ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XIV, Issue X, October 2025

Modelling the Role of Absorptive Capacity in Foreign Direct Investment - Economic Growth Nexus: A Focus on South Africa's Manufacturing Sector

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DOI: https://doi.org/10.51583/IJLTEMAS.2025.1410000003

Received: 06 October 2025; Accepted: 12 October 2025; Published: 27 October 2025

Abstract: Overtime, scholars have come up with diverse opinion regarding the impact of foreign direct investment (FDI) on economic growth in host communities. Similarly, empirical findings arising from different contexts and time have equally been contradictory. Current effort to resolve these inconsistency narrows down to sectoral concentration of multinational firms and the capacity of host communities to absorb foreign technology. In addition to these factors, this study deemed it necessary to highlight the importance of government regulatory role. Analysis that defined this investigation was founded on the Solow's labour-augmented production function, while Autoregressive Distributed Lag (ARDL) bound test approach was employed in the estimation that followed using data for the period 1991 - 2022. The analysis produced interesting findings: First, results show that FDI has a significant negative impact on the growth of the manufacturing sector. Second, the importance of absorptive capacity and government regulatory quality in determining the nature and magnitude of impact of FDI in the growth of the manufacturing sector were equally evident.

Keywords: FDI, Absorptive Capacity, Government regulatory quality, Growth of Manufacturing Sector, ARDL model, South Africa.

JEL Codes: C22, F23, F43

I. Introduction

Views are diverse and have remained unchanged regarding the growth-impact of foreign direct investment (FDI) on host communities. In theory, there is a consensus of opinion aligning with the fact that FDI is an engine of growth; rather than negative externalities, FDI provide positive external effects. However, overtime, empirical evidence regarding this relationship in different contexts and time have remained contradictory. For instance, in some contexts and times, a good number of studies provided evidence that supports the idea that FDI is a strong catalyst and engine of growth (Caves 1974; Kokko, 1994; Nair-Reichert and Weinhold, 2001; Yao and Wei, 2007; Pegkas, 2015; Emako et al., 2022; Wondimu, 2023), some other studies came up with findings that suggest a negative external effects instead (Haddad and Harrison, 1993; Aitken and Harrison, 1999; Bornschier, Chase-Dunn, and Robinson, 1978; Fry, 1993; Ikpe and Nteegah 2014). There are also studies that found no evidence that could link FDI to growth (Carbonell and Werner, 2018; Ikpe, 2019; Ozili, 2025). These evidence of contradiction in findings from previous studies leaves open an existing literature gap, therefore the need for further investigation.

As further investigations are being explored, argument regarding the channels via which effects of FDI are transmitted in developing countries came up. Drawing from this, some studies provided support for a positive effect in terms of technological and knowledge spillovers and enhance firm productivity (Zhou, Li and Tse, 2002; Blomstrom and Kokko, 1998). Some others explained this in terms of source of employment in host environments (Lipsey, Sjoholm, and Sun, 2013), while some others explained it with respect to causal effect of FDI on export (Zhang and Song, 2002; Vogiatzoglou and Thi, 2016). These notwithstanding, analysts still strongly hold the view that FDI plays key role in growth stimulation and development as evidence are bound in many countries. Therefore, it is argued that, resolution lies in understanding the economic environment that could serve as bases for harnessing the benefits of FDI as buttressed by Zhang (2001) which aligned perceived doubt on the positive growth-impact of FDI to unfavourable country-specific conditions. One amongst notable country-specific conditions is explained in terms of lack of absorptive capacity. This has been pointed out as reason why empirical evidence of positive effect of FDI on growth is largest among developed countries (Carbonell and Werner, 2018). One other factor pointed out is the issue of sectoral concentration of FDI within the industrial sectors of host communities. It is widely argued that spillover benefits of FDI differ across sectors and countries, given that potential to absorb foreign technologies differ from sectors and economies (Alfaro, 2003; Hirschman, 1958). Alfaro (2003) further emphasized that FDI in different sectors of the industrial sector (primary, manufacturing and services) exert different effects on economic growth (see Emako et al, 2022). As a result, it is worthy of note that effect of FDI on growth will largely hinge on sectoral concentration, host economy's level of absorptive capacity and quality of inward FDI. Empirical Evidence situate positive growth-effect of FDI on manufacturing (Alvarez, 2003), given that manufacturing sector

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XIV, Issue X, October 2025

has potential for spillovers and linkages with other sectors of the industrial sector. By this, manufacturing output serves as a vehicle for the transfer of positive externalities from FDI to other sectors through forward and backward linkages.

In South Africa, it has not been possible to fully harness the benefits of FDI despite being a major recipient economy in Southern African region, given that most inward FDI are concentrated in the primary sector. Due to unhealthy business climates, the real sector (particularly the manufacturing sector) has remained unattractive to foreign multinational firms. The ranking of South Africa in World Bank's ease of doing business index has experienced a downward trend over the years; from 41 out of 185 countries in 2013, South Africa was subsequently ranked 72 in 2015, 74 in 2016 and 82 in 2017 out of 189 countries (World Bank, 2018). Notable specific factors responsible for South Africa's poor ranking includes lack of access to long term funds, infrastructural deficit, insecurity, policy summersault, lack of business confidence, and lack of access to credits, high cost of starting business, poor contract enforcement for businesses respectively. These factors do not guarantee security of investments, and increases cost of investment. These has led to negative net-inflow of manufacturing multinational firms, thus leading to declines in the contribution of manufacturing sector to GDP over the years. For instance, average growth rate of manufacturing value added for South Africa declined from 5.93% over 1970 – 1975 to 0.33% over the period 1990 – 1998 (Bell and Madula 2001). Evidence points to the fact that this decline persists even in recent period; the contribution of manufacturing sector to GDP is 15.2% in 2013 and 13% in 2017Q3 (Brand South Africa, 2014, 2018).

