Aggregated and Sectoral Analysis of FDI Determinants in Africa: The Role of Infrastructure, Financial Development, and Formal and Informal Institutions.

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Abstract

This thesis investigates the determinants of Foreign Direct Investment (FDI) for all African economies, with a particular focus on the roles of infrastructure, institutional quality (both formal and informal), and financial development. Addressing previously underexplored structural factors, the study adopts a multi-method empirical strategy, grounded in the theory of location-specific advantages (North 1990; Dunning 1998).

The first empirical chapter (Chapter 3) employs Poisson Pseudo Maximum Likelihood (PPML) estimation with country and time fixed effects and panel quantile regression to assess the impact of infrastructure, financial development, and institutional quality on FDI inflows across Africa from 1996 to 2019. The findings indicate that both political and socioeconomic institutions significantly attract FDI, while infrastructural accessibility, measured by electricity access, internet users, gross fixed capital formation, financial efficiency, and market depth also plays a critical role.

Using PPML with country and time fixed effects, the second empirical chapter (Chapter 4) accounts for heterogeneity across Africa economies regions by classifying countries by region (North, Central, East, South, West), income level, landlocked status, political regime, and human development. The results indicate that institutional quality is positively associated with FDI in Northern and Western Africa, as well as in democratic, upper-middle-income and non-landlocked countries, but otherwise is negatively or insignificantly.

The final empirical chapter (Chapter 5) explores the influence of formal and informal institutions on bilateral FDI flows and investment scale from five major source countries China, India, France, the USA, and the UK into 51 African economies across seven sectors: construction, manufacturing, services, banking, infrastructure, mining, and agriculture. Using a Heckman two-stage model (probit and PPML), with logit estimation for robustness, the study finds that formal institutions and institutional distance shape investment location decisions. The sectoral analysis reveals that both formal and informal institutions matter for manufacturing and construction, while only formal institutions influence services. No significant institutional effects are found in banking, infrastructure, agriculture, or mining.

In accounting for absolute and relative institutions as formal institutions, cultural distance as informal institutions, and financial institution depth, access and efficiency into FDI modelling, this research extends existing empirical frameworks to better account for context specific determinants in African economies. In using advance econometric techniques, PPML controls for zeros and heteroscedasticity, fixed effects capture the heterogeneous and complex nature of FDI flows in Africa while quantile regression capture non-linear effect. The findings offer actionable insights for policymakers, highlighting the need for tailored reforms in governance, financial systems, and infrastructure. Sector-specific and investor-sensitive strategies, particularly those addressing institutional and cultural distance, are essential for enhancing Africa's FDI attractiveness.

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Dedication

This work is dedicated to God Almighty, the one that is all sufficient. My late father, Overseer S.O. Idowu; my mother, Deaconess. J.A. Idowu; my darling husband, Olaniyi Julius Ileola-Gold; and my lovely children, Michelle Ileola-Gold, Katherine Ileola-Gold and Itunuoluwa Ileola-Gold.

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In this journey this is always my quote: "When the going gets tough, the strong rise to meet it. Though storms may rage, the resilient endure, for tough times fade, but steadfast souls remain"

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List of Abbreviations

FDI—Foreign Direct Investment

FIL - Foreign Direct Investment

MNCs – Multinational Corporation

OLI – Ownership Location, Internalisation

MNEs – Multinational Enterprises

OECD - Organisation for Economic Co-operation and Development

UNCTAD – United Nations Conference on Trade and Development

GMM – Generalised Method of Moments

SSA – Sub-Saharan Africa

GDP – Gross Domestic Product

GDPPC – Per Capita Gross Domestic Product

GDPG - Gross Domestic Product growth

PPML – Pseudo Poisson Maximum Likelihood

OLS – Ordinary Least Squares methods

LSDV – Least Square Dummy Variable

2SLS – Two -Stage Least Squares

BRI – Belt and Road Initiative

FD – Financial Development

FII – Financial Institution Index

FMI – Financial Market Index

FIA – Financial Institution Access

FIE – Financial Institution Efficiency

FID – Financial Institution Depth

PCA – Principal Component Analysis

WDI – World Development Indicators

ITU: International Telecommunication Union

CHAPTER 1 Introduction

This chapter discussed the background of the studies and the trend of the flow of FDI into Africa and other developing countries. Additionally, it covered the research questions, the study's contribution to existing research, and the overall structure of the thesis. The next subsection discussed the background of the study.

1.1 Background of the study.

Foreign direct investment (FDI) flows have been one of the major research and policy topics that have been of particular interest as a key element of economic globalisation. In particular, the factors which augment and encourage FDI flow to developing countries have been of particular interest. This reflects FDI being seen as a critical source of investment in the developing countries (Benassy-Quere et al 2007, Quazi 2007) and therefore can play a significant role in the development effort of Africa and other developing countries by increasing the performance of the economies through modern technology transfer, saving accumulation, job creation, efficiency enhancement, access to foreign markets, developing of local manpower and competition-enhancing foreign exchange (Anyanwu 2011; Dunning, 2001; Dupasquier and Osakwe, 2003). The issue of FDI has received more empirical attention both at the international and national levels in recent years (Denisia 2014), but this work builds on the longstanding theoretical foundations of the studies such as Hymer (1960) and Dunning (1979, 1981, 1988).

The desire to attract FDI is particularly acute due to domestic capital shortages as a result of limited internal savings, the technology gap between the developed and developing countries and insufficient public funds. According to Naude and Krugell (2003), attracting FDI is crucial for African countries to reduce poverty rates and unemployment, enhance economic growth and development, achieve modern technology transfer and global economic integration, and supplement domestic saving, improve worker skills, access to markets, and render abatement to the host countries when faced with financial difficulty (Anyanwu and Yameogo 2015; Ahmed et al. 2015). Thus, in non-OECD countries (including Africa), FDI represents 39% of the total finance available, and it remains the largest external finance source for African economies and essential for their sustainable development and eventual graduation (UNCTAD 2018). These all promote the need to increase external capital from abroad in the form of investment in the key sectors in

developing countries, where demand is greater than the domestic saving rate, in order to achieve faster economic growth.

In developing countries, the significance of FDI to policymaker are not unfamiliar, and understanding its determining factors in recipient countries remains an important issue from the perspective of these countries. Since the 1990s most developing countries have increasingly competed with each other to attract FDI through liberalising their policy regimes and providing many incentive packages, such as trade liberalisation measures, tax rebates and the creation of more accommodating business environments, through greater certainty in terms of government policies, regulation and law (Okara 2023; Luiz et al. 2019; OECD 2008; World Bank 2013).

For instance, according to UNCTAD (1998), over seventy-six developing countries have made about 151 changes in their policies related to FDI, and 86% of the policies are to create a more friendly business environment. Specifically in Africa, governments provide several incentives and reforms to attract FDI inflow into the region, such as the provision of subsidies and tax reduction, and some of the reforms that have taken place in the area include economic recovery programmes, structural adjustment programmes, economic partnership agreements and financial sector liberalisation (Asamoah et al. 2016). However, the relevance of FDI for the sustainable development of less developed countries (LDCs) and the country's eventual graduation accentuates the need to create a policy conducive to an investment environment in productive capacities and address other essential investment environment aspects such as skills gaps and infrastructure (UNCTAD 2022).

Therefore, many developing countries, including African countries, further changed their policies to regulate FDI operations, facilitate investment inflow, and liberalize liberalise the inflow of FDI into their region (World Bank 2013; Njuguna and Nnadozie 2022; Yimer 2023). Thus, even with the policy and reform, FDI inflows to Africa are disappointing, as they remain extremely low compared to other developing countries of the world (Asiedu 2011; 2002, Rodriguez-Pose and Cols 2017). This is explained in detail in the next sub-session (1.2).

However, studies have noted it is not just the quality of formal institutions but the similarity of both formal and more informal aspects, including culture, between home and host countries that has a role to play (Holmes et al. 2013; Moshin et al. 2021; Kostova 2020).

This has attracted more attention in the recent studies of international business, and a few studies have investigated the influence of cultural and institutional distance on bilateral aggregated flows (Moshin et al. 2021; Nayyar 2024; Munjal et al. 2022), among others. A gap in existing studies that remains is the limited study of sectoral-level bilateral foreign investment choices in Africa (Lious et al. 2017; Munjal et al. 2022; Bergougui et al. 2023). However, the determinants of financial development on FDI have been least explored (Islam et al. 2020) as the quality of the financial system enhances the inflow of FDI into the host country.

This study seeks to investigate the key factors influencing FDI inflow into African countries, with particular emphasis on infrastructure, financial development, and institutional determinants (both formal and informal institutions). The analysis is undertaken at both aggregate and sectoral levels to facilitate a comprehensive examination of the mechanisms through which these variables exert influence on FDI inflows across the continent. Accordingly, at the aggregate level, the study investigates the roles of infrastructural, financial development, and institutional quality within host countries. Institutional quality is further disaggregated into two distinct dimensions: political institutions and socioeconomic institutions. This classification is to deepen the analytical understanding of how various facets of institutional quality influence the attractiveness of African countries to foreign investors.

In contrast to previous research (such as Sabir et al., 2019; Asiedu 2002; 2006) that often relies solely on infrastructure availability, such as telephone line density as a proxy for infrastructural capacity, this study adopts a more nuanced approach. It examines three dimensions: the availability, accessibility, and reliability of infrastructure, thereby offering a more comprehensive and policy-relevant assessment of infrastructural readiness. Financial development is categorised into two components: the financial institutions index (comprising financial institution depth, access, and efficiency) and the financial markets index. This dual categorisation enables the study to examine the multidimensional nature of financial development and its potential influence on investment decisions. At the sectoral level, the study employs disaggregated bilateral FDI data to examine the influence of formal and informal institutional determinants across seven investment-intensive sectors: Manufacturing, Mining, Agriculture, Infrastructure, Banking, Construction, and Services. It also explores whether the impacts of institutional quality, institutional distance, and cultural distance vary across these sectors.

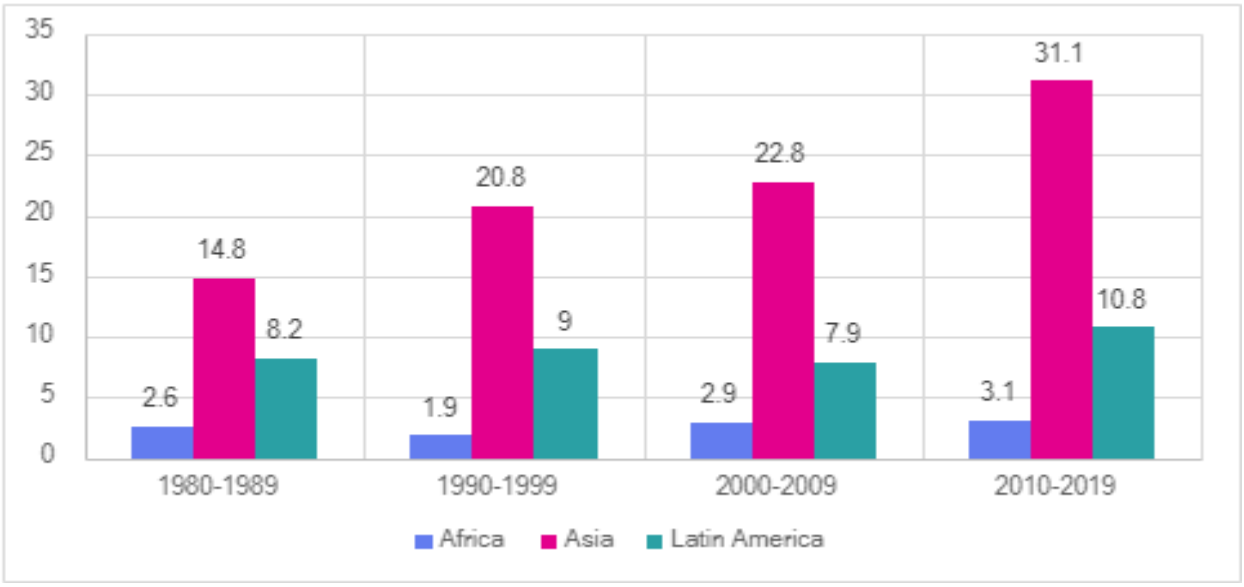
Thus, by integrating aggregate and disaggregate analyses, this study provides more insight of the determinants of FDI in Africa. The findings are expected to guide policymakers in designing and implementing evidence-based policies that enhance the region's capacity to attract foreign investment. The subsequent section discusses recent trends in FDI inflows to Africa

1.2 Trend in FDI inflows to Africa over time

According to the World Investment Report 2023, Africa experienced a decline of 47% in the value of the international finance project deals (i.e., from $140 billion in 2021 to $70 billion). Even with the reform in the 1990s, African FDI inflows are low compared to other regions of the world. African countries lag behind other developing countries of the world in attracting FDI inflows (Njuguna and Nnadozie 2022; Yimer 2023b). On an average annual basis, the proportion of global flows of FDI received by Africa in 1980-89 was 2.6%, 1.9% in 1990-1999, 2.9% in 2000-2009 and 3.1% in 2010-2019, while in the Asian region, the equivalent proportion of total FDI received was 14.8%, 20.8%, 22.8% and 31.1%, and in Latin America and the Caribbean, the FDI inflows were 8.2%, 9.0%, 7.9% and 10.8% of the total (UNCTAD 2022; Dondashe et al. 2018). This is illustrated in figure 1.1.

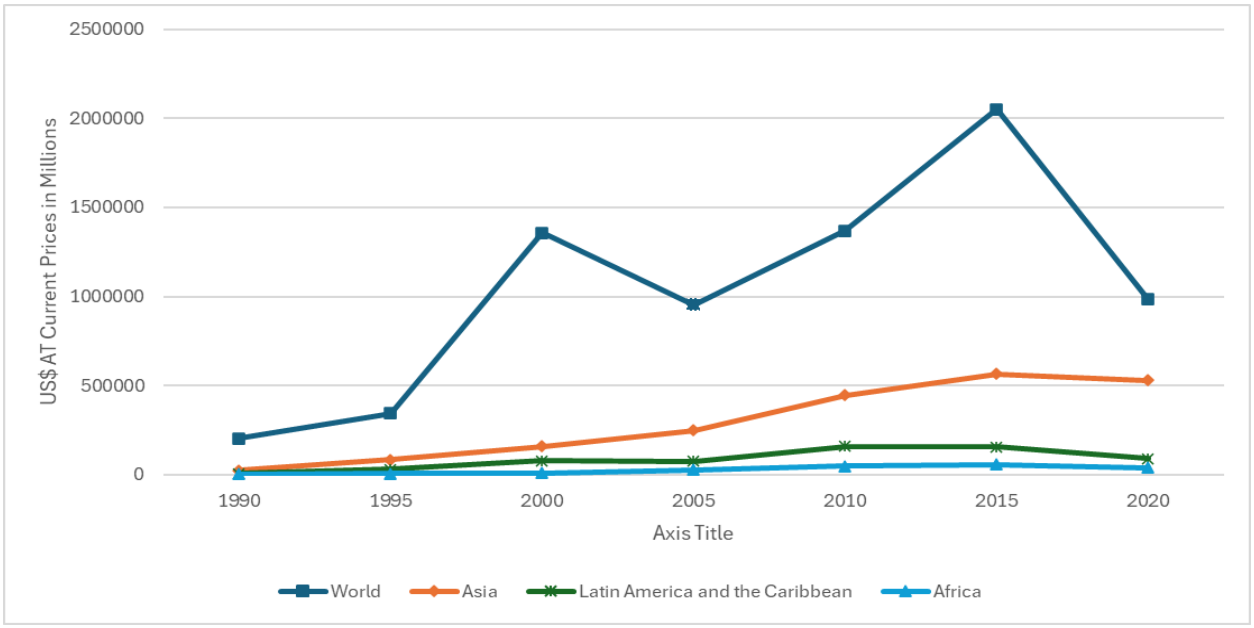
FDI inflows to Africa increase after the 90s reforms, as seen in figure 1.1 and figure 1.2 below, respectively, but is still low compared to other developing countries. In figure 1.2. In 2007 the world investment increased to $1,906,638 million and decreased to $1,173,741 million in 2009, this could be related to the effect of the global financial crisis. Hence, in 2010 there is an increase in the share of the world investment to $1,393,014 million. Asia, Latin America and the Caribbean and Africa region have a share of $422,591 million, $160,746 million and $78,925 million, respectively. In 2015, the African share of FDI increased to $57,580 million and $45,253 million and in 2020 African FDI decreased to $39,195 million and $29,395 million respectively. This could be related to the pandemic in 2020 (World Investment Report 2022).

Figure 1.2.1 FDI Inflows in Developing Economies Regions Over Time (Percent of Total world)



Source: Own Calculation (Data from UNCTAD 2022)

Figure 1.2.2 Foreign direct inflows by selected region over a period in million dollars (1990 – 2020)

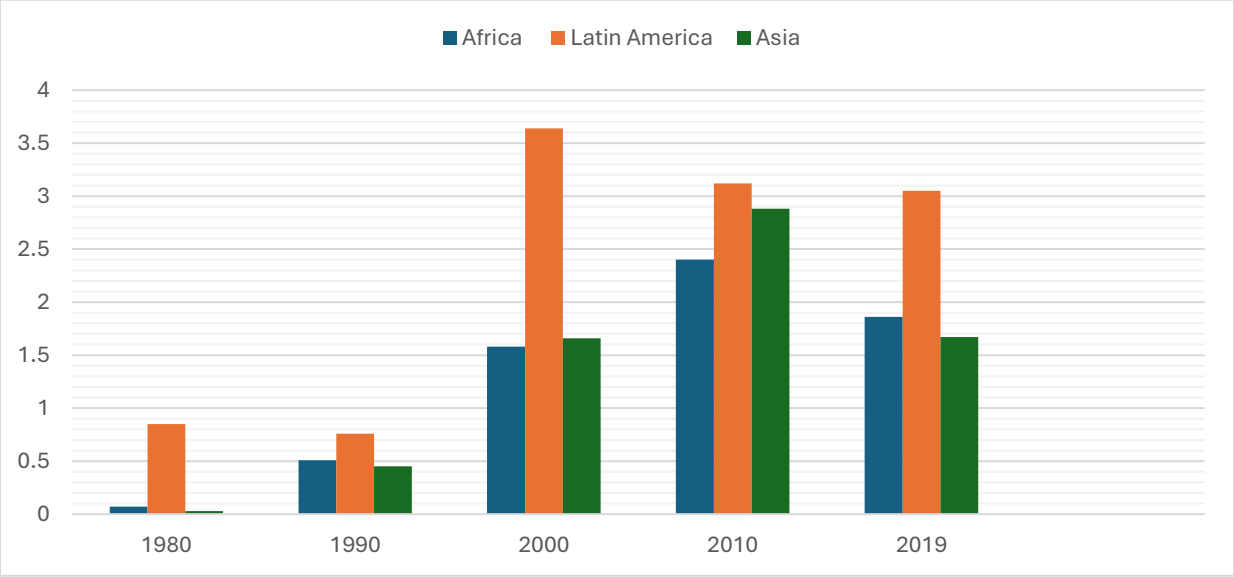


Source: Own Calculation (Data from UNCTAD 2024)

Worldwide considerable investment policy reforms have been made between 2011 and 2021, as two-thirds of all the developing countries introduced at least one policy measure focused on investment; African countries have led the reform drive, with three-quarters of countries in the continent employing reform in investment compared to only 54 percent of other developing countries. Over 80 percent of these reforms employed by the continent were intended to create conditions to promote investment and the development of the private sector, confirming their commitment to enhancing productive capacities since the Istanbul Programme of Action (IPoA), adopted at the fourth United Nations Conference on Least Developed Countries (LDC IV) in 2011 (World Investment Report 2021).

According to the United Nations Conference on Trade and Development (UNCTAD 2023), global FDI fell by 12% in 2022 to $1.3 trillion due to global crises, including the war in Ukraine, soaring public debt, and high energy and food prices. Thus, this was mostly felt by developed countries, where FDI decreased by 37%, and developing countries increased by 4%, where Asia remained constant at 0%, Latin America and the Caribbean increased by 51%, and Africa decreased by 44%.

Figure 1.2.3 FDI inflow into Africa and other developing countries as a percentage of GDP (1980-2019)



Data Source: UNCTAD Statistics 2022

Hence, Africa as a continent is selected because even with the policy reform, the countries still lag behind other developing countries in terms of the inflow of FDI. The FDI inflow to the continent has decreased in relative terms compared to other regions, although increasing in absolute terms. The following factors cause the decrease in the continent's relative share of total flows. Firstly, people perceive Africa as a risky region that lacks a conducive business environment, despite various measures established in the 1990s to improve this perception.

Africa is still seen by the foreign investors as a region ravaged by political upheavals, rapacious ethnic divisions, breakdown of law and order, abject poverty, and diseases. Foreign investors tend to invest their funds in portfolio investment, which cannot provide employment opportunities. It is also volatile, as they are discouraged from investing in the real sectors of the country due to political turmoil. In Zimbabwe, the return on nominal rates by the government exceeds 50 percent between 1998 and 2000, as some African countries, due to negative international image and poor economic performance, have limited access to external borrowing and tend to borrow from local financial markets, which results in high domestic interest rates.

In turn, investment is attracted to the financial sectors rather than other real sectors due to high interest rates (Onyeiwu and Shrestha 2004).

Secondly, Asiedu (2002) explained that the factors that drive FDI in non-sub-Sahara countries and SSA are different. The explanation for this disparity is not without controversy. Most FDI inflows to Africa are absorbed by a handful countries. Good governance, transparency and democracy are attributed as a reason behind the attraction of FDI inflows to African countries, while others suggest the capacity for economic management and stable macroeconomics environment play a role (Mlambo and Oshikoya 2001). More recently the role of institutions is highlighted by the new institutional economists in mobilising FDI for African development and growth (Collier and Gunning 1999).

Thirdly, the empirical research on FDI determinants in Africa is understudy (Asiedu 2006; Geda and Yimer 2023). Generally, there is thinking that the region is different structurally from the rest of the world, requiring more investigation. Foreign investors are reluctant to invest in many African countries due to lack of economic freedom. According, to the Heritage Foundation and Wall Street Journal (2001) in the economic freedom index compiled none of the 43 African

countries were categorised as economically free. Only seven countries receive a rating of mostly free (i.e. Benin, Tunisia, Botswana, Namibia, Mali, Morocco and Mauritius), thirteen countries were classified as repressed (Zimbabwe, Angola, Libya, Sierra Leone, Sudan, Somalia, Burundi, Democratic Republic of Congo and Guinea-Bissau,) and the majority, just under 30 African countries, are classified as mostly unfree with ineffective institution, increased poverty and inadequate infrastructure.

Despite ongoing policy efforts and reform initiatives aimed at enhancing Africa's attractiveness to foreign investors, the continent continues to receive a relatively modest share of global Foreign Direct Investment (FDI). This limited inflow persists even in the face of structural adjustments and targeted interventions to increase investor confidence. Given the evolving macroeconomic landscape, the emergence of new investor countries with differentiated strategic priorities, and the increasing complexity of investment flows, an up-to-date and empirically grounded analysis is essential. Such an analysis must reflect the dynamic interplay of global investment strategies, institutional realignments, and sectoral shifts that influence FDI allocation in Africa. By addressing both aggregate and sectoral dimensions of infrastructure, financial development, and institutional quality, this study aims to identify the principal drivers of FDI in Africa. The insights generated will offer a nuanced basis for designing targeted and context-sensitive policies capable of improving the continent's positioning within the global investment hierarchy. The subsequent subsection outlines the specific research questions, follow by the contribution of this thesis to the body of knowledge on FDI determinants in African economies.

1.3 Research Questions

This study aims to investigate the aggregate and disaggregated determinants of Foreign Direct Investment (FDI) in African countries by addressing the following core questions:

1. To what extent do infrastructure quality, institutional quality, and financial development influence FDI inflows into Africa?
2. How does institutional quality as a determinant of FDI vary across African sub-regions, income classifications, political regimes, human development index, and landlocked versus non-landlocked countries?

3. To what extent do investment decisions and FDI volumes from traditional (e.g., USA, UK, France) versus emerging (e.g., China, India) investor economies respond to formal and informal institutional conditions across different African sectors?

The subsequent section outlines this thesis's contribution to the existing body of knowledge in detail.

1.4 Contributions of the Thesis

This study advances the literature on foreign direct investment (FDI) in Africa by examining the roles of infrastructure, institutional quality, and financial development using aggregated data to capture macro-level determinants. A key innovation lies in the sectoral disaggregated analysis, which differentiates between formal and informal institutional influence on FDI in Africa. By integrating both macroeconomic and sector-specific perspectives, the study provides a more nuanced understanding of how institutional heterogeneity shapes FDI flows, thereby addressing critical gaps in existing empirical and theoretical frameworks. As outlined in Section 1.2, this research is motivated by persistent limitations in the FDI literature on Africa, where the continent is often treated as analytically indistinct from other developing regions. Moreover, Africa's limited success in attracting FDI has been attributed to weak institutional frameworks, inadequate infrastructure, macroeconomic instability, and underdeveloped financial systems (Rodríguez-Pose et al., 2017; Anyanwu, 2011).

According to the theory of institution, North (1990) explained that for a country to attract FDI inflow, institutions are one of the important factors ' investors consider, as he is one of the first scholars to mention the impact of institutions on investment and economic activity. Ever since, there has been a shift of attention to FDI determinants in the literature to investigate the relationship between institutional factors and FDI (Bailey 2018). According to Bevan et al. (2004), they explained that when deciding which country to invest in, foreign investors have become more interested in institutional quality. While there exists research on FDI determinants in Africa (Asiedu 2002; Asiedu 2006; Mijiyawa 2015; Anyanwu and Yameogo 2015; Jaiblai and Shenai 2019; Sabir et al., 2019), there remains a notable lack of consensus among researchers regarding the role of institutions s (Chakrabarti 2001; Asiedu 2006; Mijiyawa 2015; Islam and Beloucif 2024). Researchers partly attribute this divergence to differences in methodological approaches,

regional focus, and the multidimensional nature of institutional indicators. While some studies, such as Sabir et al. (2019), found positive relationships between institutional quality and FDI inflows, others, including Nondo et al. (2016), find no relationship, suggesting that the institutional factors may operate through indirect channels.

Jaiblai and Shenai (2019) further demonstrate that macroeconomic and infrastructure determinants behave differently across FDI levels, underscoring the importance of distribution-sensitive modelling. Adelakun and Ogujiuba (2023) emphasise that infrastructural quality and governance indicators are overlooked and omitted by most studies despite their critical role in investor decision-making. Asiedu (2002) asserts that the factors attracting FDI to Sub-Saharan Africa differ from those influencing other investment destinations, which further motivates this study to investigate FDI flows and their determinants in Africa. Hence, by answering the research questions, this study contributes to the literature in the following way:

Firstly, building on the study of Sabir et al., (2019) and Nondo et al., (2016), the previous study uses fixed effect and GMM to examine the impact of institutions on FDI in developing and developed countries across different income groups from 1996 to 2016, while the latter uses fixed effect to examine the effect of institutions on Sub-Saharan African countries from 1996 to 2007. To answer research question one, this study contributes to the literature by examining the role of infrastructure, institution, and financial development in Africa as this study focus on Africa context. while Sabir et al., (2019) GMM specification addresses endogeneity and dynamic persistence, it remains a mean-based approach that captures only average effects across samples. Similarly, Nnodo et al., (2016) apply fixed effects both studies while methodologically sound, assume homogeneity in the effects of institutional quality across country and FDI level. In contrast, this thesis adopts the traditional technique use in the literature of investment (such OLS, LSDV) to a more recent technique mostly use in trade literature and now use in investment Poisson Pseudo Maximum Likelihood (PPML) to estimate static effects robustly in the presence of zero and heteroskedasticity present in African investment data and integrates quantile regression to capture distributional heterogeneity to the best of our knowledge, making it the first Africa study to capture link of linear and non-linear methodology in examining the effects of infrastructure, institutions and financial development in Africa. According to Dorakh (2020), study FDI determinants in European Union and find that PPML as his robust estimation.

Furthermore, the study includes financial development index to capture financial development, the index is also divided into financial institution development index and financial market development index which provide more in-sight into the importance of financial development as the determinant of FDI as this covers the depth, access and efficiency of financial institutions which is different from previous studies which use financial institution depth (such as Domestic credit, Quasi money) as proxy for financial development. As mentioned by Nkoa (2018) few studies has examined the specific role of financial development in Africa. However, the determinants of financial development on FDI have been least explored (Islam et al 2020) as the quality of the financial system enhances the inflow of FDI into the host country. The institutional quality measures using composite index of the government indicators and these indicators is further divided into two index to capture the political and socio-economic institutional determinants of FDI in Africa.

The role of infrastructure in attracting FDI is grounded in Electric Paradigm (OLI) framework by Dunning (1980), which identifies infrastructure as a key component of a country's location-specific advantages, this include transport, communication and energy system enhance operational efficiency and reduce transaction cost making host economies more attractive to multinational enterprises. However, relying on a single infrastructural indicator as done by other study oversimplified the multidimensional nature of infrastructure. To overcome this limitation these studies, measure the infrastructural determinants using different proxies to capture the reliability, accessibility and availability of infrastructure and other infrastructural indicators as a determinant of FDI in Africa. Although there is a large existing literature on the determinants of FDI to developing countries are broadly, the determinants of FDI to Africa is understudy (Mijiyawa 2015; Yimer and Geda 2023).

Secondly, to answer the second research question, this study investigates the institution FDI nexus in Africa sub-region. This study uses Okafor et al (2017) and Korsah et al., (2022) as a benchmark study. The first examine the determinants of FDI in least recipient regions they use 20 sub-Sahara Africa and 11 MENA as case study using the fixed effect technique while the later investigates the drivers of FDI for 16 west Africa use fixed and random effects estimation. According to Yimer and Geda (2023) studies examining African countries treat them as a homogeneous group and do not account for country specific factors (studies including. They pool the different structure and

feature into one sample, such techniques may lead to biased or misleading result due to unaccounted heterogeneity problem given the fact that countries conditions are different in political, socio-economic and institution.

Chen et al (2015) explained that FDI inflows to African have become more diversified to different sub-region. Since, African has an heterogenous economy, to respond to the call of Korsah et al., (2022) that comparative studies should be carried out of all other region in African countries to investigates FDI determinants using recent indicators, The present study differs in numbers of ways. It focuses on the role of institutions in Africa sub-region using PPML with country and time effect to capture the heterogeneity nature of Africa, as the regional FDI dataset often display variance heterogeneity across countries, PPML provides consistent estimates under robust variance assumption, preserving validity when comparing region with differ investment volatility and since it estimates the model rather than logs PPML avoid distortion from log-transforming skewed data which often differ by region making it robust technique for heteroskedasticity.

In contrast with Okafor et al., (2017), who examine Sub-Sahara and Mena region and Korsah et al., (2022) who examine the west Africa region this study investigates the comparative analysis of the institutional determinant of FDI in Africa regions North Africa and Sub-Sahara Africa region with Sub-Sahara Africa further divided into (Southern Africa, East Africa, West Africa and Central Africa). The study also uses the composite index of institutional quality which capture institution quality more as a determinant of FDI than control of corruption and political risk use by the two study respectively. The financial development index indicator, which was recently comprised by the IMF is use as it captures both the financial institution index and financial market index.

The study further examines the determinants based on location (landlock and non-landlock Africa countries) as stated by Asiedu (2002) that factors that affect landlock countries is different from non-landlocked in Africa note that Africa has the highest landlocked countries it is important to investigates the inflow of FDI using comparative analysis between the landlocked and non-landlocked region. The determinants of FDI in Africa are investigated for countries in different income groups (low, lower, middle, high income), political regimes (autocracy, democracy and flawed democracy) and the study further investigate the determinants of FDI based on different human development index and degree of free business environment across Africa country. This study adds to the literature by examining the determinants of FDI due to Africa heterogenous

nature to give a clear analysis of the region and allow policy maker to understand this region when making investment decision.

