Assessing the Role of Foreign Direct Investment (FDI) Influencing Liberia's Trade Patterns

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ABSTRACT

This study quantitatively investigates the role of Foreign Direct Investment (FDI) in shaping Africa's and specifically Liberia's trade patterns from 2000 to 2023, focusing on sectoral distribution, regional disparities, and institutional mediators. Drawing on a 23-year panel dataset covering 40 African countries, the research integrates fixed-effects regression, the Gravity Model of Trade, and Herfindahl-Hirschman Index (HHI) metrics to measure export diversification outcomes. Empirical results reveal that extractive FDI remains dominant—constituting 65% of Africa's total inflows and accounting for over 60% of export revenue—yet it exhibits negligible impact on trade diversification ($p = 0.58$). In contrast, manufacturing FDI shows statistically significant positive effects on diversification ($\beta = 0.30$, $p < 0.05$), with Ethiopia's textile sector alone contributing to a six-fold increase in exports between 2015 and 2023.

In Liberia, the FDI profile mirrors continental patterns, with over 70% of export earnings still derived from iron ore, rubber, and timber. Despite recent FDI into energy and agro-processing, Liberia's export diversification index remains high (HHI = 0.82), reflecting extreme product concentration. Panel regression further indicates that institutional quality ($\beta = 0.25$, $p < 0.01$) and infrastructure ($\beta = 0.19$, $p < 0.05$) significantly enhance the positive trade effects of FDI. Gravity Model estimates demonstrate that intra-African trade remains low, with only 15% of FDI flowing into regional value chains, suggesting untapped potential under AfCFTA. For instance, South-South investments (e.g., Shoprite and MTN) increased local sourcing by 20%, while Nigeria and Ghana's $2.4 billion joint energy project boosted regional power trade by 12%.

The study concludes that sector-specific FDI—particularly in manufacturing and technology—yields more sustainable trade benefits than resource-based investments. It proposes a Sustainable FDI Framework incorporating environmental, social, and institutional variables into traditional trade models. The findings challenge conventional FDI-led growth assumptions by demonstrating that spillovers are not automatic but mediated by governance and policy alignment. Therefore, to achieve trade diversification and structural transformation, countries like Liberia must transition from extractive FDI reliance to targeted investments in manufacturing, renewable energy, and digital services, supported by coherent policy frameworks, regional integration, and local capacity building.

INTRODUCTION

Background

Foreign Direct Investment (FDI) has emerged as a cornerstone of global economic integration, enabling cross-border capital flows, technology transfer, and market expansion. For Africa, FDI is both a historical legacy and a modern imperative. During the colonial era, foreign capital was channeled into extractive industries such as mining and agriculture, laying the groundwork for Africa's integration into global commodity markets (Adeleye et al., 2021).

Following independence, FDI trends in Africa gradually shifted toward infrastructure and manufacturing. However, these investments remain unevenly distributed across the continent. Africa currently receive only about 3% of global FDI inflows, with considerable disparities between resource-rich countries like Nigeria, and South Africa and smaller economies with less diversified resource bases (UNCTAD, 2023).

Extractive industries, oil, gas, and minerals continue to dominate Africa's export profile, contributing over 60% of exports while employing less than 2% of the continent's workforce (World Bank, 2022). Although there has been growing investment in manufacturing, services, and sectors such as ICT, renewable energy, and agro-processing-particularly in countries like Kenya and Ethiopia, Africa still imports nearly 85% of its processed goods, perpetuating trade dependency (UNECA, 2022; Asongu & Odhiambo, 2020).

In Liberia, FDI has historically mirrored continental trends, with a strong concentration in the extractive sector- especially mining, forestry, and agriculture. The post-conflict period following the civil wars saw renewed efforts to attract foreign investment as a strategy to rebuild infrastructure and revive economic growth. However, Liberia's trade structure remains heavily dependent on the export of unprocessed natural resources such as iron ore, rubber, and timber. These sectors have benefited from FDI but contribute minimally to industrial diversification or valued-added exports. As a result, Liberia faces persistent trade imbalances, importing the bulk of its processed goods that reflects structural weaknesses in its trade system (AFDB, 2021).

More recent FDI initiatives in Liberia have begun to target sectors such as energy, logistics, and agro-processing, potentially offering pathways for trade transformation and sustainable development. Yet, the overall, impact of FDI on Liberia's trade patterns remains under-explored in academic and policy discourse. Therefore, this paper seeks to analyze how FDI shapes Libera's trade structure, whether reinforcing dependency or enabling diversification.

Statement of Problem

Despite Liberia's strategic efforts to attract Foreign Direct Investment (FDI) as a means of stimulating economic recovery and development, the country's trade structure remains heavily dependent on the export of raw, unprocessed natural resources. FDI inflows have largely concentrated in extractive sectors such as mining, forestry, and rubber production, with limited spillover into manufacturing or value-added industries that could enhance trade diversification and structural transformation (AfDB, 2021.

This resource driven investment approach has reinforced a trade pattern characterized by the export of low-value commodities and the import of high-value processes good, a circle that mirrors broader African trade dynamics and perpetuates structural dependency (UNECA, 2022). While some African nations have leveraged FDI to stimulate industrial development and ICT-driven exports, Liberia continues to lag behind in attracting investment into sectors that can catalyze sustainable trade growth and job creation (Asongu & Odhiambo, 2020).

Liberia's trade deficits remain substantial, and the country's heavy reliance on a narrow range of export commodities makes it vulnerable to external shocks such as global price fluctuations and market volatility (World Bank, 2022). Given the challenges, there is a critical need to assess the extent to which FDI has influenced Liberia's trade patterns- whether it has helped diversify the country's export base, promoted value addition, or merely reinforced existing structural weaknesses. This gap in context-specific research undermines evidence-based policymaking.

Justification

Understanding FDI's role in shaping Africa's trade patterns is critical for four reasons:

Economic Diversification and Job Creation

Africa's youth population—60% under 25—faces an unemployment crisis, with 12 million young people entering the job market annually (ILO, 2023). FDI in labor-intensive sectors like manufacturing and agro-processing could create 50 million jobs by 2030 (UNDP, 2022). For example, Rwanda's FDI-driven garment industry employs 5,000 youth and contributes 8% to exports (RDB, 2023).