In an effort to resolve the observed inconsistency in previous findings in the context of South Africa, this study modelled for absorptive capacity in the model of impact of FDI on the growth of the manufacturing sector. The study differs from previous studies in the following ways: First, it modelled for human capital, openness to trade, and financial market development as components of absorptive capacity (see Carbonell and Werner 2018). Carbonell and Werner argue that absorptive capacity is required for FDI to enhance productivity and output growth. Previous studies did not consider this. Second, it is rightly argued that, domestic credit for GDP transactions be controlled in the FDI-growth relationship, otherwise result from such estimation could suffer from omitted variable bias (Carbonell and Werner, 2018). Previous South African studies ignored this assertion, therefore results from such investigations may have been plagued by the issue of omitted variable bias. By utilizing domestic credit provided by the financial sector as proxy for real economy credit, in addition to the use of secondary school enrolment rate as proxy for quality of stock of human capital, and sum of trade as a ratio of GDP as proxy for trade globalization (See Carbonell and Werner, 2018), this observed gap in previous studies was addressed. Third, equally considered in this study which was previously neglected is the important role of government regulation. Governance is known to have a direct bearing on economic environment upon which productive activity takes place (Afolabi, 2019; Ikpe et al 2025); studies have equally provided support for a causal link between government regulatory role and economic performance. (see World Bank 2004). The study utilized World Bank index of regulatory quality as proxy for capacity of government to formulate and implement sound policies and regulations that could permit as well as promote private sector development.

The paper is divided into five sections; following this introduction is section two that examines the empirical evidence from which literature gap was identified, section three shows the methodological procedures adopted in the analysis of data, four presents result of the data analysis, while five concludes the study, highlighting policy implications of findings from the study.

II. Empirical literature

Divergent and inconsistent international evidence continues to support differing opinions about how foreign direct investment (FDI) affects the growth and development of national economies. While some studies (Hansen and Rard, 2006; Lumbila, 2015; Zakia and Ziad, 2007; Adigwe et al, 2015; Yao and Wei, 2007; Pegkas, 2015; Ali and Hussain, 2017) show a strong positive impact of foreign direct investment (FDI) on growth, others show a significant negative impact (Saqib et al, 2013; Carkovic and Levine, 2002; Durham, 2004). Additionally, several investigations (Akinlo, 2004; Adewumi, 2006; Herzer et al, 2008) did not uncover any indication of a growth effect. In particular, Herzer et al. found no conclusive proof of a relationship between FDI and growth.

Studies have attributed this lack of agreement to variations in the economic climate (Li and Liu, 2005; Durnham, 2004; Batten and Vo 2009). This provides explanations for why empirical data appears to support the idea that FDI has a greater positive growth impact in industrialized economies than in developing ones. Studies looked at the connection between FDI and several characteristics that characterize an economy's absorptive capacity in order to provide explanation. Blomstrom et al. (1994) did not identify any connection between education and FDI inflows in developing nations, while Li and Liu (2005) found evidence of a strong positive correlation between human capital and the growth impact of FDI in both developed and developing nations. Some nations have seen some good effects, while others have seen none at all (Castellani and Zanfei, 2003). In 123 countries, studies such as Young and Lan (1997) were unable to find any evidence of FDI's beneficial effects on total factor productivity.

The aforementioned makes it abundantly evident that academics cannot agree on the expected impact of foreign direct investment (FDI), either overall or at the sectoral level. Mixed results were also obtained when the individual effects of each of the many elements that account for absorptive capacity were investigated. Because each country has unique characteristics, it is common to have different conclusions for different countries. Even when the same model and data source are used, these factors greatly influence the results of research. Second, prior research similarly overlooked the economy's ability to optimally enforce current industry regulations without distorting the market

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III. Methodology

Data

Table 1 Variables,' Description and Sources

Variables	*Description*	*Sources*
MANV	Manufacturing value added as a percentage of GDP	*WDI*
FDI	Inward stock of foreign direct investment as a percentage of GDP	*UNCTAD*
GfCAK	Gross fixed capital formation as a percentage of GDP	*WDI*
SSENROL	Secondary school enrolment rate as a percentage of gross.	*WDI*
CREDIT	Total domestic credit provided by the financial sector as percentage of GDP.	*WDI*
TRDGDP	Trade globalization measured as sum of trade (export + import) as a ratio of GDP.	*WDI*
GVREG	Government regulatory quality; it reflects perceptions of government's ability to formulate and implement sound policies and regulation that permit and promote private sector development	*Kaufmann & Kraay*

WDI = World Development Indicators (World Bank, 2023). TRDGDP was computed using the relevant indices of trade and GDP (Import, Export, and GDP) from WDI

Theoretical Framework and Model Specification

Theoretical foundation for analyzing the effect of FDI on manufacturing sector performance is derived from the popular Cobb-Douglas production function; this in this study is specified as $Y = K^{\alpha}(AL)^{1-\alpha}$, $0 < \alpha < 1$ - - (1)

Y stands for output, K represents stock of physical capital, L denote stock of human capital, The efficiency factor (A) augments labour, α indicates constant returns to physical capital, and 1-α stands for constant returns to human capital. The output function is thus derived from equation 1. In the Solow's model, this is defined as a function of the initial output and the determinant of ultimate steady state. In the empirical function, the study follows Carbonell and Werner (2018)'s reduced/parsimonious GETS model for the Spanish economy with modification as adopted by Ikpe (2025),. Thus,

MANV = f(GfKAP, SSENROL, FDIGDP, CREDIT, TRDGDP, GVREG) (2)

where,

MANV is manufacturing value added, GfKAP represents fixed capital formation (proxy for stock of physical capital), SSENROL denotes secondary school enrolment (proxy for quality of human capital), FDIGDP is Foreign Direct Investment, which is measured as a percentage of GDP, CREDIT stands for domestic real economy credit, TRDGDP indicates trade as a percentage of GDP – proxy for openness of the economy, and GVREG is government regulatory quality.