Lastly, most of the studies that examine the institutional determinants of FDI in Africa rely on the aggregated FDI data, only few studies have used the disaggregated FDI data (Bergougui and Murshed 2023). However, studies have noted it is not just the quality of formal institutions, but the similarity of both formal and more informal aspects, including culture, between home and host countries that have a role to play (Holmes et al 2013; Moshin et al 2021; Kostova 2020). This has attracted more attention in the recent studies of international business, and a few studies have investigated the influence of cultural and institutional distance on bilateral aggregated flows (Moshin et al 2021; Nayyar and Luiz 2024; Munjal et al 2022) among others. A gap in existing studies that remains is the limited study of sectoral-level bilateral foreign investment choices in Africa (Lious et al 2017; Munjal et al 2022, Bergougui and Murshed 2023). Other Africa studies that examine the institutional quality FDI bilateral flow focus on absolute institutional quality (Fon et al., 2021;). According to Cuervo-Cazurra et al., (2019), they mentioned that institutional research needs to differentiate between the effect of institutional quality versus institutional distance (ie absolute and relative institution). The impact of institution on FDI differ from developed and developing country (Fon et al., 2021) and may vary by sectors but due to lacking data of sectoral FDI inflows been lacking such suggestion has not been subject to any systematic investigation (Ali et al 2010).

To answer research question 3, this study therefore examines the influence of formal and informal institution on FDI focusing on bilateral sectoral analysis. Using the study of Bergougui and Murshed (2023) and Munjal et al (2022) as benchmark. The first investigates a sectoral analysis of institutional quality and FDI in 10 Mena region using 2SLS. They data they use is total FDI flow as a share of GDP and there sectoral data is primary, secondary and Tertiary FDI as share of GDP and the later examine “a comparative analysis of Indian and Chinese FDI into Africa looking at the role of governance and alliance” by using Heckman two stage technique looking at choice and volume FDI inflow. In contrast, this study contribute to the literature by use disaggregate firm level data from five host countries (USA, UK, France, China and India) to different Africa sector starting from total investment, manufacturing sector, mining sector, service sectors, construction sectors, Agricultural sectors, Banking sector and infrastructural sectors as mention by Ali et al.,

(2010) the impact of institution vary from differ sectors, this is to help policy maker and academia to understands the influence of formal and informal institution on different Africa sectors, to the best of our knowledge this is the first study to use disaggregate data to investigates the formal and informal impact of institution on investment choice and volume.

This study also investigates the formal (absolute institution and relative institution) using institutional data from world governance database as suggested by Cuervo-Cazurra et al (2019) and Van Hooron and Maseland, (2016) that it is better for institutional researcher to differentiate between institutional quality and institutional distance. Informal institution (cultural distance) is also included in this study as Fuentelsaz et al (2020) empirically demonstrate that strong formal institutions positively moderate the challenges posed by informal institutional distance, thereby improving both the market entry likelihood and subsidiary performance. while both studies focus on absolute institution except for Munjal et al (2022) they use cultural distance as control variable using four cultural dimension indicator and include home country institutional quality.

Munjal et al (2022) use three indicators of the governance institution indicator control of corruption, voice and accountability and political stability. They also use for indicator of cultural distance (power distance, uncertainty avoidance, individualism, and masculinity while Bergougui and Murshed (2023) use data from V.Dem database to capture rule of law index, accountability index, corruption index, and property right for his institutional quality. In contrast, this study uses the six to governance indicator of institution (control of corruption, voice and accountability and political stability, rule of law, regulatory quality and government effectiveness) and six cultural dimensions of informal institution (power distance, uncertainty avoidance, individualism vs collectivism, masculinity vs femininity, long-term vs short-term orientation and indulgence vs restraint) to capture the multidimensionality of the formal and informal institution effect on investment choice and volume.

The study further disaggregates the home country into traditional countries (USA, UK, and France) and emerging countries (China and India) to see if the impact of institutions on sectoral investment choice and volume of investment varies between developed and emerging countries in Africa, as recently Africa has been receiving investment from emerging economies. As mentioned in the literature, a foreign investor's decision to invest is based on the choice of the location and the volume of investment (Tang et al., 2022). This study uses the Heckman two stage technique to

examine the choice of investment and the volume they want to invest in these African sectors, as used by Tang et al., (2022). While their studies use probit for investment choice and Poisson for the volume of investment, this study uses probit for investment choice and PPML for the volume of investment. The host country is further divided into landlocked and non-landlocked countries to capture the host country's geographical heterogenous characteristics.

From a policy standpoint, it is crucial to analyse the institutional and infrastructural factors that affect FDI inflows into Africa. Existing literature indicates that foreign direct investment (FDI) in the continent is mostly resource-seeking. However, various obstacles impede the attraction of other forms of FDI, including poor institutional frameworks, underdeveloped financial systems, and inadequate infrastructure (Asiedu & Lien, 2011; Feulefack and Ngassam 2020). Countries with good economic institutions generally attract greater foreign investment; however, numerous African nations face governance issues, including bribery, rent-seeking behaviour, and bureaucratic inefficiencies, which erode investor confidence and foster scepticism among foreign investors (Ndulu et al., 2008; Bartlett et al., 2013). Nketia-Amponsah and Sarpong (2019) contend that the policy tools successful in augmenting FDI inflows in Africa are distinct from those in other regions, hence requiring context-specific strategies. This study aims to examine the institutional determinants of foreign direct investment (FDI), specifically focussing on institutions (f and financial institutions, alongside infrastructural elements throughout the continent. Acknowledging that numerous African institutions are extractive and exploitative and may lack the capacity or political will to foster foreign investment and alleviate uncertainty (Acemoglu & Robinson, 2010; Cleeve, 2012), the research seeks to offer a more nuanced comprehension of FDI dynamics.

In alignment with Bokpin et al. (2015), who call for deeper inquiry into non-resource-based FDI and its structural orientation whether vertical, horizontal, or export-fragmented this study incorporates both resource-based and non-resource-based FDI. It acknowledges that investment motivations vary across sectors and locations and thus evaluates whether distinct geographic sub-regions within Africa attract similar forms of FDI. Sectoral analysis is conducted across manufacturing, agriculture, construction, mining, and services to assess the influence of institutional and motivational factors on bilateral FDI flows (Chen et al., 2015).

Furthermore, the study examines the role of formal and informal institutions in major investing countries namely the USA, UK, France, China, and India in shaping FDI patterns across African

sectors. This responds to the call by Islam and Beloucif (2024) for sector-level analysis of FDI determinants. The following section outlines the structure of the thesis.

1.5 Outline of thesis structure

To achieve the above, the rest of this thesis is organised as follows: Chapter 2 presents a literature review to provide a theoretical overview of FDI and summarise the empirical literature on FDI determinants. The theoretical framework for this study is developed based on prior work proposing theories of FDI. However, the relevance of those factors identified has to be considered in terms of their applicability to the African context. The study also outlines the most important factors empirically identified with respect to FDI inflows.

Based on the primary gaps identified in the literature review, Chapter 3, which is the first empirical chapter, examines the determinants of FDI in African countries by investigating the relationship between institutional quality (political and socio-economic), infrastructure quality (i.e., using various measurements to examine the accessibility, availability, and reliability of infrastructural quality), and financial development determinants of FDI in Africa from 1996 to 2019. The method used to examine this is LSDV and PPML with country and time effects to address heterogeneity and heteroscedasticity, and the quantile regressions technique is used as a robustness check.

In Chapter 4, this study examines the institution-FDI nexus in the African sub-regions (North Africa, Southern Africa, East Africa, West Africa, and Central Africa). Alternative divisions of countries in Africa are considered by investigating different income groups in Africa, those with different political regimes, and levels of social and economic development by grouping countries based on different human development index levels and different economic business freedom environment levels. Data from 1996 to 2019 is used. The analysis methods applied are PPML with fixed effect.

Moving on from the countries level analysis Chapter 5, uses disaggregated data to test the influence of formal (i.e. institutional distance and host country institutional quality) and informal institutions (cultural distance) in 7 African sectors (manufacturing, mining, construction, banking, Infrastructure, agriculture and services) from 2013 to 2022. The method employed is the Heckman approach (using probit and PPML) to account for the step-by-step nature of the investment decisions. A logit approach is used as an alternative estimator as a robustness check.

Chapter 6 provides a discussion of the result in relation to the existing literature and draws conclusions and policy implications from the research. The chapter also outlines the limitations of the research and potential areas for future study.

Thus, the next chapter reviews the literature to establish a theoretical foundation for the subsequent empirical work. It also provides further justification for the particular gap in knowledge that are chosen for investigation.

CHAPTER 2 Literature Review on work Focus on FDI

Since the post-World War II era, the study of FDI has considerably evolved, and this is shape by the emergence of multinational Corporation (MNCs) as preeminent actors in global economic integration, shifting pattern of international capital flows and technological advances (Nayak and Choudhury 2014). Faeth (2009) mentioned that the theories of FDI in the early stage of FDI research is depended on trade theory perspective. The early theories emphasize capital mobility under perfect competition and were rooted in neoclassical economic frameworks, subsequent contributions have move toward more nuance explanations grounded in market imperfection, institutional dynamics and firm behaviour. In the extensive literature, there are various theories of FDI some dynamic and others static in perspective, as well as those assuming either imperfect or perfect markets competition. The static FDI theories follow factor endowment traditions or those of international trade, traditional capital theory tradition, monopolist advantage theory, internalization approaches and the eclectic paradigm (Dunning 1977, 1993). The dynamic theories include the Upsala internationalization theory, the investment path theory through to the ownership, location and internalization paradigm. However, Faeth (2009) and Denisia (2010), contend that no single theoretical framework sufficiently accounts for the complexity of FDI and the location decision of multinational enterprises. Instead, each strand of theory adds some new elements and critical perspectives that cumulatively enrich and challenge the existing theories.

This chapter structure begins with an overview of the main theoretical frameworks of FDI, including early model of perfect competition, followed by theories base on market imperfection and a more recent perspective that reflects the emerging and dynamic approaches of FDI. The exposition of the theory is then extended to incorporate institutional theory which focus on the regulatory environments and the role of governance structure to shaping the inflow of FDI. Afterward, a critical review of the empirical literature is discussed with emphasis on the studies relating to developing economies, particularly those within the African context alongside other literature from other region to assess extent to which the finding of empirical analysis challenge or support existing theoretical proposition and identified areas of gap or inconsistences in the literature.

The chapter concludes with the fusion of the insight gotten from both theoretical and empirical contributions. The next sub-section provides and discusses each of the FDI theories in detail, offering critical insights into the conceptual foundations and assumptions.

2.1 Theoretical Overview of FDI

Researchers have developed various FDI theories to explain the why, how and where international production takes place across the economies of the globe. These theories form the basis on which empirical examination of FDI, and hypotheses are drawn in analysing the importance of FDI in the world's economies and the factors that determine the inflows of FDI across countries. Denisia (2010) explains that Hymer's FDI theory, Vernon's Product Cycle theory, Buckley and Casson's internalization theory and Dunning electric theory is the main FDI theories that broaden FDI motives as an internationalization process. Adding to this, is the perfect market competition theory and the recent emerging and dynamic perspective. A comprehensive discussion of the theories of FDI is discussed below.

2.1.1 Classical Theories (Perfect Market Competition)

It is essential to start the theory of FDI with the classical models rooted in the neoclassical economic thought, as they establish a foundation for the theoretical analysis. These early theories, developed under perfect competition and frictionless capital mobility assumption, offer critical insight into the origins of FDI as a function of differential returns. They also provide a macroeconomics perspective on the movement of capital across boarder. However, in relation to the modern multinational enterprises' behaviour, their explanatory power is limited. The classical approaches, are introduced in the next section, beginning with the seminal contributions of MacDougall (1958) and Kemp (1964), whose work laid the foundation for subsequent theoretical developments.

MacDougall-Kemp Capital Flow theory (1958 -1964)

The theory of FDI can be traced back in the early work of MacDougall (1958), his model was postulated based on perfectly competitive assumptions. Kemp (1964) further elaborated his theory, assuming a two-country model and price of capital being equal to its marginal productivity. MacDougall and kemp both stated that the marginal productivity of capital tends to be equalize between the two countries when there is a free movement of capital from the home (i.e. an

investing country) to a host country. They found that the output of the investing country fell without any decrease in the country national income after investment and this is because the investing country gets higher income from its investment abroad in the long term.

Therefore, in industrialised economies, the early neoclassical theories advocate that because of domestic competition, the profit rate tends to shrink, and this makes firms to engage in FDI in undeveloped countries because of labour scarcity that is promoted due to industrialization in the developed economies (Kinuthia 2012). Hence, the more developed an economy was, the greater the overproduction of capital and the lower the demand of capital which will lead to lower rate of profit, then capital owners were forced to explore where capital was considered scare with higher returns by operating in less developed countries (Hobson and Lenin, as cited in Oneal and Oneal 1988). According to Faeth (2009) trade theories rooted in Heckscher-Ohlin (1919) model developed this idea further by proposing that FDI is driven by international disparities in capital returns. Especially, capital tend to flow from economies where the return on capital is relatively low to those where it is expected to generate higher returns on the capital invested. Investors also considered the risk of selecting their portfolios when considering the rate of return on capital as their risk is reduced by portfolio diversification.

A foundational explanation for understanding FDI through the lens of capital reallocation is offer by the MacDougall (1958) and Kemp (1964) model. They are rooted in the neoclassical assumptions of frictionless mobility, rational agents, and perfect markets competition, rendering it insufficient for explaining the strategic, sector specific dynamic, institutional factors that characterize FDI in the Africa region. These models posit that naturally FDI flows from a capital rich country to a capital scare country such as Africa thereby yielding mutual gain and increasing output for both the source and host countries. Although, the framework lies in its developmental optimism as it suggests that for correcting capital shortage, FDI can serve as a growth catalyst for less developed region (Nayak and Choudhury 2014).

Kindleberger (1969) argues that foreign direct investment will no longer exist in a world characterized by perfect competition, as there need to be a form of distortion that determine the realization of direct investment and Hymer (1960) was the first to noticed this, as he believes that local firm will better be informed about local economic environment always and for FDI to take place two conditions must be meet, the foreign firm must possess specific advantage that allow

such an investment to be economically and strategically feasible and the market of this benefit has to be imperfect. However, the role of control, and strategic behaviour of multinational enterprises and firm level motivations is not put into consideration by the model, therefore limiting its explanatory power in the landscape of contemporary FDI.

Thus, in African context, empirical realities reveal a far more terrain that is complex characterised by weak institution, historical pattern of extractive investment, limited absorptive capacity and governance asymmetries. The stated assumptions of MacDougall-Kemp model fail to explain why firm require ownership and control, why capital does not always flow to the highest return locations, or how institutional quality and risk mediate investor decision. These classical models also offer little insight into sectoral concentration of FDI in Africa (for instance, mining, infrastructure, and oil) and why certain African countries outperform others despite similar scarcity in capital. Over time more subtle theories of imperfect markets emerged to address these gaps, which the next section turns attention towards.

2.1.2 Market Imperfection and Strategic Control Theories

In neoclassical economics, assumptions about the nature of the economic environment are made to create a model of how resources are allocated. In other words, even if the assumptions of neoclassical economics were satisfied, actual economies would not reach Neoclassical Optimum Resource Allocation due to various kinds of economic irrationalities, social and individual advantages (perverse) as given by the characteristics of a particular country. These disadvantages, known as market failures, are due to market imperfections piled up due to a waste in the utilization of the real capitalist-market economy, i.e., resources and time. These imperfections of the market have been used as an explanation for FDI by Various scholar. These theories are explained in detail below.

Industrial Organisation Approach (1960, 1976)

In this theory FDI is reframed as a strategic mechanism for exploiting firm specific advantage and exerting control under the condition of imperfect market. Departing from neoclassical interpretation, in his doctoral dissertation, published in 1976, Hymer (1960) developed the theory of FDI and was one of the scholars who systematically advanced the study of FDI. Hymer

explained international production in an imperfect market setting, and his work was supported by Knickerbocker (1973), Kindleberger (1969), Buckley and Casson (1976). He pointed out that a foreign firm has to compete with domestic firms when investing abroad, due to advantages enjoyed by domestic firms such as consumer preferences, language, culture difference, and legal systems, as well as challenges like exchange risk faced by foreign firms as MNEs invest abroad not merely to reap returns from deployment of capital but to internalize proprietary assets and neutralise competition. These challenges must be counteracted to make international investment profitable with market power which is a firm-specific advantage (Hymer 1970;1976) or monopolistic advantage (Kindleberger (1969). These advantages include patent-protected advanced technology, economies of scale, brand names, efficient finance sources, management skills and marketing. Hymer argue that firm internationalise not to simply invest but to exploit firm specific advantages and minimize competitive threat in imperfect market as firm do not just sent capital abroad, but they seek control.

The analysis of why firms seek foreign investment is crucial to the understanding of international business and, more broadly, of international economics. The market imperfection approach concentrates upon the costs and benefits to firms expected to arise from market failure. Therefore, due to market failure in product markets firms invest abroad to take advantage of the imperfection as firms get rent in foreign markets due to the advantages, they enjoy that are not shared by rivals. Because the firms typically find an intense capital-labour ratio relatively abnormal in their rich home country, they decide to set up a subsidiary to produce labour-intensive products in a relatively capital-scarce host country. In this context, the establishment of a wholly owned subsidiary which substitutes for exports of final products is a consequence of both host market imperfections and the availability of already established marketing channels, as well as the choice of labour-intensive techniques in labour-abundant, poor, and relatively unknown host countries. Knickerbocker (1973) examined the defensive behaviour of firms operating in an imperfect market in his Oligopolistic theory and argue that in such industries, the oligopolistic nature explains the observed clustering of FDI which is characterised by uncertainty and interdependence.

Kindleberger (1969), in postulating his FDI theories extends Hymer's work, and focuses on monopolistic power, as he argued that the MNCs advantage enjoyed in the host countries is only useful in the case of market imperfections. He explained this advantage attracts firms to invest in

the host country (foreign market) mainly for the exploitation of the host country rather than dividing with potential competitors and these advantages allowing this are patents, managerial expertise and high technology. He also argues that the higher the chance of making monopoly profit, it will increase firm investments. However, the advantage firm should focus on is not explained by the theories even though the theories of Kindleberger express various potential advantages foreign firm will enjoy over the firm in the host country.

However, this framework is particularly instructive in analysing FDI patterns within Africa's manufacturing, infrastructure, construction and telecoms sectors where foreign firms leverage monopolistic advantages to maintain market dominance and often operates in oligopolistic environments. For example, China Communications Construction Company (CCC) and Vinci have secured large- scale infrastructure and transport contracts across East and West Africa by bundling capital investment with engineering rights (Alden and Davies 2006; UNCTAD 2022).

In summary, these studies argue firms invest in foreign countries because of the considerable advantages they derive from them. These advantages, broadly speaking, fall into two categories, which are firm-specific advantages and location-specific advantages. A direct investment in a foreign market is possible because of some imperfections in the markets. As was outlined above, the first reason for foreign investment is to take advantage of market imperfections for greater profits. The second reason for foreign investment is to avoid the negative impact of market imperfections in the home country. The issue of market imperfections and the functioning of foreign investment in such an environment is an important area of study because it helps us understand the behaviour of actual foreign investors and the reason for the success and failure of these investments. While Hymer's Industrial Organisation Theory explained the importance of strategic control and firm specific advantages under condition of market imperfection, Vernon's Product Life Cycle Hypothesis extended this perspective by introducing a temporal dimension to international investment. The shift in the theory from static market dominance to dynamic product led expansion allowed researcher to account for innovation cycle, geographical location and evolving cost structure this enhance in-depth understanding of FDI motivation in developed and developing economies. The next sub-section explains the Vernon Product Cycle Hypothesis.

Vernon Products Cycle Hypothesis (1966)

The product cycle hypothesis was developed by Vernon in 1966, and it was used to describe the kind of FDI the USA industries made in manufacturing firm after second world war in western Europe. Vernon builds on the examination of the product cycle by Kuznetz (1953) and Hirsch (1965). The theory postulate that as a product moves through its life cycle, FDI takes place as a developed country starts with exporting a product to foreign market, to producing the product in developing country and import back this product to the developed countries. He argues that the product cycle involves four stages, these are innovation, growth, maturity and decline. In the first stage, new products are produced locally to serve the domestic market demand (home countries market), this is to reduced uncertainty and risk and at the end of this stage, as demand for product rise in the foreign markets; to serve the foreign market and enjoy economic of scale which lead to internalisation effort, the products surplus are exported to these markets.

The second stage known as the maturity stage, is the stage where FDI begin, as competition increases between the domestic players, the demand for this new product grows in another developed foreign market, and as exports increase over time, it is economical to start local production in the foreign market as the local firm in the host countries starts producing a similar product at lower cost leading to the low price of distribution, and innovators cost remained high due to imposed tariff by the host country and cost of transportation and to resolve these challenges face by the innovator (Home country), the set up a firm in the host country to remove transportation cost and tariff leading to internalisation.

In the last stage, which is the standardized product stage, the product market becomes price sensitive and stabilises, due to the high competition between the home country and other developed countries, rather than adding a new product feature, the home country firm concentrates on production cost reduction location which is the developing country where there is cheap labour, which makes the production of the firm standardized and the product produce in the cost reduction location is exported back to the home countries and other developed countries.

In the ‘60s and ‘70s, the theory had large acceptance, recently the theory has been regarded as Obsolete because the life extension of a product in the maturity stage is inconsistent. The theory of market imperfection was further extended by Buckley and Casson (1976), based on the benefit

from internalisation available in imperfect markets. Vernon explained how firms respond to shifting production and cost dynamics over time, Buckley and Casson's (1976) internalisation theory, which is later formalised by Dunning (1981) through the OLI paradigm, emphasised the firm's strategic decision to internalise cross boarder operations when market transaction become inefficient or risk laden. Building on the Vernon's (1966) product life cycle, which emphasises the temporal relocation of production as goods mature and standardize, the theory of FDI expanded to encompass macroeconomics and financial dimensions. Vernon explains internationalisation through cost pressures and innovation cycles. The hypothesis of Aliber's (1970), underpinning cross-border investment decision shifts attention towards the financial architecture present.

While Vernon's model captures the temporal evolution of firm internationalisation, Aliber's hypothesis shifts the lens to macroeconomic asymmetries, suggesting that exchange rate differentials and capital market imperfections can themselves catalyse FDI. This transition from firm-level innovation cycles to country-level financial structures marks a pivotal broadening of explanatory scope.

Aliber's FDI Hypotheses (1970)

The existence of FDI was explained by Aliber in 1979 as he postulated two hypotheses to illustrate this existence. In the first hypothesis, he mentioned that trade barrier imposition such as import tariffs will increase the inflow of FDI. This can be achieved by the production of goods in the concerned countries, which will result in overcoming trade restrictions and penetrating the barred markets. Corden (1974) found that import restriction may decrease the inflow of FDI, as he examined the relationship between FDI and trade barrier.

Aliber's second hypothesis focuses on the relationship between a country's currency strength and FDI as he explains the strength of the currency in relation to the difference between the host and source currencies. He argues that FDI is likely to be attracted to countries with weaker currencies, as foreign investors operating from countries with stronger purchasing power find it more appealing. Itagaki (1981) and Cushman (1985) studied the impact of uncertainty as a determining factor of FDI. Cushman found that FDI from the USA is influenced by the real exchange rate, and that an appreciation of foreign currency reduces FDI from the USA.

In 1991, Dunning explained that the valuation of currency is a short-term consideration related to the timing of Foreign Direct Investment (FDI). It was also argued that currency valuation is more relevant to FDI when acquiring existing foreign industries rather than with greenfield FDI. The latter has a medium to long-term gestation period that is less likely to be affected by short-term currency valuation issues (John et al., 1997). This hypothesis was tested by Aliber and he found consistent results with Canada, the United Kingdom, and the United States (Nayak and Choudhury 2014).

Aliber hypothesis found wide support but did not discuss investment between developed countries that have equal currencies strength and there is no explanation by the theory on investment from weaker currency countries (developing countries) MNCs in strong currency countries (developed countries). For instance, investment form emerging economies (China and India) into developed countries (UK and USA). The application of Alber's hypothesis in the African context help explain that firms from advanced economies increasingly target financially vulnerable host countries such as those in Africa, because of favourable exchange rate conditions and funding advantages not solely due to product maturity. Thus, while the hypothesis of Aliber introduced capital cost asymmetries and currency strength as a macro-financial motive for FDI, the next internalisation theory shifted focus to firm-level strategies for managing uncertainty, proprietary knowledge and transaction cost across borders, the internalisation theory is discussed in detail in the next sub-section.

Internalisation Theory (1976)

Internalisation as a key concept was first developed by Buckley and Casson (1976) due to the missing dimension in the Hymerian view of the firm. Buckley and Casson were the first to raise the question of what determines the administrative borders of the firm. What should the firm produce in-house (internalisation) and what should be acquired/ produced through the market (externalisation)? Their answer is rooted in neoclassical and ethological analogy. Buckley and Casson (1976) extend the market imperfection approach, and they explain the benefits available in imperfect markets from internalisation. Internalisation is the acquisition of the control of the intermediate market over previously enacted activities to ensure marketing channel, qualities of supplies, distribution and stability through market integration (Lawler and Seddighi 2001).

However, market power is derived by Multi-National Companies (MNCs) by internalizing by internalising transactions for intermediate products in the market efficiently and internal activities are organised by transnational companies in order to promote specific advantages that are exploited (Denisia 2010). Buckley and Casson shifted the theory of international investment focus toward firm level and industry level from country specific-level FDI determinants (Nayak and Choudhury 2014; Henisz 2003). The internalisation theory is based on three postulations based on facts regarding MNCs creation (Bukley and Casson 1976).The first postulation explains that in imperfect markets firms maximised profit, secondly an internal market is created as an incentive to bypass the imperfect market for intermediate products and thirdly, all over the world, MNCs are created by market internalisation. For instance, A research and development firm can evolve a new input or technology and find it challenging to sell or transfer their inputs or technology to another firm that is different, as the transaction cost may be too high for the other firm, including costs associated with acquiring information and conducting research, the cost of buying goods and serving through market, the cost of enforcement and retaining trade secrets .

Therefore, when a firm is faced with this challenge, they may use forward and backward integration by internalising as they can use an output to produce another input, However, the transaction cost may still be high between firm that are related if final production must be altered for preference and tastes of local market. Williamson (1985, 2008) explained that this insight from transaction cost economics (TCE) means that internalisation theory focuses on external market imperfection. According to Lundan (2010) TCE are interested on opportunism and condition of small number that is seen as unique case by incorporating it in internalisation theory as the factors hinder transaction between different groups.

Hence, the five type of market imperfection that led to internalisation as explained by Buckley and Casson (1976) are firstly, a long-time lag is require for resources coordination, secondly pricing discriminatory is needed for market power efficient exploitation, thirdly, an unstable bargaining position is produce by a bilateral monopoly, fourthly, the good on sale's price cannot be estimated correctly by a buyer and lastly, transfer pricing incentives are created in the international market through the intervention of the government. Buckley and Casson (2009) Further explain that internalisation that place due to market failure in the intermediate input markets which lead to

horizontally integrated MNEs (horizontal FDI) and vertical integrated MNEs (Vertical FDI) take place because of market failure in intermediates output market.

The theory does not consider how the risk magnitude may vary across firms even though the host government intervention risk is acknowledged by the theory of internalisation. Overall, the market imperfections theories contribute of FDI theory by providing a hypothesis of international production even though it does not explain how firm takes part in international activities and why FDI is seen as the best way to achieve the firm possessed advantage (Lawler and Seddighi 2001). However, the theory of internalisation emphasizes protected proprietary assets and strategic control to minimize transaction costs in uncertain foreign markets while focusing on how firm gradually expand abroad through experiential learning and commitment escalation, the Uppsala Internationalisation model adds a behavioural layer and this shift moves from firm level efficiency conversation to the pace and process of internalisation especially relevant for firms entering unfamiliar, institutionally fragmented region. To better account for these elements more dynamic theories, as outlined below, have been proposed.

Uppsala Internalisation Model – Johanson, Vahlne and Wiedersheim-Paul (1975)

The Uppsala internalisation model is a model of the dynamic process. The theory explains the dynamic approach to the local firm becoming an MNE as it explains business internalisation as to following sequential steps identified by observing four Swedish organisations. Johanson and Widersheim-Paul (1975), hypothesise, that internalisation is achieved by a four-step sequence, at first the domestic market is served by a firm, secondly, through exporting there is penetration into the foreign market of the host country, third, in the foreign market there is the establishment of sale channel and fourthly, the facilities of foreign production are set up in the host country.

The theory held that most theories existing ignored the foundation needed internally and problem of cultural differences a firm must know to overcome efficiently engage in international activities (Arvidsson and Arvidsson 2019). The theory explains that the process of internalisation begins in foreign markets that are close to local markets in terms of “Psychic distance” (i.e. the elements that make it challenging to understand the business environment in foreign markets) and when the industries achieved high knowledge of the culture and market of the host country, firms extended to more distant markets (i.e., greater cultural distance, difference in geography, language, asymmetric information problems and politics) when they had gathered more resources and

become more experienced (Johanson and Wiedersheim-Paul 1975; Vahlne and Wiedersheim 1973). This is explained as the “liability of foreignness”. In order to offset this liability, foreign investors need to have a firm-specific advantage (Hymer 1976; Zaheer 1995). According to Johanson and Vahlne (2015), the liability of foreignness is greater when there is a wider psychic distance present.

Johanson and Vahlne (1977) argue that the development step is due to gradual knowledge acquired in the foreign market and the source of intelligence from foreign-based sales and this way of learning justified the commitment level to the foreign market. Johanson and Vahlne (1977;1990) suggested feigned that commitment building and learning takes time, which is why the move from local market foreign markets that are potentially advantageous is riskier the more psychic distance from the domestic market. However, they explain that their hypothesis is based on bounded rationality and uncertainty. They explain two changes take place for firm, the first occurs through current activities in the foreign market in term of learning from their operational experience in the foreign market, secondly, to strengthen their position, they make a commitment decision in foreign market, which leads to product of the size of investment and it degree of inflexibility.

This model is criticised by Millington and Bayliss (1990), as for UK companies in the European Union (EU), the stepwise development postulated did not reflect the observed internalisation process. They explain that across product market and countries, knowledge established on empiric learning can be transcribed, due to the scope of the economy's firms bypass the sequential process postulated. It is also argued that the model ignores the challenging effect on the sequence that leads to international production (Kozul-Wright and Rowthorn, 1998).

The next theory explains the Eclectic paradigm theory.

2.1.3 Dynamic and Behavioural Model of Internalisation

Researchers have increasingly recognised the need for more integrative models that capture both firm-level dynamics and country specific development trajectories building on the strategic insight offered by market imperfection and organisation theory. This has led to the emergence of conceptual frameworks like the Eclectic paradigm (Dunning 1988) and Investment Development Path model, which link micro-level ownership and internalisation advantages to macro level locational context and national development stages. This integrated approach offers a more holistic

understanding of FDI by incorporating cross-level interactions and situating firm strategies within the broader institutional and economic structure of the host country.