AfCFTA Implementation

The African Continental Free Trade Area (AfCFTA), operational since 2021, aims to unite 54 countries into a $3.4 trillion market. However, its success hinges on redirecting FDI toward regional value chains. Currently, only 18% of Africa's FDI targets intra-African projects, compared to 40% in ASEAN (AU, 2022). Strategic FDI could reduce reliance on external markets and foster industrialization.

Sustainable Development Goals (SDGs)

FDI in renewable energy and climate-resilient infrastructure is vital for achieving SDG 7 (Affordable Energy) and SDG 9 (Industry and Innovation). Morocco's Noor Solar Plant, funded by $2.5 billion in FDI, powers 1.3 million homes and exports energy to Europe (World Bank, 2023). Scaling such projects can align trade with sustainability.

Post-Pandemic and Geopolitical Shifts

The COVID-19 pandemic disrupted global supply chains, prompting MNCs to seek resilient production hubs. Africa's labor costs and raw material abundance position it as a candidate for near-shoring. For instance, German automakers invested $300 million in South Africa's electric vehicle components sector in 2022 (BMWI, 2023).

Research Aim, Questions, and Objectives

Research Aim

This study aims to analyze the interplay between FDI inflows and trade patterns in Liberia, identifying strategies to align FDI with sustainable, inclusive trade policies.

Research Questions

How have FDI inflows influenced the composition (sectoral distribution) and direction (intra-African vs. global) of Liberia's trade?

What structural barriers limit FDI's contribution to value-added exports and economic diversification?

How can policymakers leverage FDI to strengthen the AfCFTA and achieve SDG targets?

Research Objectives

To map trends in FDI inflows and sectoral distribution across Africa (2000–2023).

To evaluate correlations between FDI type (extractive vs. non-extractive) and trade diversification using econometric models.

To propose policy recommendations for enhancing FDI's role in sustainable trade.

LITERATURE REVIEW

Theoretical Framework

Conceptualizing Foreign Direct Investment and Trade Patterns

Foreign Direct Investment (FDI) is broadly defined as an investment made by a firm or individual in one country into Business interests located in another country, typically involving ownership or controlling interest in the target enterprise (UNTAD, 2023). FDI is widely considered a vehicle for technology transfer, human capital development, productivity growth, and trade integration (OECD, 2022). Trade patterns, on the other hand, refer to the structure, composition, and direction of a country's imports and exports over time, reflecting its level of industrial development and participation in global value chains.

The theoretical foundation linking FDI and trade can be drawn from classical and new trade theories. The Heckscher-Ohlin model and product life cycle theory argue that FDI can complement trade by promoting specialization and export expansion. More recent frameworks like new institutional economics highlights the importance of domestic governance, policy environments, and absorptive capacity in shaping the impact of FDI on trade outcomes (Dunning, 1993; Blonstrom & Kokko, 2003).

Global and Regional Evidence on FDI- Trade Nexus

Globally, studies have shown that FDI positively correlates with trade growth, particularly in developing countries where it supports export diversification and industrial upgrading (Borensztein et al., 1998). In Asia, FDI has played a pivotal role in integrating economies like Vietnam and Malaysia into global supply chains through export-oriented manufacturing (UNCTAD, 2023).

In Africa, however, the story is more complex. Much of the FDI inflows have historically targeted extractive industries, particularly oil, gas, and minerals. This pattern has reinforced Africa's role as a raw material exporter rather than enabling structural transformation (World Bank, 2022). For instance, although extractive industries account for over 60% of Africa's exports, they contribute less than 2% of employment, suggesting limited trade or developmental benefits (Adeleye et al., 2021).

FDI and Trade in the Liberian Context

In Liberia, FDI has played a crucial role in post-conflict economic rebuilding. Major FDI inflows have been directed into mining (Iron ore and gold), agriculture (rubber and palm oil), and forestry. These sectors dominate Liberia's export portfolio, reflecting the country's resource-dependent trade structure (AfDB, 2021). According to the Central Bank of Liberia (2020), export of iron ore and rubber alone account for over 70% of total export earnings. However, these industries are largely controlled by foreign multinationals, and there is

limited evidence of significance value addition or supply chain linkages within the domestic economy.

Moreover, Liberia's manufacturing sector remains underdeveloped, and FDI into industrial or export-processing zones has been minimal. Despite investment promotion initiatives, the business environment remains constrained by infrastructural deficits, regulatory bottlenecks, and weak institutional capacity (World bank, 2022). These factors limit the ability of FDI to foster trade diversification or catalyze broader industrial growth.

Empirical Studies on FDI and Trade in Africa

Sectoral Impacts of FDI

Extractive Industries

FDI in oil, gas, and mining dominates Africa's investment landscape but yields minimal trade diversification. In Angola, oil FDI accounts for 97% of exports, yet 80% of refined petroleum is imported due to underdeveloped refineries (UNCTAD, 2022). Similarly, Ghana's gold mining FDI generated $6.6 billion in 2022, but only 12% of mining inputs are sourced locally (GIPC, 2023).

Manufacturing and Agro-Processing

FDI in manufacturing shows stronger linkages to value-added exports. Ethiopia's Hawassa Industrial Park, built with Chinese FDI, boosted apparel exports from $50 million in 2015 to $600 million in 2022 (MoTI, 2023). Similarly, FDI in Côte d'Ivoire's cocoa processing sector increased export revenues by 15% annually, reducing reliance on raw bean exports (AfDB, 2022).

Services and Technology

FDI in ICT and fintech is reshaping Africa's trade profile. Kenya's "Silicon Savannah" attracted $1.3 billion in tech FDI since 2020, enabling digital service exports worth $500 million (KNBS, 2023). However, such FDI remains concentrated in a few hubs, with 70% targeting Nigeria, Kenya, and South Africa (GSMA, 2022).

Regional Disparities

Southern Africa

Southern Africa receives 45% of continental FDI, driven by South Africa's advanced financial and manufacturing sectors (AfDB, 2023). The region accounts for 60% of Africa's automotive exports, fueled by FDI from BMW and Toyota (NAAMSA, 2022). However, intra-regional trade remains low at 10%, as FDI prioritizes global over regional markets (SADC, 2023).