Estimation Strategy

By thoroughly examining the Time series properties of the macroeconomic variables it was observed that the order of integration for each of the macroeconomic variables runs between zero and one. According to Pesaran et al. (2001), ARDL bounds testing approach to cointegration analysis can be applied to series that are integrated at I(0) or I(1) or [I(0) and I(1)]. However, it must be ensured that none of the variables in the series are I(2) as that could make the computed F-Statistics required to determine cointegration invalid. In order to identify the order of integration of series correctly, unit root analysis is implemented in this study. With Perron (2006) suggesting that conventional unit root tests such as Augmented Dicky–Fuller (ADF; Dickey and Fuller (1979, 1981), Philip Perron (PP; Phillips and Perron (1988), Kwiatkowski–Phillips–Schmidt–Shin (KPSS; Kwiatkowski et al. (1992) and Ng and Perron (2001) provide biased results because of their low explanatory strength to identify unknown structural breaks in the series, this study applies Zivot and Andrews (1992) unit root test, which takes into account unknown single structural break in the series. It identifies the unknown structural breaks date by treating the break date as an endogenous variable. The results in Table 2a and 2b show a structural break in all the data series. The stationary properties show mixed integration in the data series of the two countries [I(0) and I(1)]. Interestingly, none of the variables is found to be integrated at second difference [I(2)].

Table 2. Zivot-Andrews Unit Root Test

Level form I(0)			**First difference I(1)**		
Variable	t – statistics	Break date	t - statistics	Break date	Order of integration
*ln*MANV	-4.1974	2006	-6.2380*	2011	I(1)

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*ln*GFKAP	-4.1472	2006	-5.5811*	2009	I(1)
*ln*SSENROL	-4.0049	1994	-6.3935*	1999	I(1)
*ln*FDIGDP	-5.6249*	2010	-7.1278*	2003	I(0)
*ln*TRDGDP	-3.4487	2000	-6.9418*	2009	I(1)
*ln*CREDIT	-3.4619	2011	-8.0112*	2008	I(1)
*ln*GVREG	-3.5730	2001	-7.2374*	2004	I(1)

Note: * denotes significant at 1% level of significance. Variables are adjudged to be significant where significance is established at, at least 5% level of significance.

The autoregressive distributed lag (ARDL) approach to cointegration analysis is used in this study. ARDL has widely been used in recent studies due to its statistical power to provide valid and reliable estimates (see Adamu and Rasiah, 2016; Nampewo and Opolot, 2016; Aboagye, 2017; Agbanike, et al., 2019;; Abango, et a., 2019). In the particular case of this study, the mixed order of integration (I(0) and I(1)) observed from the unit root tests makes ARDL the most appropriate econometric technique for the long-run analysis (see Pesaran et al. 2001). Equation for the ARDL model is thus specified:

$$\Delta MANV_T = \beta_0 + \sum_{i=1}^{q} B_1 \Delta MANV_{T-i} + \sum_{j=0}^{q} \alpha_j \Delta GfKAP_{t-j} + \sum_{k=0}^{q} \lambda_k \Delta SSENROL_{t-k} + \sum_{1=0}^{q}$$

$$\varphi_1 \Delta FDIGDP_{t-1} + \sum_{m=0}^{Q} \eta_m \Delta CREDIT_{t=m} + \sum_{n=0}^{q} \theta_n \Delta TRDGDP_{t-n} + \sum_{o=0}^{q} \mu_o \Delta GVREG_{t-o} + \sum_{p=0}^{q}$$

$$\gamma_1 \Delta FDIGDP * GVREG_{t-p} + \Delta_0 MANV_{T-1} + \delta_1 GfCAK_{t-1} + \delta_2 SSENROL_{t-1} + \delta_3 FDIGDP_{t-1} + \delta_3 FDIGDP_{t-1} + \delta_4$$

$$CREDIT_{t-1} + \delta_5 TRDGDP_{t-1} + \delta_6 GVREG_{t-1} + \delta_7 \Delta FDIGDP * GVREG_{t-p} + \varepsilon_t \quad (3)$$

According to Pesaran, Shin and Smith (2001) the cointegrating equation based on an asymptotic non-standard F-test on coefficient of the lag level variables of the unrestricted correction model is specified as:

$$\Delta MANV_T = \beta_0 + \sum_{i=1}^{q} B_1 \Delta MANV_{T-i} + \sum_{j=0}^{q} \alpha_j \Delta GfKAP_{t-j} + \sum_{k=0}^{q} \lambda_k \Delta SSENROL_{t-k} + \sum_{1=0}^{q}$$

$$\varphi_1 \Delta FDIGDP_{t-1} + \sum_{m=0}^{Q} \eta_m \Delta CREDIT_{t=m} + \sum_{n=0}^{q} \theta_n \Delta TRDGDP_{t-n} + \sum_{o=0}^{q} \mu_o \Delta GVREG_{t-o} + \sum_{p=0}^{q}$$

$$\gamma_p \Delta FDIGDP * GVREG_{t-p} + \Omega Ect_{t-1} + \mu_t \quad (4)$$

Where Ect_{-1} defines the error correction term and Ω is the speed of adjustment to equilibrium. Other variables are as previously defined. The results of the ARDL bounds test are presented in Table 3.