Eclectic Paradigm FDI Theory by Dunning (1981, 1988, 1993)

The eclectic paradigm theory of international production was introduced by Dunning (1977,1981,1988,1993), to explain the why, how and where of FDI (Lawler and Seddighi 2001). Dunning (1977 and 1979) combined the imperfect market, internalisation and oligopolistic theories explain above and added location theory to illustrate why FDI takes place. Dunning and Robson (1987: p1) explain that eclectic paradigms provide the theory that is used to examine the factors that determine MNEs expansion which take place because of foreign production and their activities growth. Dunning (1993) theory postulate that for FDI to take place, firm will fulfil three conditions which is the firm Ownership advantages, Location Advantage and Internalisation advantage and this is called the OLI paradigm.

The ownership advantage which explains who is going to produce oversea and other type of foreign activities (Dunning 1993: p142). This advantage is also known as monopolistic or competitive advantage (Stoian and Filippaios 2008). These advantages are specific to firm, in form of both tangible (i.e. technological equipment and physical capital) and intangible (i.e. reputation, brand, expertise in management and efficient human capital) asset (Denisia 2014; Mungree et al., 2020). This can be enjoyed by foreign and domestic competitors, as it makes firms compete in foreign market and lead to firm minimisation of production cost. MNEs investing in various countries will attract addition cost and a firm must possess monopoly advantage (specific feature) that will help it overcome this cost in foreign market. Dunning (1980;1988) explained that using this ownership advantage oversea will increase profitability and cost will be minimized in the foreign market. the specific advantage is access to market privileged gain by ownership of trademark, patent, technological knowledge (i.e. innovation activities), economies of scale and high financial capital access (Denisia 2014; Gorg and Greenaway 2004).

Dunning (1988: p2) explain that domestic producer does not face certain cost, and the nationality of the firm can also bring about the ownership advantage (1988: p20). Anyanwu and Yameogo (2015) explain that the ownership specific advantages enhance firm to effectively compete in the host market, despite the disadvantages associated with being foreign (home country). These advantages allow firms from the home country to access, exploit and export resource-based

product and natural resource. Firm can fully enjoy these advantages if they possess the competence to leverage cross-country differences and coordinate complementary activities such as distribution and manufacturing.

The second advantage in the eclectic paradigm is location advantage which determine where to produce (Dunning 1993: p143). Hence, different country's location advantages are used by MNEs or foreign investors to determine the host countries that the investment activities will take place (Denisia 2014). This location advantage suggest that a firm should produce in foreign market to have access to the assets in foreign market in other to reduce cost of production.

The location advantages include low labour cost of the host countries, quality of infrastructure (i.e. natural resource, labour advantage, transport and telecommunication quality of the host countries), policies that is favourable by the government of the host countries (reduction in corporate tax) and host country economies stability. Hence, FDI take place between the host country and thew home country to supply the local market of the home country through associated horizontal FDI. MNEs can select a particular host country location which the merger of institutional, economic and political factors can compensate national environment that is unfavourable and can allow the flexibility needed in the location to help deal with the uncertainty that FDI may face in the host country (Batschauer et al., 2022). Therefore, the locational specific advantage arises because of government regulations, natural resource endowment, cultural factors, macroeconomic stability and transport cost difference between the host and home countries and Hanson (2001) divided the locational advantage into three categories which economic advantages (market size, qualitative and quantitative production factors, telecommunication and transport cost), secondly political advantages (policies of government that affect the flow of FDI) and the third is social advantages (cultural diversity, home and host countries distance and host countries behaviour toward stranger-home country) (Denisia 2014)

The third advantage in the eclectic paradigm is the internalisation advantages. Dunning (1973; 1980; 1988) explained that it will be profitable for firm to use the two advantages in connection with factors outside the home countries if firm meet the condition of ownership and location specific condition. Internalisation explained the reason home country firm choose to engage in FDI instead of licensing or franchising it to foreign market to use their proprietary assets (Dunning 1993). Dunning (1988), Vernon (1983) and Teece (1986) argue that the higher the cost of market

failure in the host country, the more attractive it is to internalise ownership advantage by home country MNEs. The exploitation of market imperfection in foreign market, such as uncertainty reduction and lower transaction cost for efficient generation of knowledge and minimising host country generated imperfections like tariffs, subsidies and control of foreign exchange is internalisation advantages. Delocalization of a part of production process in different locations lead to vertical FDI (i.e. benefiting from low cost) (Kinda 2010; Baniak et al 2005).

Dunning eclectic paradigm, describe that the framework of OLI is different from firm to firm, and this depend on the reflect and context of the host country social, political and economics features. Building on the OLI theory, Dunning (1993) describe the motives of FDI into four this includes; resource seeking, (access to natural resource, physical infrastructure, labour force); market seeking (accessing the host country local market which is horizontal strategy), efficient seeking (taking advantage of lower cost of labour in developing countries – vertical strategy) and strategies asset seeking (innovation, high quality of technology and research and development) (Anyanwu and Yameogo 2015; Cleeve 2008) (see chapter 3 of this work for details on the motive of FDI).

In the context of Africa, the eclectic paradigm provides a robust framework for analysing FDI determinants. Duning (1988) contends that the interplay of ownership, location, and internalisation advantages shapes FDI flows. Ownership advantages enable firm to exploit resource-based product, while location advantages such as political support, cost efficiencies, and market access enhance country attractiveness, internalisation production by overcoming external market imperfection (Makoni 2015; Galvao er al. 2019).

The eclectic paradigm offers a static snapshot of FDI motivations, but the Investment Development Path (IDP) introduces a dynamic trajectory, linking a country's development stage to its evolving FDI profile. This extension is especially relevant for African economies undergoing structural transformation.

Investment Development Path (IDP) (1996)

The IDP theory is introduced by Dunning and Narula (1996) to complement the firm level approaches and it shifts focus to a country level. The theory explains how a country's investment profile matures in step with its economic development. The theory posited that investment conditions for foreign and local firms change due country development. Buckley and Castro (1998)

argue that the change influences the volume of inward and outward FDI in the country implicitly. IDP theory argue that the interactive relationship between countries can be classified into five stages of development.

In stage one, country typically possess limited locational advantages such as weak institution and underdeveloped infrastructure in the earliest stages of development as foreign investor cautiously tend to engage more in trade over direct investment and the flow of FDI are minimal, and ownership asset necessary to expand abroad is lacking in the domestic firms (Guimon and Narula 2010). Hence, with policy reform, as the government of this stage are trying to promote macroeconomies policies by improved governance and targeted infrastructure investment, removing market restriction and upgrading human capital countries starts to attract market seeking and resource seeking FDI. Therefore, the second stage is the stage where some locational advantages are created due to the reform in stage one, the volume of FDI begins to grow as foreign firm enter sectors like labour intensive manufacturing sectors, construction sector, transportation and consumption of goods sectors. Although domestic firm still struggle to compete internationally, and outward FDI remain modest (Mohapatra and Gopalaswamy 2016).

The third stage explain new industrialized countries, local firm begin to gain competitive capacity, managerial skills, brand reputation and acquiring technological knowhow. In this stage enterprises leverage their growing ownership advantages to invest in strategic sector abroad or in neighbouring markets as outward FDI starts to surface (Narula and Dunning 2010). Inward FDI stabilizes moving from resource extraction to value added production. The fourth stage is the period where inward FDI is surpass by outward FDI and economies is driven by strategic asset acquisition and efficiency seeking motives as location advantages mature and policies shift toward reducing transaction cost, securing bilateral treaties and streamlining bureaucracy (Dunning and Lundan 2008). In stage five, the inward and outward FDI are balance and robust across sectors as investment decision are increasingly driven by innovation and sustainability and firms of developed countries are active player in global value chain. This is due to the existence of strong economic structure regarding labour skill, infrastructure and technology (Musabeh 2018; Narula and Dunning 2000).

Recent emerging scholars has shifted attention toward the distinctive trajectories of firm originating from emerging market. While the IDP framework effectively capture the

macroeconomic progression from net FDI recipients to net outward investors, it offers limited explanatory power regarding the firm level heterogeneity and strategic agency of emerging market multinational enterprises (EMNEs). Scholar have developed theoretical extensions that account for the unique institutional voids, resource constraints, and latecomer advantages that characterise EMNEs internalisation strategies. The next section discussed the emerging market multinational perspectives.

2.1.3 Emerging Market Multinational Perspectives

In the literature of FDI, the FDI outflow of the emerging economies into Africa has grown over the years, although in response to firm level advantages and national development trajectories the Eclectic Paradigm and Investment Development Path (IDP) offer valuable insights into how FDI evolves in response to firm level advantages and national development as the theories remain fundamentally grounded in assumption shaped by advance firms. This model often overlooks the strategic behaviours and adaptive capabilities that the Emerging Market Multinational Enterprises (EMNEs) exhibited especially in institutional constrained environments. Recent scholars have reconceptualised EMNEs as assertive agents of transformation and not as passive recipients of globalisation to address this theoretical gap. These Theories is explained below

Linkage Leverage learning Theory (LLL) (2006)

The LLL theory is developed by Mathews (2006) as he used it to explain the growth of dragon multinationals as opposed to Dunning (1988) OLI eclectic paradigm which assume pre-existing firm specific advantages, the theory offers a perspective of demand driven on FDI with focus on how emerging market multinational enterprises (EMNEs) acquire, internalize and enhance strategic capabilities through internalisation. The theory argues that FDI becomes a tool to actively pursue rather than exploit assets as it reframes internalisation as a capability building process. The theory further explained that the latecomer (i.e. the emerging economies) strategies they adopt to grow into the world economy are based on resources linkage, leverage and learning. Hence, the LLL model has developed into a dominant explanation for the latecomer firms and economies as is consistence with the resource-based perspective (Hung and Tseng 2017)

However, the model posits that the strategic goal of internalisation and modernization is the rational capture of external resources. Explaining the three components of the theory, the first L

which is the linkage implies that EMNEs connect with external resources, foreign partners, markets or institution to access knowledge and complementary assets they lack domestically (Mathew 2006). In the second L which is the leverage, to gain competitive advantages the linkages are then strategically harnessed (Child and Rodrigues 2005). The third L implies that EMNEs absorb knowledge and capabilities through repeated interaction and transforming external inputs into internal competencies (Ramamurti and Singh 2009; Gammeltoft et al., 2010).

However, while the LLL theory posits a dynamic argument for understanding EMNEs internationalization, its explanatory power is constrained by its limited engagement with institutional context, internal capability development and sectoral diversity necessary for more integrative approach that blends resource-based and institutional perspectives. The approach does not fully capture the strategic assertiveness exhibited by EMNEs seeking rapidly to overcome home-market constraints. The next sub section explained the Springboard and Leap Frog Theory.

Springboard Theory and Leap frog Theory (2007)

The Springboard theory is introduced by Luo and Tung (2007), the theory posits a complementary and more disruptive logic and explain that EMNEs intentionally use outward FDI as a strategics springboard to bypass domestics institutional deficiencies and reposition themselves as competitive global players often through market capturing strategies or asset seeking abroad. The theory complements but also extends the LLL perspective by introducing institutional escapism, asset-seeking aggressiveness and reputational leapfrogging as a core motive behind EMNEs internalisation (Ramamurti and Sing 2009; Gammeltoft et al.,2010).

Furthermore, while the Springboard framework captures their intent and assertive posture, it does not fully account for the mechanisms through which firms bypass conventional stages of organisational and technological development. The leapfrog theory introduced by Govindarajan and Ramamurti (2007) extends the springboard logic with a postulation that EMNEs can accelerate capability acquisition by directly accessing advanced capabilities abroad, often through strategic FDI, partnership or acquisitions. The theory complements frameworks like Springboard theory and LLL theory model by emphasising disruptive catch-up strategies rather than gradual capability building and builds on the idea that latecomer firms can leap ahead of incumbents by directly assessing cutting edge technologies, managerial expertise or brands and skipping increment innovation.

Thus, the general theories of FDI, such as internalisation theory, the eclectic paradigm and location theory, provide foundational insights into motives and mechanisms of foreign investment; they do not fully account for the contextual realities of the host countries, particularly Africa. To bridge this gap, the next section explores three critical determinants of FDI, such as institutions, financial development, and infrastructure, through targeted theoretical lenses.

2.2 Theoretical Perspective on Institutional, Financial, and Infrastructural Determinants

This section explores the theoretical underpinning of three critical determinants of FDI: institutional quality, financial development and infrastructure. Drawing from institutional theory North (1990), the financial intermediation model (Levine 1997), and location-based infrastructure theory, it outlines how each factor influences investor confidence, risk perception, and operational feasibility. Institutional theory distinguishes between formal institutions such as legal and regulatory frameworks and informal institutions, including cultural norms both of which shape the investment climate by affecting transaction cost and predictability of business environment. Levine's financial intermediation model highlights the role of financial systems in mobilising savings, allocating capital efficiently. And reducing transaction costs. Meanwhile, infrastructure theory emphasises the importance of physical and logistical capacity such as transport, ICT and energy in reducing operational barriers and enhancing location attractiveness for foreign investors.

2.2.1 Institutional Quality: Formal and Informal Institutions

The institution theory highlights the pivotal role played by host-country institutions in shaping FDI decisions, building on the internalisation and eclectic paradigms of FDI theory. Meyer (2001) argues that political stability, regulatory enforcement, legal frameworks, and cultural norms profoundly influence strategic choices, including the selection of entry model and location, as MNEs do not operate in isolation from their institutional context. Hence, this perspective is particularly salient in African economies, where institutional environments range from a highly fragmented to rapidly reforming. Expanding Meyr's view, Dokova and van Witteloostuijn (2007) introduce the concept of institutional advancement and explain that the firm entry strategies such as joint venture versus wholly subsidiary, greenfield investment versus Acquisition is tailored base on a country institutional architecture perceived maturity. For instance, firm may prefer wholly owned subsidiaries or acquisitions when entering markets like Ghana or Kenya characterised by

improving financial regulation and stable governance while those targeting unpredictable environments, such as resource dependent economies, may choose staged greenfield or joint venture entries to reduce risk and enhance local legitimacy,

The role of institutions as a determinant of FDI has recently gained more attention in recent FDI literature (Kostova et al., 2020; Sabir et al., 2019; Bailey, 2018; Benassy-Quere et al., 2007). North (1990) was among the first to articulate the institution's impact on foreign investment and economic activities (Bergougi and Murshed 2023). Dunning and Lundan (2008) broaden the locational advantage concept by incorporating institutional quality as the determinant of FDI alongside economic factors, arguing that foreign investors are drawn to locations offering both favourable macroeconomic indicators and good institutional frameworks.

Institutional diversity, and the changing relationship between the central and local governments affect host country location features, influencing MNEs ability to exploit ownership advantages, which can both enhance and deter MNEs' entry mode choices (Dunning and Lundan 2008). Institution is seen to have influence on economic activities by various means which involve cost reduction such as production and transaction costs, thereby enhancing high profitability by lowering the cost of doing business as institutions are humanly devised which did not exist on its own (North 1990). However, when the enforcement of contract is difficult, and property right is not properly protected, this causes a slower economic activity and increases premium risk due to the existence of poor institutional quality in the market (Sabir et al., 2019).

North (1990) refers Institutions as both formal and informal "rules of the game" that various economic player uses to maximize returns and profit through their economic factors by interacting with each other and carrying out economic activities (Sabir et al., 2019). Formal institution is defined as readily observable rules that are determined and implemented through formal position (i.e. ownership or authority) and written documents, this includes form of government, contracts terms and constitution of a country (North 1990; 1991; Zenger et al., 2000). Informal institution is seen as rule that depends on implicit understandings and is socially derived, is not sanctioned through formal position and cannot be access through written documents this includes moral values, religious beliefs, traditions, custom and behavioural norms that have passed the test of time in a society (Pejovich 2006; Zenger et al., 2000).

Theoretically, institutions serve as both enablers and constraints. Scott's (2001) tripartite model regulative, normative, and cultural-cognitive pillar offers a nuanced lens for understanding how institutional environments legitimize or deter foreign investment. High-quality institutions reduce uncertainty, enforce property rights, and facilitate contract enforcement, thereby lowering the cost of doing business. Conversely, institutional voids common in many African economies create barriers to entry, increase operational risks, and necessitate adaptive strategies by MNEs.

Dau et al., (2022) further distinguish these dimensions, noting that the main difference between this institution is that formal institution are written while the informal institution is not written. Informal institutions are difficult to measure and often overlooked in empirical research, particularly African contexts (Mondolo 2019). Bailey (2018) highlights the underexplored comparative role of institutional factors across various development level in attracting FDI. Kaufmann et al (2009) observed that developing countries exhibit disparity in the level of institutional quality which substantially influences FDI outcomes as institutional quality ranks is always lower than developed countries. Dunning and Lundan (2008) emphasise that institution effects on FDI are extremely situational and differ substantially between developed and developing economies.

In African settings, where formal institutional structures may be weak or inconsistent, informal institutions have gained prominence in shaping decision to undertake FDI. Nonetheless, informal institutions such as cultural norms, relational trust and social network serve as critical mechanism for guiding investor behaviour and reducing uncertainty (Zhu et al., 2019; Fuentelsaz et al., 2020). These informal structures provide relational cues and interpretive frameworks that help MNEs navigate volatile regulatory landscapes. The strategic relevance of informal institutions is contingent upon the strength of formal institutions. In robust regulatory environments, informal institutions reinforce formal mechanisms and enhance investor confidence as it plays a supplementary role. In fragile governance or institution void contexts, informal institutions assume a compensatory function, shaping strategic choices such as entry mode, partner selection, and risk mitigation and substituting for formal structures.

Informal institutions are deeply embedded in cultural heritage, acting as tacit constraints that structure interpersonal relationship (North 1990). Golesorkhi et al., (2019) argue that informal institutions shape human cognition, behavioural norms, perception, belief systems and customs.

Estrin et al., (2009) and Schwen et al., (2011) suggest that informal institutions are incorporated into analysis, but imply that by themselves they are not important and in order to help understand the decisions taken by MNEs their value arises when confronting the informal dimension in the home and host country. This dual- institutional perspective underscores the need for FDI research to move beyond monolithic view of institutional quality and instead account for the interplay between formal and informal institutions, to better explain the heterogeneity in investment behaviour across sectors and regions, particularly in developing economies like Africa where institutional asymmetries are pronounced. The study adopts such dual perspective in in chapter 5, examining the bilateral FDI flows between the home (China, India, France, UK and USA) and African host countries.

Xu and Shenker (2002) define institutional distance as the degree of dissimilarity between the regulative, normative and cognitive institutions of the host and home countries. MNEs must consider this when entering a foreign market as each dimension affects strategic fit, legitimacy and performance. Govindarajan and Ramamurti (2007) introduce the leapfrog theory, positing that emerging market MNEs (EMNEs) bypass conventional development stages by acquiring advanced capabilities abroad. Institutional distance significantly shapes this leapfrogging ability, as high dissimilarity may constrain strategic adaptation due to unfamiliar compliance systems and coordination costs which are caused by the differences in regulatory frameworks, norms, and economic structures between the home and the host (Kostova and Zaheer 1999). EMNEs often mitigate these challenges through alliances or acquisitions that embed them within a supportive institutional ecosystem (Luo and Tung 2007). For instance, in Africa, Transsion Holdings operations in Ethiopia and Nigeria illustrate how Chinese EMNEs have leapfrogged traditional product cycles by tailoring innovations to low-income markets while navigating high institutional gaps (Ramamurti 2009).

In institutionally diverse economies, such as those found across Africa, informal institutions include cultural norms, unwritten behavioural codes and trust networks play an important role in shaping FDI flows. Mondolo (2018) argues that economies characterised by liberal values and strong interpersonal trust tend to attract a greater volume of FDI by lowering transaction costs and facilitating smoother negotiations. To influence investor entry modes, confidence and long-term performance the non-codified structure often mediates or substitute for the deficiencies of formal

institutions. Cultural compatibility between the host and home countries improves institutional proximity and reduces perceived risks. This is consistent with Kostova and Zaheer's (1999) claim that cultural distance can impede legitimacy and transfer of organisational practices. Fuentelsaz et al., (2020) empirically demonstrate that strong formal institutions moderate the challenges posed by informal institutional distance, improving entry likelihood and subsidiary performance. Thus, informal institutions are not merely contextual antiquity but active FDI drivers, conditioning the strategies of firm in environments where the formal structure is uneven or weak (Ramamurti and Sing 2009; Gammeltoft et al. 2010).

Thus, building on the dual-institution-base view, which posits that a country's institutional framework is made up of two categories. The formal and informal, this study examines the role of formal institutions (absolute and relative institutional quality) and informal institutions (cultural distance) in determining FDI in African sectors. At the country level, formal institution indicators are used to assess aggregated FDI flows. At the disaggregated sector level both formal and informal institutions are employed to evaluate locational choice, and investment volumes. This bilateral framework captures institutional characteristics of both home and host the formal countries, offering a nuanced understanding of how institution interplay shapes FDI patterns in Africa.

Institutional quality both formal and informal serves as a key locational determinant of FDI. particularly in shaping investor perceptions of risk, regulatory stability, and governance credibility and business environment. However, it does not operate in isolation. The effectiveness of institutional frameworks is often mediated by physical and logistical capacities of host economies. In this regard, financial development, infrastructure emerges as a complementary yet distinct determinant, influencing both the cost structures and operational feasibility of foreign investment. The following section explores the theoretical and empirical linkages between infrastructural development and FDI flows, highlighting how transport networks, energy availability, and communication network shape locational advantages and investment decision.

2.2.2 Infrastructure

Aschauer (1989) argues that public infrastructure investment is a strategic input into national productivity, enhancing economic efficiency and reducing transaction costs. His findings demonstrate that infrastructure particularly transport, energy, and communication systems

significantly contribute to total factor productivity, thereby reinforcing the locational advantages central to Dunning's OLI paradigm (Dunning, 1980) which encompasses both natural and created resources, including infrastructure. Calderon and Serven (2004) extend his view by showing that both quality and quantity of infrastructure positively affect GDP growth and reduce inequality across developing economies. Their cross-country analysis provides support for productivity enhancing role of infrastructure, especially in region with acute infrastructure deficits. Bello and Osinubu (2023) emphasis that infrastructure act as a complement input to traditional production factors, enhancing return on investment and improving transition efficiency. They caution, however, that infrastructure alone does not guarantee growth, underscoring the need for strategic alignment with broader economic policies.

Infrastructure is widely recognised in the literature as a core determinant of FDI, particularly for efficiency- seeking investors who prioritise operational reliability and cost effectiveness (Asiedu 2006; Quazi 2007; Adam; 2010; Jimenez 2011). In the context of African economies, low-quality infrastructure has been identified as a significant barrier to foreign investment, as it reduces efficiency and increases transportation and production cost. Conversely, high-quality infrastructure signals a more developed consumer base and institutional capacity, thereby enhancing locational attractiveness.

The studies on FDI have employed various proxies to measure infrastructure, many of which shows a significant relationship with FDI inflows. The include mobile cellular subscriptions (Shahmoradi and Baghbanyan (2011); Quazi 2007), electric power consumption (Ranjan & Agrawal 2011), electric transmission and losses (Jimenez 2011), Internet access (Kok and Acikgoz Erosy 2009), fixed telephone subscriptions (Asiedu 2006; Ranjan and Agrawal 2011; William 2015). Asiedu (2004) also uses electric power transmission and losses as a proxy of infrastructure development, while the number of telephone line per 1000 population remains a common metric in cross-country analyses.

Infrastructure is not only a facilitator of investment but also a signal of institutional readiness. Khadaroo and Seetanah (2010) argue that infrastructural quality reduces operational cost and facilitates logistical efficiency. Bellak et al., (2009) similarly contend that infrastructural development allows lowers the market entry cost particularly the cost of electricity and

transportation and facilitates high rate of return on investment. Studies by Kaur et al. (2016) and Choi and Shoham (2016) further confirm the positive influences of infrastructure on FDI flows.

Jaibai and Shenai (2019) distinguish between soft and hard infrastructure. Soft infrastructure refers to governance structure and market-oriented institutions, while hard infrastructure encompasses physical assets such as road networks, electricity transmission systems, telecommunications, and airports. Both dimensions are essential for enabling business operations and sustaining investor confidence.

The availability of reliable infrastructure is a crucial factor in creating a conducive investment climate. Kinda (2012) emphasises that access to a stable electricity and transport system is essential to attracting FDI inflow. Dollar et al., (2006) argue that infrastructure forms part of a boarder investment climate that includes regulatory quality and institutional support. In developing economies, where infrastructure gaps persist, targeted improvements can significantly enhance FDI inflows by reducing transaction costs, and improvements can significantly enhance FDI inflows by reducing transaction costs and improving market access.

Building on the foundational insights of Aschauer (1989) and Dunning (1980), this study adopts a multidimensional conceptual framework that view infrastructure as both a physical enabler and institutional signal for FDI. The approach integrates the OLI paradigm with institutional theory, distinguishing between hard infrastructure (transport, energy, telecommunication) and soft infrastructure (governance and regulatory quality as discuss in 2.2.1). it posits that infrastructure influences FDI through two primary channels that is reducing operational and transaction costs, thereby enhancing efficiency-seeking investment and secondly, by signalling institutional readiness and market potential, which attract market seeking investors. This framework is particularly relevant in the context of African economies, where infrastructure deficits coexist with growing investment opportunities. This study examines infrastructure availability, accessibility and reliability.

Infrastructure provides the physical and logistic foundation for investment operations, it is the financial system that enables capital mobilisation, risk management, and transactional fluidity. In developing economies, particularly across Africa, the depth and efficiency of financial institutions play a vital role in shaping investor confidence and driving FDI inflows. The next section explores the theoretical underpinnings of financial developments as a determinant of FDI, examining how

banking sector maturity, capital market accessibility, and financial inclusion influence locational attractiveness and investment decisions.

2.2.3 Financial Development (FD)

Financial development plays a pivotal role in facilitating FDI by enhancing capital mobility, reducing transaction costs, and improving resource allocation efficiency. A well-functioning financial system comprising banking institutions, capital markets, and credit infrastructure provides the liquidity and risk management tools necessary for multinational enterprises to effectively operates in host economies. Theoretical perspectives, including those advanced by Levine (1997) and Alfaro et al., (2004), posit that financial development not only supports domestic investment but also attracts foreign capital by lowering information asymmetries and improving investor confidence. In the context of African economies, where financial systems often remain underdeveloped or unevenly distributed, the availability of credit, depth of financial markets, and degree of financial markets, and degree of financial inclusion are critical determinants of FDI inflows. This section explores the conceptual linkages between financial development and FDI.

Gesaka (2013) defines Financial Development (FD) as the expansion in the availability of a country's financial goods and services to businesses and the citizens within the economy. A developed financial system is therefore vital for efficient resource allocation, cost reduction, and information dissemination (Mahmood et al., 2018). According to UNCTAD (2019), improvements in Africa’s financial development have facilitated the African Continental Free Trade Agreement (AfCFTA), with greenfield investments identified as key drivers of future FDI inflows. A well-structured financial system enables foreign investors to access capital easily, supported by developed capital markets, efficient banking systems, and financial institutions that expedite fund flows and offer numerous financing options for investment projects.

Ofori et al. (2022) argued that financial institutions played a major role during the lockdown in encouraging government social protection efforts in African countries. Therefore, their ability to stimulate economic growth and allocate resources efficiently is more probable, as they help vulnerable households, facilitate aid in the informal sectors and enhance online transactions (Quarm et al., 2020). Despite persistent underdevelopment in Africa’s financial sector, ongoing

reforms and policy efforts are aimed at strengthening financial infrastructure (Iddrisu et al., 2022, 2023, 2024).

However, some scholars show in their studies that financial development deterred the inflow of FDI (Tsauri 2014; Hanif and Sharriff 2016; Bayar and Gavriletea 2018). The variation in results may be due to different estimation approaches, samples and financial development measurements. Bayar and Gavriletea (2018) conclude that there is no long-term relationship between FDI and financial development in Central and Eastern European Union countries, and in the short run, they found one-way causality from financial sector development to the inflow of FDI using cointegration.

From the literature reviewed, it is palpable that only a few studies focused on the relationship between FDI and financial development (Nkoa 2018; Islam et al., 2020; Iddrisu et al. 2024). Some studies employed a single indicator of financial development, and others used the composite measure for financial development. Thus, this study aims to contribute to the literature by using the financial development index as a measurement for financial development and further dividing this into the financial institution index and financial market index for in-depth understanding of the effect of financial development on FDI inflow (see chapter 3 data section for details on financial development measurement use in this study).

2.2.4 Other Determinants

The other macroeconomic variables implied by theory to determine the inflow of FDI from Foreign investor (MNEs) to a particular host country reflect the locational advantage of the host countries. These includes the availability of natural resources, domestic market size, and a skilled labour force (Asiedu 2004). These are discussed in more detailed below.

Market Size

This is seen as an important determinant of FDI into the host countries. Scaperlanda and Mauer (1969) explained that market size is positively related to FDI with a threshold level allowing resources utilization and economies of scale. Korsah et al., (2022) and Mijiyawa (2015) argued that for FDI decision making to select a host country, the market size of the country which shows the potential demand and economic condition of the country is very important. proxied by GDP per capita (Anyanwu 2011)

Inflation and exchange rate

The macroeconomic instability of a country is measured using inflation as a proxy. Ajide and Ibrahim (2022) explained the adverse effect of inflation on the inflows of FDI into the host country. Inflation is expected to negatively attract FDI inflow (Geda and Yimer 2023). Other studies such as Korsah et al., (2022) and Meressa (2022) found an insignificant effect between inflation and FDI

The impact of the exchange rate on FDI operates through wealth channels (Froot and Stein 1991). Moraghen et al., (2021) found that the volatility of exchange rate affects FDI negatively while real exchange depreciation attracts foreign investors. Blonigen (1997)

Natural resources availability

Natural resource availability is seen as the major determinant of FDI in the host country as a country with abundant natural resources is consistent with having greater OLI advantages. Vertical FDI takes place as foreign firms in the host country produce resources used as inputs in the home country for the production process (Geda and Yimer 2023). Geda and Yimer (2023) noted that only a few studies on the determinants of FDI control for the availability of natural resources, including Asiedu (2002; 2002); Anyanwu and Yemeogo (2015); Korsah et al., (2022). The next subsection explains openness.

Openness

Trade openness allows foreign investors to have access to the host country's market without any restrictions such as tariffs. This attracts FDI into the country, as it allows firms to export goods and services easily (Liargovas and Skandalis 2012). According to Investment Monitor (2023), export-orientated FDI is encouraged by open trade policies, as foreign investors invest in countries with open trade policies to produce export goods as well as take advantage of favourable terms of trade and lower costs of production.

Furthermore, open trade policies in countries are often characterised by stable and conducive business environments, as foreign investors prefer a stable environment to yield more return on their investments, and trade openness can also lead to efficiency through access to better technologies and practices and increased competition, which makes countries more attractive to

foreign investors (Albahouth and Tahir 2024). Trade openness is seen as an important driver of FDI in the host country (Ajide and Ibrahim 2022; Korsah et al. 2022; Moraghen et al. 2021; Anyanwu 2012)

Therefore, there is a complementary relationship between FDI and trade openness as increased trade openness as firms seek to optimize their global supply chain (Whiteaker 2020). It is important to investigate the impact of trade openness on FDI in African countries, as this signals to foreign investors that a country is dedicated to economic integration into the global economy and liberalization, which improves investor confidence. The next section discussed the effect of the labour force on FDI inflows.

Labour force

Labour force can be in the form of the quality and quantity of a country's human resources. Foreign investors' perspectives and attitudes towards the host countries' labour availability depend on the industries involved and their strategies' objective pursuit. According to Dunning and Lundan (2018), they argue that MNCs, alongside other manufacturers that operate in clothing industries who are aiming at attaining economies of scale, unlike the high technology industries, are less concerned with the quality of labour. The efficient seeking FDI, due to their operations' nature, invest more in host countries with a lot of skilled labour force, while market-seeking FDI may be less concerned about the quality of labour and tend to utilise more cheap labour input for profit maximisation (quantity of labour) in the host country (Sahiti et al. 2018; Ngo et al., 2020).