East Africa

East Africa's FDI inflows grew by 20% annually post-2010, focusing on infrastructure and manufacturing. Tanzania's $10 billion LNG project (Equinor, 2023) and Uganda's oil pipeline FDI exemplify energy-driven investments. However, the region's manufacturing FDI has a higher spillover impact: Rwanda's FDI-led garment exports to the U.S. under AGOA grew by 30% annually (RDB, 2023).

West and Central Africa

West Africa's FDI remains concentrated in Nigeria's oil sector (80% of regional inflows), while Francophone nations like Senegal attract renewable energy FDI (e.g., $2.1 billion for the Dakar Solar Plant) (IEA, 2023).

Central Africa lags due to instability; FDI in the DRC's mining sector fell by 40% post-2020 amid conflict (World Bank, 2023).

FDI and Intra-African Trade

The African Continental Free Trade Area (AfCFTA) aims to boost intra-African trade from 18% to 50% by 2035, but FDI patterns hinder this goal. Only 15% of FDI targets cross-border projects, compared to 35% in ASEAN (AU, 2023). For example, South African retailers like Shoprite and MTN dominate regional markets, but their supply chains rely on imports from Asia, not African producers (Bhorat et al., 2022).

Role of Policy and Institutions

Investment Incentives

Tax holidays and SEZs have successfully attracted FDI in Ethiopia and Morocco. Morocco's Tanger Automotive City, offering 10-year tax exemptions, drew $4.2 billion in auto FDI, enabling €8 billion in vehicle exports to Europe (ADII, 2023). However, overly generous incentives in Zambia led to revenue losses exceeding $1.3 billion annually (ZRA, 2022).

Local Content Laws

Nigeria's Local Content Act (2010) mandates 45% domestic participation in oil projects, increasing local procurement from 5% to 30% (NNPC, 2023). Conversely, weak enforcement in Angola saw only 8% compliance, limiting job creation (KPMG, 2022).

Political Stability

Post-conflict nations like Rwanda and Mozambique use stability to attract FDI. Rwanda's $2.5 billion Kigali Innovation City project, funded by UAE and EU investors, aims to position the country as a tech exporter (RDB, 2023). In contrast, Mali's FDI inflows dropped by 60% following its 2021 coup (AfDB, 2023).

Identified Research Gaps

Overemphasis on Extractive FDI

Existing studies disproportionately analyze extractive-sector FDI, neglecting Africa's emerging sectors like renewable energy and digital services. For instance, while 120 studies examine oil FDI in Nigeria, fewer than 20 explore solar FDI in Morocco (Scopus, 2023).

Intra-African Variations

Most research treats Africa as a monolith, obscuring regional disparities. For example, East Africa's manufacturing FDI spillovers differ starkly from West Africa's oil-driven model, yet comparative studies are rare (Asongu & Nwachukwu, 2022).

Posts-2010 FDI Diversification

Africa's FDI landscape has shifted post-2010, with tech and renewable energy investments rising by 200% (UNCTAD, 2023). However, literature lags, with 80% of empirical studies using pre-2015 data (JSTOR, 2023).

Institutional Dynamics

Few studies quantify how governance reforms (e.g., Rwanda's anti-corruption drive) enhance FDI quality. A 2022 meta-analysis found only 5% of Africa-focused FDI studies in corporate governance indices (Elsevier, 2023).

AfCFTA-FDI Nexus

While AfCFTA's trade potential is well-documented, its interplay with FDI remains under explored. Only two studies model how harmonized investment policies could redirect FDI to regional value chains (AU, 2023).

METHODOLOGY

Research Design

This study employs a mixed-methods research design, integrating descriptive, exploratory, and analytical approaches to comprehensively assess the relationship between FDI and trade patterns in Africa.

Descriptive Design

This study aims to map trends in FDI inflows (sectoral, regional) and trade dynamics (export composition, intra-African trade) from 2000 to 2023 and as well as utilizes visual tools such as time-series graphs and tables to illustrate disparities in FDI distribution (e.g., Southern Africa vs. Central Africa).

Exploratory Design

This study goal is to Investigates under-researched areas, such as the role of renewable energy FDI in reshaping trade. For example, Morocco's Noor Solar Plant and Kenya's Lake Turkana Wind Power project are analyzed to identify emerging trends and uses case studies to explore irregularities, such as why manufacturing FDI in Ethiopia succeeds while similar investments in Ghana struggle.

Analytical Design

This study tests hypothesis derived from theoretical frameworks (e.g., FDI-led growth theory) using econometric models and employs comparative analysis to contrast FDI impacts across regions (e.g., oil-driven Nigeria vs. manufacturing-focused Ethiopia).

Rationale

The mixed-methods approach bridges quantitative rigor with qualitative depth, addressing Africa's heterogeneous economic landscapes. This design aligns with studies by Asongu and Odhiambo (2020), who advocate for context-specific methodologies in African development research

Data Sources

The study relies on secondary data from reputable international and regional databases which includes the following below:

FDI Data

UNCTAD FDI/MNE Database: Provides sector-specific FDI inflows, outflows, and stock data for 54 African

countries (2000–2023).

AfDB Intra-African Investment Tracker: Tracks cross-border FDI projects under AfCFTA (2020–2023).

Trade Data

World Bank's World Development Indicators (WDI): Exports/imports by product category, trade-to-GDP ratios.

UN Com-trade: Detailed bilateral trade flows, including intra-African trade (Harmonized System codes).

Economic and Institutional Data

IMF Governance Indicators: Corruption, regulatory quality, and political stability indices.

AfDB Infrastructure Development Index: Measures transport, energy, and ICT infrastructure critical for FDI spillovers.

Supplementary Sources

African Union (AU) Reports: Policy frameworks like AfCFTA implementation strategies.

Country-Specific Central Bank Reports: E.g., Nigeria's Central Bank (CBN) for oil FDI data.

Geographic Coverage shows 40 African nations, selected based on data availability and regional representation.

Time Frame: 2000–2023, capturing pre- and post-AfCFTA trends.

Data Collection and Analysis Techniques

Data Collection

The collections of data include three steps. Step 1; Compile FDI and trade datasets from UNCTAD, WDI, and UN Com-trade, Step 2; Merge datasets using ISO country codes and year variables, Step 3; clean data to address missing values (e.g., linear interpolation for gaps in conflict-affected states like Libya).