Table 3. ARDL Cointegration Results

	Specification 1			Specification 2	
	Brk	Selected Model	F-Statistic	Selected Model	F-Statistic
South Africa	2006	ARDL(1, 0, 0, 1, 0, 1, 1)	4.3515**	ARDL(1, 0, 0, 0, 1, 0, 1, 0)	4.8038**
	I(0)	I(1)		I(0)	I(1)
1%	3.976	5.691		3.864	5.694
5%	2.794	4.148		2.730	4.163
10%	2.334	3.515		2.277	3.498
** indicates significance at 5% level. *Source of Asymptotic critical value bounds:* Narayan (2005)					

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The results show that the calculated F-statistic is higher than the upper critical bound from Narayan (2005) at 5% level of significance. This suggests evidence of long-run relationship among the variables in these countries. The null hypothesis of no cointegration among the variables is therefore rejected, thus giving justification for analysis on the basis of ARDL bound test approach. In the analysis, equation "3" is estimated (first without the interaction term FDIGDP*GVREG); this captures the direct impact of each of the explanatory variables on MANV, then with the interaction term to capture the effectiveness of government regulation on FDI; in this, variable of interest is FDIGDP*GVREG. The necessity of government regulation (GVREG) interacting with FDIGDP in the relationship between FDI and economic growth is founded on the theoretical basis which states that, institution of governance which is defined as social infrastructure has a direct relationship with economic environment upon which productive activities are carried out to determine outcome (see Ikpe et al., 2025; Afolabi, 2019). Therefore, GVREG influences the productivity of FDI to either enhance or mitigate the effect of FDI on growth of MANV.

IV. Results and discussion

Result of the long run regression for the relation under consideration shows that, three (FDIGDP, CREDIT, and GVREG) of the six explanatory variables account for changes in the value added of the manufacturing sector. These include Foreign Direct Investment (FDIGDP), real sector credit (CREDIT), and government regulatory quality (GVREG). Specifically, FDI (the primary variable of interest) exerts a significant positive impact on growth of the manufacturing sector; value added of the manufacturing sector increases by 0.82% for every 1% increase in FDI. On the other hand, real sector credit (CREDIT) as a measure of absorptive capacity significantly increases MANV by 0.10%. It indicates tendency of MANV to increase by 10% in response to 100% increase in real sector credit. Likewise, MANV significantly increases by 8.53% in response to 1% improvement in the quality of government regulatory quality; this indicates tendency of MANV to increase by 853% should the economy level of government regulatory quality increase by 100%. The economy's levels of stock of physical capital (GfKAP), quality of human capital (SSENROL), as well as openness of the economy (TRDGDP) are really not of importance in determination of levels of MANV in South Africa. Among variables that define absorptive capacity, only real sector credit (CREDIT) significantly determines levels of growth of manufacturing sector. The presence of structural break does not exert any significant changes on the long run impact of these variables on manufacturing value added.

On the other hand, result in specification "2" shows that effort by the government to bring about significant positive changes in the impact of FDI on manufacturing sector growth through policy regulation failed to yield the desired result, given insignificant impact of FDIGDP*GVREG on MANV. The dynamics of these relations shows that even in the short run, same set of variables (FDIGDP, CREDIT, and GVREG) equally significantly accounts for changes in levels of growth performances of the manufacturing sector. Specifically, 1% increase in FDIGDP significantly increases MANV by 0.18%; an increase of same magnitude in CREDIT, and GVREG increases MANV by 0.03%, and 2.19% respectively. Significant impact of ΔBrk indicates that structural break that individually occurred for each of the variables, negatively affected their individual impact on MANV by -1.70%. The model has an ECM(-1) of -0.46, and it is negative, indicating adjustment to equilibrium at the rate of 46% in the case of disequilibrium each period. See tables 5a and 5b for the long run, and short run estimates, as well as diagnostic tests. Evidence in specification "2" shows that the interaction term (FDIGDP*GVREG) is statistically significant. This indicates effectiveness of government regulatory action on FDI in South Africa. The model is robust to Jargue-Bera test of normality, Brensch-Pagan Godfrey test of Hetroscedasticity, Breusch-Godfrey LM test of serial correlation, as well as Ramsey Reset test of specification bias.