Labour force is one of the vital determinants of FDI in developing countries, as found by Seetanah and Rojid (2011) in their study of the determinants of FDI in Mauritius. The quality of human capital is also argued to attract more FDI in developing countries (Iwai and Thompson 2012). Ngo et al. (2020) find that both labour force quantity (number of people in the labour force) and skilled labour (number of graduates from universities and colleges) are crucial in attracting FDI into the host country in their investigation of the determinants of FDI in Vietnam.

Thus, having established the theoretical basis for institutional, financial, and infrastructural determinants as well as other macroeconomic factors, the following section reviews the empirical studies that examine the relationships across African economies. This synthesis informs the variable selection and methodological choices in subsequent chapters.

2.3 Empirical Review on FDI Determinants

This section examines the empirical literature of the determinants of FDI that are relevant to this study, with particular emphasis on institutional quality, financial development, infrastructure, and macroeconomic factors. The review synthesises findings, highlighting the methodological diversity and regional variation.

Sabir et al. (2019) investigated institutional quality and FDI from developed and developing countries by using fixed effect and system GMM from 1996 to 2016, employing six governance indicators (control of corruption, government effectiveness, political stability, regulatory quality, rule of law, and voice and accountability). They found that institutional quality significantly influences FDI inflows. In developed countries, all six indicators exhibit positive and significant effects, while in developing countries, control of corruption, government effectiveness, and political stability are most influential. Their findings also highlight the positive roles of GDP per capita, trade openness, infrastructure, and agriculture, while inflation consistently deters FDI. In low, middle, upper-middle and high-income countries, they explained that institutions influence FDI differently.

Financial development has emerged as a crucial determinant of FDI in both theoretical and empirical literature. Well-functioning financial systems enhance FDI inflows by resource allocation improvement and reduction in transaction cost (Alfaro et al. 2004). Ezeoha and Cattaneo (2012) examine the impact of institution, finance, and resource endowment on FDI flows to 38 SSA from 1995 and 2009, using dynamic system GMM, find that in non-resource rich countries inward FDI is more dynamics. Foreign investors are attracted to these countries due to the effectiveness of the institution quality which they measure by rule of law and legal origin. They also find that in resource-rich SSA countries, an avenue for managing existing FDI stock is created by the financial system (quasi money % GDP, broad money % GDP and domestic bank credit % GDP are the three proxies the use for financial development) and that for the SSA financial system to attract more FDI it depends on the infrastructural quality (telecommunication) and the structure of legal and governance in the countries. Natural resource endowment is more robust in FDI stock than FDI inflow. Scholars have proven empirically that the impact of financial development is significant on FDI (Desbordes and Wei 2017; Agbloyor et al., 2013; Nguyen and Lee, 2021; Gholizadeh et al. 2020; Islam et al. 2020). FDI is attracted by financial development by

constructing financial market that is accessible for foreign investors and aiding allocation of resources efficiently. However, most of this study employed different techniques and samples in their analysis.

Agbloyor et al., (2013) use two-stage least squares (2SLS) to examine the relationship between financial development and FDI in 42 African countries over two periods (1970–2007 and 1990–2007). They find that well-developed stock markets and financial systems attract FDI and contribute to the development of domestic financial institutions. Islam et al. (2020), using GMM estimation on 79 Belt and Road Initiative (BRI) countries from 1990 to 2017, report that financial development significantly influences FDI inflows, and that institutional quality enhances this effect. Desbordes and Wei (2017) similarly find that financial development positively affects FDI in both source and destination countries using sector-specific bilateral panel data and a difference-in-differences approaches. Nkoa (2018) investigates the impact of financial development on FDI across 52 African countries from 1995 to 2015 using GMM. In countries without formal financial markets, banking credit to the private sector, interest rate liberalisation, and monetary aggregates positively influence FDI. In countries with financial markets, market capitalisation, value traded, and quasi money are significant drivers of FDI inflows.

Mijiyawa (2015), using system GMM on data from 53 African countries (1970–2009), identifies per capita GDP, infrastructure, trade openness, market size, and political stability as positive determinants of FDI, while inflation exerts a negative influence. Kariuki (2015) finds that financial, political, and economic risks deter FDI, whereas stock market performance, infrastructure, investment, and trade openness enhance FDI inflows.

Rodriguez-Pose and Cols (2017) highlight governance quality specifically rule of law, government effectiveness, voice and accountability, political stability, and low corruption as key attractors of FDI in Sub-Saharan Africa. Emako et al. (2022), using Driscoll-Kraay estimation on panel data from 53 developing countries (1996–2019), find that political stability and regulatory quality positively influence FDI, while voice and accountability have a negative effect. Their finding shows that in developing countries FDI is affected by the quality of the institutions

Ajide and Ibrahim (2022) analyse the determinants of FDI in 53 African countries using the Bayesian Model Averaging method from 1984 to 2018. Their findings reveal that gross fixed

capital formation, exchange rate, secondary school education, Democratic regime and mobile subscriptions per 100 people attract FDI inflow into African countries and government consumption expenditure, inflation, GDP per capita, capital openness and credits to private sector negatively affect FDI in African countries.

Geda and Yimer (2023) use the panel cointegration technique to investigate the determinants of FDI in African countries. Their findings revealed that for fragile and factor-driven economies, natural resource abundance is significant in the long term in attracting FDI into African countries. Trade openness, macroeconomic stability, and domestic investment all affect FDI flows in investment-driven African countries. Political stability is important for investment and factor-driven countries, and government effectiveness is crucial in attracting FDI in all the African countries. Irshad et al. (2023) empirically validate the infrastructure growth nexus in 18 lower middle-income countries, finding that investment in transport, electricity, and telecommunications significantly boosts economic performance and FDI flows.

Considering these findings, this study investigates aggregated and sectoral analysis of the determinants of FDI in Africa, focusing on the roles of infrastructure, financial development, formal institutions (both absolute and relative), and informal institutions (cultural distance). Many African studies focus on country-level analysis and on institutional quality, not investigating the institutional distance and the informal institutions. The next subsection concludes this chapter.

2.4 Conclusion

This chapter has critically examined the theoretical evolution of foreign direct investment (FDI), tracing its development from classical capital flow models to contemporary frameworks that incorporate firm-level strategic behaviour and institutional embeddedness. Theories such as internalisation, the Uppsala model, and the eclectic paradigm have provided valuable insights into the motivations, mechanisms and locational choices of multinational enterprise (MNEs). These frameworks elucidate the role of ownership advantages, location-specific factors, and internalisation benefits in shaping cross-country variation in FDI flows.

The limitations of early neoclassical models particularly their abstraction from institutional complexity and firm heterogeneity have led to the development of more nuanced paradigms. Market imperfection theories and behavioural models introduced concepts such as asset

exploitation, experiential learning, and incremental commitment. More recent approaches, including the LLL framework, springboard theory, and leapfrog theory, reconceptualise emerging market multinationals (EMNEs) as strategic agents navigating institutional voids and pursuing reputational repositioning. These perspectives are especially pertinent to the African context, where informal institutions and structural constraints play a significant role in shaping investment behaviour.

Institutional theory, encompassing both formal and informal dimensions, further enriches the analytical lens by explaining how governance quality, cultural norms, and regulatory environments affect investor confidence and long-term sustainability. This theoretical progression supports the adoption of a hybrid analytical approach one that integrates traditional ownership-location-internalisation (OLI) logic with institutional and behavioural insights, embedded within a robust econometric framework.

Accordingly, this thesis draws on these theoretical foundations to guide its empirical investigation. The eclectic paradigm informs the selection of ownership, location, and internalisation variables in the aggregated FDI model. Institutional theory underpins the operationalisation of formal measured through absolute and relative indicators and informal institutional capture via cultural distance, particularly within sectoral analysis. For the country level analysis, institution is assessed using governance indicators, which are categorised to reflect both structural and procedural dimension.

Infrastructure is conceptualised through three dimensions: availability (mobile phone subscriptions), accessibility (electricity access and Gross Fixed Capital Formation), and reliability (internet access). his approach is grounded in the work of Aschauer (1989), who argues that public infrastructure investment constitutes a strategic input into national productivity, enhancing economic efficiency and reducing transaction costs. His findings demonstrate that infrastructure particularly transport, energy, and communication systems makes a significant contribution to total factor productivity. In the context of FDI, such infrastructure not only facilitates the movement of goods, services, and information but also enhances the operational reliability and cost-effectiveness sought by efficiency-seeking investors. It thereby strengthens the locational

advantages central to Dunning's OLI paradigm and signals institutional readiness to foreign investors.

Calderón and Servén (2004) extend this perspective by demonstrating that both the quality and quantity of infrastructure positively influence GDP growth and help reduce inequality across developing economies, underscoring its relevance in contexts characterised by acute infrastructure deficits. Their findings further support the argument that targeted infrastructure improvements can enhance a country's attractiveness to foreign investors by reducing transaction costs and improving market access.

Financial development is examined through the lens of Levine's (1997) model, which conceptualises financial systems as facilitators of resource allocation, risk management, and economic growth. This study operationalises financial development using the **F**inancial Development Index, disaggregated into financial institutions and financial markets, and further into depth, access, and efficiency. This multidimensional approach enables a more granular assessment of financial system maturity and its influence on investment decisions.

Together, these conceptual elements provide a coherent scaffold for the three empirical chapters that follow. The next chapter builds directly on this foundation by examining the determinants of FDI in Africa, with particular emphasis on infrastructure, governance institutions, and financial development, each underpinned by the theoretical foundations discussed in this chapter.

CHAPTER 3: The Determinant of FDI in Africa: The role of Infrastructure, Governance Institutions, and Financial Development

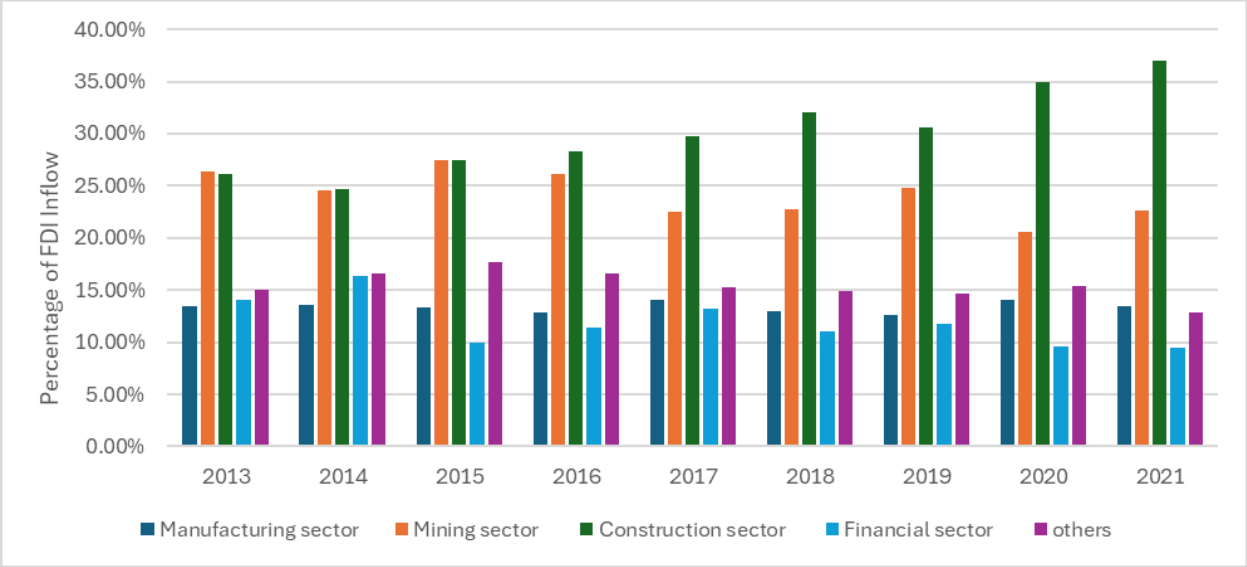
3.1 Introduction

The changing landscape of FDI offers a new impetus for studying the determinants of foreign direct investment (FDI) in Africa. In today's business environment, there is a growing number of multinational companies that engage in FDIs, as they are driven by reduction in production cost, natural resources availability, access to local market and high profitability they will enjoy from engaging in FDI activities (Dunning and Lundan 2008; Islam and Beloucif 2024).

According to UNCTAD (2018), African countries facilitate low interest of FDI inflow into the region due to shortages in domestic resources challenges faced to finance their development (Akatugba and Maku 2024). Therefore, the movement or inflow of FDI is driven by various political, economic and institutional factors as this limit most countries (including Africa) to attract FDI to their potential level.

Traditionally, foreign investment in Africa flowed from the high-income countries of Europe and the United States, in tandem with the neo-classical pattern of North-South flows. More recently, Africa has entered a new era of South-South co-operation with rising investment from China and other emerging economies after the Beijing conference in 2000 China-Africa cooperation. Hence, the inflow of FDI in Africa increases with the fast-growing economies of China and India which is part of the top twenty recipients of FDI globally (UNCTAD 2018). Therefore, in the U.S – Africa leader Summit: "A focus on FDI" it is explained that China FDI inflow to Africa is more diversified than the other countries investing in Africa (see figure 3.1.1 for details). This is driven by infrastructural sectors for natural resource export, market size and natural resource (Gebre Borojo and Yushi 2020). Thus, since 2000, in the part driven by China, FDI to Africa has substantially increased but compared to other regions it remains low (see figure 1.1 in chapter one) (Njuguna and Nnadozie, 2022; Yimer 2023b).

Figure 3.1.1 China FDI inflow (Stock) in African in Percentage from 2013 – 2021



Note: Other sector includes agriculture, wholesale retail, real estate, tech service and business and geological

Source: China Statistical Yearbook 2022

Therefore, the variation of FDI inflows across countries is because of global uncertainty which reflects different economic governance institutions among countries (Ogbonna et al 2022). Thus, recent trends show that the traditional determinants of FDI inflows, as substantiated by Dunning's (1988) eclectic paradigm, do not account completely for Africa's experience and as such, research attention has shifted toward the role of governance institutions and infrastructure factors (Kasasbeh et al. 2018; Farooque and Yarram 2010; Asiedu 2006). Therefore, economic policy, geography, culture, and value systems are not a yardstick for economies' failure or success, but the institutions of a country determine their success or failure (Robinson and Acemoglu 2012).

Despite the growing interest in foreign direct investment (FDI) in Africa, Nkoa (2018) identifies a significant gap in the literature, noting that the relationship between financial development and FDI remains underexplored, particularly within the African context. Earlier studies on FDI determinants in Africa such as Asiedu (2002, 2006), Mijiyawa, (2015), and Onyeiwu and Shrestha (2004) typically rely on a limited set of indicators, including rule of law, corruption levels, and political rights, political stability as proxies for institutional quality; the number of telephone lines as a proxy for infrastructure; and financial depth as a measure of financial development. However, many cross-country analyses tend to prioritise economic variables while neglecting the role of

political and institutional factors in shaping locational determinants of FDI inflows (see Martins et al., 2022; Onyeiwu & Shrestha, 2004). Given that numerous African countries are characterised by weak and underperforming institutions, it is imperative that FDI research in the region gives due consideration to the institutional environment and its influence on investment decisions.

To increase the intermediation role of the financial institution and stabilise the banking system, several reforms have been taken after the crisis experienced in the African banking system in the 1980s and 1990s. The effect of financial crises and economic globalisation have largely altered the traditional determinants of FDI such as natural resources, market size, trade openness and human capital among others (Nunnenkamp 2001), and highlighted that a stable financial system is an important determinant of FDI. This study considers the quality of financial institutions and financial markets as determinants of FDI inflow into Africa.

Building on the empirical foundations established by Sabir et al., (2019) and Nondo et al., (2016), this chapter advances the literature by employing multidimensional indicators of institutional governance, financial development, and infrastructure to assess their influence on FDI inflows across African economies. Both benchmark studies utilise the six Worldwide Governance Indicators (WGI) as proxies for institutional quality. Sabir et al., (2019) apply fixed effects and system GMM estimators to a panel of developing countries, including selected African nations, while Nondo et al. (2016) focus specifically on Sub-Saharan Africa using a fixed effects approach.

In contrast, the present study expands the geographical scope to encompass the entire African continent, thereby capturing regional heterogeneity and enabling a more comprehensive analysis of institutional, infrastructural, and financial determinants. While it replicates the use of the six WGI indicators to construct an institutional quality index, it extends prior work by disaggregating these into two novel constructs: a political institution index and a socio-economic institution index, both derived through Principal Component Analysis (PCA). These indices are designed to capture country-specific political risk and indirect production costs dimensions often overlooked in conventional FDI models.

Addressing a key methodological gap identified by Nondo et al. (2016), who did not incorporate financial institutions, this study introduces a financial development index comprising both the financial institutions index and the financial markets index, in accordance with IMF and World

Bank frameworks. It further disaggregates financial institutions into subcomponents of depth, access, and efficiency, thereby offering a more granular perspective on financial sector capacity. This responds directly to Nkoa (2018), who highlights the limited research on the intersection of FDI and financial development in African contexts.

Infrastructure is examined not only in terms of availability, but also accessibility and reliability, as emphasized by Asiedu (2006). The study also aligns with the critique by Adelakun and Ogujiuba (2023), who argue that many existing studies overlook the role of institutional quality and omit key indicators of infrastructure development. To address methodological challenges such as heteroskedasticity and zero-inflated FDI flows, the study employs the Poisson Pseudo Maximum Likelihood (PPML) estimator with country and time fixed effects. For robustness and to account for distributional heterogeneity, quantile regression is applied, enabling the analysis of how FDI determinants vary across different levels of investment intensity, thus moving beyond the mean-based estimation techniques commonly used in prior literature.

This research investigates the roles of institutional quality (both political and socio-economic), financial development (as captured by the Financial Institutions Index and Financial Markets Index), and infrastructural factors specifically their reliability, accessibility, and availability in shaping FDI inflows into Africa. It departs from previous studies by explicitly distinguishing between political and socio-economic institutions, thereby offering a more nuanced understanding of institutional influence. Furthermore, it examines the relationship between FDI and financial development using a composite financial development index, disaggregated into institutional and market components in line with IMF and World Bank frameworks. This analytical approach lays the foundation for Chapter 4, which will extend the investigation to Africa's five sub-regions. As Chen et al. (2015) note, FDI inflows to Africa have become increasingly diversified across sub-regions, underscoring the importance of spatial disaggregation in contemporary FDI research. The next section explains the trend of FDI in Africa and its sub-regions, providing contextual grounding for the subsequent empirical analysis.

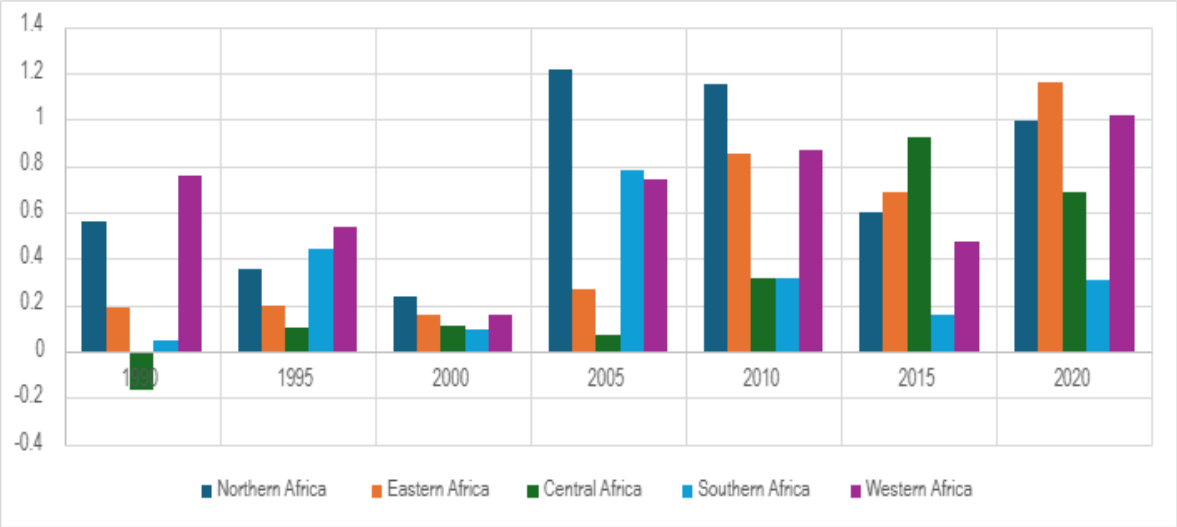
3.2 Trends in FDI Inflows to the Africa Sub-region over Time

As discussed in section 1.2, the trend of FDI inflow in African and other developing countries, considering that African countries are characterised by different political, institutional and socio-

economic conditions, it is important to discuss FDI inflow into African sub-regions due to the differences in the structural and heterogeneous nature of African countries. The inflow of FDI even within the African region varies within the five African regions (see figure 3.1.2 for details).

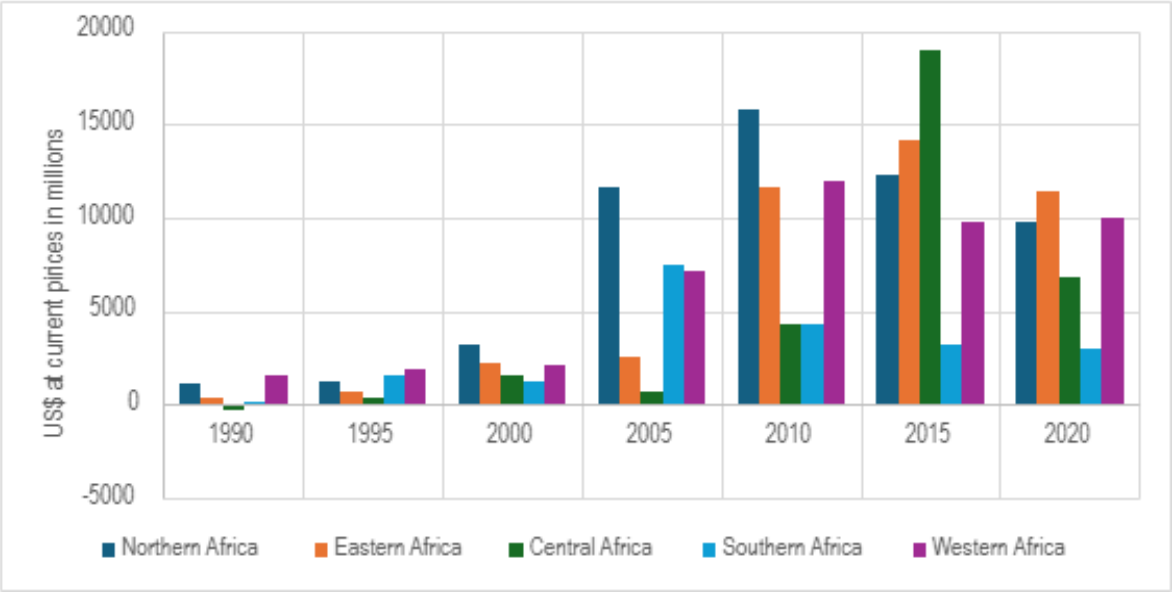
In fig. 3.2.1, FDI inflow into Africa is negative for Central Africa, and in Southern Africa, it is low compared to the other African regions in 1990. After the policy reform in the 90s, the inflow increases in Southern Africa, and in 1995, it is more than the Northern and Eastern Africa and Central Africa inflow, is positive. After 2000, Northern Africa is receiving the highest FDI inflow into the region, and in 2020, Eastern Africa has the highest inflow, which is a relative term. According to Bahati and Mbithi (2022), over three decades the region has experienced a good increase in attracting FDI flow compared to the 1990s.

Fig. 3.2.1 Foreign Direct Investment Inflow in the Africa Sub-region as a Percentage of the Total World from 1990 - 2020



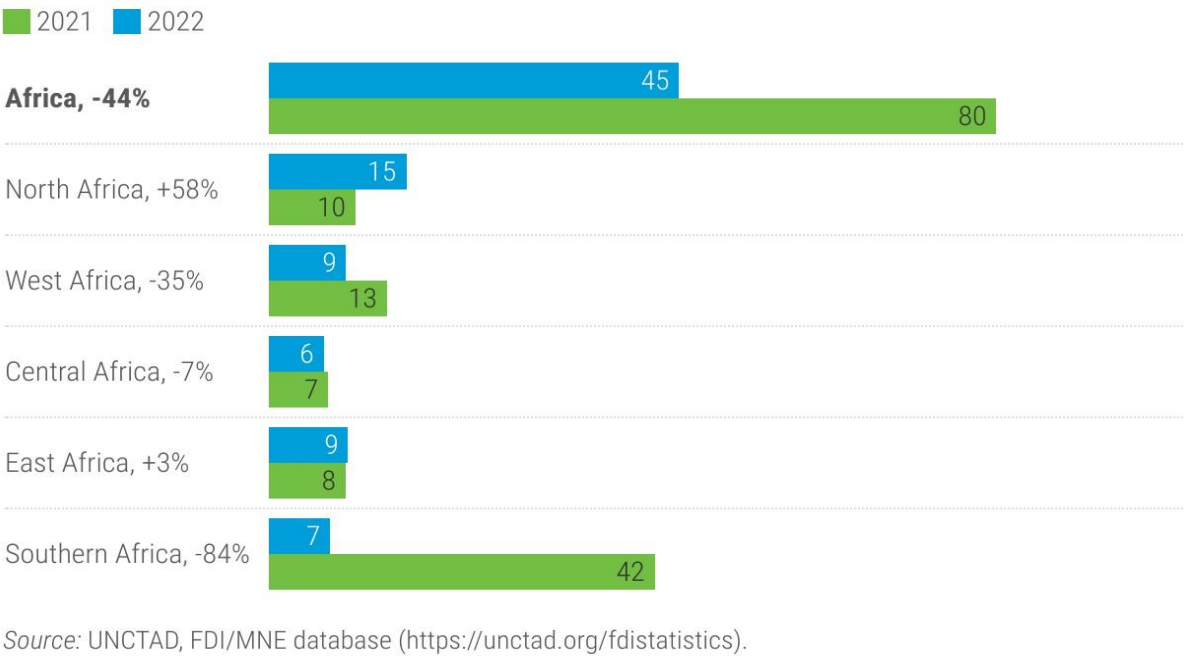
Data Source: UNCTAD Statistics 2024

Fig 3.2.2 Foreign Direct Investment Inflow in Africa Sub-region from of 1990 – 2020 in current million dollars



Data Source: UNCTAD Statistics 2024

Figure 3.2.3 Foreign direct inflow in African and subregion, billions of dollars, percent (2021 -2022)



Source: UNCTAD, FDI/MNE database (https://unctad.org/fdistatistics).

As discussed below, the difference in FDI inflows among sub-regions are reflective of factors motiving investment in different part of the continent. In the figure above, north Africa, received more FDI inflow due to increase in sales of cross- border and acquisition (M&A), as Egypt received more than double FDI inflow of $11 billion in 2022, flows to Morocco slightly fell by 6% to $2.1 billion and there was an increased in international finance project deal to $24 billion.

Moreover, West Africa FDI fell due to disinvestment in equity as Nigeria experienced a negative FDI inflow by -$187 million, Senegal remained the same at $2.6 billion, and Ghana decreased by 39% to $1.5 billion, and greenfield projects increased by 24% to $2 billion. In the Central Africa, FDI inflow remained flat because of investment from offshore mining and oil field offshore, in the Democratic Republic of Congo at $1.8billion.

Therefore, FDI inflow to East Africa, fell by 14% to $3.7billion in the Ethiopia as it remained the continent second largest FDI recipient. In Tanzania it rises by 8% to $1.1 billion and Uganda inflow increased by 39% to $1.5 billion because of extractive industries investment. In Southern Africa, after the anomalous peak in 2021 because of a reconfiguration in South Africa by a large corporate FDI inflow, it returned to the previous level. In Zambia FDI inflow increased to $116 million after a negative value of two years, and South African cross-border M&A sales are $4.8 billion, up from $280 million in 2021.

This motivates our sub-region analysis in this study (see chapter 4 for details), as this study examines the institutional determinants of FDI in the African sub-region, different income groups, geographical regions (landlocked and non-landlocked) and political regimes (autocracy, hybrid democracy and flawed democracy). The next section will explain the literature review.

3.3 Literature Review

This section presents the theoretical framework underpinning the analysis of FDI in Africa. It begins with the theoretical foundations guiding the study and proceeds to synthesise empirical evidence on key determinants, including infrastructure, institutional quality, and financial development. Hence, also include the study's hypotheses and research the breakdown of the research question in this chapter.

3.3.1 Theoretical Underpinnings

Foreign direct investment is widely recognised as a catalyst for economic growth, technology transfer, for economic growth, technology transfer and productivity enhancement in developing countries. In the African context, where structural deficiencies and policy uncertainties prevail, identifying the core determinants of FDI inflows is crucial for effective investment strategies. This chapter applies the eclectic paradigm of Dunning (1979, 1993) to theorize how institutional quality, infrastructure, and financial development shape Africa's investment climate. Within this framework, the location-specific characteristics of host countries reflected in governance systems, infrastructural provisions, and financial maturity form critical components that attract efficiency-seeking, market-seeking, and resource-seeking investors.

The Eclectic Paradigm, also known as the OLI theory, by Dunning (1979, 1993), has been greatly significant in analysing FDI determinants empirically and is used as a theoretical basis of this study, as it remains a dominant lens for analysing multinational investment decisions to invest in a host country. The theory argues that investors evaluate opportunities based on Ownership, Location, and Internalization (OLI) advantages. Ownership refers to proprietary assets held by the firm that enable it to compete with others in the market it serves regardless of the disadvantages of being foreign; location advantages pertain to country-specific advantages that make the chosen host country more attractive for FDI than others, and the reason for FDI is to supply the domestic market of the recipient country through an affiliate. Internalisation is the desire for a firm to control its foreign operation rather than rely on an external partner, as foreign firms exploit imperfections in the external markets, including reduction of uncertainty and transaction cost. In African economies, the location advantages are particularly pertinent, as investors assess the suitability of host economies based on the quality and reliability of local systems. Hence, location-specific characteristics such as governance stability, infrastructure reliability, and capital accessibility play a decisive role. According to Kang and Jiang (2012), the host country-specific location advantages, what are classified as economic factors, include the market size of the host country, the workforce (i.e., skilled, semi-skilled and unskilled), and natural resource availability. The firm investing benefits from these factors as they lower cost and increase revenue.

Further, Dunning (1993) explained the entry mode theory. This theory was extended to the eclectic paradigm as he categorises FDI activities into four motives, which are efficiency-seeking,

resource-seeking, market-seeking and strategic assets-seeking. He explains that these four motives are used by foreign investors to decide the host country they want to invest in. However, he explained that efficiency-seeking FDI targets host economies that offer low production costs and political or macroeconomic stability, as these investors locate a host country market with the intention of creating new places for firm competitiveness. Moreover, as Africa is characterised by inadequate infrastructure, the inflow of this type of FDI can be affected, but at the firm level, others consider Africa as possessing the advantage of low costs of production, attracting investment to the manufacturing sectors (Chen et al. 2015). The resource-seeking FDI, also known as vertical FDI, constitutes a strategic motive whereby firms invest abroad to obtain or access commodities and raw materials essential for the upstream production process (Dunning 1993). In the context of Africa, this form of FDI framework is particularly conspicuous due to the continent's extensive reserve of gas, minerals, and agricultural products (Morisset 2000; Anyanwu and Yameogo 2015). Unlike market-seeking or efficiency-seeking FDI, the resource-seeking variant operates independently of the host country's consumer purchasing power or market size.