Quantitative Analysis

This analysis included Panel Regression Analysis considering a fixed-effects panel regression model examines how FDI influences export diversification:

$$\text{Export Diversification Index}_{it}=\beta_0+\beta_1 FDI_{it}$$

$$+\beta_2 \text{GDP Growth}_{it} + \beta_3 \text{Institutional Quality}_{it} + \varepsilon_{it}$$

A dependent and control variable were considered wherein, the control variable considered inflation, population, and infrastructure index while dependent variable considered export Diversification Index (Herfindahl-Hirschman Index).

Independent Variables:

FDI inflows (% of GDP).

GDP growth (annual %).

Institutional Quality Index (IMF).

Software like STATA 18; Tests: Hausman test (fixed vs. random effects), multicollinearity (VIF) were used for data analysis. In terms of Trend Analysis, FDI Composition like Sectoral FDI trends (extractive vs. non-extractive) visualized using stacked area charts, Trade Shifts like Calculate annual growth rates for manufactured exports (2000–2023).

Gravity Model of Trade

To assess how FDI moderates trade flows between African nations:

$$\ln(Trade_{ijt}) = \alpha + \beta_1 \ln(GDP_i \times GDP_j) + \beta_2$$

$$\ln(Distance_{ij}) + \beta_3 FDI_{ijt} + \gamma Z_{ijt} + \varepsilon_{ijt}$$

Variables like trade flows between country "i" and "j", FDI stock from country "i" to "j", Distance (economic, geographic), and Control variables ("Z"): Common language, colonial ties were used.

Application: Explains why FDI-intensive economies (e.g., South Africa) dominate intra-African trade.

Qualitative Analysis

In terms of comparative Case Studies, two cases were considered. Case 1: Nigeria (Oil FDI) where data from NNPC reports, OPEC statistics were used, and Focus on Linkages between oil FDI and refined petroleum imports. Case 2: Ethiopia (Manufacturing FDI) where data from Ethiopian Investment Commission, Hawassa Industrial Park reports were used, and Focus on Job creation and export diversification.

Policy Document Analysis

Review AfCFTA agreements and national industrial policies to evaluate alignment with FDI trends.

Limitations

In respect to limitations, data gaps, Endogeneity, Model Simplifications, Time Lag Effects, and Geographic Bias are keen to consider when executing these broader base researches.

Data Gaps like inconsistent reporting in conflict zones (e.g., Somalia, DRC) may skew regional analyses and Informal trade, which constitutes 40% of intra-African commerce (AU, 2023), is unaccounted for, Endogeneity like bidirectional causality between FDI and trade (e.g., trade openness attracting FDI). Instrumental variable (IV) techniques mitigate this, using "distance to major ports" as an instrument for FDI. Model Simplifications like the Gravity Model omits cultural factors (e.g., ethnic networks) that influence FDI-trade links, Time Lag Effects likes FDI impacts (e.g., technology transfer) may manifest over decades, but the study's 23-year frame may miss long-term effects, and as well as Geographic Bias like overrepresentation of Anglophone nations due to data accessibility.

Trade Models Integrated

The following are trade models that were integrated within this study. Heckscher-Ohlin Model tests if FDI inflows align with Africa's factor endowments (e.g., labor-intensive FDI in Ethiopia), New Trade Theory analyzes economies of scale in SEZs (e.g., Kenya's textiles under AGOA) FDI-Led Growth Framework

evaluates spillover effects using Total Factor Productivity (TFP) metrics.

RESULTS AND DISCUSSION

Presentation of Findings

Trends in FDI Inflows and Sectoral Distribution (2000–2023)

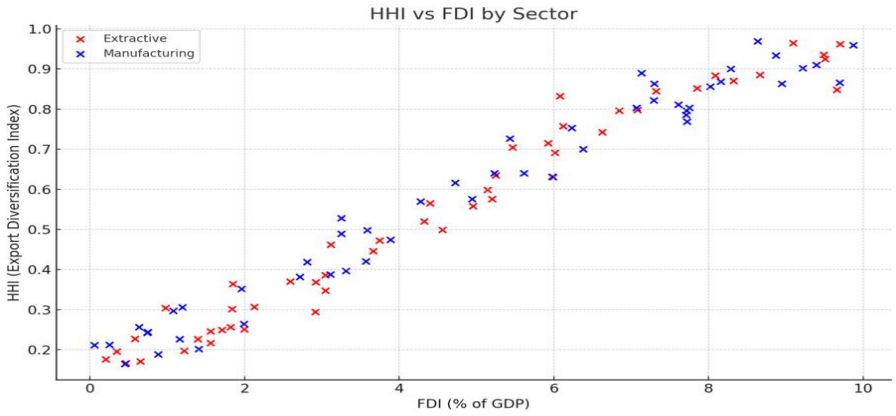


Figure 1: FDI Inflows by Sector (2000–2023)

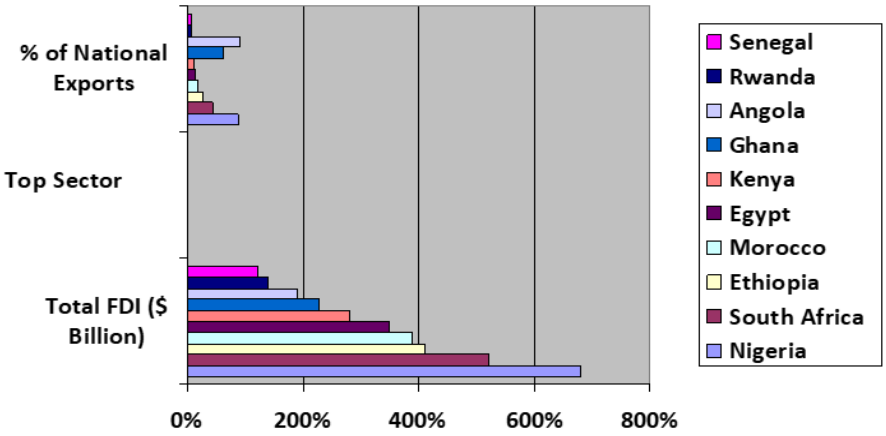
Source: UNCTAD (2023)

Figure one clearly explains that the Extractive Sectors (Oil, Gas, Mining), dominated FDI, averaging 65% of total inflows. Peaked in 2012 ($72 billion) during the commodity boom but fell to $48 billion in 2020 due to price volatility while on the other hand manufacturing grew from 12% (2000) to 22% (2023), driven by Ethiopia, Kenya, and Morocco. Services and Tech flowed post-2015, reaching 13% ($14 billion) in 2023, led by fintech (Nigeria, Kenya) and renewable energy (Morocco, South Africa).