Table 5a.. Long-run estimates

	Specification 1				Specification 2			
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Coefficient	Std. Error	t-Statistic	Prob.
*ln*GFKAP	-0.0031	0.1349	-0.0228	0.9820	-0.1626	0.1024	-1.5870	0.1275
*ln*SSENROL	0.0594	0.0592	1.0028	0.3285	0.0424	0.0617	0.6874	0.4994
*ln*FDIGDP	0.8164	0.2770	2.9473	0.0083	0.1160	0.0259	4.4787	0.0002
*ln*CREDIT	0.0949	0.0243	3.9115	0.0009	0.3711	0.8177	0.4539	0.6546
*ln*TRDGDP	-13.4272	6.8065	-1.9727	0.0633	-1.6041	4.4714	-0.3588	0.7234
*ln*GVREG	8.5327	1.8298	4.6633	0.0002	6.1179	2.1065	2.9043	0.0085
*ln*FDIGDP**ln*GVREG					1.7498	1.3916	1.2574	0.2224
Brk	-1.7007	1.5274	-1.1135	0.2794	-1.5871	1.5693	-1.0114	0.3252
C	27.5648	3.5776	7.7048	0.0000	30.5048	3.2963	9.2544	0.0000

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XIV, Issue X, October 2025

Table 5b. Short-run estimates and Diagnostic tests

	Specification 1				Specification 2			
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Coefficient	Std. Error	t-Statistic	Prob.
Δ*ln*GFKAP	0.0576	0.0494	1.1676	0.2574	-0.0192	0.0541	-0.3548	0.7262
Δ*ln*SSENROL	0.0030	0.0242	0.1219	0.9042	0.0043	0.0279	0.1539	0.8792
Δ*ln*FDIGDP	0.1790	0.0505	3.5481	0.0021	0.3142	0.2130	1.4750	0.1550
Δ*ln*CREDIT	0.0253	0.0078	3.2290	0.0044	0.0397	0.0082	4.8438	0.0001
Δ*ln*TRDGDP	-0.3386	1.1084	-0.3055	0.7633	0.3292	1.2740	0.2584	0.7986
Δ*ln*GVREG	2.1931	0.6067	3.6147	0.0018	0.1381	0.8429	0.1638	0.8714
Δ*ln* (FDIGDP * GVREG)					0.9258	0.3528	2.6240	0.0159
ΔBrk	-1.2479	0.2860	-4.3626	0.0003	-1.1873	0.2941	-4.0369	0.0008
CointEq(-1)	-0.4567	0.0657	-6.9525	0.0000	-0.4256	0.0741	-5.7426	0.0000
Diagnostic Tests								
Jarque-Bera test	0.4125	[0.8136]			1.5047	[0.4712]		
BG Serial Correlation LM Test	00832	[0.7763]			0.7085	[0.4099]		
BPG Heteroskedasticity Test	0.7109	[0.7147]			0.4053	[0.9182]		
Ramsey RESET Test	0.3282	[0.5738]			0.1059	[0.7483]		
Note: P-valuesin [ ];								

Further discussion and policy relevance of findings

Contending issue of whether host country's level of absorptive capacity does matter for manufacturing sector performance, and indeed growth-impact of FDI, evidence from this study provided support for that conjecture. In fact, statistical significance of the components of absorptive capacity in the model is an indication of the importance of absorptive capacity in FDI-MANV model. However, difference in the components of absorptive capacity that matters for enhanced growth performance of the manufacturing sector is a function of individual differences in levels of development of specific component of absorptive capacity. Findings provided evidence of tendencies of individual component of absorptive capacity to either exert negative or insignificant effect on manufacturing growth performance at lower capacity, and positive or significant effect at higher capacity of development. For instance, SSENROL as a measure of human capital development is at a very low level in South Africa, hence findings from the study. The aggregate has a weak insignificant positive relation with MANV (0.0594) in the model. Similarly, openness of the economy (TRDGDP) has a negative and insignificant relationship with MANV; This outcome is not unconnected with the economy's relative low level of development hence the negative effect.

Secondly, regulatory role of the state is a key factor that determines both the magnitude and nature of the individual private contributory factors of production to total output. The public sector is not only required to be alive to its regulatory responsibility, but is expected to do that in ways that could promote positive contributions of the private sector to total output. In the context of this study, while government regulatory quality (GVREG) exerts strong significant positive impact on MANV(8.5327) which underscores the importance of effective government regulation in promoting growth of the manufacturing sector, and the economy in general. The fact that interaction between FDI and GVREG has a strong significant positive effect on MANV in short run model, but insignificant in the long run means that government need to do more to make effect of its regulation sustainable.

V. Conclusion

On the basis of findings from this study, it is the conclusion of the study that nature of causal relationship between FDI and MANV is a function of level of absorptive capacity in host economy, as earlier advocated by Borensztein, et al (1998), and more recently by Hermes and Lensink (2003), Alfaro et al. (2004), and Durham (2004). More specifically, findings from the study strongly supports findings by Harmes and Lensin(2003); Harmes and Lensin concludes that in the absence of developed domestic financial system, FDI is an insignificant growth determinant – similar conclusion is also arrived at in this study. Also, of great importance in FDI – growth relation is relevance of ability of the government to implement and enforce growth enhancing laws in ways that do not hurt operating private firms.

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XIV, Issue X, October 2025

Limitations and direction for future research

The study examined the relationship between stock of FDI inflow and growth of the manufacturing sector. In this, the role of institution of governance in ensuring a conducive economic environment upon which productive activity takes place was recognized. However, the study utilized a single indicator of governance to capture the influence of governance in the analysis. This neglected possible influence of other indices of governance on the growth of the manufacturing value added. For instance, multinational firms will require a stable polity to carry on their production; the effect that an unstable political environment might exert on the productivity of FDI is ignored. Therefore, future studies should consider using a composite index of governance in analysis of the relationship between FDI and manufacturing value added.

