impact of labor force on economic development in the long run. The coefficient of labor force is positive and significant. This implies that a 1% increases labor force, increases economic development by 2.66% in the long run. This is an indication that Pakistan is developing and an agrarian economy, mostly driven by the agriculture sector where a larger percentage of the population is into agricultural production. Our result is similar to the prior researcher's studies (Ul Haque *et al*, 2019).

In the last, the estimated coefficient of Natural resources is positive and significant effect on economic development. This means that 1% increase in natural resources can lead to 0.051% economic development. The result implies that when extraction of natural resources rises, availability of raw materials for the production increases, which will raise the employment level and economic development in Pakistan. Exports are also raised through the abundance of natural resources, which will boost economic growth under the export-led growth hypothesis. Our finding is similar to the previous studies of (Khan, 2021; Hy and Siddiqui, 2010).

Table 6: Long Run NARDL Estimations

Dependent variable = ln(GDP) per capita			
Variable	**coefficient**	**t-stat**	**p-value**
Constant	6.728545	256.4895	0.0000
lnFDI_POS	0.053130	1.854926	0.0792
lnFDI_NEG	-0.074147	-2.317108	0.0546
lnHC_POS	1.752324	3.550575	0.0021
lnHC_NEG	-25.92958	-4.671306	0.0002
lnLF	2.663496	4.857300	0.0001
lnNRR	0.050794	2.469119	0.0482

Source: Author's Calculation

Short Run Results of NARDL estimate

The short run results of NARDL model are shown in Table 7. The coefficients of current and one year lagged positive shocks in FDI inflows exert positive and statistically significant influence on GDP per capita in short run. In contrast, negative shocks in FDI inflow decreases economic development in short run. This implies that down turn in FDI detriment economic development. While the lagged value has significant and positively influence on economic development.

The coefficient of Positive shocks of Human capital has significant and positive influence on economic development. Revealing, a 1% upsurge in positive shocks in human capital enhances economic development by 1.18%, while the negative shock hampers economic development in the short run. This reveals that the tendency in human capital improvement is not favorable for the economy in the short run. Similarly, the previous lag decline in human capital shown unfavorable effect on economic development in short run.

The current and lag coefficients of labor force are negative and statistically significant. The findings indicate that labor force imped economic development of Pakistan in the short run. This advocates most of the workers working in informal sector like agriculture.

Natural resources have negative and high statistically significant coefficient. This implies that a 1% increases natural resources would drive to lower economic development by -0.16 and -0.095. This result suggests that due to Dutch disease, commodity price volatility, economic policies failures, weak institutions and corruption. Our result is with the line of (Badeeb *et al*, 2017; Rongwei and Xiaoying, 2020; Malik *et al*, 2009).

Furthermore, the CointEq-1 is the co-integration term, shows that the deviance from long run equilibrium is increasingly identified by a series of partial short run correctness. As indicated by table 7, the estimated value of CointEq-1 (-0.673) has negative and significant. This reveals that the long run equilibrium adjusts at a 67.3% yearly rate in reaction to the disequilibrium carried by short run shocks. The value of R^2 is 0.86, which depicts that FDI, human capital, labor force and natural resources explain 86% of variations in economic development of Pakistan. The results of

diagnostic tests as presented in the bottom of table 7, reveals normality, no serial correlation and heteroskedasticity.