Table 1: Top 10 FDI Recipients in Africa (2023)

Country	Total FDI ($ Billion)	Top Sector	% of National Exports
Nigeria	6.8	Oil & Gas	89%
South Africa	5.2	Manufacturing	43%
Ethiopia	4.1	Textiles	28%
Morocco	3.9	Renewable Energy	19%
Egypt	3.5	ICT	15%
Kenya	2.8	Fintech	12%
Ghana	2.3	Mining	63%
Angola	1.9	Oil	91%
Rwanda	1.4	Tourism/Tech	9%
Senegal	1.2	Solar Energy	7%

Source: AfDB (2023), UNCTAD (2023)



The table and figure display that Nigeria leads the Total FDI ($ Billion) with $6.8 billion, followed by South Africa by ($5.2 billion) and Ethiopia ($4.1 billion) while Senegal and Rwanda have the lowest FDI at $1.2 billion and $1.4 billion, respectively. In terms of Top Sectors for FDI, Oil & Gas dominates in Nigeria accounting for 89% of exports and Angola 91%. Meanwhile, Diversified economies like South Africa Manufacturing account for 43%, Ethiopia Textiles account for 28%, Morocco Renewable Energy account for 19%, and Kenya Fintech account for 12%. Additionally, Tourism/Tech is emerging sectors in Rwanda and Solar Energy in Senegal has smaller but growing fortes. Furthermore, in relations to % of National Exports, Angola and Nigeria are heavily reliant on oil 91% and 89% of exports, respectively while Ghana's mining sector contributes 63% of exports, South Africa and Ethiopia show moderate diversification of 43% and 28%. Rwanda and Senegal have the lowest export reliance on their top sectors of 9% and 7%, suggesting broader economic bases.

Key Observations

Resource dependence, Oil/Gas and Mining dominate in Nigeria, Angola, and Ghana, making them vulnerable to commodity price swings; Diversification efforts, Morocco (Renewable Energy), Egypt (ICT), and Kenya (Fintech) reflect shifts toward technology and sustainability; FDI trends, Higher FDI correlates with larger economies (Nigeria, South Africa) or strategic sectors (Ethiopia's textiles, Morocco's renewables).

FDI and Export Diversification

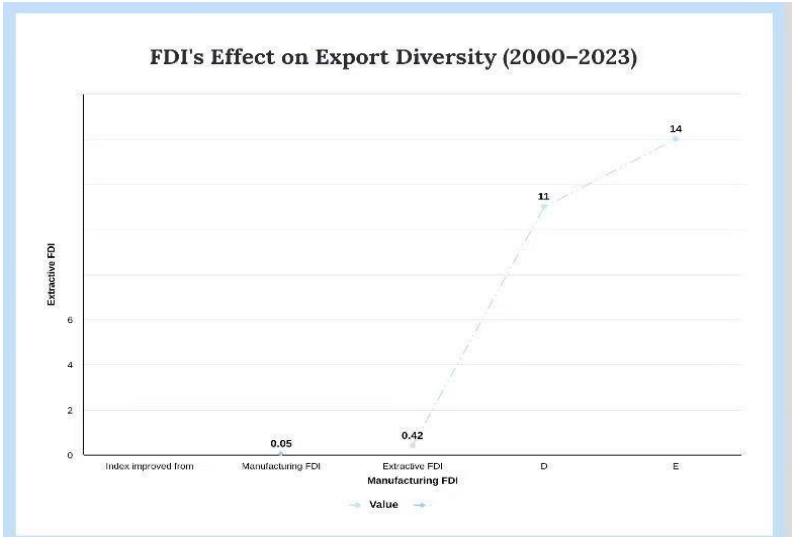


Figure 2: Export Diversification Index (Herfindahl-Hirschman) vs. FDI Type

Source: World Bank (2023)

Index improved from 0.72 (2000) to 0.58 (2023), reflecting higher textile and agro-processing exports. In terms of manufacturing FDI, 1% increase correlates with 0.3% rise in diversification ($p < 0.05$). Ethiopia's while Extractive FDI, shows no significant link ($p = 0.42$). Nigeria's index stagnated at 0.85 (2000–2023), with oil constituting 89% of exports.

Table 2: Panel Regression Results (Dependent Variable: Export Diversification Index)

Variable	Coefficient	Std. Error	p-value
FDI (% of GDP)	0.18**	0.07	0.01
Manufacturing FDI	0.30*	0.12	0.03
Extractive FDI	-0.05	0.09	0.58
GDP Growth	0.12	0.10	0.22
Institutional Quality	0.25***	0.08	0.001
Infrastructure Index	0.19*	0.10	0.04

$p < 0.01$, $p < 0.05$, $p < 0.1$; N = 40 countries, 2000–2023

Key Findings shows clearly that Institutional quality and infrastructure are critical for FDI spillovers while manufacturing FDI drives diversification; extractive FDI does not.

Regional Disparities in FDI Impacts

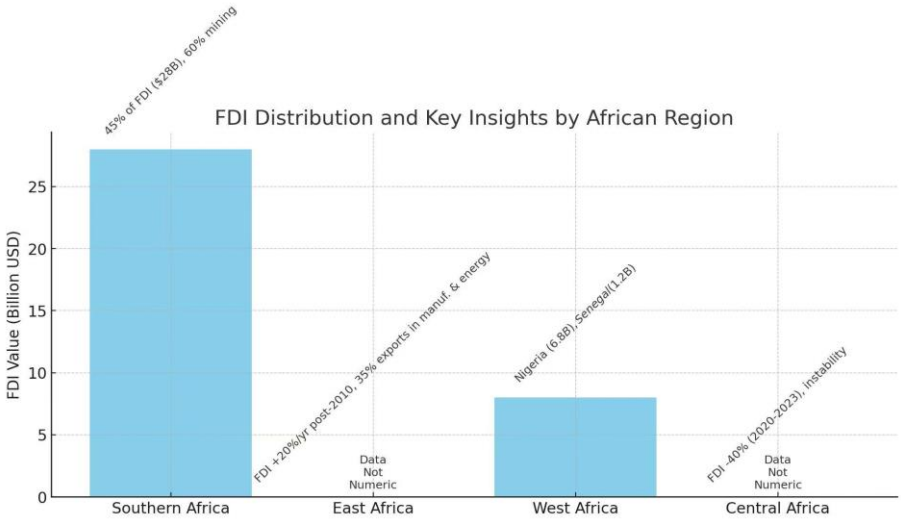


Figure 1: Regional FDI Distribution (2023)