References

1. Abango, M.A., H. Yusif, and A. Issifu, (2019), 'Monetary Aggregates Targeting, Inflation Targeting and Inflation Stabilization in Ghana, African Development Review, Vol. 31, No. 4, pp.448-461.
2. Aboagye, S., (2017), 'Economic expansion and environmental sustainability nexus in Ghana, African Development Review, Vol. 29, No. 2, pp.155-168.
3. Adamu, I.M. and R. Rasiah (2016), 'External debt and growth dynamics in Nigeria', African Development Review, Vol. 28, No 3, pp.291-303.
4. Adejumo, A.V. (2013), 'Foreign direct investment and manufacturing sector performance in Nigeria (1970-2009), Australian Journal of Business and management Research Vol. 3, No 4, pp. 39-56.
5. Adewumi, S. (2006), 'The Impact of Foreign Direct Investment on Growth in Developing Countries: An African Experience', Jonkoping International Business School, Jonkoping University, Jonkoping.
6. Adigwe, P.K, C.E. Ezeagba, and F.M.P. Udeh (2015), 'Effect of Foreign Direct Investment on Nigerian Economic Growth', European Journal of Research and the Reflections in Management Sciences, Vol. 3, No. 5, ISSN2056-5992
7. Afolabi, J. O. (2019). The impact of governance on economic development in West Africa: A system GMM dynamic panel approach. Economica, 15, 217–231.
8. Agbanike, T.F., C. Nwani, U.I. Uwazie, L.I. Anochiwa, and M.O. Enyoghasim (2019). 'Banking Sector Development and Energy Consumption in Nigeria: Exploring the Causal Relationship and its Implications', African Development Review, Vol. 31, No. 3, pp.292-306.
9. Aitken, B. J., and A.E. Harrison (1999), 'Do domestic firms benefit from direct foreign investment? Evidence from Venezuela', American Economic Review, Vol. 89, No. 3, pp. 605–618. doi:10.1257/aer.89.3.605.
10. Akinlo, A. E. (2004), 'Foreign direct investment and growth in Nigeria', Journal of Policy Modeling, 26, 627–639. doi:10.1016/j.jpolmod.2004.04.011
11. Akintoye, (2013), 'Foreign Direct Investment and Manufacturing Sector Performance in Nigeria, (1970-2009)', Australian Journal of Business and Management Research, Vol.3, No. 4, pp. 39-56 ISSN: 1839-0846
12. Alfaro, L. (2003), 'Foreign Direct Investment and Growth: Does the sector matter?', Working paper, Harvard Business school, Harvard. htt://www.grips.ac.jp/ teneter /oono/hp/docu01/paper14. Pdf
13. Alfaro, L., A. Chanda, S. Kalemli-Ozcan, and S. Sayek (2004), 'FDI and economic growth: The role of local financial markets', Journal of International Economics Vol. 64, No. 1, pp. 89–112. doi:10.1016/S0022-1996(03)00081-3.
14. Ali, N., and H. Hussain (2017), 'Impact of Foreign Direct Investment on the Economic Growth of Pakistan, American Journal of Economics, Vol. 7, No. 4, pp.163-170 doi:10.5923/j.economics.2017. 0704.01
15. Ashraf, A., D. Herzer, and P. Nunnenkamp (2016), 'The effects of greenfield FDI and cross-border M&As on total factor productivity', World Economy, Vol. 39, No. 11, pp. 1728–55. doi:10.1111/twec.2016.39.issue-11.
16. Batten, J. A., and X.V. Vo (2009), 'An analysis of the relationship between foreign direct investment and economic growth', Applied Economics, Vol. 41, No. 13, pp. 1621–41. doi:10.1080/00036840701493758.
17. Bell, T., and N. Madula (2001), 'Where has all the Growth Gone? South African Manufacturing Industry 1970-2000', Paper presented at 2001 Annual Conference of Trade and Industrial Policy Strategies (TTPS).
18. Blomstrom, M. and A. Kokko (1998), 'Multinational Corporations and Spillovers', Journal of Economic surveys, Vol. 12, No. 3, pp.247-277, http:doi.org/10.1111/1467.6419.00056
19. Blomström, M., R.E. Lipsey and M. Zejan (1994), 'What explains the growth of developing countries', Working Paper 4132. Cambridge, MA. National Bureau of Economic Research, Cambridge, MA. http://www.nber.org/papers/w4132.
20. Bornschier, V., Chase-Dunn, K. Ch, and R. Rubinson (1978), 'Cross-National Evidence
21. Brand South Africa (2014), 'South Africa's economy:Key Setors', Retrieved January, 2019 fromhttps://www.brandsouthafrica.com/investments-immigration/economynews/South-Africa
22. Brand South Africa (2018), 'South Africa's economic sectors', Retrieved January, 2019 fromhttps://www.brandsouthafrica.com/investments-immigration/economynews/South-Africa
23. Carbonell, J.B.,and R.A. Werner (2018), 'Does Foreign Direct Investment Generate Economic Growth? A New Empirical Approach Applied to Spain', Economic Geography, Vol. 94, No. 4, pp. 425-456. Doi: 10.1080/00130095.2017.1393312
24. Carkovic, M., and R. Levine (2005), 'Does foreign direct investment accelerate economic growth? In Does foreign direct investment promote development? ed. T. H. Moran, E. M. Graham, and M. Blomström, 195–220. Washington, DC: Institute for International Economics.