Resource-seeking FDI in Africa embodied vertical integration, where foreign investors secure input procurement through local extraction with limited domestic transformation or value, as vertical FDI takes place when firms fragment production internationally, establishing subsidiaries abroad to conduct specific stages of the value chain (Markusen 2002). Asiedu (2006) argues that such investment is often routed to regions with weak institutional frameworks but rich resource endowments, reinforcing a vertically integrated FDI structure driven by cost minimisation. Hence, the prevalence of resource-seeking vertical FDI underscores the need to evaluate Africa's positioning within the global production network. Although, such investment may stimulate infrastructural development (e.g., energy and transportation), its limited employment and technology transfer potential necessitate targeted policy frameworks that enforce local content requirements, incentivise downstream industrialisation and support value chain upgrading (Hansen et al., 2016).

The market-seeking, also known as horizontal FDI, is when foreign investors desire to invest to access and serve both local and foreign markets directly. In Africa, this type of investment is influenced by factors such as market size, growth potential and regional integration dynamics. Hence, through the physical presence of consumers and suppliers in the leading market, they aim

to develop their market policies (Franco et al., 2008). While the strategic asset-seeking investors are motivated by the foreign firm's desire to promote their global competitiveness position by acquiring shares or assets of existing domestic firms for long-term strategic objectives. Based on these motives Dunning (1993), the determinants of FDI inflow to Africa are written as

$FDI_{j,t}$= f (market-seeking, resource-seeking and efficiency-seeking factors).

Bokpin et al. (2015) suggested that further studies could investigate whether the inflows of FDI are vertical, horizontal or export fragmented. Hence, this chapter investigates the market-seeking, resource-seeking and efficiency-seeking factors as a baseline determinant of FDI inflow, as different motives can prevail in Africa. Considering this gap, it is also important to know whether the different geographic sub-region will attract same type of FDI. It will be important to investigate the different sectors, such as the manufacturing, agricultural, construction and service sectors, as different motivations and drivers will have varying sector effects on bilateral FDI inflows (Chen et al 2015) which is done in subsequent chapter.

Institutional quality is widely recognised as a fundamental determinant of FDI, primarily because it reduces transaction costs and economic uncertainty. As suggested by North (1990) in the theory of institution, formal institutions such as transparent regulatory systems and enforceable property rights mediate perceived risks and shape investor confidence. Institutions are considered "human-invented constraints", which are made up of political, structural, social and economic issues that govern interactions and influence economic performance. In line with this perspective, Khanna and Rovkin (2001) argue that political, social, and economic institutions directly affect firm profitability in a particular country by influencing transformation and transaction costs. Hence, expanding on this foundation, New Institutional Economics (NIE) places emphasis on the evolutionary nature of institutional frameworks, highlighting path dependency and adaptive efficiency as particularly relevant in African post-colonial economies where institutional voids such as weak legal enforcement and the absence of market-supporting infrastructure remain prevalent (Williamson 1985). These voids pose barriers to investment even when other locational advantages exist. Dunning's (1993; 1998) eclectic paradigm complements these views by incorporating institutional factors into its location-specific advantages pillar, arguing that countries with predictable legal environments and well-functioning governance structures are more likely to attract FDI.

Furthermore, Dunning (2006) proposes that institutional characteristics deserve greater attention in FDI research beyond the traditional OLI framework. Empirical studies corroborate these theoretical claims, demonstrating that institutional quality exerts a positive and significant impacts on FDI inflows (Ali et al., 2010; Acemoglu and Verdier 1998; Knack and Keefer 1995; Sabir et al., 2019). Building on these previous findings and the theory of institutions the first hypothesis is written as;

H 1: Institutional quality positively influences FDI inflows to African countries.

Hypothesis two posits that the quality of institutions, manifested through factors such as political stability, government effectiveness, rule of law, regulatory quality, control of corruption and voice and accountability, acts as a key determinant of foreign investment in African economies. These empirical contributions not only reinforce the theoretical assertion but also offer robust evidence that improvements in institutional quality can significantly enhance a country's attractiveness to foreign investors. Thus, H2 aligns with a broader body of literature emphasising the strategic importance of governance reform in facilitating sustained FDI inflow across African. However, institution quality and financial institutions are mutually reinforcing components of a conducive investment climate. Hence, effective governance provides the foundational predictability and trust necessary for financial institutions to efficiently operate, as a sound financial system in turn enhances the transmission of institutional credibility by facilitating capital allocation, reducing transaction costs and enforcing contracts. These factors together create a synergistic framework that lowers investment risk and improves resource mobilisation, thereby strengthening the capacity of a country to attract and sustain foreign direct investment.

Furthermore, financial institutions affect FDI inflows through their allocation channels, such as enhanced financial liquidity, reduced transaction costs, and contract enforcement channels. These mechanisms increase capital productivity through investing financial resources in projects with high returns, while efficient information flows can increase economic efficiency by reducing asymmetric information (Bartels et al., 2009). However, underdeveloped local financial markets and weak financial institutions can reduce the inflow of FDI by amplifying financing risks and forcing multinationals to rely on capital from the parent firms, thereby complicating intermediation across borders.

Moreover, many African countries implemented trade liberalization and structural adjustment reforms in the 1990s, improving their financial sector's global share from 45.03 % (1980-1997) to 57.77% (1998-2014) (World Bank, 2015). Theoretical arguments by Alfaro et al. (2004), Mckinnon (1973), Shaw (1973) suggest that sound financial institutions can be used as tools in attracting FDI. Complementary studies by Nondo (2016) and Acquah and Ibrahim (2019) highlight the research gap around the triadic relationship between financial market, financial institution, and FDI in Africa. Financial development theory posit that robust financial system reduce uncertainty, stimulate investor confidence and capital allocation (Levine 1997). Alfaro et al. (2004) demonstrate empirical that financial development magnifies the growth enhancing effects of FDI through better resource absorption. Dunning (1993;2006) eclectic paradigm views financial infrastructure as a crucial location specific advantage sought by investors. Financial liberalisation theory further emphasis how deregulating interest rate permitting foreign bank entry, and liberalizing capital accounts enhance the inflow of FDI contingent on regulatory safeguards (Ibrahim et al., 2011).

Notably, empirical studies such as Anyanwu and Yameogo (2015), Asiedu (2002) and Choong et al., (2004) confirm a statistically significant and positive relationship between financial development and FDI inflows in Africa. For instance, Anyanwu and Yameogo (2015) found that improvements in financial sectors depth and efficiency were positively correlated with FDI inflow across African sub-regions especially when coupled with stable macroeconomic conditions. Similarly, Adams (2009) used panel data to reveal that financial openness and institutional strength significantly attract FDI into sub-Saharan Africa. These finding reinforce the notion that financial infrastructure not only enhance the mobility of capital but act as a credible signal of investment readiness.

However, financial system in many African countries remain underdeveloped, characterised by market fragmentation, weak legal institutions, limited financial innovation, high interest rates, ineffective and corrupt government. Thus, there is increasing importance of institutional factors and policy that affect Africa FDI (Chen et al 2015). The effectiveness of financial development as a determinant of FDI critically depends on institutional reform and regulatory capacity. A well-developed financial system is not sufficient in isolation. It must be complemented with transparent

governance and supportive policies to yield sustained FDI growth. Thus, the second hypothesis is written as;

H 2: Financial development positively influences FDI inflows in African economies.

This relationship is grounded in the theoretical premise that a well- functioning financial system reduces transaction costs, enhance contract enforcement and improve capital allocation which is the mechanism that attracts FDI. Conversely, underdeveloped financial systems may increase investment risk and hinder intermediation. Hypothesis two build on empirical findings by Bartels et al. (2009), who demonstrate that financial liquidity and information efficiency are critical channels through which financial development enhances investment attractiveness and economic productivity. While financial development plays a pivotal role in reducing investment friction and facilitating capital flows, the logistical and physical environment capture through infrastructure quality is equally important in shaping the attractiveness of FDI in African economies to foreign investors.

In the literature, infrastructure has been seen as a driver of FDI in developing countries, good infrastructure reduces production costs, connectivity and reliability of service delivery by creating a conducive business environment for foreign investors which will not be triggered by market demand and low labour cost alone. Africa, however, lags in FDI inflow as it is characterised as an infrastructural deficient economy (Nketiah-Amponsah and Sarpong 2019). Hence, stable energy supply, robust communication system and efficient transport network reduce operational.

According to ODI (1997) inadequate infrastructure creates both opportunities and obstacles for FDI. In low-income countries, such as those in Africa, poor infrastructure serves as a major constraint but when government of the host country allow the participation of substantial foreign investors in the infrastructural development of the country it attracts more FDI inflows into the country (Owusu-Manu et al 2019). A well developed and good quality infrastructure stimulates the inflows of FDI and increases investment productivity in the host country (Jordan 2004). This research will investigate the extent that infrastructure is a determinant of FDI in African countries considering this has not been fully explored in the literature (Marozva and Makoni 2018).

Following the literature, infrastructure is part of the main variable in the determinant of FDI, as it is an essential precondition for efficiency-seeking investors (Asiedu 2006; Quazi 2007; Adam; 2010; Jimenez 2011). In Africa, the low-quality infrastructural level is not favourable to foreign investors, as it reduces efficiency and increases transportation and production costs. Therefore, infrastructure quality can also signify a richer consumer base of the host country, as investors prefer better infrastructure.

H3: Infrastructural quality positively influences FDI inflow in Africa.

Furthermore, by applying the eclectic paradigm to the institutional, infrastructural, and financial development of the African economies, this chapter establishes a cohesive theoretical framework for analysing FDI determinants. Each component shapes the location advantages and investment motives of foreign firms, influencing both the volume and structure of FDI flows. These linkages form the empirical foundation for the estimation of the determinants of FDI in Africa. The next subsection discusses the empirical findings of previous studies.

3.3.2 Empirical Review of Infrastructure, Institutional Quality and Financial Development as Determinants of FDI in Africa.

This section offers insight into the variables used for empirical analysis in this study by considering existing African studies. In the empirical studies, most of the variables used are in accordance with the classification of the FDI inward determinants as shown in UNCTAD's (1998) report and Dunning's (1988;1993) OLI theory. Empirical studies have identified key FDI drivers in Africa, including infrastructure quality (Mensah & Traore 2024; Khadaroo & Seetanah, 2009; Asiedu 2002, 2006; Okafor et al. 2017), financial development (Islam et al. 2020; Idris et al. 2024; Nkoa 2018), institutional quality (Sabir et al. 2019; Adegboye et al. 2020; Asiedu 2006), natural resource endowment, and market size (Rodriguez-Pose & Cols 2017; Shan et al. 2018).

The empirical literature on FDI in Africa consistently highlights the interplay between institutional quality, market size, infrastructure, financial development and resource endowments in shaping investment inflows. Asiedu (2002) provides a comparative analysis across 71 developing regions, with 32 from SSA and 39 from non-SSA, from the period of 1988-1997 using the OLS technique. The finding reveals that while infrastructure, and return on investment positively influence FDI in non-SSA, their effect did not influence FDI in non-SSA, suggesting region specific constraints,

while openness enhances the inflow of FDI in both SSA and non-SSA, their marginal benefit is less for SSA. Building on this, Asiedu (2006) focuses exclusively on Africa, and investigates the role of natural resources, market size, government policy, institutional quality, and political instability using panel data for 22 African countries over the period 1984–2000. Her findings reveal that natural resources and market size attract FDI inflows, whereas political instability and weak institutions deter it. She argues that institutional reform, particularly in regulatory transparency and anti-corruption, offers a more sustainable pathway to attracting FDI than reliance on resource endowments alone. Policy variables, such as openness to trade and infrastructural development, are shown to enhance attractiveness for FDI.

Kedir et al. (2011) revisit the determinants of FDI in 31 African countries with a focus on the role of institutions and policy reform. Covering the period 1984-2009, the study uses fixed effects and GMM. Their study finds FDI in Africa is market- seeking which signifies that the MNE affiliate's production in Africa targets local sales rather than opting to operate as an export platform. Their study also reveals that high quality bureaucracy enhances the effectiveness of domestic credit in attracting FDI and suggests that beyond economic incentives, credible institutional reforms and regional integration are essential for improving Africa's investment climate and sustaining long term FDI inflows. Okafor et al. (2017) examine the determinants of FDI in low recipient regions, focusing on 20 Sub-Saharan African and 11 MENA countries using the fixed effect technique for the period of 2000–2012. They conclude that FDI is encouraged in these regions by control of corruption, trade openness, and infrastructural development (i.e., % of mobile users). Natural resources do not significantly attract FDI in these regions. While inflation deters FDI inflows. They also observe that the marginal benefits of improving FDI determinants are lower for SSA countries compared to MENA countries.

According to the literature, it's explained that in Africa natural resource endowment motivated investors to invest in the region (Basu and Srinivasan 2002 Bopkin et al 2015, Asiedu 2002, Nondo et al 2016, Morisset 2000, Asiedu and Gyimah-Brempong 2008 among others). Hence, availability of a country's natural resources and market size are positively related with the inflow of FDI (Morisset 2000). According to the World Bank, within low-income countries one third of wealth is concentrated in the country's natural capital (i.e., minerals, agriculture, energy and forest) and Africa countries are classified under this group (World Bank 2011).

The availability of infrastructure is also one of the crucial factors needed to run an efficient business by improving access to the market through good transport, good infrastructure is essential to attract FDI inflow. Kinda (2012) find that infrastructural constraint, limited access to finance and institutional weakness significantly deter FDI and further reveal that exporter- oriented foreign firm are sensitive to poor infrastructure and skill shortages reinforcing the argument that conducive investment climates characterised by reliable infrastructure and strong institution is critical for attracting and retaining FDI inflow. More broadly, a better investment climate, that includes infrastructural availability encourages FDI inflow (Dollar et al. 2006).

According to Onyeiwu and Shrestha (2004), economy openness, availability of natural resources, economic growth and international reserves are the essential determinants of FDI inflows into African countries. They used 29 African countries over the period of 1975-1999 and found infrastructure and political rights do not determine FDI inflows into Africa. The sample used in this study is small and will not capture all the African countries, considering Africa is a region with 54 countries. Thus, the result may apply to some part of Africa, not the whole region. However, Dondashe and Phiri (2018), in their studies, found a significant relationship between trade, GDP per capita, inflation, real interest rates, size of the government and FDI inflow.

Nondo et al. (2016) use panel data controlling for country and time fixed effect to investigates the role of institutional quality and governance in FDI flows for 45 sub-Sahara Africa (SSA) countries over the period 1996 to 2007. They use the governance indicators, and no evidence was found that institutional quality played a crucial role in determining FDI inflow to SSA countries. Rather, they found evidence that access to natural resources labour supply and GDP per capita attract more FDI in this region. However, although this study did not find the importance of political institutional quality in SSA countries development process and do not account for financial institution quality which is important determinant of FDI. According to the literature, for sustainable economy advancement, the financial system of a country is crucial which is based on social norms, laws and rules of a country (Fernandez Gonzalez et al 2019; Islam et al 2020). However, in the new institutional economics, researcher consider that ensuring institutional quality can encourage a better law and order in a country and promote the financial system of the country, this gives investors confident to invest in such country (Khan et al 2020).

Jaiblai and Shenai (2019) examine the determinants of FDI in ten Sub-Saharan African countries over the period of 1990- 2017 using cointegration to assess long-run relationships. Their findings suggest that FDI inflows relative to GDP are positively associated with improvements in infrastructure and inflation stability but inversely related to market size and income level. The result reflect nature of FDI attracted to the region, which tend to be efficiency-seeking rather than market seeking. The study highlights that foreign investors may be drawn to smaller, lower-income economies when operational costs are low and infrastructure is sufficiently developed to support production.

These insights complement the broader literature on location-specific advantages (Dunning, 1993) and underscore the importance of tailoring FDI models to reflect regional investment patterns. Their analysis did not account for natural resource and institutional determinant as this is vital in determining FDI inflow into the African country as the theory of institution postulate that institutions of the host country lower transaction costs by improving contract enforcement, dispute resolution and property right which make investment more efficient and attractive in the host countries and the number of countries use in their analysis is ten this will not capture the Africa region in explaining factors that drives FDI into the region. This to address this gap this study includes the institution determinants of FDI and examine 51 African countries to capture African region.

Other policy factors, such as market size has emerged as a fundamental driver of FDI globally. In empirical analyses, gross domestic product (GDP) and GDP per capita serve as standard proxies. GDP captures the aggregate monetary value of both market and non-market goods and services produced within a country, thereby reflecting its overall economic size (Callen, 2008). GDP per capita, in turn, reflects individual income levels and purchasing power, offering insights into domestic consumption potential. Chakrabarti (2001) posits that a large host-country market enhances the attractiveness of FDI by enabling economies of scale and facilitating resource utilization. However, the African context may attenuate these effects. Despite the presence of sizable populations, low-income levels constrain effective market size (Rodríguez-Pose et al., 2017), potentially limiting FDI attractiveness. Jordan (2004) further contends that FDI tends to flow toward countries where firms anticipate high returns on capital, supported by rising purchasing power and expanding market conditions.

From the above literature review most of the studies use single indicators of institutional quality such as Asiedu (2006). However, Nondo et al (2016) and Sabir et al (2019) use six governance indicators to capture institutional quality but do not account for financial development. These studies focus on SSA rather than Africa as a whole. Other studies that account for financial development use a proxy of financial depth such as domestic credit, quasi money. Nkoa (2018) suggests that few studies have examined the specific role of financial development on FDI in Africa This chapter extends the literature by focusing on 51 African countries, to examine the determinants of FDI in Africa as a whole.

The chapter focuses on the role of institutional quality, financial development and infrastructural quality. The study uses the financial development index from the IMF, which is the combination of 20 indicators. This is further divided into the financial institution index and the financial market institution, with the financial institution further divided into the depth, access and efficiency variables which allows the financial system to be comprehensively captured. The study also uses six governance indicators to capture institutional quality. These are examined separately and also combined into a single measure using PCA. Infrastructure indicators capture accessibility, reliability and availability. This study employs PPML, which is more effective at addressing zero FDI data and the heteroskedastic problem always common in FDI data. The study also moves from mean-based estimation through the use of quantile regressions as a robustness check, capturing the non-linear features and heterogeneity of the FDI inflow in Africa.

The combination of the theoretical and empirical insights from the literature covered in this sub-section and that which preceded help to identify a number of research gaps. The following sub-section will firstly pick out the research questions that these gaps in knowledge yield.

3.3.3 Research Aims

The chapter seek to address the first research question “To what extent do infrastructure quality, institutional quality, and financial development influence FDI inflows into Africa? to explore this question comprehensively, the analysis is structured around four sub- questions:

Firstly, what are the primary motives for inward FDI in African countries? Secondly, what are the roles of infrastructure as a determinant of FDI in African countries? Thirdly what are the role of

institutional quality as a determinant of FDI in Africa countries? Fourthly what are the role of financial institution in Africa countries?

To answer the first sub-question, I use the traditional determinants which are classify into the market-seeking, resource-seeking and efficiency-seeking base on the motives of FDI as explained by Dunning (1993). This is use as the baseline determinants (refer to section 3.4.1 for the variable use for market-seeking, resource seeking, and efficiency-seeking). In this stage OLS, LSDV and PPML with country and time effect is use and PPML is identified as best fit regression considering the nature of the data used in this analysis and the adjusted R^2 of the estimation (see variable description for details). This estimation technique is now used to investigates the other three sub-questions.

The second sub-question is to investigate the role of infrastructure as a determinant of FDI in Africa. To answer this research question, the study uses infrastructural reliability index (i.e. using PCA to create index with this two variable the individual using internet, internet user), infrastructural accessibility index (i.e. Using PCA to create index with this three variable such as access to electricity % of population, electric power consumption kwh per capital, electric production % of total) and infrastructural availability index (i.e. mobile cellular subscription per 100 people, fixed telephone subscription per 100 people) and Indvidual measure like gross fixed capital formation and transport) as infrastructural determinants using PPML with country and time effect. Therefore, as explained by Morisset and Pirnia (2000), good infrastructure attracts more FDI.

The third sub-question is to investigate the role of institutional quality on FDI (this includes socio-economic, political institutions) in Africa. To address this research question, I present the descriptive statistics to show the condition of the data, correlation matrices to test the level of collinearity and Variance Inflation factor (VIF) to measure and check for the degree to which the coefficient of the regression is inflated because of multicollinearity between independent variables. According to Batrancea (2021) if the value of VIF is between 5 and 10 it means the present of high correlation and when above the threshold of 10 then there is a problem of multicollinearity. I estimate a mean VIF value of 3.65 for the institutional determinant. (see table B2 in appendix). It implies there is low risk of multicollinearity between the independent variable which is (rule of law, voice and accountability, government effective, regulatory quality, political stability and

control of corruption. The VIF is used also used in the literature (Shah 2017; Al-Matari et al 2021). To solve this problem of multicollinearity this study constructs institutional quality index by using principal component analysis (PCA) in order to use the six variables in one regression without minimal loss of information PCA duplicate the original data (see section 3.4.3 for details).

Furthermore, I divide the institutional variables into two indexes. The first is political institution index, this is the combination of voice and accountability and political stability which is associated with country specific risks. The second is the socio-economies institutional indices which combines the remaining four variables, that is, rule of law, control of corruption, government effectiveness, and regulatory quality this explain the indirect production cost in the host country as categorised by Zhang and Kim (2022). Rodrique-pose and Cols (2017) also divided the governance indicator into citizen right and government quality. The data are collected from world governance indicator (WGI)

The fourth sub-question investigate the role of financial institutions as determinants of FDI, this is divided into financial institution index (financial institution depth, access and efficiency) and financial institution market. We added the financial institution determinant to the traditional and control variable (see the data section for more detail). The next section describes the data that will be used in this study.

In this chapter quantile regression is also use as robustness check to capture the heterogeneity and non-linear effects of FDI determinants across different levels of FDI inflows. This approach complements the PPML technique use by providing more understanding of how institutional quality and financial development influence FDI in African Countries with varying investment profile.

3.4 Data and Descriptive Statistics

This section explained the data used in this study by discussing the dependent and independent variables, the summary statistics and the definition of variable. The next subsection explains the data.

3.4.1 Data

The analyses cover 51 African countries, from the period of 1996 to 2019. In some case, data availability restricts sample size and model specification, and the countries covered use in this research work are shown in the appendix (table A1). However, the countries excluded from this analysis are Somalia, South Sudan and Sudan because of missing data in these countries. South Sudan only became an independent state in 2011. The data collected covers the period 1996 to 2019 as one of the variables of interest has no data available until 1996 (i.e., the institutional quality determinant).

This research focuses on African countries due to the region, as a recipient of foreign direct investment inflows, was greatly ignored until the early 2000s (Asamoah et al 2016), even though various efforts and incentives to attract inflows of FDI were used (UNCTAD 1995 1996). Africa is characterised with low levels of infrastructure, poor institutional quality, and an absence of skilled labour, which are main hindrances to the inflow of FDI into African countries (Odusola, 2019; Benfratello et al 2019). Thus, Asiedu (2002) finds that the factors that attract FDI inflow to Africa are different from other regions and explained further that the structure of Africa is different from other parts of the world (Geda and Yimer 2023).

The variables used in this research to capture the determinants of FDI are explained in detailed below.

Dependent variable

In the literature, the measurement of FDI varies across empirical studies. The measures most used in the literature are outlined in table 3.1

Table 3.4.1.1 Commonly adopted measures of FDI

Dependent variable	Measures	Scholars
log of FDI inflow	Current US dollar	Ranjan & Agrawal 2011, Sabir et al 2019, Saha et al 2022.
FDI inflow	(% of GDP	Asiedu 2006; William, K. 2015, Phung, H.B. 2016; Liu et al 2020; Jude & Levieuge 2017
FDI stocks	Million dollars	Benassy-Quere et al 2007; Spatz and Nunnenkamp., 2002 ; Islam et al 2020, Yeboua 2019

This study will used the net FDI inflow measure in current US dollars to address the research sub-questions one to four proposed (i.e., in phase one). According to Rodríguez-Pose and Cols (2017) when not attempting to consider the past events that affect a country's FDI stock, the net FDI inflow provides a snapshot of the current situation and is preferred to stocks of FDI investments. However, as suggested by previous studies, Islam et al. (2020) explained that it is important to note that financial system development takes time, this is because of various formulations of policy, changes and their application, so it is vital and rational to used FDI stock than the annual FDI to capture the effect on FD on attracting FDI in long term scenario (Yeboua 2019). FDI stock shows all the investment in the past between countries, it is less volatile as it provides more stable FDI indicators, and this help in the analysis of Data that attract FDI over time. Thus, this study uses FDI stock to examine the determinant of financial development and institution as robustness check. This is to give a clearer view on the factors that attract FDI into Africa which will help policymaker to make more better policy for attracting more FDI into the region.

Thus, the dependent variable captures the net flows of investment in current US dollar made by foreign investors in a host country for the purposes of acquiring lasting management interests and is the standard measure for most FDI studies and for robustness check FDI stock inflow is used

for financial development and institutional quality determinant (Islam et al. 2020). The next sub-section explained the independent variables.

Independent variable (explanatory variables)

This section explains the variable of interest (i.e. for the traditional determinants, this study uses resources seeking, market seeking and efficient seeking variables) and control variables to examine the traditional determinants of FDI in Africa that will be used in this phase of the research. For full definitions, measures and sources of the variables used (see Appendix table B3).

Resource seeking

According to the literature, African countries are considered attractive destinations for investors that are resource-seeking due to the abundant natural resources in the region, which are pull factors for FDI inflows (Montero 2008, Asiedu 2006). It is vital to examine the impact of natural resources on FDI inflows into Africa countries considering our country selection. Lawrence et al., (2019) and Bokpin (2015) used total natural resources rent (% of GDP) as proxy for natural resources. Montero (2008), and Asiedu (2006) instead use fuel exports (% of merchandise exports). The two indicators are found to significantly affect to FDI inflows. Thus, since data are more readily available for the first indicator, we follow the work of Lawrence et al (2019) and we used total natural resource rent as the measure of natural resources as this capture a more comprehensive measurement of natural resources than the traditional dummy variable used to measure resources (Anyanwu and Yamaego 2016; Munjal et al. 2022)

Total natural resource rents (% of GDP) are the sum of oil rents, natural gas rents, coal rents (hard and soft), mineral rents, and forest rents (World bank 2022).

Market-seeking

The three main explanatory variables used in any FDI study are trade openness, market size and macroeconomic stability due to their significance in empirical studies and the theoretical argument (William 2015; Krifa-schneider and Matei 2010). Market-seeking investors considered the size of their host country, resource-seeking investors are concerned with open trade policy, and macroeconomic stability is seen as an essential precondition by the three types of investors to maximise return on investment. However, market size is widely used and accepted as a significant

FDI determinant (Chakrabarti 2001), while the other two remain under dispute. The three factors were included in the analysis, as these are considered as essential FDI determinants.

The variables that are widely used and is found to be statistically significant proxy for market size is GDP and GDP per capita. The different between the two variables is the interpretation, which is market size and consumer base of a country. Our studies focus on African countries where both population size and GDP greatly vary. Therefore, for this research work, the variable suitable for the proxy of market size in Africa is GDP per capita.

To empirically examine whether inflow of FDI into Africa countries is market-seeking we use GDP per capital as used by which is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. Data are in current U.S. dollars as use by (Safahati Adinda 2018; Glaister et al 2020) and GDP growth is the annual percentage growth rate of GDP at market prices based on constant US dollar used by (Munjal et al 2022). These two variables are a proxy for market size, and the source of the data is world bank.

Efficiency-seeking

Financial development has been investigated as a determinant of FDI inflows. This reflects a shift from resource-seeking to efficiency-seeking motives. Financial development's role in determining FDI inflows relates to funding of efficiency-seeking investors. Hence efficient seeking investors would prefer developed and freer financial market to reduce financial risk (Gouidar and Nouira 2014). They also rely on the host country domestic industries for intermediate products and inputs and a host country with better developed financial market will aid in creating backward linkages (Alfaro et al 2004). This research uses Svirydzenka's (2016) Financial Development Index. It captures both development of financial markets and financial institutions. It is therefore more comprehensive than the other financial development variables used in previous literature, such as Albulescu et al (2010).

Dunning (2000) refers to a cheap and large labour force as locational advantage of developing countries. As such, many empirical analyses have considered labour force significant in driving FDI inflow (Al-Sadig 2009; Shahmoradi and Baghbanyan 2011). The proxies of the labour force include the: labour force participation rate (Shahmoradi and Baghbanyan 2011); population stock

(Kok and Acikgoz Ersoy 2009; Shahmoradi and Baghbanyan 2011); population growth (Al-Sadig 2009); labour force growth (Noorbakhsh et al 2001). Thus, this study uses the labour force and human capital index to proxy unskilled and skilled labour respectively. The previous comprises people aged 15 and older who meet the International Labour Organization definition of the economically active population: all people who supply labour to produce goods and services during a specified period. It includes both the employed and the unemployed and the latter is human capital index which is as it is also used as proxy for efficiency-seeking motives.

The development of human capital is a crucial driver of FDI. Thus, skilled worker availability positively affects FDI inflows to developing countries, but the impact could vary depending on the activities of foreign firms (Kinda 2012). However, other empirical studies have found that only in developed countries does skilled labour affect FDI inflows, while it is not a significant determinant for developing countries (Urata and Kawai 2000). Mobile phones per 100 people is used as a proxy for infrastructure as efficiency-seeking motives require effective communication systems. The data is from World Development Indicators

Institutional Quality as a Determinant of FDI

Previous empirical studies have investigated the impact of institutional quality on FDI using indicators such as rule of law, property rights enforcement, government effectiveness, voice and accountability, and control of corruption, regulatory quality (Buchanan et al. 2012; Globerman and Shapiro 2002; Bénassy-Quéré et al. 2007).Poor institution can deter the inflow of FDI as this can lead to additional costs to FDI in case of corruption (Wei 2000) and due to high sunk cost, FDI can be affected by any form of uncertainty that may stem from poor government efficiency, weak enforcement of property right and policy reversals (Bénassy-Quéré et al. 2007). Asiedu (2006) in her analysis contents herself by examining rule of law influence and corruption levels rather than considering wider institutional effects.

In the literature the WGI and Economic Freedom Index are both widely use to investigate country institutional quality, this study uses WGI because these indicators are comprehensive coverage of the formal institutions as it comprises of several hundred variables from 30 underlying data source including EFI (Kaufmann et al. 2010). The WGI align with North (1990) conceptual essence of formal institutions and aligning with this concept is relevant to this study as the theoretical argument share the same assumption with north about economic transaction costs (Buckley and

Casson, 1976; Tang and Buckley 2022). According to Kostova et al., (2020) EFI has a "slight ideological bend." To provide more insight, this study construct institutional quality index uses the six governance indicators such as voice and accountability; political stability and absence of violence/ terrorism; government effectiveness; rule of law; control of corruption; and regulatory quality. While previous studies like Nondo et al. (2016) Sabir et al. (2019) Rodrique-Pose and Cols (2017) have employed these indicators but often limited to SSA, they have not capture full institutional landscape across the African region.

This indicator is further divided into political institution index (i.e. voice and accountability and political stability and absence of violence / terrorism) and socio-economics institutional index (government effectiveness; rule of law; control of corruption; and regulatory quality) as use by Zhang and Kim (2022). The governance indicators developed by Kaufmann et al. (2010) are used to create index for institutional quality variable using PCA (refer to 3.4.3, for the index breakdown), the data is obtained from WGI database. Each country score on these indicators is expressed in units of a standard normal distribution, ranging approximately from -2.5 (weak governance performance) to 2.5 (strong governance performance). These scores reflect aggregated perceptions from a wide range of source, including public and private sector organisations, non-governmental organisations, and individual citizens, thereby minimising regional and institutional bias.