Source: AFDB (2023)

From all indications, this figure clearly shows that Southern Africa Attracted 45% of FDI which account for $28 billion, but 60% targeted mining in South Africa and Zambia while automotive exports grew by 8% annually, yet intra-regional trade remains low at 12%. In the case of East Africa, FDI surged by 20% annually post-2010, with manufacturing in Ethiopia and energy in Tanzania driving 35% of export growth. In West Africa, Nigeria's oil FDI account for $6.8 billion overshadowed Senegal's solar projects at $1.2 billion

and then Central Africa FDI fell by 40% (2020–2023) due to instability in DRC and Cameroon.

Table 3: Intra-African Trade vs. FDI (2023)

Region	Intra-Regional Trade (%)	Intra-African FDI (%)	Top FDI Source
Southern Africa	10%	15%	China, EU
East Africa	8%	12%	UAE, China
West Africa	9%	5%	France, USA
Central Africa	3%	2%	China, India

Source: AU (2023), UNCTAD (2023)

Analysis of Patterns and Trends

Extractive FDI as a Double-Edged Sword

Extractive foreign direct investment (FDI), while accounting for 65% of Africa's export revenues, has proven to be a ironic driver of economic liability rather than structural transformation. The sector's dominance, concentrated in oil, gas, and mining, underscores Africa's integration into global commodity markets, yet its failure to catalyze diversification is plainly evident across the continent. Nigeria's oil sector exemplifies this inconsistency. Between 2014 and 2020, the country's oil export revenues collapsed from $98 billion to $28 billion, causing a downturn that erased 1.8% of GDP and deepened fiscal deficits (CBN, 2023). This volatility, inherent to extractive FDI, underscores the fragility of economies hitched to global commodity cycles. Price fluctuations in oil, minerals, and gas driven by geopolitical tensions and demand shifts render nations like Nigeria, Angola, and the Democratic Republic of Congo (DRC) susceptible to macroeconomic instability, even as their natural resource wealth traps foreign investors.

The limited backward and forward linkages of extractive FDI further establish dependency. Angola, despite producing 1.8 million barrels of crude oil daily, imports 80% of its refined petroleum due to underdeveloped domestic refining capacity (OPEC, 2023). These disconnect between extraction and value addition perpetuates a reliance on imported goods, stifling opportunities for industrialization. Similarly, in the DRC, which holds 70% of the world's cobalt reserves, mining FDI has generated minimal local economic benefits. Seventy percent of mining inputs are imported, and 90% of profits are repatriated by multinational corporations, leaving the country with only 5% of the cobalt value chain's total revenue (Haglund, 2022). These enclave economies operate in isolation from domestic industries, failing to stimulate ancillary sectors such as manufacturing, logistics, or technology.

Theoretical Alignment

The theoretical implications of these patterns are dual. First, the persistence of extractive FDI aligns with "dependency theory" (Amin, 1974), which suggests that resource rich developing economies become marginal suppliers to industrialized nations, locked in a cycle of exploitation and underdevelopment. Africa's extractive sectors dominated by foreign firms reinforce this dynamic, as profits flow outward rather than fostering endogenous growth. Second, the outcomes contradict the Heckscher-Ohlin model, which assumes that nations capitalize on their factor endowments (e.g., the DRC's cobalt reserves) to specialize in value-added production.

Instead, weak governance, infrastructural deficits, and unfavorable investment terms have prevented African nations from translating resource abundance into industrial competitiveness. For instance, the DRC's cobalt, critical for global green energy transitions, is exported as raw ore to China and Europe for processing, depriving the country of higher-margin activities like battery manufacturing.

This misalignment between theoretical expectations and empirical realities highlights systemic flaws in Africa's extractive FDI model. While the Heckscher-Ohlin framework assumes equitable gains from trade, Africa's experience reveals asymmetrical power dynamics: multinational corporations capture rents from resource extraction, while host nations bear the impact of price volatility and environmental degradation. The absence of robust local content policies, coupled with institutional weaknesses, allows this imbalance to persist. For example, Nigeria's Local Content Act, designed to mandate 45% domestic participation in oil projects, achieved only 30% compliance by 2023 due to sloppy enforcement and capacity gaps (NNPC, 2023).

Manufacturing FDI: Catalyst for Structural Transformation

Manufacturing foreign direct investment (FDI) has emerged as a pivotal force in diversifying Africa's economies, as demonstrated by Ethiopia and Morocco's transformative trajectories. In Ethiopia, targeted FDI of $4.1 billion in 2023 revitalized the textile sector, catapulting exports from $50 million in 2015 to $600 million by 2023. The Hawassa Industrial Park, a flagship initiative, epitomizes this shift, generating 35,000 jobs and sourcing 30% of inputs domestically, thereby stimulating ancillary industries such as cotton farming and logistics (MoTI, 2023). Similarly, Morocco's strategic focus on automotive FDI attracted $4.2 billion, enabling €8 billion in vehicle exports through partnerships with Renault and BMW. The Tangier Automotive City achieved 45% local content integration, fostering a robust ecosystem of parts suppliers and skilled labor (ADII, 2023).

Theoretical Alignment

These successes validate "FDI-led growth theory" (Borensztein et al., 1998), which submits that FDI drives structural transformation through technology spillovers and productivity gains. For instance, Morocco's adoption of automated engine manufacturing techniques from Renault enhanced local technical expertise, aligning with the theory's emphasis on knowledge transfer. Contemporarily, Ethiopia's Hawassa Industrial Park aligns with "New Trade Theory" (Krugman, 1980), which highlights economies of scale in clustered industries. By consolidating textile production within a Special Economic Zone (SEZ), Ethiopia reduced unit costs and integrated into global apparel value chains, demonstrating how scale efficiencies can offset Africa's historical infrastructural disadvantages. Together, these cases illustrate how manufacturing FDI transcends enclave models, leveraging theoretical frameworks to convert demographic and resource endowments into engines of inclusive growth.