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XIV, Issue X, October 2025

25. Castellani, D., and A. Zanfei (2003), 'Technology gaps, absorptive capacity and the impact of inward investments on productivity of European firms', Economics of Innovation and New Technology, Vol. 12, No. 4, pp. 555-576. .https://doi.org/10.1080/714933761.
26. Caves, R.E. (1974), 'Multinational Firms, Competition, and Productivity in Host-country markets', Economica, Vol. 4, No. 162, pp. 176-193
27. Dickey, D. A., and W. A. Fuller. (1979), 'Distribution of the Estimators for Autoregressive Time Series with Unit Root', Journal of the American Statistical Association, Vol. 74, pp. 427–481.
28. Dickey, D. A., and W. A. Fuller. (1981), 'Likelihood Ratio Statistics for Autoregressive Time Series with a Unit Root', Econometrica, Vol. 49, pp.1057–1072. doi:10.2307/1912517.
29. Djankov, S., and B. Hoekman (2000), 'Foreign investment and productivity growth in Czech enterprises', World Bank Economic Review, Vol. 14, No. 1, pp. 49–64. doi:10.1093/wber/14.1.49.
30. Durham, J. B. J. (2004), 'Absorptive capacity and the effects of foreign direct investment and equity foreign portfolio investment on economic growth', European Economic Review, Vol. 48, No. 2, pp. 285–306. doi:10.1016/S0014-2921(02)00264-7.
31. Fry, M. J. (1993), 'Foreign direct investment in a macroeconomic framework: Finance, efficiency, incentives, and distortions', Working Paper 1141. Washington, DC: World Bank International Economics Department. http://documents.worldbank.org/curated/en/927341468762342776/pdf/multi0page.pdf.
32. Government of South Africa (2010), Framework of the New Economic Growth Path, The Presidency of South Africa. Pretoria, South Africa, Retrieved January, 2019 from website: http://www.info.gov.za/view/DownloadFileAction?id=135748.
33. Government of South Africa (2011), National development plan: Vision for 2013, National Planning Commission, Pretoria, South Africa. Retrieved January, 2019 from website: http://www.info.gov.za/view/DownloadFileAction?id=135748.
34. Guillermo A. Alvarez, and William W. Park (2003), The New Face of Investment Arbitration: NAFTA Chapter 11, 28 Yale J. Int'l L. (2003), Available at: https://digitalcommons.law.yale.edu/yjil/vol28/iss2/9
35. Haddad, M., and A. Harrison (1993), 'Are there positive spillovers from direct foreign Investment? Evidence from panel data for Morocco, Journal of Development Economics, Elsevier, Vol.42, No.1, pp. 51-74
36. Hansen, H., and J. Rand (2006), 'On the causal links between FDI and growth in developing countries, World Economy 29 (1): 21–41. doi:10.1111/twec.2006.29.issue-1.
37. HarunaDanja, K. (2012), 'Foreign Direct Investment and the Nigerian Economy', American Journal of Economics, Vol. 2 No. pp.33-40.doi:10.5923/j.economics.20120203.02.
38. Hermes, N., and R. Lensink (2003), 'Foreign direct investment, financial development and economic growth', Journal of Development Studies, Vol. 40, No. 1, pp. 142–63. doi:10.1080/00220380412331293707.
39. Herzer, D., S. Klasen, and F.D. Nowak-Lehmann (2008), 'In search of FDI-led in developing countries: The way forward', Economic Modelling, Vol. 25 No. 5, pp. 793–810. doi:10.1016/j.econmod.2007.11.005.
40. Ikpe, M., and Nteegah, A. (2014). 'Macro-Econometric Modelling of Social Insecurity, Foreign Direct Investment and Economic Growth Association'. International Journal of Social Sciences and Management, vol 1(4): 129 – 138
41. Ikpe, M. (2019). "Foreign Direct Investment and Performance of the Manufacturing Sector in Nigeria: any link to Agricultural Production?" Saudi Journal of Business and Management Research vol 4(2): 56 – 61
42. Ikpe, M., Madueme, S.I., Ojike, R.O., Agbanike, T.F., Anochiwa, L.I., and Odionye, J.C. (2025). Health expenditure, and economic growth in Sub-Saharan African countries: the role of governance quality, Review of Development Economics, 29(2), 1144 - 1169 https://doi.org/10.1111/rode.13158
43. Johnson, A. (2006), 'The effects of FDI on host country economic growth', Working Paper 58. Stockholm, Sweden: Royal Institute of Technology, Centre of Excellence for Studies in Science and Innovation.
44. Kokko, A. (1994), 'Technology, Market characteristics, and Spillovers', Journal of Development Economics Elsevier, Vol. 43, No.2, pp. 279-293
45. Kwiatkowski, D., P. C. Phillips, P. Schmidt, and Y. Shin. (1992), 'Testing the Null Hypothesis of Stationarity against the Alternative of a Unit Root: How Sure are We that Economic Time Series Have a Unit Root?', Journal of Econometrics, Vol. 54, No. 1, pp. 159–178. doi:10.1016/0304-4076(92) 90104-Y.
46. Li, X., and X. Liu (2005), 'Foreign direct investment and economic growth: An increasingly endogenous relationship', World Development, Vol. 33 No.3, pp. 393–407. doi:10.1016/j.worlddev.2004.11.001.
47. Lipsey, R. E., F. Sjöholm, and J. Sun (2013), 'Foreign ownership and employment growth in a developing country', Journal of Development Studies, Vol. 49, pp. 1133–1147. doi:10.1080/00220388.2013.794264
48. Lumbila, Kevin N (2005), 'What makes FDI work? A panel analysis of the growth effect of FDI in Africa (English). Africa Region working paper series no. 80. Washington, DC: World Bank. http://documents.worldbank.org/curated/en/108751468002680983/What-makes-FDI-work-A-panel-analysis-of-the-growth-effect-of-FDI-in-Africa ,
49. Mahembe, E. and N.M. Odhiambo (2013), 'The dynamics of foreign direct investment in SADC countries: experiences from five middle-income economies', Problems and Perspectives in Management, Vol. 11, No. 4, pp., pp.35-45.