The six indicators are defined according to World Bank, (2022) as follows: **Control of Corruption** shows perceptions of the extent to which public power is exercised for private gain, as well as the capture of the state by elites and private interests, including both petty and grand forms of corruption. **Government Effectiveness**: It is the perceptions of the civil service and quality of public service and the credibility of the government's commitment to such policies, the degree of its independence from political pressures, and the quality of policy formulation and implementation. **Political Stability and Absence of Violence/Terrorism** measure the likelihood of political instability and/or politically motivated violence, including terrorism. **Regulatory Quality**: This shows the ability of the government of a country to formulate regulations that permit and promote private sector development and implement sound policies in the country. **Rule of Law**: Shows the extent to which society rules is abide by agents and have confidence in the country quality of contract enforcement, the courts, police, likelihood of crime and violence and property right. **Voice and Accountability**: This captures the extent to which the citizen of a country can

take part in freedom of expression, free media, selection of their government and freedom of association.

These indicators collectively provide a robust framework for assessing institutional quality and its influence on FDI. Given that political instability, lack of government credibility, and poor institutional performance are frequently cited as barriers to investment in Africa (Onyeiwu & Shrestha, 2004), it is expected a prior that stronger governance performance across these domains will be positively associated with FDI inflows. However, institutional quality alone does not fully account for the locational attractiveness of host countries. Infrastructure encompassing availability, accessibility, and reliability plays a complementary and often decisive role in facilitating investment by reducing operational costs and enhancing connectivity. The following section outlines how infrastructure is measured and incorporated into the analysis

Infrastructural as a determinant of FDI

A robust body of literature has established the significance of infrastructure as a determinant of FDI. Previous studies have employed a variety of proxies to capture different dimensions of infrastructure, including mobile cellular subscriptions (Shahmoradi and Baghbanyan, 2018; Quazi, 2007), electric power consumption (Ranjan & Agrawal, 2011), electric transmission and losses (Jimenez, 2011), Internet access (Kok and Acikgoz Erosy, 2009), and fixed telephone subscriptions (Asiedu, 2006; Ranjan and Agrawal, 2011; William, 2015).

In Africa context, studies by Anyanwu and Yameogo (2015), Anyanwu (2011,2012), Musila and Sigue (2006) and Dupasquier and Osakwe (2006) highlight that the inflows of FDI in Africa are closely link to infrastructure development. These studies often use indicators such as the number of telephones mainlines or mobile phone subscriber per 1000 people, which reflect infrastructural availability.

Aligned with location-based theories and Dunning's (1980) OLI paradigm, infrastructure is recognised as a key locational advantage influencing FDI decisions. Well-developed infrastructure reduces operational costs, enhances productivity, and improves connectivity, thereby making host countries more attractive to foreign investors. This study operationalises infrastructure using three composite indices, each capturing a different dimension of the infrastructural environment:

Infrastructure Availability index: Measured by mobile phone subscriptions per 100 people and fixed telephone subscription per 100 people using PCA to create index. These indicators reflect

the general accessibility of communication infrastructure, which is essential for business operations and market integration. **Infrastructure Accessibility index:** measure by PCA of access to electricity % of population, electric power consumption kwh per capital, electric production % of total. Gross Fixed Capital Formation (GFCF, as a percentage of GDP) is use as a single indicator to capture accebilility, this dimension reflects the extent to which firms can access essential services and capital assets required for production and expansion.

Infrastructure Reliability index: Measured by PCA of internet user and individual using the internet (percentage of individuals using the internet), this proxy reflects the consistency and quality of digital infrastructure, which is increasingly critical for modern business operations, particularly in service-oriented and technology-driven sectors.

In addition to these composite indices, several individual infrastructure variables are included in in the analysis. According to World Governance Indicator (2022), the infrastructure variable is defined below:

Mobile cellular subscriptions (per 100 people): Mobile cellular telephone subscriptions are subscriptions to a public mobile telephone service that provide access to the PSTN using cellular technology. The indicator applies to all mobile cellular subscriptions that offer voice communications. **Gross fixed capital formation (% of GDP**): Gross fixed capital formation (formerly gross domestic fixed investment) includes land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings.

Individuals using the Internet (% of population): Internet users are individuals who have used the Internet (from any location) in the last 3 months.

Internet user: These are people with access to worldwide network (ITU 2022)

Transport services (% of service imports, Bop): Transport covers all transport services (sea, air, land, internal waterway, pipeline, space and electricity transmission) performed by residents of one economy for those of another and involving the carriage of passengers, the movement of goods (freight), rental of carriers with crew, and related support and auxiliary services.

Access to electricity (% of population): it is the percentage of population having access to electricity. E**lectric power consumption kwh per capital** is the average electricity consumed per person and **electric production % of total** is the percentage share of total electricity that come sources like coal, oil, natural gas, renewable and nuclear. Together, these indicators provide a comprehensive framework for assessing the multifaceted role of infrastructure in shaping FDI inflows in Africa. However, beyond physical infrastructure, the development of financial systems is equally critical in attracting and sustaining foreign investment. Financial development enhances access to capital, facilitates efficient resource allocation, and supports investor confidence. The next section examines the indicators used to capture financial development and its influence on FDI.

Financial Development Indicators as a determinant of FDI

The role of financial development in attracting foreign direct investment (FDI) has been widely acknowledged in the literature. Previous studies have employed various indicators to measure financial development, including domestic credit provided to the private sector by banks, quasi money, broad money, and liquidity liabilities (Ezeoha, 2012; Alfaro et al., 2004; Levine et al., 2000; Chen & Quang, 2014).

To address the limitations of using single indicators, this study adopts the comprehensive Financial Development Index developed by Svirydzenka (2016). This index provides a multidimensional assessment of financial development and is divided into two main components: the **Financial Institutions Index** and the **Financial Market Index**. While both indices are included in the analysis, only the Financial Institutions Index is further disaggregated into depth, access, and efficiency due to the study's specific focus on financial institution.

The data is obtained from IMF. The financial institution variable includes Financial Institution Depth (FID), Financial institution Access (FIA), Financial Institution Efficiency (FIE), Financial Institution Index (FII), Financial Market Index (FMI). The definitions of each are outlined below.

Financial Institution Depth (FID): Incorporates traditional banking depth measures such as bank credit to the private sector, along with broader financial metrics including the ratio of insurance premiums (life and non-life) to GDP, mutual fund assets to GDP, and pension fund assets to GDP.

Financial institution Access (FIA): Measures the availability of financial services through indicators such as the number of commercial bank branches and ATMs per 100,000 adults.

Financial Institution Efficiency (FIE): Captures three dimensions of banking efficiency this includes: Intermediation efficiency (net interest margin, lending-deposit spread), Operational efficiency (non-interest income to total income, overhead costs to total assets) and Profitability (return on assets, return on equity)

Financial Institution Index (FII): A composite index combining FID, FIA, and FIE to provide an overall measure of financial institution development

Financial Market Index (FMI): This comprises of ratios of stock market capitalization to GDP; stock traded to GDP; international debt securities of government to GDP; total debt securities of financial corporations to GDP; total debt securities of nonfinancial corporations to GDP. Other measures included are percent of market capitalization outside of top 10 largest companies; total number of issuers of debt (domestic, external, nonfinancial, and financial corporations); and market turnover (stock traded to capitalization).

This study adopts the IMF's Financial Development Index, which defines financial development across three dimensions: depth, access, and efficiency for both financial institutions and financial markets. These dimensions are selected based on their empirical relevance and consistency with the IMF's composite index methodology. Some frameworks, such as the World Bank's Global Financial Development Database, include financial stability as a fourth dimension. There are limitations relating to the timeframe and the availability of relevant data for African countries, with much of the data on financial stability only becoming available in more recent years. In addition, it is not part of the IMF's composite index. Given these restrictions financial stability is excluded from this analysis. This ensures methodological consistency and alignment with the data structure used in the thesis.

While financial development plays a critical role in facilitating investment through improved access to capital and efficient financial intermediation, it is also important to account for other factors that may influence FDI inflows. To ensure robustness and reduce omitted variable bias, this study incorporates a set of control variables commonly used in the literature. These controls

help isolate the effects of institutional quality, infrastructure, and financial development by accounting for macroeconomic and structural characteristics of host countries.

Control Variables

To ensure robustness and account for other macroeconomic factors that may influence FDI inflows, this study includes a set of control variables commonly used in the literature. These variables help isolate the effects of institutional quality, infrastructure, and financial development by controlling for broader economic conditions.

Inflation: A stable economic environment reduces investment risk and enhances the attractiveness of host countries to foreign investors. In this study, inflation measured by the consumer price index is used as a proxy for macroeconomic instability, following previous research (Shah & Khan, 2016; Anyanwu, 2015; Ali et al., 2010; Buckley et al., 2007).

Openness: Foreign investors tend to favour economies with liberal trade policies over those with restrictive trade environments. Openness is therefore considered a key factor in promoting FDI inflows. It is measured as the sum of exports and imports of goods and services, expressed as a percentage of GDP (see Appendix for data sources and definitions).

ln addition to the core explanatory variables, the inclusion of control variables ensures a more robust analysis by accounting for macroeconomic conditions that may influence FDI inflows. With all variables defined, the next section presents the descriptive statistics, offering an overview of the distribution, central tendencies, and variability of the dataset used in this study.

3.4.2 Descriptive Statistics

The descriptive statistics presented in Table 3.4.2.1 provide important insights into the characteristics of the dataset and the economic environment of African countries. The institutional index and financial development index show low average values of 0 and 0.14, respectively, indicating that many African economies are characterised by weak governance structures and underdeveloped financial systems. These structural limitations may hinder investor confidence and reduce the attractiveness of the region for foreign direct investment (FDI). The average logged FDI (LnFDI) is 18.89, while the unlogged FDI is 7.19 USD, suggesting that FDI inflows into Africa remain relatively modest. This aligns with broader concerns about the continent's ability to

attract sustained foreign investment. The average GDP per capita (LnGDPPC) of 6.98 further reflects the relatively small market size of many African countries, which may limit the scale of investment opportunities.

Trade openness, with an average of 70.9%, indicates that African economies have made significant strides in liberalising trade since the 1990s. This openness could serve as a compensating factor for other structural weaknesses. However, the average inflation rate of 16.86% highlights persistent macroeconomic instability, far exceeding the global benchmark range of 3–6%. Such volatility may deter long-term investment.

The average GDP growth rate of 4.53% suggests moderate economic expansion, while mobile phone usage at 41.13% reflects growing access to communication infrastructure, which is increasingly relevant for business operations. Together, these statistics underscore the complex interplay between institutional quality, financial development, and macroeconomic conditions in shaping FDI inflows across African countries.

Table 3.4.2.1 Descriptive statistics for FDI determinant in Africa

Variable	Obs	Mean	Std. Dev.	Min	Max
lnFDI	1151	18.89	2.154	9.903	23.172
FDI	1163	7.187	1.414	0	1.158
LnGDPPC	1207	6.981	1.119	4.63	10.041
Inflation	1183	16.86	162	-31.6	480
Humancap	1224	1.772	.379	1.05	2.939
GDP growth	1183	4.533	8.011	-62.0	149
Mobile	1213	41.13	44.2	0	198
Naturalres	1201	11.38	11.97	.001	67.9
Lnlaborforce	1184	14.86	1.561	10.596	17.9
Openness	1224	70.9	35.7	20.7	347.9
Transport	1224	41.7	15.53	1.547	89.6
Inst.qual	1069	0	1	-2.037	2.921
Financial devpt	1200	.14	.104	.003	.643

Table 3.4.2.2 presents the correlation matrix for the key variables used in the analysis. The results show a strong positive correlation between financial development and institutional quality (r = 0.675), suggesting that countries with better governance tend to have more developed financial systems. FDI is positively correlated with financial development (r = 0.372), mobile usage (r = 0.288), and GDP per capita (r = 0.284), indicating that economic and technological factors play a

role in attracting investment. Notably, inflation shows weak and mostly negative correlations with other variables, reinforcing its role as a proxy for macroeconomic instability. The negative correlation between transport infrastructure and FDI (r = -0.101) may reflect inefficiencies or underinvestment in logistics systems. These relationships provide preliminary insights into the dynamics influencing FDI inflows and support the inclusion of these variables in the regression analysis.

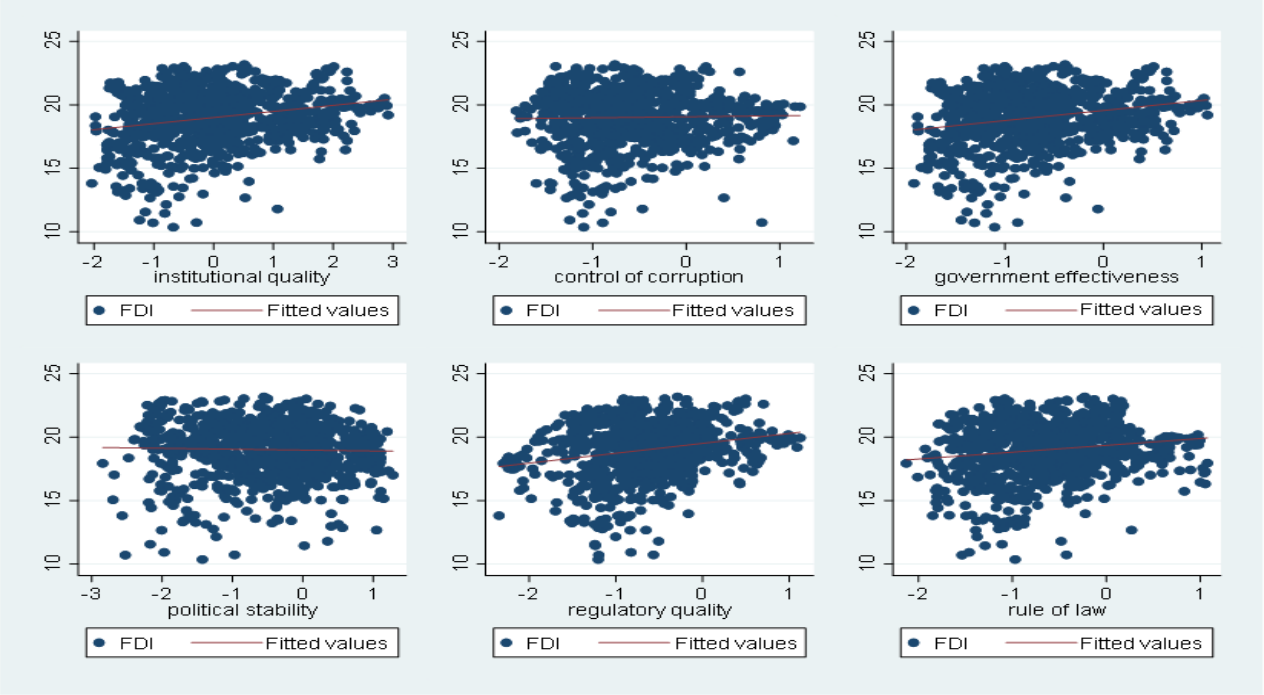
Table 3.4.2.2 Correlation Matrices Pairwise correlations

Variable	lnFDI	FDI	lnGDP per cap	Inflation	Hum ancap	GDP growth	Mobile
lnFDI	1						
FDI	0.6178	1					
LnGDP per cap	0.4148	0.2836	1				
Inflation	-0.0008	-0.0129	-0.0552	1			
Humancap	0.2889	0.245	0.5765	-0.0521	1		
GDP growth	0.0989	0.0324	-0.0027	-0.0012	-0.057	1	
Mobile	0.4156	0.2876	0.6123	-0.0602	0.4686	-0.0665	1
Naturalres	0.1719	0.1269	0.0302	0.107	-0.0787	0.135	-0.0552
lnlaborforce	0.5185	0.4177	-0.2302	0.0425	-0.0818	-0.0124	0.0528
Openness	0.1257	-0.0391	0.4774	-0.0163	0.2499	0.0097	0.2492
Transport	-0.1182	-0.1009	-0.2378	-0.0592	-0.2338	0.0518	-0.1066
Inst.qual	0.2278	0.1052	0.4063	-0.0524	0.3822	0.031	0.2884
Financial devpt	0.3543	0.3715	0.5914	-0.0245	0.5535	-0.0309	0.4383
Variable	Naturalres	lnlaborforce	Openness	Transport	Inst.qual	Financial devpt	
Natural	1						
lnlaborforce	0.0786	1					
Openness	0.0721	-0.3805	1				
Transport	-0.1695	0.005	-0.1741	1			
Inst.qual	-0.4861	0.0354	0.2074	-0.1144	1		
Financial devpt	-0.2946	0.1042	0.2594	-0.2092	0.6751	1	

Table 3.4.2.2 above presents the correlations between the dependent variable and the independent variables. This allows any problem of multicollinearity between the independent variables to be identified. see appendix Tables A1 to A3 for the descriptive statistics and correlation matrices of the other variables of interest used in this study. While the correlation matrix provides a useful overview of the linear relationships among variables, visualising these associations can offer deeper insights into the nature and strength of the connections. To further explore the role of institutional quality in shaping FDI inflows, the following graph illustrates the relationship

between FDI, and the institutional determinant used in this study. This visual representation helps to assess patterns, trends, and potential nonlinearities that may not be evident from the correlation coefficients alone.

Figure 3.4.2.1 Graph showing the relationship between FDI and the institutional determinant used in this study.



Source: World Governance Indicators (2022)

The figure above shows the relationship between FDI and the institutional determinants as use in this study, the institutional determinants shown in the figure includes the institutional quality index which include the PCA of the six governances' indicators and show also each measure of institutional determinants. The red line is the line of best fit which is used to know the relationship between two variables. The figure shows that there is a relationship between FDI, and institutional determinants and the relationship is positive which implies that an improve institutional quality will increase FDI inflow as argued by North (1990) and previous studies (Sabir et al 2019). The next subsection explains the institutional quality determinants as calculated by the PCA.

3.4.3 Principal Component Analysis (PCA) Techniques

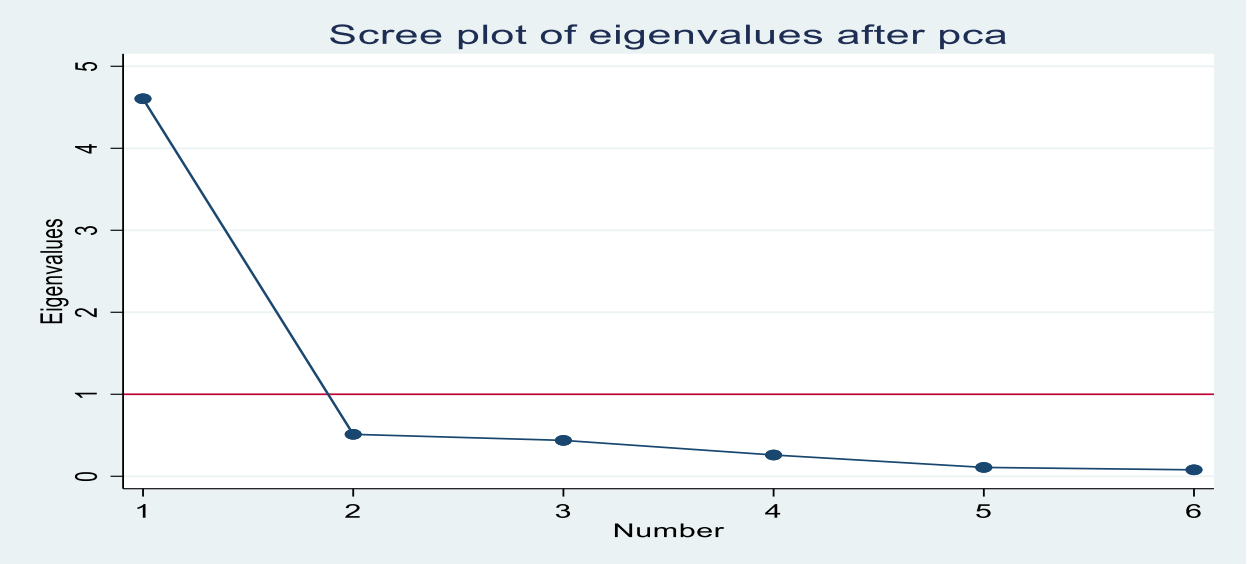
According to Ullah and Khan (2017), incorporating all institutional quality indicators directly into a single regression equation is problematic due to high multicollinearity, as these variables are highly correlated. This issue has been widely acknowledged in the literature, with several studies opting for dimensionality reduction approaches such as PCA to construct composite indices (Sabir et al., 2019; Rodriquez-Pose and Col, 2017; Buchanan et al. 2012; Daude and Stein 2007; Globerman and Shapiro 2002). PCA enables the transformation of correlated institutional indicators into orthogonal components, preserving the underlying structure of the data while minimizing information loss. This methodological approach is particularly relevant for African economies, where institutional indicators often exhibit strong interdependence. Hence, this study constructs robust institutional indices that enhance model parsimony and reduce estimation bias, by applying PCA. Thereby, supporting a more reliable inference regarding the determinants.

Therefore, to use the six governance indicators in this study, principal component analysis (PCA) is used to construct an institutional quality index (i.e., inst.qual index) for the six variables by combining the six variables with minimal loss of the original data. Thus, Jolliffe (2002) and Kaiser (1974) state that eigenvalue greater than one with a common factor or mean should be retains and this apply to retain common factors. The PCA eigenvalue of the first component is greater than 1 (4.604 >1) and the other components eigenvalue is not more than 1. The study uses the eigen-vectors of the first component, since it explains 77% (see Table A4 and figure 3.4.2) of the original variable variation, this is also use by Gebre Borojo and Yushi (2020).

To enhance conceptual clarity and econometric robustness, the six worldwide governance indicators (WGI) employed in this study are classified into two distinction dimensions with the use of PCA: the first is political governance institution (i.e. pol inst. index), this is the combination of voice and accountability and political stability. The PCA of the first component is use as eigenvalue is greater than 1 (1.515 >1) and it explained 76% variation of the original data (see Table A7 and figure 3.4.4). These indicators reflect the legitimacy and predictability of the institutional environment, and it captures democratic participation, civil liberties, and the risk of political instability which are critical for long-term investment. The second is socio- economies institutional governance (socio-economic inst. Index) which include the remaining four variables: rule of law, control of corruption, government effectiveness and regulatory quality. These

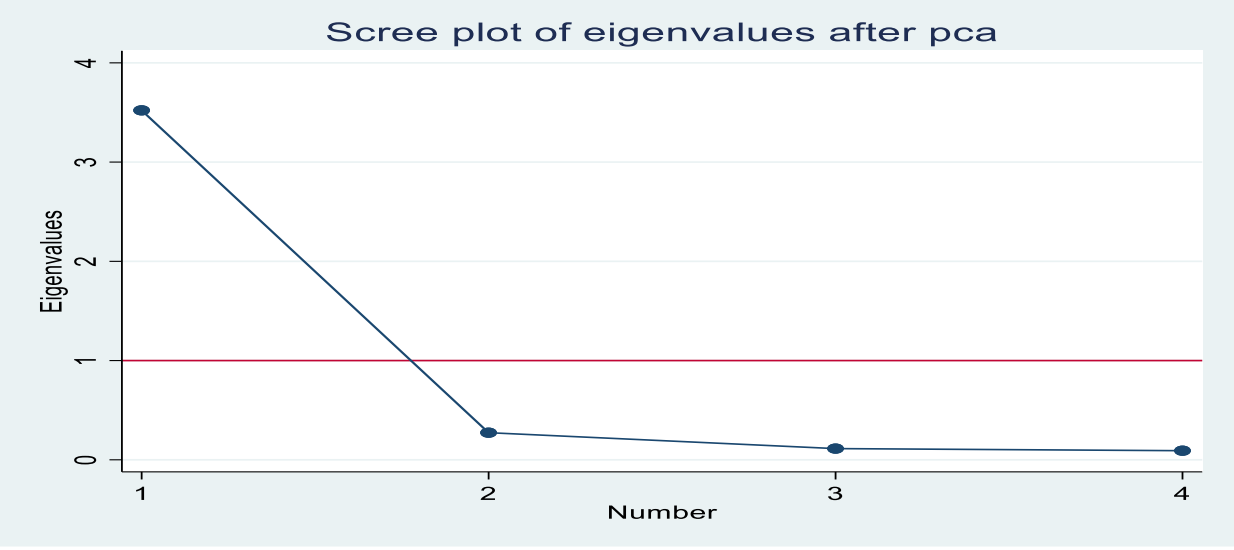
indicators measure the capacity of the state to deliver public service, enforce contracts, and maintain regulatory integrity, factors that directly influence transaction cost and investor confidence. The PCA of the first component is used, as the eigenvalue exceeds 1 (3.52>1), and it explains 88% of the variation of the original data (see Table A6 and Figure 3.4.3).

Figure 3.4.3.1 The principal component scree plot of Eigenvalues for the institutional Quality



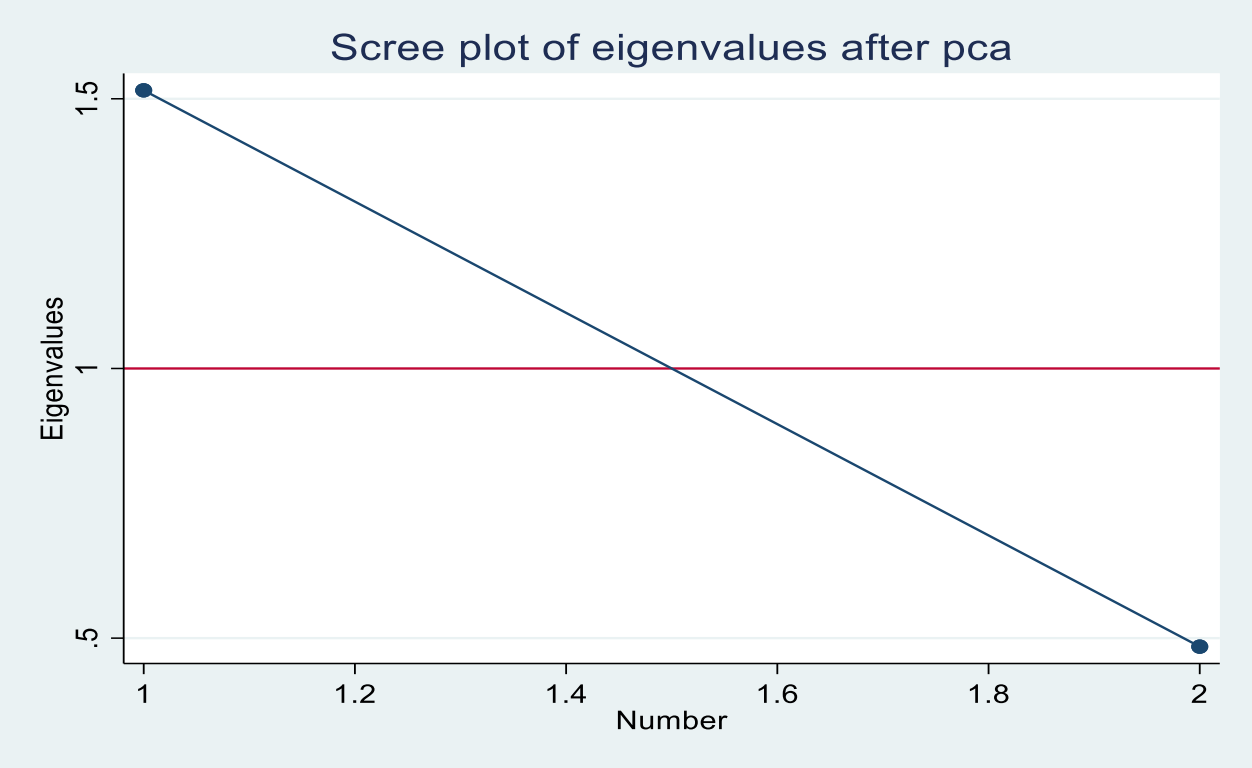
Source: Author's calculations based on World Governance Indicator (WGI)

Figure 3.4.3.2 The principal component scree plot of Eigen values for the socio-economic institution



Source: Author's calculations based on World Governance Indicator (WGI)

Figure 3.4.3.3 The principal component scree plot of Eigen values for the Political institution



Source: Author's calculations based on World Governance Indicator (WGI)

3.5 Method and Model

This section outlines the method of analysis and model used in the research. The first step is to describe the method used, followed by detailing the model specification.

3.5.1 Method of Empirical Analysis

This study employs a rigorous econometric technique to investigates the determinants of FDI in 51 African countries over the period 1996 – 2019 using panel data. Panel data, which integrates both cross-sectional and time series dimensions, is particularly well- suited for examining changes across countries over time. As Stock and Watson (2015) highlight, this method is effective for that datasets involve multiple entities (denoted as "n") observed over several time period (denoted as "t").

In panel data analysis, multiple entities are observed (like countries, firms, or individuals) over time periods. The equation is presented below as:

$(X_{it}\ Y_{it}),\ \ i = 1 \ldots n;\ \ t = 1 \ldots t$ (3.5.1.1)

Here, Xit and Yit represent variable (e.g. independent and dependent variables) respectively, for entity i in time t.

$i = 1 \ldots n$ is there are n entities (e.g. 51 African countries)

$t = 1 \ldots t$ mean each entity is observed over T time periods (e.g. from 1996 to 2019)

so, $(X_{it}\ Y_{it})$, describes the value of variables for each country I at each year t

Panel data analysis enables the examination of variable effects over time, offering a richer structure than purely cross-sectional or time-series approaches. It can mitigate multicollinearity between endogenous and exogenous variables. Particularly when modelled appropriately. Additionally, it increases the degree of freedom and enhance statistical efficiency due to larger number of observations. Panel data techniques are generally robust across varying sample sizes and, importantly, allow for the control of unobserved heterogeneity an advantage not typically afforded by standard cross-section or time-series method (Baltagi 2005; Khachoo et al 2012; Liu et al 2020).

Hence, equation 3.5.1.1 is incorporated into a panel data linear model with explanatory variables, as expressed in equation 3.5.1.2

$$Y_{it} = \propto + \beta X_{it} + u_{it} \qquad (3.5.1.2)$$

Where;

Y_{it} is the independent variable for country i at time t

X_{it} represents the explanatory variable (s)

$\propto$ is the intercept,

β is the coefficient of the explanatory variables

u_{it} is the error term.

In the model, i=1,…,51 denotes the cross-section units (Africa countries), and t = 1,…,24 represents the time periods from 1996 to 2019.

The methodological framework use in this study is informed by Dorakh (2020), who employed various model specification including fixed effects, random effects, negative binomial regression, and Poisson Pseudo Maximum Likelihood (PPML) to investigate the determinants of foreign direct investment (FDI) within the European Union. Dorakh concluded that the fixed effects and PPML estimators were most appropriate for both log-transformed and level data in the context of new EU member states.

Building on this approach, the present study applies a multiple econometric techniques to estimate the baseline determinants of FDI in Africa. These include Pooled Ordinary Least Squares (POLS), fixed effects with country specific intercepts, Least Squares Dummy Variable (LSDV) models, PPML, PPML with country effects, and PPML with both country and time effects. The most appropriate model is then selected to investigate the key variables of interest namely institutional quality, infrastructure, and financial development as determinants of FDI inflows to African countries.