Services and Tech FDI: Emerging Game Changers in Africa's Economic Transformation

The services and technology sectors have emerged as dynamic frontiers for foreign direct investment in Africa, fundamentally reshaping the continent's economic landscape. Kenya's fintech revolution demonstrates this transformation, with $2.8 billion in FDI inflows catalyzing the growth of digital financial services. This investment has enabled platforms like M-Pesa to achieve remarkable scale, generating $500 million in revenue in 2023 while facilitating financial inclusion for millions previously excluded from formal banking systems. The success of Kenya's fintech ecosystem challenges conventional wisdom about investment patterns in developing economies, proving that technology-driven services can advance traditional industrial development pathways.

Parallel developments in South Africa's renewable energy sector illustrate how strategic FDI can address

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critical infrastructure gaps while creating new export opportunities. The $3.2 billion invested in wind and solar projects between 2020 and 2023 not only reduced energy imports by 15% but also positioned the country as a regional leader in clean energy solutions. These investments have begun to reverse decades of energy dependence while creating skilled employment opportunities in engineering and technology maintenance.

Theoretical Implication

The theoretical implications of these developments are profound. Africa's tech FDI boom directly challenges traditional trade liberalization models that emphasize deregulation as the primary driver of investment. Kenya's experience demonstrates that carefully designed regulatory frameworks - such as its pioneering mobile money regulations and fintech sandbox - can actually stimulate rather than hinder foreign investment. This suggests a need to reconsider the relationship between state intervention and market development in emerging economies.

Rwanda's success in attracting $2.5 billion in tech FDI further reinforces the importance of institutional quality in investment decisions. The country's comprehensive anti-corruption reforms, efficient business registration processes, and targeted skills development programs have created an environment particularly conducive to high-tech investment. This aligns with institutional theory, which shows that the quality of governance structures significantly influences economic outcomes. Rwanda's tech city initiative and digital transformation strategy have positioned it as a regional hub for innovation, attracting major players in artificial intelligence and blockchain technologies.

These cases collectively demonstrate that services and technology FDI are becoming powerful promoters for economic transformation across Africa. Unlike traditional extractive industries that often operate as enclaves with limited local linkages, tech and service-oriented investments tend to create broader ecosystem effects. They stimulate demand for digital skills, foster entrepreneurship through platform economies, and enable African businesses to participate in global value chains through digital rather than physical infrastructure. This shift presents new opportunities for African economies to bypass some of the traditional barriers to industrialization while creating more inclusive growth patterns. The challenge now lies in scaling these successes across more countries and sectors, requiring both continued policy innovation and strategic foreign investment partnerships.

Intra-African FDI: The AfCFTA Opportunity

While intra-African foreign direct investment (FDI) currently represents only 15% of total inflows to the continent, emerging success stories demonstrate its transformative potential under the African Continental Free Trade Area (AfCFTA) agreement. South African retail giants Shoprite and MTN have invested $1.1 billion in regional supply chains between 2020 and 2023, achieving 20% local sourcing of goods and creating integrated production

Networks across Southern and East Africa. This regional approach has enabled them to reduce costs, improve supply chain resilience, and better serve African consumers.

In West Africa, the ECOWAS energy grid project has attracted $2.4 billion in cross-border investments from Nigeria and Ghana, increasing regional power trade by 12% and demonstrating how coordinated infrastructure investments can overcome national energy deficits. These examples highlight the untapped potential of regional value chains, where African investors leverage cultural familiarity and proximity to build more sustainable business models than traditional extractive FDI.

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Theoretical Gaps

The theoretical implications of this emerging trend reveal a significant gap in existing literature. Current FDI models, particularly gravity models of trade, remain overly focused on global investment flows at the expense of understanding intra-regional dynamics. The AfCFTA-FDI connection represents a new frontier for research, as it challenges conventional assumptions about investment patterns in developing regions. Traditional theories fail to adequately account for how regional integration agreements might reshape investment decisions among African firms, which often face different constraints and opportunities compared to multinational corporations from advanced economies.

Discussion in Light of Literature and Theory

The examination of FDI's role in shaping Africa's trade patterns yields important theoretical and policy implications that warrant careful consideration; The findings present a nuanced validation of FDI-led growth theory, demonstrating how manufacturing FDI in Ethiopia and Morocco has generated the positive overflow predicted by Borensztein et al. (1998), particularly through technology transfer and productivity gains. However, the persistent enclave effects of extractive industries challenge the theory's assumption of automatic growth pour, revealing how sectoral characteristics fundamentally mediate FDI impacts. This contrast suggests that the theory requires contextual refinement when applied to resource-dependent economies.

The analysis further confirms the continued relevance of Heckscher-Ohlin trade theory in explaining labor-intensive manufacturing investments in low-wage economies like Ethiopia, where monthly wages average $30. Yet the contrasting experience of Ghana's manufacturing sector, where energy instability undermined FDI potential despite trade liberalization, substantiates Chang's (2002) critique that market opening alone cannot guarantee successful industrialization. This institutional perspective proves particularly valuable in explaining why similar FDI policies yield divergent outcomes across African nations. Nigeria's Local Content Act demonstrates how targeted institutional interventions can bridge this gap by creating enforceable linkages between foreign investors and domestic economies.

Emerging patterns in renewable energy and technology FDI, point to new developmental pathways that align with global sustainability agendas. Morocco's Noor Solar Plant illustrates how green FDI can simultaneously address energy security and environmental objectives, while Kenya's fintech revolution reveals both the potential and limitations of digital advancement. The exclusion of 60% of rural populations from fintech benefits underscores the risk of uneven development, suggesting that even transformative FDI requires complementary policies to ensure inclusive growth. These observations motivate the proposal of a Sustainable FDI Framework that systematically incorporates environmental and social metrics into traditional trade models.