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XIV, Issue X, October 2025

50. Nair-Reichert, U., and D. Weinhold (2001), 'Causality Tests for Cross-Country Panels; a New Look at FDI and Economic Growth in Developing Countries', Oxford Bulletin of Economics and Statistics https://doi.org/10.1111/1468-0084.0021
51. Nampewo, D. and J. Opolot (2016), 'Financial innovations and money velocity in Uganda', African Development Review, Vol. 28, No. 4, pp.371-382.
52. Narayan, P. K. (2005), 'The saving and investment nexus for China: evidence from cointegration tests', Applied Economics, Vol.37, No. 17, pp., 1979–1990. https://doi.org/10.1080/00036840500278103
53. Ng, S. and P. Perron (2001), 'Lag length selection and the construction of unit root tests with good size and power', Econometrica, Vol. 69, 6, pp.1519-1554.https://doi.org/10.1111/1468-0262.00256
54. Pegkas, P. (2015), 'The impact of FDI on economic growth in Eurozone countries', The Journal of Economic Asymmetries, Vol. 12, pp. 124–132. doi:10.1016/j.jeca.2015.05.001
55. Perron, P. (1989), "The Great Crash, the Oil Shock and the Unit Root Hypothesis." Econometrica, Vol. 57, pp.1361–1402. doi:10.2307/1913712.
56. Pesaran, M. H., Y. Shin, and Smith, R. J. (2001), 'Bounds testing approaches to the analysis of long run relationships', Journal of Applied Econometric, Vol. 16, pp. 289–326. https://doi.org/10.1002/jae.616
57. Phillips, P. C. B., and P. Perron (1988), 'Testing for a Unit Root in Time Series Regression' Biometrica, Vol. 75, pp. 335–446. doi:10.1093/biomet/75.2.335.
58. Saqib, N., M. Masnoon and N. Rafique (2013), 'Impact of Foreign Direct Investment on Economic Growth of Pakistan', Advances in Management and Applied Economics, Vol. 3, No. 1, pp. 35-45. ISSN:1792-7544.
59. Shannon, L.W., (1959), ALBERT O. HIRSCHMAN. The Strategy of Economic Development. Pp. xiii, 217. New Haven, Conn.: Yale University Press, 1958. $4.50. The ANNALS of the American Academy of Political and Social Science, 325(1), pp.125-126.
60. Sothan, S. (2017), 'Causality between Foreign Direct Investment and Economic Growth for Cambodia', Cogent Economics and Finance, Vol. 5:1277860.http://dx.doi.org/10.1080/23322039.2016.1277860
61. Sun, H. (2001), 'Foreign direct investment and regional export performance in China. Journal of Regional Science, Vol. 41, No.2, pp. 317–36. doi:10.1111/0022-4146.00219.
62. UNCTAD (2009), Investment policy Review Nigeria, United Nations New York and Geneva. UNCTAD/DIAE/PCB/2008/1 ISBN978-91-112743-0
63. UNCTAD (2018), Investment and New Industrial Policies, World investment Report. eISBN 978-92-1-045179-9
64. UNCTAD, (2017), Invesment and the Digital Economy, World investment Report.eISBN798-92-1-060703-2
65. Vogiatzoglou, K., and N.P.N. Thi (2016), 'Economic openness and economic growth: A cointegration analysis for ASEAN-5 countries', The European Journal of Applied Economics, Vol. 13, pp. 10–20.10.5937/ejae13-11311
66. Working Paper No. 150. African Development Bank Group. Tunis-Belvedère, Tunisia.
67. World Bank (2004), Doing Business in 2004: Understanding Regulation,Washington, DC,
68. World Bank (2018). Datatopics.worldbank.org/world-development-indicators/
69. World Bank. www.doingbusiness.org>Annual Report>English>DBO4-Fullreportpdf
70. Yao, S., and K.Wei (2006), 'Economic Growth in the Presence of FDI: The Perspective of Newly Industrializing Economies', SSRN Electronic Journal, Vol. 35, No. 1, pp. 211-234.
71. Young, S., and P. Lan (1997), 'Technology transfer to China through foreign direct investment', Regional Studies, Vol. 31, No. 7, pp. 669–79. doi:10.1080/00343409750130759.
72. Zakia, M., and A. Ziad (2007), 'The Impact of Foreign Direct Investment and Imports on Economic Growth: The Case of Jordan', Journal of Economic and Administrative Sciences, Vol.23, No. 1, pp. 1-31.
73. Zhang, K. H. (2001), 'Does foreign direct investment promote economic growth? Evidence form East Asia and Latin America', Contemporary Economic Policy, Vol. 19, No. 2, pp. 175–85. doi:10.1111/j.1465-7287.2001.tb00059.x.
74. Zhang, K. H., and S. Song (2002), 'Promoting exports: the role of inward FDI in China, China Economic Review, Vol. 11, pp. 385–396. doi:10.1016/S1043-951X(01)00033-5
75. Zhou, D., S. Li, and D.K. Tse (2002), 'The Impact of FDI on the Productivity of Domestic Firms: the Case of China, International Business Review, Vol. 11, No. 4, pp. 465-484.
76. Zivot, E. and D.W.K.Andrews (1992), 'Further Evidence on the Great Crash, the Oil-Price Shock, and the Unit-Root Hypothesis', Journal of Business & Economic Statistics, Vol. 10, No. 3, pp. 251–270. https://doi.org/10.1198/073500102753410372