The first method employed is the traditional Pooled Ordinary Least Squares (POLS) regression, also referred to as the common constant model. This approach assumes homogeneity across cross-sectional units, treating all entities as identical and ignoring any country-specific characteristics (Gujarati, 2022; Asteriou & Hall, 2006). The POLS model is specified as:

$$Y_{it} = \beta_o + \beta_1 X_{it} + \beta_2 Q_{it} + u_{it} \qquad (3.5.1.3)$$

Where, Y_{it} is the dependent variable for country I at time t,

. β_o, β_1 , β_2 are coefficient to be estimated,

Xit is the independent variable,

Qit is the control variable and uit is the error term

While POLS provides a useful baseline, it suffers from several limitations. This is its inability to account for unobserved country-specific heterogeneity. This can lead to omitted variable bias and inefficiency in cross-country regression analyses (Islam et al., 2020). Additionally, it assumes that

the relationship between FDI and explanatory variables is uniform across all countries, which is unlikely given the diverse economic and institutional contexts within Africa

To address these limitations, the second model incorporates country fixed effects using the Least Squares Dummy Variable (LSDV) approach. This method allows each country to have a distinct intercept, thereby controlling for unobserved heterogeneity through the inclusion of country-specific dummy variables.

In regression analysis, it is essential to address heteroscedasticity, where the variance of the error term may depend on one or more explanatory variables. This violates the classical assumptions of OLS and can result in biased and inconsistent estimators. Additionally, the presence of zero-valued FDI observations poses a challenge for log-linear models, as logarithmic transformation requires positive values. Dropping zero observations can introduce sample bias and reduce the representativeness of the dataset (Gómez-Herrera, 2013).

To overcome these issues, the study employs the Poisson Pseudo Maximum Likelihood (PPML) estimator, as proposed by Santos Silva and Tenreyro (2006, 2011). PPML is particularly well-suited for datasets with a proportion of zero observations, as it does not require log transformation and is robust to heteroscedasticity and model misspecification. It also accommodates the multiplicative nature of the model and provides consistent estimates even in the presence of heterogeneity (Westerlund & Wilhelmsson, 2011; Jacimovic et al., 2018; Borojo & Yushi, 2020). However, PPML does not accommodate negative values. and the dataset includes instances of negative net FDI inflows. To maintain methodological consistency and focus on FDI inflows rather than disinvestment, 62 observations (approximately 5% of the sample) were excluded. This exclusion is justified and aligns with the approach taken by Vasilyeva and Mariev (2021), who similarly focused on positive FDI flows.

To determine the most appropriate model, the study compares the performance of each estimator using statistical criteria such as goodness-of-fit measures and robustness checks. Where applicable, tests such as the Hausman test are used to choose between fixed and random effects. The final model selection is based on its ability to accurately capture the relationship between FDI and the explanatory variables, while addressing key econometric concerns such as heterogeneity, heteroscedasticity, and sample bias (see section 3.5.3 for the diagnostics test)

To complement the PPML estimation and address the limitations of the mean-based models, this study employs quantile regression as a robustness check. Quantile regression allows for the examination of how the effects of FDI determinants such as infrastructure, institutional quality, and financial development vary across different levels of FDI inflows. This is particularly relevant in the African context, where FDI distribution is highly heterogeneous across countries. By capturing the nonlinear relationships and distributional effects, quantile regression provides a more nuanced understanding of the investment climate and reveals whether certain determinants exert stronger influence in low- FDI versus high-FDI environments. (see section 3.7 for robustness estimates). The following section explains the model specification.

3.5.2 Model Specification

Building on the panel data framework outlined in the preceding methodology section, this study applies a log-linear transformation to most variables to address issues of skewness and to facilitate interpretation of elasticities. Specifically, all continuous variables are transformed into their natural logarithmic form, except for those expressed as percentages or ratios, which remain in level form. This approach is consistent with the methodology adopted by Islam et al. (2020). Accordingly, in the Ordinary Least Squares (OLS) and Least Squares Dummy Variable (LSDV) models, the dependent variable FDI inflows is expressed in natural logarithmic form. However, in the Poisson Pseudo Maximum Likelihood (PPML) estimation, the dependent variable is retained in its level form, in line with the recommendations of Santos Silva and Tenreyro (2006).

Several studies have used comparable model setups to examine FDI determinants. For example, Saha et al. (2022) applied a dynamic panel model to assess the role of institutional quality in lower-middle-income countries, while Sabir et al. (2019) investigated macroeconomic and institutional factors influencing FDI in developing economies. These studies typically include variables such as market size, trade openness, inflation, and institutional quality. Building on this foundation, the present study extends the model in three key ways:

First, while Sabir et al., (2019) include one indicator of infrastructure, the model incorporates infrastructure variables, specifically mobile subscriptions and transport indicators, based on the eclectic paradigm (Dunning, 1980) and location theory, which suggest that infrastructure enhances

a country's locational advantages by reducing transaction costs and improving operational efficiency for foreign investors. Second, the model includes the Financial Development Index, disaggregated into the Financial Institutions Index and the Financial Markets Index, to capture the depth, access, and efficiency of financial systems. This inclusion is grounded in the finance-growth-FDI nexus, which posits that a well-functioning financial sector facilitates investment by improving capital allocation, reducing risk, and supporting economic stability (Alfaro et al., 2004; Dutta & Roy, 2009).

Third, the model retains traditional FDI determinants such as GDP per capita (market size), GDP growth (economic performance), labour force size (efficiency-seeking), natural resources (resource-seeking), human capital (skilled labour), inflation (macroeconomic stability), and trade openness (liberalisation). Institutional quality is also included, reflecting the importance of governance, regulatory frameworks, and political stability in shaping investment decisions (North 1990; Dunning and Lundan 2008).

The model also includes traditional FDI determinants such as GDP per capita (market size), GDP growth (economic performance), labour force size (efficiency-seeking), natural resources (resource-seeking), human capital (skilled labour), inflation (macroeconomic stability), and trade openness (liberalisation).

The baseline model is specified as follows:

$$lNFDI_{it} = \beta_0 + \beta_1 lnGDPPer\ Cap_{it} + \beta_2 Mobile_{it} + \beta_3 GDPgrowth_{it} + \beta_4 Naturalres_{it} + \beta_5 lnlaborforce_{it} + \beta_6 Openness_{it} + \beta_7 Inflation_{it} + \beta_8 Humancap_{it} + \beta_9 Transport_{it} + \varepsilon_{it} \quad \textbf{(3.5.2.1)}$$

To account for unobserved heterogeneity across countries and over time, the model in equation (3.5.2.1) is extended as:

$$\boldsymbol{lNFDI_{it} = \beta_0 + \beta_1 lnGDPPer\ Cap_{it} + \beta_2 Mobile_{it} + \beta_3 GDPgrowth_{it} + \beta_4 Naturalres_{it} + \beta_5 lnlaborforce_{it} + \beta_6 Openness_{it} + \beta_7 Inflation_{it} + \beta_8 Humancap_{it} + \beta_9 Transport_{it} + U_t + Z_i + \varepsilon_{it}}$$

(3.5.2.2)

The variable in model 1 includes the traditional determinants of FDI,

where

LGDPpercap is the log of GDP per capital serving as a proxy for market size, (market seeking) Mobile and Transport indicators of infrastructural quality, representing communication and transport infrastructure respectively. *lnlaborforce* log of labour force. Capturing (efficient seeking) motives, *Naturales* - Availability of natural resources reflecting resource seeking FDI, *GDP growth* proxy for market development and economic dynamism, *Openness* and I*nflation* is control variable representing trade liberalisation and macroeconomic stability and human capital index proxy for skilled labour. $\boldsymbol{\beta_0}$ is the intercept and $\boldsymbol{\varepsilon_{it}}$ is the error term in country *i* and *t* time. The $\boldsymbol{U_t}$ is the time effect while the $\boldsymbol{Z_i}$ is the country effect.

Adding the variable of interest to the traditional determinant in equation (3.5.2.2) including country and time effect using PPML with county and fixed effect. The model is written as

$$\boldsymbol{FDI_{it} = \beta_0 + \beta_1 lGDPPer\ Cap_{it} + \beta_2 GDPgrowth_{it} + \beta_3 Naturalres_{it} + \beta_4 inlaborforce_{it} + \beta_5 Openness_{it} + \beta_6 inflation_{it} + \beta_7 Infras_{it} + \beta_8 Inst.qual_{it} + \beta_9 financialdevp_{it} + U_{it} + Z_{it} + \varepsilon_{it}}$$

(3.5.2.3)

In equation 3.5.2.3 above the variable of interest added is *Infras* which is used to measure infrastructural determinant. *Inst.qual* which is used to measure the index of institutional determinants, and *Financialdevp is* used to measure financial institution and financial market this is explain in detail in the data and description section.

This extended model provides a comprehensive framework for analysing the multifaceted drivers of FDI in Africa, combining traditional economic indicators with institutional and financial dimensions to reflect the complexity of investment decisions in the region.

3.5.3 Diagnostics Test

This section outlines the diagnostic tests conducted to determine the most appropriate econometric model for analysing the determinants of FDI in Africa. The first diagnostic test is the F-test for the joint significant of the fixed effect which evaluates whether the inclusion of country-specific intercepts improves model fit. The result, F (49,1002) =14.23 and prob>F is 0.000 which is highly significant indicates that the fixed effect model (LSDV) is statistically superior to the POLS method.

To further assess model suitability, Lagrange multiplier test (Breush-pagan) test was conducted to compare the random effect over the POLS model. The test yield chibar2 (01) is 1017.96 with prob >chibar2 is 0.000, suggesting the random effect model is preferable to POLS. Subsequently, the Durbin-Wu-Hausman test was employed to choose between fixed and random effects. The test produced a chi-square statistic of 35.37 with P> chi2 is 0.000,the fixed effect model is more appropriate, as it accounts for unobserved heterogeneity across countries.

To test for heteroskedasticity in the fixed effect model, the Modified Wald test for groupwise heteroskedasticity was applied. The result chi2(47) 1245.67 with prob>chi2 0.000 indicate the presence of heteroskedasticity. Additionally, the Breusch-Pagan/ Cook-Weisberg test was conducted using the independent variable and the F-Statistics, yielding F (9,1051) = 8.16 with prob > F = 0.000, further confirming heteroskedasticity in the data. To address these issues, the study adopts the Poisson Pseudo Maximum Likelihood (PPML) estimator with country and time fixed effects. PPML is robust to heteroskedasticity, accommodates zero-valued observations without requiring log transformation, and provides consistent estimates even in the presence of model misspecification. to solve this problem the Pseudo Poisson Maximum Likelihood (PPML) approach is used with country and time effect which displays robustness and a good fit of the model.

For assessing sampling adequacy, the Kaiser-Meyer-Olkin (KMO) test was conducted (see Table B1). The overall KMO value indicates that 70% of the variance in the data is explained by the

underlying factors, with all individual variables scoring above the acceptable threshold of 0.5. This confirms the suitability of the sample for factor-based analysis.
These diagnostic tests collectively justify the use of the PPML estimator with fixed effects as the most appropriate and robust method for analysing the determinants of FDI in Africa.

3.6 Empirical Analysis of the determinant of FDI in Africa

This section discusses the results in this study. Table 3.6.1.1, 3.6.2.1, 3.6.1 and 3.6.4.1 present the result for the regression analysis of the traditional determinants of FDI, infrastructural determinants, institutional determinants, and financial institutional determinants of FDI in Africa, respectively.

Table 3.6.1.1 presents the empirical results addressing the first sub-research question, which investigates the traditional determinants of FDI into African economies. Columns 1 to 3 presents estimates where the dependent variable (FDI) is expressed in natural logarithmic form, while columns (4) to (6) the dependent variable is in level to handles Zero FDI. Column (1) shows the baseline result from the Pooled Ordinary Least Square (POLS) estimation. In column (2), country fixed effects are incorporated to account for unobserved heterogeneity across countries. Column

(3) further extends the model by including both country fixed and time effects, due to the limitations inherent in the POLS approach (see section 3.5.1). to address the problem of heterogeneity as the Lagrange Multiplier (LM) test indicated the presence of heterogeneity which may lead to estimation bias (see section 3.5.3 for details)

Furthermore, the modified Wald test is used to test for heteroskedasticity with the result Prob > 0.000), showing the presence of groupwise heteroskedasticity (see section 3.5.3). To solve the problem of heteroskedasticity and zeroes in the dependent variable we used the Poisson Pseudo Maximum Likelihood (PPML) in column (4) and added country and time fixed effects in columns (5) and column (6) respectively.

The results shows that GDP per capital (LnGDP per cap) is positive and statistically significantly associated with FDI in African countries in columns (1) – (6) at 1%. This implies that African countries with a large market size will attract more FDI. The finding is consistent with the electic theory of FDI (Dunning 2000) and the findings of Kurul and Yalta (2017), Hakizimana (2015),

Sabir et al (2019), Jurcic et al (2020), and Saha et al 2022). In column (6) the coefficient of LnGDP per cap is (0.880) showing a 1% increase in GDP per capital will increase the inflow of FDI into Africa countries by average of 0.88% holding all other factors constant. Thus, this shows that Africa attracts market-seeking FDI.

Mobile connections (mobile) have a positive effect significant at the 1% level in column (1), which implies that an increase in mobile phones to disseminate information will attract FDI inflow into the African region. 0.001 unit and however, mo*bile* is negative and insignificant in columns (2, 3,5 and 6) once time and country effects are added to the model. The negative effect reflect how fixed effect might be changing the relationship captured in the estimation.

In columns (1-3) GDP growth is positive and statistically significant this is consistent with the theory and literature on FDI and the work of Adinda (2018) and Onyeiwu and Shrestha (2004), which implies that market growth determined FDI inflow into the African region. However, in columns (4-6) it is positive but statistically insignificant when the time and country effect are added this may reflect the uncertainty of the global economic conditions that can result to inadequate infrastructure, political instability and conflicts which can overshadow the GDP growth in determining the inflow of FDI in Africa as investors will want to invest in a more stable environment in order to make profit and ensure their investment safety. This consistent with the work of (Munjal et al 2022).

In columns (1, 2, 4) natural resources **(**Naturalres) are positive and significant which is consistent with FDI theory and some findings in the literature (Bokpin 2015). It implies that resource seeker investors are attracted to Africa region. Columns (3,5,) shows that FDI is positive and insignificant and in column (6) is negative and insignificant.

In column (1-6) log of labour force **(**lnlaborforce) is positive and statistically significant at the 1% level consistent with the theory of Dunning (2000). This is consistent with the hypothesis that FDI inflow into African is efficient seeking.

In column (1-6) openne**ss** is positive and statistically significant at the 1% level. This implies that more open economies countries create increased market demand for their goods that increase the volume of trade and investor benefits. Thus, an increase in openness in Africa countries will attract

FDI inflow into the region. Furthermore, the inflow of FDI into African countries depends on the degree of economic integration of countries into the world economy in the African region, foreign investors are motivated through access to international market to source inputs for their production process and the possibility and ability to exporting their production. This finding consistent with the eclectic theory of FDI and previous literature (Bouchoucha and Benammou 2020; Sabir et al 2019, Julio et al 2013, Mathur and Sing 2013, Busse and Hefeker 2007, Egger and Winner 2005).

In columns (1-4), macroeconomic stability, inflation is negative and insignificant; this indicates that FDI inflow is not determined by inflation in African region and is positive and insignificant in column (5-6). The insignificant implies that investment decision is not influenced by the increase in host country price level, and this is consistent with the previous literature (Saha et al 2022; Aziz 2018; Omankhanken 2011)

In columns (1-6) human capital **(**Humancap) is positive but has an insignificant impact on attracting FDI to African countries. This may be because of in Africa country, in African there are many large numbers of work force but are characterised by low level of education and skill, which may influence the quality of human capital in Africa, as this may not always meet foreign investors specific needs. This is consistent with the work of (Kheng et al 2017)

In columns (1, 3, 5, and 6) Transport is positive and insignificant and in column (2) is positive and significant at the 5% level. This implies that an improvement in the means of transportation in African will attract FDI into the country. Foreign investors may want to invest where they can easily access and move their goods and services and factors of production. Column (4) is negative and significant these may be the effect of changing this variable for individual countries.

However, considering the different estimation used in table 4 below our best estimators is PPML with country fixed effect and time effect with R^2 of 0.785 which implies that it explains 80% of the variance in the dependent variable. This is a good model fit and as explained in the methodology section. The estimation controls for heteroskedasticity and zero values. Thus table 3.5 shows the variable of interest which is the infrastructural variable this is using the traditional determinant as a baseline and different measure of infrastructure determinant is added to know the effect of infrastructural accessibility, availability and reliability as attracting FDI inflow into Africa.

3.6.1 Traditional determinants of FDI in Africa

Table 3.6.1.1 Empirical analysis on the traditional determinant of FDI in Africa countries.

	POLS	POLS+Country FE	LSDV	PPML	PPML+Country FE	PPML+Country FE+Time FE
LnGDP per ca	0.930***	0.897***	0.518***	0.632***	0.895***	0.586***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.004)
Mobile	0.006***	-0.000	-0.000	0.001	-0.001	-0.001
	(0.000)	(0.910)	(0.947)	(0.125)	(0.149)	(0.343)
GDP growth	0.023***	0.021***	0.020***	0.003	0.007	0.007
	(0.000)	(0.000)	(0.000)	(0.537)	(0.173)	(0.112)
Naturalres	0.008**	0.023***	0.009	0.009***	0.004	-0.000
	(0.015)	(0.001)	(0.193)	(0.001)	(0.639)	(0.962)
Lnlaborforce	0.979***	2.901***	2.862***	0.957***	1.922***	2.201***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
Openness	0.015***	0.011***	0.009***	0.015***	0.018***	0.014***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Inflation	-0.000	-0.000	-0.000	-0.000	0.000	0.000
	(0.992)	(0.344)	(0.367)	(0.341)	(0.537)	(0.145)
Humancap	-0.185	0.304	0.419	0.0894	-0.348	-0.290
	(0.170)	(0.389)	(0.248)	(0.553)	(0.285)	(0.425)
Transport	0.001	0.007**	0.003	-0.006**	0.006	0.002
	(0.694)	(0.035)	(0.301)	(0.031)	(0.113)	(0.562)
_cons	-3.586***	-31.72***	-29.35***	-0.145	-12.15**	-87.13**
	(0.000)	(0.000)	(0.000)	(0.862)	(0.012)	(0.043)
Country effect	No	Yes	Yes	No	Yes	Yes
Time effect	No	No	Yes	No	Yes	yes
N	1061	1061	1061	1072	1072	1072
R^2	0.656	0.797	0.806	0.576	0.727	0.769
No of group	51	51	51	51	51	51

p-values in parentheses *p < 0.10, ** p < 0.05, p < 0.01. Naturalres is natural resource rent, Lnlaborforce is the log of labourforce, openness is trade % of GDP, LnGDP per ca is the log of GDP per capita. GDP growth, humancap is human capital index (schooling population), mobile and transport are proxy for infrastructure.

3.6.2 Infrastructural Determinant of FDI in Africa

Table 3.6.2.1 presents the result of the infrastructural determinant of FDI in Africa; the preferred estimate, which is PPML with country and time fixed effects as selected in table 3.5.1, is used. In columns (1-9), different infrastructure variables are added to the traditional determinants to explain the infrastructural determinants of FDI in Africa. Institutions and financial development measures are also included into the model. This study is different from the previous as it uses the index of

infrastructural measures. Infrastructural reliability index (measure the PCA of Individuals using internet and internet user per 100 people) in column (1) is finds to be negative and significant at 1% level, this may be as a result of some African region still lacking the reliability and quality of infrastructure as the effectiveness of internet in attracting foreign investor depend on the electricity accessibility, connectivity of good road as a complementary infrastructure. The lack of this complementary infrastructure can diminish the impact of internet in attracting FDI into the region and an environment with regulatory challenges can hinder the positive effect of internet on FDI as foreign investors may face high taxes, bureaucratic hinderances like high tax rate and regulation that can be restrictive for investors to operate efficiently. This is consistent with the study of Mensah and Traore (2024).

Infrastructural accessibility in column (2) is positive and insignificant; this may be due to many Africa countries attracting resource driven FDI that are less sensitive to electricity infrastructure improvement compared to other sector and are more concerned with the mineral resources which they will used to operate or feed their businesses. Infrastructural availability is negative and insignificant in column 3, this may be due to lack of access to telecommunication by some Africa countries.

In column (4**)** mobile is negative and insignificant and transport is positive and insignificant. Inst.qual is positive and significant at 1%. This implies that an increase in institutional quality will attract FDI by 0.32 unit into African region and financial development is positive and significant at 10%. This implies that a good financial system will attract more FDI into the African region.

In column (6) gross fixed capital formation (gross fixed capital) is positive and significant, this implies that a 1% increase in infrastructure (gross fixed capital formation leads to a 0.02% increase in the level of FDI inflows received into African countries. This indicates that construction of good road, railway, schools, and industries will attract more FDI into this region. This is consistent with the theory and previous empirical literature (Kariuki 2015; Ajide and Ibrahim 2022; Gichamo 2012; Muzurura 2016; Ajayi 2006).

In column (7) internet is negative and significant at 5%. In column (4) ICT is negative and significant which implies that an increase in ICT will decrease FDI determinant in Africa, it may be because of foreign investors being concerned with the wide political and economic environment in some Africa countries as the impact of internet and ICT can be overshadow by other factors like

corruption, political instability and unstable economic and the internet impact on FDI can vary based on different sectors, as finance, retail and technology sectors may benefit from internet other sector may not see the impact of this. In column (9) is electricity is negative and insignificant. The next section discussed the impact of institutional determinants on FDI inflow into Africa.

Table 3.6.2.1 Infrastructural determinant of FDI

	(1) Infrastructure reliability	(2) Infrastructure accessibility	(3) Infrastructure availability	(4) Mobile	(5) Transport	(6) Gross fixed capital formation	(7) Internet	(8) ICT service	(9) Electricity
LnGDP per cap	0.176	0.304	0.769***	0.729***	0.761***	0.779***	0.723***	0.933***	0.901***
	(0.452)	(0.255)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GDP growth	0.034***	0.005	0.007*	0.007	0.007	0.006	0.006	0.005	0.006
	(0.001)	(0.239)	(0.100)	(0.125)	(0.122)	(0.114)	(0.185)	(0.182)	(0.164)
Naturalres	-0.014	-0.001	-0.007	-0.003	-0.003	0.001	-0.002	-0.009	-0.004
	(0.125)	(0.947)	(0.428)	(0.716)	(0.768)	(0.838)	(0.830)	(0.427)	(0.664)
Lnlaborforce	2.230**	1.771*	1.864***	1.943***	2.003***	1.843**	2.135***	2.171***	2.178***
	(0.012)	(0.075)	(0.009)	(0.006)	(0.005)	(0.018)	(0.003)	(0.003)	(0.003)
Openness	0.017***	0.017***	0.016***	0.015***	0.015***	0.016***	0.015***	0.018***	0.017***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Inflation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008***	0.000
	(0.742)	(0.712)	(0.498)	(0.490)	(0.523)	(0.562)	(0.370)	(0.003)	(0.479)
human cap	0.072	-0.578	-0.00	-0.077	-0.103	0.104	-0.049	-0.271	-0.189
	(0.889)	(0.341)	(0.994)	(0.836)	(0.771)	(0.783)	(0.890)	(0.495)	(0.602)
Inst. Qual	0.189	0.209	0.325***	0.331***	0.333***	0.341***	0.351***	0.386***	0.359***
	(0.141)	(0.214)	(0.007)	(0.006)	(0.007)	(0.008)	(0.004)	(0.006)	(0.003)
Financial devpt.	2.571**	2.949***	1.741*	1.769*	1.862*	0.919	1.759*	1.694	1.762*
	(0.010)	(0.005)	(0.081)	(0.076)	(0.066)	(0.334)	(0.060)	(0.102)	(0.063)
Infras reliability	-0.162***								
	(0.007)								
N	741	388	912	923	932	825	932	728	876
R^2	0.842	0.842	0.791	0.788	0.786	0.797	0.792	0.806	0.789
No of group	51	51	51	51	51	51	51	51	51

Continuation
3.6.2.1

	(1) Infrastructure reliability	(2) Infrastructure accessibility	(3) Infrastructure availability	(4) Mobile	(5) Transport	(6) Gross fixed capital formation	(7) Internet	(8) ICT service	(9) Electricity
Infras accessibity		0.244							
		(0.335)							
Infras availability			-0.05						
			(0.608)						
Mobile				-0.001					
				(0.585)					
Transport					0.003				
					(0.467)				
Gross fixed						0.016***			
Capital formation						(0.002)			
Internet							-0.01**		
							(0.043)		
ICT Service								-3.26x10**	
								(0.041)	
Electricity									-0.00
									(0.204)
Constant	-168.1***	-141.7**	-58.77	-64.71*	-41.95	-58.63	-45.66	-65.61	-34.26
	(0.000)	(0.012)	(0.120)	(0.089)	(0.272)	(0.149)	(0.236)	(0.122)	(0.354)
Country effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	741	388	912	923	932	825	932	728	876
R^2	0.842	0.842	0.791	0.788	0.786	0.797	0.792	0.806	0.789
N	741	388	912	923	932	825	932	728	876
R^2	0.842	0.842	0.791	0.788	0.786	0.797	0.792	0.806	0.789
No of group	51	51	51	51	51	51	51	51	51

p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0$. Infras reliability is the index of (internet user per 100 people and individual using internet using PCA), . Infras accessibility (measure by PCA of “access to electricity % of population,” “electric power consumption kwh per capital”, “electric production % of total”) and infras availability (PCA of mobile cellular subscription per 100 people”, “fixed telephone subscription per 100 people”)

3.6.3 Institutional determinant of FDI in Africa

Table 3.6.3.1 presents the results relating to the institutional determinants of FDI. The traditional determinants are used as a baseline, with each institutional determinant added in separate models for robustness check and to solve the problem of multicollinearity, as explain in the data description section.

In column (1), the institutional quality index (inst.qual) has a positive and statistically significant effect on FDI in African countries; this implies that a 1% improvement in the institutional quality index will attract an additional 0.32% of FDI into African countries. This implies more FDI inflow into this region if quality of institution improves in the region. This result is consistent with the theory of FDI and institutions by North (1990) and previous empirical literature (Mishra and Daly 2007; Njoroge 2016; Ullah and Khan 2017; Sabir et al 2019; Saha et al 2022). Also, in column (1) lnGDP per cap, lnlabourforce, openness is also significant at the 1% level and financial development is significant at the 10% level.

In column (2) the Pol inst. index **(**i.e., the PCA construct with the two institutional variables which are political stability and voice and accountability combined) has a negative and significant effect on FDI at 5%. Furthermore, this implies that in Africa an increase in the level of political institutional quality by 5% will decrease the inflows of FDI into the region by 0.04 unit.

This may be as a result of corrupt government in the region. Thus, this simply mean that foreign investors that comes to African countries will prefer to invest in the continent if there is corruption, lack of accountability and probity, breakdown in the rule of law and autocracy. Bokpin et al (2017) provide two explanations why most studies found a negative correlation between political institutions and FDI. The first reason is that foreign investors, may like to invest in autocratic countries and where the system can be exploited (Li and Resnick 2003). Governments in such countries may provide more incentive packages and protection from labour unions. However, when institutions start to be effective the levels of investment dwindle for these investors. Thus, FDI inflow is higher in countries with low democracy and high level of corruption (Kim 2010).

Secondly, because investments in natural resources are capital intensive and made over a long duration, foreign investors would like to invest in countries with weaker institutions in order to bribe their way through. The negative association is confirmed by Asiedu and Lien (2011) that a

country with a low total export as a result of share of natural resources, FDI inflow is increased by democracy and in a country with a high export level, democracy affects the inflow of FDI negatively.

In column (2) also lnGDP per cap, financial development and openness are positive influences on FDI inflows and significant at the 1% level while lnlaborforce and GDP growth are significant positive influences at the 5% level. This implies that a corruption government attracts FDI into the African region which in turn leads to market growth as investors will want to invest more into the region.

The **socio-economic** institutional index (socio-economic inst. Index) is a construct combining the other four institutional determinants, which are rule of law, control of corruption, regulatory quality and voice and accountability, In column (3) a positive but statistically insignificant relationship with FDI is found. In this column lnGDP per capital, openness is positive and significant at 1% while lnlaborforce and financial development is positive and significant at 5%.

Columns (4-9) estimate the effect of different individual institutional determinants on FDI inflows. In column (4), control of corruption (control) is positive and significant at 5% in Africa. Hence, a unit increase in control of corruption will yield 0.39 unit in the inflow of FDI into Africa~~n~~ this is consistence with the hypothesis set in this study according to theory and with the work of Bouchoucha (2018) and Egger and Winner (2005).

In column (5), Government effectiveness (gov'teffective) is positive and statistically significant at the 1% level That is by improving the government effectiveness by 1 unit the inflow of FDI to African country will increase by 0.53 units. This indicates that government in charge of civil and public service that are free from political pressure facilitate investment and investors would like to invest even under policy uncertainty in the host country (Sabir et al 2019; Alesina et al 1996) and is also consistent with the theory and the work of Benassy-Quere et al (2005), where he finds that in the MENA countries, efficiency of the public sector is crucial in determining FDI inflows into the region.

In column (6) political stability (polstab) is positive and statistically significant at 5%. Thus, a stable political institution in African will increase FDI inflow by 0.17 units. This is consistence

with the hypothesis and the work of Rodriguez-Pose and Col (2017). This implies that African countries can attract more FDI if a politically stable economy is present. As explained by Brada et al (2006), foreign investors are afraid of sudden policy reversals caused by unstable political economies and are happier investing in stable economies.

In column (7), regulatory quality (requlatoryqual) has a positive but insignificant effect on FDI inflows into African countries.

In column (8) rule of law is positive and insignificant in African countries. Sabir et al (2019) find this indicator is weak and does not impact FDI in the developing countries. Bouchoucha (2018) also finds it to be insignificant in African region.