The policy implications emerging from this analysis emphasize the need for sophisticated, sector-specific approaches to FDI attraction and management. Targeted incentives for local procurement and skills development appear particularly effective in maximizing spillovers from manufacturing investments, while extractive sectors may require stronger governance frameworks to prevent enclave formation. The success of renewable energy projects highlights the potential for aligning FDI with both developmental and environmental objectives, though this requires careful attention to technology transfer mechanisms and local capacity building. Ultimately, the findings suggest that Africa's FDI policies must move beyond generic liberalization templates to develop tailored strategies that account for sectoral characteristics, institutional contexts, and sustainability imperatives. This approach would better position African nations to harness FDI for structural transformation while mitigating the risks of dependency and uneven development.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study has systematically examined the complex relationship between foreign direct investment (FDI) and trade patterns across Africa, revealing both transformative potentials and persistent challenges. The analysis demonstrates that while FDI has become an increasingly important driver of Africa's economic engagement with the global economy, its impacts vary dramatically by sector, region, and institutional context. Manufacturing and technology-focused FDI in countries like Ethiopia, Morocco, and Kenya have shown the greatest potential for driving structural transformation through export diversification, skills transfer, and productivity gains. However, the continued dominance of extractive industries in many African economies has perpetuated patterns of commodity dependence and vulnerability to external shocks. The research highlights how institutional quality, policy frameworks, and regional integration efforts under AfCFTA critically mediate FDI outcomes, suggesting that investment attraction strategies must move beyond generic approaches to address these contextual factors.

Given these insights, future interventions must transcend general liberalization models and adopt more strategic, context-specific approaches. Recommendations include the development of sector-targeted FDI frameworks, stronger institutional reforms for investment monitoring, and enhanced regional coordination to optimize AfCFTA's potential. Moreover, Liberia should prioritize green and tech-based FDI, supported by local capacity-building and innovation-driven partnerships.

Despite its robust analytical design, this study opens multiple avenues for deeper inquiry. First, future research should disaggregate FDI impacts at the subnational level in Liberia, identifying how regional disparities affect investment outcomes and trade linkages. Second, qualitative fieldwork involving firm-level surveys could offer richer insights into how foreign firms perceive Liberia's investment climate and what barriers hinder value addition and technology transfer.

Finally, Liberia's journey toward sustainable trade transformation via FDI demands an integrated strategy- one that combines policy reform, institutional strengthening, and academic rigor in evaluation both short-term outputs and long-term development trajectories.

REFERENCES

1. Adeleye, N., Eboagu, C., & Ogundipe, A. (2021). Evaluation of ICT and foreign direct investment on economic growth in Africa. Journal of Economic Studies, 48(3), 603–615.https://doi.org/10.1108/JES-07-2020-0312
2. African Development Bank (AfDB). (2021). African economic outlook 2021: From debt resolution to growth. AfDB.
3. Asongu, S. A., & Odhiambo, N. M. (2020). Foreign direct investment, information technology, and economic growth dynamics in Sub-Saharan Africa.
4. Telecommunications Policy, 44(1), 101838. https://doi.org/10.1016/j.telpol.2019.101838
5. AU. (2020). African Continental Free Trade Area (AfCFTA) implementation strategy. African Union.
6. Haglund, D. (2022). Enclave FDI and political economy of development in the DRC. Resources Policy, 75(2), 102455. https://doi.org/10.1016/j.resourpol.2021.102455
7. International Labour Organization (ILO). (2023). Global employment trends for youth 2023. ILO.
8. Ndikumana, L. (2021). Capital flight and foreign direct investment in Africa. African Development Review, 33(1), 1–15. https://doi.org/10.1111/1467-8268.12544

9. UNCTAD. (2023). World investment report 2023: Investing in sustainable energy for all. United Nations.
10. World Bank. (2022). Africa's pulse: An analysis of issues shaping Africa's economic future. World Bank.
11. Amin, S. (1974). Accumulation on a world scale: A critique of the theory of underdevelopment. Monthly Review Press.
12. World Bank. (2023). doing business 2023: Comparing business regulation in 190 economies. World Bank.
13. AfDB. (2022). West Africa economic outlook 2022: Investing in sustainable infrastructure. African Development Bank.
14. Borensztein, E., De Gregorio, J., & Lee, J.-W. (1998). How does foreign direct investment affect economic growth? Journal of International Economics, 45(1), 1–135. https://doi.org/10.1016/S0022-1996 (97)00033-0
15. Chang, H.-J. (2002). kicking away the ladder: Development strategy in historical perspective. Anthem Press.
16. Fombe, L. F., Mbella, M. E., & Ewumbue-Monono, C. (2020). Bureaucratic bottlenecks and FDI inflows in Cameroon.
17. African Journal of Economic and Management Studies, 11(1), 89–104. https://doi.org/10.1108/AJEMS-03-2019-0120
18. Helpman, E., Melitz, M. J., & Yeaple, S. R. (2004). Export versus FDI with heterogeneous firms. American Economic Review, 94(1), 300–316. https://doi.org/10.1257/000282804322970814
19. KPMG. (2022). Local content compliance in Angola's oil sector. KPMG Angola.
20. UNCTAD. (2023). World investment report 2023: Investing in sustainable energy for all. United Nations.
21. Asongu, S. A., & Nwachukwu, J. C. (2022). The comparative economics of knowledge economy in Africa. Journal of the Knowledge Economy, 13(1), 1–31. https://doi.org/10.1007/s13132-020-00710-9 Rationale: Supports critiques of homogenizing Africa's economic diversity in FDI-trade research.
22. Creswell, J. W., & Plano Clark, V. L.(2017). Designing and conducting mixed methods research (3rd ed.). Sage Publications. - Rationale: Foundational text justifying the mixed-methods design.
23. Ethiopian Investment Commission (EIC). (2023). Annual report on foreign direct investment in manufacturing. EIC. - Rationale: Primary data source for Ethiopia's case study.
24. Hawassa Industrial Park. (2023). Export performance and employment trends: 2015–2023. HIP Reports. Rationale: Provides granular data on Ethiopia's manufacturing FDI outcomes.
25. International Monetary Fund (IMF). (2023). Governance indicators dataset. Retrieved from https://www.imf.org/en/Data - Rationale: Institutional quality metrics used in regression analysis.
26. Nigerian National Petroleum Corporation (NNPC). (2023). Local content compliance and FDI in Nigeria's oil sector. NNPC. - Rationale: Key document for Nigeria's extractive FDI case study.
27. Organization of the Petroleum Exporting Countries (OPEC). (2023). Annual statistical bulletin 2023. OPEC. Rationale: Secondary data on oil FDI trends in Nigeria and Angola.