Table 7: Short Run Results of NARDL Estimations

Dependent variable = lnGDP per capita			
Variable	**coefficient**	**t-stat**	**p-value**
D(lnGDP(-1))	0.459954	3.313898	0.0036
D(lnFDI_POS)	0.008496	2.256871	0.0576
FDI_POS(-1)	0.035797	2.477863	0.0228
D(lnFDI_NEG)	-0.021954	-1.994493	0.0606
FDI_NEG(-1)	0.019160	1.864495	0.0778
D(lnHC_POS)	1.180657	4.764522	0.0001
D(lnHC_NEG)	-3.352778	-0.404522	0.6903
HC_NEG(-1)	-17.47049	-4.689239	0.0002
D(lnLF)	-0.699309	-2.545588	0.0197
D(lnLF (-1)	-1.794575	-5.647868	0.0000
D(lnNRR)	-0.169824	-4.912156	0.0000
D(lnNRR (-1)	-0.095189	-4.738380	0.0001
CointEq (-1)	-0.673767	-10.32239	0.0000
R-squared	0.862291	**Durbin-Watson stat**	2.180423
Adjusted R-squared	0.818027	**F-stat (Prob)**	763.6991 (0.0000)

Source: Author's Calculation

Diagnostic Tests Results

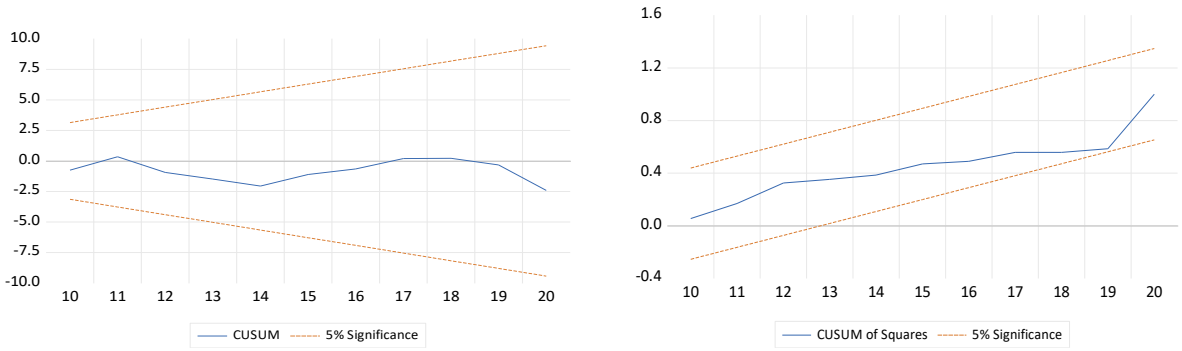
Table 8 indicates the findings of all diagnostic tests. LM test for serial correlation, Brusch-Pagan-Godfrey test to check Heteroskedasticity, Jarque-Bera test is used for normality and Ramsey RESET test is used for checked correct specification in the model. The results presented in table 8 show no serial correlation issue is detected, no Heteroskedasticity issue in the model, the model is normally distributed and correctly specified. While the blue lines are stay within 5% significant level, then it is said that the estimated coefficients in our model are stable as shown in Figure 2.

Table 8: Model Diagnostic tests

Test	**F-statistic**	**Prob; value**
Breusch-Godfrey serial correlation LM test	3.4597	0.512
Brusch-Pagan-Godfrey: Heteroskedasticity test	6.0173	0.782
Jarque-Bera: Normality test	0.0358	0.982
Ramsey RESET test	1.72	0.728

Source: Author's Calculation

Figure 2: Stability of the Coefficient in the Model



CONCLUSION

This study examines the asymmetric nexus between FDI, human capital and economic development in Pakistan for the period of 1980-2021. For this estimation, we used nonlinear autoregressive distributed lag model (NARDL). The NARDL bound test indicates evidence of co-integration between the variables used in the model. The results show that positive shocks in FDI and Human capital have significant positive effect on economic development in the long run and short run. While negative shocks in FDI and Human capital has adverse influence on economic development in the long run and short run. In the long run labor force and natural resources have positive and significant relationship with economic development, but in the short run it is negative and significant link with economic development.

This study recommended that the government encourages spill-over effect and diversify FDI to reduce dependence on a single sector, develop high-skilled workers by invest in education and training, increase flexibility and reduce rigidities in labor market, encourage entrepreneurship, implement sustainable management practices, invest in infrastructure and logistic to improve the efficiency of Natural resources.

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