In column (9), voice and accountability (voice&acctb) has a negative and significant relationship with FDI in Africa region at 5%. This implies that an improvement in the country freedom of speech will decrease FDI inflow by 0.54 units. In the literature voice and accountability is negatively affecting FDI inflow in Africa. This is consistent with the work of Rodriguez-Pose and Cols (2017)

Table 3.6.3.1 The determinant of Institutional Quality

	(1) inst.qual	(2) Pol.inst. index	(3) Socio-economic	(4) control	(5) Gov't effective	(6) polstab	(7) requlatory	(8) Rule of law	(9) Voice & acctb
LnGDP per cap	0.742***	0.844***	0.799***	0.755***	0.742***	0.737***	0.756***	0.799***	0.844***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GDP growth	0.007	0.009**	0.006	0.006	0.006	0.007*	0.006	0.007	0.009**
	(0.120)	(0.036)	(0.144)	(0.126)	(0.120)	(0.064)	(0.114)	(0.144)	(0.037)
Naturalres	-0.002	-0.007	-0.005	-0.005	-0.003	-0.005	-0.005	-0.005	-0.007
	(0.783)	(0.409)	(0.562)	(0.552)	(0.783)	(0.557)	(0.557)	(0.563)	(0.410)
Lnlaborforce	1.919***	1.546**	1.799**	1.895***	1.921***	1.789**	1.657**	1.799**	1.548**
	(0.007)	(0.024)	(0.013)	(0.008)	(0.007)	(0.013)	(0.020)	(0.013)	(0.024)
Openness	0.015***	0.014***	0.015***	0.016***	0.015***	0.015***	0.014***	0.015***	0.014***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Inflation	0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.000
	(0.517)	(0.805)	(0.520)	(0.594)	(0.518)	(0.285)	(0.439)	(0.523)	(0.805)
Human cap	-0.094	-0.280	-0.246	-0.257	-0.0943	-0.217	-0.126	-0.244	-0.280
	(0.798)	(0.439)	(0.511)	(0.489)	(0.799)	(0.564)	(0.744)	(0.514)	(0.439)
Mobile	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.002	-0.001	-0.001
	(0.644)	(0.584)	(0.607)	(0.567)	(0.652)	(0.553)	(0.466)	(0.607)	(0.591)
Transport	0.003	0.004	0.004	0.005	0.003	0.003	0.003	0.004	0.004
	(0.435)	(0.340)	(0.326)	(0.304)	(0.433)	(0.490)	(0.459)	(0.325)	(0.339)
Financial devpt	1.931*	2.976***	2.247**	2.795***	1.928*	1.911*	2.263**	2.246**	2.971***
	(0.059)	(0.003)	(0.039)	(0.005)	(0.060)	(0.065)	(0.034)	(0.039)	(0.003)
Inst.qual	0.320***								
	(0.009)								
Pol.inst.index		-0.400**							
		(0.045)							
N	923	924	924	925	924	924	925	925	925
R^2	0.788	0.804	0.784	0.784	0.788	0.788	0.783	0.784	0.804
No of group	51	51	51	51	51	51	51	51	51

p-values in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. socioeconomie inst. Index (PCA of voice and accountability, rule of law, regulatory quality and control of corruption), Pol.inst. index (government effectiveness and political stability). Financial devpt (is the financial development index)

Table 3.6.3.1 - Continuation

	(1) inst.qual	(2) Pol.inst. index	(3) Socio-economic	(4) control	(5) Gov't effective	(6) polstab	(7) regulatory	(8) Rule of law	(9) Voice & acctb
Socioeconomie			0.102						
Insti. index			(0.370)						
Control of corruption				0.390**					
				(0.031)					
Gov'teffective					0.532***				
					(0.009)				
polstab						0.170**			
						(0.029)			
requlatory							0.273		
							(0.106)		
Rule of law								0.167	
								(0.367)	
Voice&acctb									-0.524**
									(0.046)
_cons	-62.31	-52.84	-51.11	-61.58	-53.85	-62.71	-68.88*	-57.65	-59.11
	(0.100)	(0.174)	(0.216)	(0.106)	(0.184)	(0.127)	(0.077)	(0.134)	(0.105)
Country effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time effect	yes	yes	yes	yes	yes	yes	yes	yes	yes
N	923	924	924	925	924	924	925	925	925
R^2	0.788	0.804	0.784	0.784	0.788	0.788	0.783	0.784	0.804
No of group	51	51	51	51	51	51	51	51	51

p-values in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. socioeconomie inst. Index (PCA of voice and accountability, rule of law, regulatory quality and control of corruption), Pol.inst. index (government effectiveness and political stability). Financial devpt (is the financial development index)

3.6.4 financial institution determinants of FDI in Africa

Financial development overall was found to be positively linked to FDI. In table 3.6.4.1 below, to provide a deeper investigation into the source of the positive relationships, each separate financial development variable is included in a different equation to estimate their relationship with FDI in African countries.

Financial development is positive and significant at the 10% level. This implies that an improvement in the financial development of African countries by 1% will attract FDI inflows into the region by 1.93%. This is consistent with the eclectic theory of FDI that states that the development of financial system in the host country will attracts the inflow of FDI and the hypothesis in this study. It is also consistence with the work of (Islam et al 2020). In column (4) and (7) respectively, financial market index (fin mkt index) and financial institution depth (fin inst. Depth) is positive and significant at 5% and 10% respectively. This implies that an efficient financial market will attract FDI into Africa region by 1.35% and a well-functioning financial institution in African will attract FDI inflows into Africa by 2.89%. This is consistent with the eclectic theory of FDI.

Column (5) and (6), shows that financial institution index (fin inst. Index) and financial institution access is positive and insignificant, this may be due to institutional quality and efficiency not meeting the international standard even though there may be present of financial institution in Africa and unstable environment may be less attractive for foreign investors to invest in the host country. Column (8) financial institution efficiency (fin inst. Efficiency) is negative but insignificant in determining FDI inflow to Africa, the negative effect may be because of the underdeveloped financial institution of many countries in Africa which will lead to poor and inefficient financial intermediation and financial markets and also a high transaction cost associated with doing business in some countries in Africa such as high interest rates, charges can limit the engagement of foreign investor with local financial institution Agapong and Bedjabeng 2019).

The control variable, this study fine that in column (1) to (8) GDP per capital, openness, labour force is positive and significant in 1% which implies that a good market size, free access to the host country and the low cost of factor input (labour) will attract FDI into Africa countries.

As mentioned by Yesboua (2019) and Islam et al (2020), that FDI inflow cannot capture the effect of financial development in determining the factor that attract FDI because it takes a long period of time for financial development to developed (see section 3.4.1) and mentioned that FDI stock is more appropriate for measuring financial development as a determinants of FDI. This study uses FDI stocks as a dependent variable in table 3.5.5 for robustness check and find that domestic credit to private sector, financial development, financial institution index, financial institution depth index is positive and significant by 1% and financial institution access index and financial market index is positive and significant by 5%. This implies that to examines the financial development impact FDI, it is important to use FDI stock as this brings the actual impact of financial institution on FDI. It shows that a well-developed financial system will attract more FDI inflows into African countries.

However, the relationship between FDI and its determinants such as traditional macroeconomics indicators, infrastructure, institutional quality and financial development, may be subject to endogeneity and potential reverse causality. For example, while better institutions may attract FDI, the presence of FDI can lead to institutional improvements. To address these concerns, this study employs a Poisson Pseudo Maximum Likelihood (PPML) estimator with country and time effects, which helps control for unobserved heterogeneity and time- invariant country-specific characteristics. Additionally, the use of quantile regression allows for more better understanding of how these determinants influence FDI across different levels of the distribution, rather than just the mean. This strengthens the robustness of the findings and mitigates concerns about biased estimates due to omitted variable or reverse causality.

While GMM is a common use technique for addressing endogeneity and is widely used by other studies such as (Sabir et al. 2019;). This study does not adopt GMM due to its limitations. Specifically, GMM estimation is highly sensitive to the selection and strength of instruments. As noted by Stock et al. (2002, weak instruments, those that are only weakly correlated with endogenous can lead to biased estimates, non-normal sampling distributions, and inference, even in large sample. Stock and Yogo (2005), further demonstrate that even exogenous instruments can be problematic if they lack sufficient explanatory power, leading to weak identification and distorted result. Given these considerations, the study employs PPML with country and time effect

to address heteroscedasticity and unobserved heterogeneity, and quantile regression to provide robust estimates across the distribution of FDI inflows.

To strengthen the reliability of the empirical findings, this thesis conducts a robustness check by replacing FDI inflows with FDI stock as the dependent variable as presented in table 3.6.5.1 This responds to concerns raised by Yeboua (2019) and Islam et al. (2020), who argue that FDI stock better captures the long-term relationship between financial development and investment behaviour. The results in Table 3.6.5 confirm that financial development indicators including domestic credit, quasi money, financial market index, and financial institution depth are positively and significantly associated with FDI stock, reinforcing their importance as structural enablers of investment. Notably, financial institution depth shows the strongest effect, suggesting that deeper financial systems are more attractive to foreign investors seeking sustained engagement.

However, the results also reveal a negative and significant relationship between institutional quality and FDI stock, consistent across all specifications. This finding echoes earlier results using FDI inflows and supports the argument that certain institutional dimensions—particularly those linked to democratic accountability may deter investment in contexts where investors seek regulatory leniency or rent-seeking opportunities. The negative coefficients for GDP per capita and openness in this robustness check contrast with earlier inflow models, suggesting that long-term investment decisions may be shaped by different considerations than short-term flows.

Overall, this robustness check validates the core thesis claim that financial development is a critical determinant of FDI in Africa, while also confirming the complex and sometimes counterintuitive role of institutional quality.

Table 3.6.4.1 – Financial development, Institutions and Markets determinant on FDI

	(3) Financial devpt	(4) Fin mkt index	(5) Fin inst index	(6) Fin inst access	(7) Fin inst depth	(8) Fin inst efficiency
LnGDP per cap	0.742***	0.754***	0.641***	0.649***	0.753***	0.667***
	(0.000)	(0.000)	(0.002)	(0.001)	(0.000)	(0.001)
GDP growth	0.006	0.006	0.007	0.007	0.007*	0.006
	(0.120)	(0.133)	(0.109)	(0.109)	(0.091)	(0.113)
Naturalres	-0.002	-0.003	-0.002	-0.002	-0.000	-0.002
	(0.783)	(0.739)	(0.817)	(0.810)	(0.918)	(0.791)
Lnlaborforce	1.919***	1.798**	2.053***	2.036***	2.141***	1.879***
	(0.007)	(0.012)	(0.007)	(0.004)	(0.003)	(0.007)
Openness	0.015***	0.015***	0.016***	0.016***	0.015***	0.016***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Inflation	0.000	0.000	0.000	0.000	-0.000	0.000
	(0.517)	(0.527)	(0.381)	(0.371)	(0.992)	(0.391)
Humancap	-0.095	-0.032	-0.068	-0.068	-0.073	-0.107
	(0.798)	(0.932)	(0.855)	(0.854)	(0.847)	(0.777)
Mobile	-0.001	-0.001	-0.000	-0.000	-0.000	0.000
	(0.644)	(0.714)	(0.835)	(0.824)	(0.650)	(0.982)
Transport	0.003	0.003	0.002	0.002	0.004	0.002
	(0.435)	(0.444)	(0.660)	(0.639)	(0.392)	(0.630)
Inst.qual	0.320***	0.310**	0.384***	0.381***	0.362***	0.405***
	(0.009)	(0.012)	(0.001)	(0.002)	(0.002)	(0.001)
N	923	902	923	923	923	923
R^2	0.788	0.785	0.788	0.788	0.791	0.791
No of group	51	51	51	51	51	51

p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Continuation of Table 3.6.4.1

	(1) Financial devpt	(2) Fin mkt index	(3) Fin inst index	(4) Fin inst access	(5) Fin inst depth	(6) Fin inst efficiency
Financial	1.931*					
devpt	(0.059)					
Fin mkt		1.350**				
index		(0.035)				
Fin inst			0.121			
index			(0.935)			
Fin inst				0.183		
Access				(0.851)		
Fin inst					2.896*	
Depth					(0.087)	
Fin inst						-0.589
efficiency						(0.231)
_cons	-62.31	-64.26*	-76.70*	-76.02*	-55.30	-80.55**
	(0.100)	(0.088)	(0.055)	(0.055)	(0.169)	(0.033)
Country eff.	Yes	Yes	Yes	Yes	Yes	Yes
Time effect	yes	yes	yes	yes	yes	yes
N	923	902	923	923	923	923
R^2	0.788	0.785	0.788	0.788	0.791	0.791
No of group	51	51	51	51	51	51

p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$ Financial devpt is the financial development index, financial inst. Index is the financial institution index , fin mkt index is the financial market index and financial institution is further divided into (financial institution index, financial institution depth and financial institution efficiency)

Table 3.6.5 .1– Financial development, Institutions and Markets determinant of FDI (Robustness check using FDI stock as dependent variable)
Change the dependent variable to FDI stock.

	(1)	(2)	(3)	(4)	(5)	(6)
	Financial devpt	Fin mkt index	Fin inst index	Fin inst access	Fin inst depth	Fin inst efficiency
LnGDP per cap	-0.693***	-0.717***	-0.680***	-0.705***	-0.656***	-0.720***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
GDP growth	-0.004	-0.004	-0.005	-0.004	-0.003	-0.005
	(0.287)	(0.282)	(0.225)	(0.301)	(0.443)	(0.213)
Naturalres	-0.006	-0.006	-0.006	-0.007	-0.004	-0.006
	(0.132)	(0.113)	(0.186)	(0.104)	(0.391)	(0.140)
Lnlaborforce	-0.376	-0.376	-0.139	-0.157	0.106	-0.206
	(0.211)	(0.234)	(0.633)	(0.582)	(0.715)	(0.470)
Openness	-0.004***	-0.004***	-0.003***	-0.003***	-0.003***	-0.004***
	(0.000)	(0.000)	(0.002)	(0.001)	(0.001)	(0.001)
Inflation	-0.000	-0.000	-0.000	-0.000	-0.000***	-0.000
	(0.334)	(0.387)	(0.141)	(0.448)	(0.007)	(0.231)
Human cap	-1.110***	-1.110***	-0.948***	-0.955***	-0.989***	-0.978***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Mobile	0.002	0.002	0.001	0.001	0.001	0.002
	(0.265)	(0.163)	(0.463)	(0.293)	(0.394)	(0.208)
Transport	-0.004*	-0.004**	-0.004*	-0.004*	-0.004*	-0.005**
	(0.068)	(0.039)	(0.065)	(0.067)	(0.071)	(0.023)
Inst.qual	-0.277***	-0.271***	-0.277***	-0.281***	-0.252***	-0.266***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
N	963	942	963	963	963	963
R^2	0.995	0.995	0.994	0.994	0.994	0.994
No of group	51	51	51	51	51	51

Continuation of Table
3.6.5 .1-

	(1) Financial devpt	(2) Fin mkt index	(3) Fin inst index	(4) Fin inst access	(5) Fin inst depth	(6) Fin inst efficiency
Financial devpt	1.533***					
	(0.002)					
Fin mkt index		0.690**				
		(0.015)				
Fin inst. index			1.490***			
			(0.009)			
Fin inst. access index				0.972**		
				(0.021)		
Fin inst. depth index					3.483***	
					(0.003)	
Fin inst. efficiency						0.0967
						(0.690)
_cons	-151.6***	-153.2***	-124.5***	-124.3***	-113.6***	-132.8***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
N	963	942	963	963	963	963
R^2	0.995	0.995	0.994	0.994	0.994	0.994
No of group	51	51	51	51	51	51

p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$ Financial devpt is the financial development index, financial inst. Index is the financial institution index , fin mkt index is the financial market index and financial institution is further divided into (financial institution index, financial institution depth and financial institution efficiency)

3.7 Robustness Check II: Effect of Institutional Quality and Financial Development on FDI in Africa using Quantile Regression

The study also uses panel quantile regression for robustness check in this chapter, which was introduced by Powell (2014), to account for unobserved heterogeneity and heterogeneous covariates to extensively investigates the effect of institution and financial development on FDI. Using this estimate, it allows one to use different parameter slope of the dependent variable to different quantile (Zhu et al 2016; Kocak 2022). It also diminishes any biases from outliers and interprets the whole conditional distribution of the dependent variable (Hamid et al 2024). The quantile regression was developed by (Koenker and Bassett 1978). Quantile regression can decrease any biased raised from outliers, and is preferred than OLS, when there is normal distribution of the error term (Hamid et al 2024).

Thus, considering that Africa countries is a heterogenous countries, with different institution, geography, natural resources, structure, dynamics in population, diversity in cultural and social factors and the inflow of FDI in this region varies based on the structure, political institution and access to market, for instance, the infrastructural development such as telecommunication, energy and transportation varies among Africa countries as South Africa and Egypt is more developed in infrastructure compared to other African countries as this influence the FDI inflow into the country. While other Africa countries has experienced long period of instability and conflict that affect their development path, countries like Botswana and Ghana are known for democracies stable economies and Nigeria, which is one of the most Africa populous country compared to smaller countries like Seychelles and Botswana have different opportunities and challenge which will affect the inflow of FDI into the differently (Economic Studies Department. 2024). Likewise, a diversified economy like Kenya which gets their contribution from service, tourism and agricultural is different from Nigeria's economy that relied more on oil export.

Furthermore, while PPML serve as a primary estimation method due to its robustness in handling zero-inflated and heteroskedastic FDI data, quantile regression is introduced as a robustness check to explore potential nonlinearities and distributional heterogeneity in the effect of FDI determinants across African countries. Quantile regression allows the model to estimate how structural variables such as institutional quality, infrastructure, and financial development at different points of distribution rather than assuming average effect as it offers a distinct advantage

over mean-based models by capturing nonlinear relationships and heterogeneous effects across the conditional distribution of the FDI inflows. This is particularly relevant in the Africa context, where countries receiving low versus high volumes of FDI may respond differently to changes in institutional quality or infrastructure. For example, institutional quality or financial development may have a stronger marginal effect in low-FDI environment than in high-FDI context where such conditions are already saturated, while financial development may be more critical for countries at lower ends of the distribution. By estimating effects at different quantiles of FDI distribution, this approach reveals asymmetric sensitivities that would otherwise be obscured and allows for a more nuanced understanding of how structural variables operates across varying investment intensities, thereby enhancing the policy relevance of the findings. This methodology choice aligns with the broader literature including (Asongu and Kodila-Tedika 2015; Sahu and Dash 2021) and responds to the call in the literature for more context-sensitive modelling of FDI determinants (Tocar 2018), who suggest the need to account for categorical and methodological interferences that may produce nonlinear and asymmetric effect.

Therefore, adopting the quantile regression in this study contribute to the literature by offering an insight of the impact of institution and financial development on FDI inflow to African countries, unlike previous studies (Onyiewu and Shrestha 2004; Kedir et al 2011; Anyanwu 2011; Rodrique-pose and Cols 2017, Nondo et al.2016) which primarily rely on mean estimation techniques, this approach captures the heterogeneity nature of FDI inflows across countries as mean regression methods may obscure important distributional difference, potentially leading to over or underestimation of the institutional impact on FDI. Quantile regression addresses this limitation by estimating the impact of explanatory variables at different points of the conditional distribution of FDI, rather than assuming a uniform effect across all observations. They approach assigns different weight to the deviation between the observed and predicted value and minimises the sum of weighted absolute deviations. As such, the estimated coefficient represents the change in specified quantile outcome resulting from a unit change in the predictor (Sahu and Dash 2021). This methodological choice enhances the robustness of the analysis and provide more policy relevant insight for countries at different stages of FDI development.

The quantile regression can be written in equation (3.7.1) as

$$\boldsymbol{QY_{it} = \alpha^{q} + \beta_{it}^{q} X + \gamma_{it}^{q} z + \varepsilon_{it}^{q}} \qquad \textbf{3.7.1}$$

In equation 3.7.1, Y_{it} is the dependent variable which is FDI inflow as a percentage of GDP or FDI stock to country i (51 Africa countries) at time t (period of 24 years, i.e. 1996 –2019), all the independent variables is represented by X which is institutional quality indicators and financial development indicators, z represent the control variable (i.e. GDP per capita, GDP growth, natural resource, labourforce, openness, inflation, transportation and mobile proxy for infrastructure and human capital) $\boldsymbol{\alpha^q}$ r represent the constant term for each quantile, q represents FDI inflow distribution in different quantiles. and $\boldsymbol{\varepsilon_{it}^q}$ is the error term.

Having outlined the methodological approach to robustness testing, the following section presents the results of these checks, evaluating the consistency of the estimated relationships across alternative specifications. Table 3.7.1 shows the robustness checks, uses quantile regressions to estimate the effect of institution quality and financial development on FDI inflows into African countries receiving different levels of FDI. This is to examine the distributional heterogeneity in the determinants of FDI in Africa, allowing for variation effects across low, median, and high levels of FDI inflows.

This study also used different method for robustness check of the key variable of interest using panel quantile regression and two different dependent variables which is FDI as a % of GDP and FDI stock. In table 3.7.1, present the result of the effect of institutional quality and financial development at different quantile of the dependent variable, which is 10q, 25q, 50q, 75q and 95q. The inflow of FDI into Africa countries is represented by each quantile. Institutional quality has positive and significant effect at 10% in the 50th quantile and negative in the 75th quantile using the FDI as a % of GDP as a measure. Using the FDI stock it shows that institutional quality, socio-economic institution and political institution effect is negative and significant from the 10th quantile up to the 95th quantile at 1% but the magnitude and the significant decrease to 5% in the highest quantile which is 95th quantile, the negative impact in the lower quantile can be due to low institutional quality in Africa and it can also be that Africa countries which have low FDI inflow alongside lack of infrastructure, instability of the economic and political risk may overshadow the positive effect of institution. This implies that the effect of the institutional quality to FDI in Africa is a U shape.

Financial development is positive and significant from the 10th quantile to the 75th quantile which implies that financial development is important to Africa countries that have the low inflow of FDI

up till the 75th quantile countries and in the countries with the highest quantile which is 95th financial development does not determined the inflow of FDI in this countries. Financial market index is positive and significant from the lowest quantile 10th to the 50th quantile, this implies that financial market is important to the countries that received the low FDI inflow to the mid countries and the African countries with the highest quantile of FDI inflow, financial market is positive and not significant as presented in table 3.7.3.

Therefore, the heterogenous impact of institutional quality and financial institution on FDI inflow to Africa, can be because of the different countries structure political and socioeconomic institution. Quantile regression helps to overcome the limitation of conditional mean estimators as use by previous studies as it ignores the tail of the distribution and estimates the conditional mean.

Table 3.7.1 – The institutional quality and financial development as a determinant of FDI in African (Quantile regression)

	(1) (10Q) FDIGDP	(2) (25Q) FDIGDP	(3) (50Q) FDIGDP	(4) (75Q) FDIGDP	(5) (95Q) FDIGDP	(6) (10Q) FDISTOCK	(7) (25Q) FDISTOCK	(8) (50Q) FDISTOCK	(9) (75Q) FDISTOCK	(10) (95Q) FDISTOCK
Inst. Qual	0.037	0.112	0.236*	-0.0347	0.045	-3.927***	-3.252***	-4.552***	-11.58***	-88.63**
	(0.688)	(0.172)	(0.085)	(0.890)	(0.966)	(0.000)	(0.000)	(0.000)	(0.000)	(0.037)
Financial devpt	-1.201*	-1.063	-1.932	3.714*	24.24**	25.19***	35.34***	30.05***	68.03***	82.09
	(0.085)	(0.108)	(0.147)	(0.085)	(0.016)	(0.000)	(0.000)	(0.005)	(0.003)	(0.853)
LnGDP per cap	0.015	-0.124*	-0.622***	-1.757***	-5.184***	0.433	-0.383	-2.126	-5.083*	54.92
	(0.821)	(0.078)	(0.000)	(0.000)	(0.005)	(0.381)	(0.679)	(0.102)	(0.068)	(0.365)
GDP growth	0.007	0.019	0.078**	0.139*	0.550**	-0.013	-0.057	-0.016	0.067	0.553
	(0.672)	(0.257)	(0.015)	(0.055)	(0.017)	(0.585)	(0.518)	(0.908)	(0.863)	(0.880)
Naturalres	-0.011**	-0.008	0.039***	0.101***	0.647*	-0.208***	-0.189*	-0.214*	-0.675**	-13.65**
	(0.011)	(0.315)	(0.002)	(0.002)	(0.059)	(0.000)	(0.072)	(0.068)	(0.013)	(0.012)
Lnlaborforce	0.091*	0.064	-0.089	-0.430**	-2.076*	1.165***	1.096**	0.784	-3.101*	-47.04
	(0.082)	(0.213)	(0.193)	(0.028)	(0.099)	(0.001)	(0.022)	(0.290)	(0.074)	(0.236)
Openness	0.016***	0.024***	0.035***	0.0667***	0.057	0.154***	0.181***	0.435***	0.751***	6.072***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.434)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
N	920	920	920	920	920	963	963	963	963	963

Notes: The dependent variables used are FDI as a percentage of GDP (FDIGDP) and FDI stock as a percentage of GDP (FDISTOCK).

Continuation of table 3.7.1

	(1) (10Q) FDIGDP	(2) (25Q) FDIGDP	(3) (50Q) FDIGDP	(4) (75Q) FDIGDP	(5) (95Q) FDIGDP	(6) (10Q) FDISTOCK	(7) (25Q) FDISTOCK	(8) (50Q) FDISTOCK	(9) (75Q) FDISTOCK	(10) (95Q) FDISTOCK
Inflation	0.000	0.000	-0.000	0.000	0.000	-0.000	-0.000	0.002	-0.000	-0.088
	(0.921)	(0.968)	(0.831)	(0.968)	(0.992)	(0.991)	(0.973)	(0.918)	(0.989)	(0.553)
Human cap	0.006	-0.053	0.576**	0.183	-4.397***	-1.797*	-1.206	0.746	7.928	-204.5
	(0.978)	(0.785)	(0.042)	(0.789)	(0.007)	(0.067)	(0.530)	(0.885)	(0.309)	(0.202)
Mobile	0.004*	0.007***	0.002***	0.022***	0.057***	0.084***	0.101***	0.128***	0.130	-1.537
	(0.083)	(0.000)	(0.000)	(0.000)	(0.010)	(0.000)	(0.000)	(0.000)	(0.114)	(0.225)
Transport	0.003	-0.002	-0.009	-0.017	-0.094	-0.058**	-0.087**	-0.262***	-0.358***	-9.780**
	(0.384)	(0.785)	(0.200)	(0.240)	(0.273)	(0.012)	(0.036)	(0.002)	(0.009)	(0.044)
_cons	-1.829*	-0.306	4.609***	16.47***	73.25**	-19.79**	-12.42	4.938	72.76*	1370.0
	(0.084)	(0.774)	(0.006)	(0.000)	(0.025)	(0.017)	(0.285)	(0.772)	(0.063)	(0.142)
N	920	920	920	920	920	963	963	963	963	963

Notes: The dependent variables used are FDI as a percentage of GDP (FDIGDP) and FDI stock as a percentage of GDP (FDISTOCK).

Table 3.7.2 – The political institution index (POLII) and financial institution index (FII) as a determinant of FDI in African (Quantile regression) -

	(1) (10Q) FDIGDP	(2) (25Q) FDIGDP	(3) (50Q) FDIGDP	(4) (75Q) FDIGDP	(5) (95Q) FDIGDP	(6) (10Q) FDISTOCK	(7) (25Q) FDISTOCK	(8) (50Q) FDISTOCK	(9) (75Q) FDISTOCK	(10) (95Q) FDISTOCK
Pol inst. Index	0.0384	0.0437	0.212**	0.520**	-0.462	-2.307***	-3.528***	-6.339***	-6.561***	-202.4
	(0.308)	(0.561)	(0.033)	(0.046)	(0.501)	(0.000)	(0.000)	(0.000)	(0.006)	(0.204)
Fin inst. Index	-1.265**	-0.819	-1.934*	-1.435	17.19	-0.971	14.22	23.54***	27.76	173.9
	(0.012)	(0.329)	(0.073)	(0.438)	(0.129)	(0.929)	(0.110)	(0.001)	(0.139)	(0.672)
lnGDP per cap	0.0507	-0.0872	-0.625***	-1.244***	-4.470***	-0.401	0.482	-1.616	-6.705***	57.45
	(0.373)	(0.309)	(0.000)	(0.000)	(0.001)	(0.500)	(0.611)	(0.272)	(0.006)	(0.526)
GDP growth	0.00633	0.0200	0.0693*	0.122***	0.467*	0.0286	-0.0396	-0.124	-0.00861	-2.330
	(0.616)	(0.482)	(0.058)	(0.004)	(0.077)	(0.578)	(0.760)	(0.457)	(0.977)	(0.543)
Naturalres	-0.0106**	-0.0105*	0.0354***	0.0943***	0.677**	-0.243***	-0.251***	-0.245	-0.382	-12.73
	(0.041)	(0.065)	(0.003)	(0.001)	(0.019)	(0.000)	(0.005)	(0.107)	(0.146)	(0.168)
Lnlaborforce	0.110***	0.0896*	-0.0639	-0.271*	-1.624	0.457	0.556	0.134	-3.062*	-110.4**
	(0.003)	(0.063)	(0.372)	(0.097)	(0.180)	(0.206)	(0.144)	(0.788)	(0.050)	(0.013)
Openness	0.0164***	0.0250***	0.0378***	0.0696***	0.0847	0.165***	0.160***	0.410***	0.626***	5.228**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.169)	(0.000)	(0.000)	(0.000)	(0.000)	(0.028)
N	921	921	921	921	921	964	964	964	964	964
R^2										

Notes: The dependent variables used are FDI as a percentage of GDP (FDIGDP) and FDI stock as a percentage of GDP (FDISTOCK)

Continuation of table 3. 7.2

	(1) (10Q) FDIGDP	(2) (25Q) FDIGDP	(3) (50Q) FDIGDP	(4) (75Q) FDIGDP	(5) (95Q) FDIGDP	(6) (10Q) FDISTOCK	(7) (25Q) FDISTOCK	(8) (50Q) FDISTOCK	(9) (75Q) FDISTOCK	(10) (95Q) FDISTOCK
Inflation	0.000	0.000	-0.000	0.000	-0.000	0.001	-0.000	0.001	-0.003	-0.116
	(0.797)	(0.981)	(0.873)	(0.917)	(0.993)	(0.941)	(0.974)	(0.984)	(0.903)	(0.330)
Human cap	-0.0101	-0.141	0.739**	0.292	-2.964*	-1.151	-2.953	2.337	6.220	-118.1
	(0.960)	(0.525)	(0.037)	(0.524)	(0.053)	(0.363)	(0.220)	(0.573)	(0.312)	(0.207)
Mobile	0.003*	0.006***	0.008***	0.017***	0.044*	0.109***	0.106***	0.111***	0.204**	-0.427
	(0.055)	(0.004)	(0.006)	(0.000)	(0.068)	(0.000)	(0.000)	(0.000)	(0.028)	(0.768)
Transport	0.004	-0.004	-0.008	-0.014	-0.074	-0.057***	-0.098**	-0.203***	-0.491***	-8.071***
	(0.268)	(0.384)	(0.192)	(0.162)	(0.300)	(0.004)	(0.017)	(0.003)	(0.001)	(0.000)
_cons	-2.343***	-0.694	3.971**	11.09***	56.81**	-2.761	-2.507	7.905	96.08**	2095.5**
	(0.005)	(0.448)	(0.024)	(0.000)	(0.020)	(0.642)	(0.808)	(0.534)	(0.022)	(0.020)
N	921	921	921	921	921	964	964	964	964	964
R^2										

Notes: The dependent variables used are FDI as a percentage of GDP (FDIGDP) and FDI stock as a percentage of GDP (FDISTOCK).

Table 3.7.3 – The socio-economic institution index (Socieii) and financial market institution index (FMI) as a determinant of FDI in African (Quantile regression) - (The dependent variable use is FDI as % of GDP and FDI stock as % of GDP)

	(1) (10Q) FDIGDP	(2) (25Q) FDIGDP	(3) (50Q) FDIGDP	(4) (75Q) FDIGDP	(5) (95Q) FDIGDP	(6) (10Q) FDISTOCK	(7) (25Q) FDISTOCK	(8) (50Q) FDISTOCK	(9) (75Q) FDISTOCK	(10) (95Q) FDISTOCK
Socieii	0.096	0.184	0.208*	0.152	-1.845**	-3.071***	-3.583***	-5.879***	-12.71***	-90.01
	(0.206)	(0.127)	(0.071)	(0.599)	(0.014)	(0.000)	(0.000)	(0.002)	(0.000)	(0.125)
Fin mkt index	-0.545	-0.677	-0.829	3.422	24.85***	26.85***	41.38***	38.56***	27.43	-291.5
	(0.338)	(0.307)	(0.608)	(0.124)	(0.005)	(0.000)	(0.000)	(0.009)	(0.176)	(0.403)
lnGDP per cap	-0.0331	-0.0930	-0.610***	-1.767***	-3.861**	0.188	-1.031	-1.577	-5.154**	59.67
	(0.632)	(0.411)	(0.000)	(0.000)	(0.047)	(0.703)	(0.110)	(0.183)	(0.024)	(0.503)
GDP growth	0.009	0.021	0.083**	0.131**	0.554**	-0.028	-0.039	-0.039	-0.024	-0.832
	(0.509)	(0.334)	(0.013)	(0.012)	(0.048)	(0.753)	(0.673)	(0.869)	(0.925)	(0.783)
Naturalres	-0.006	-0.007	0.044**	0.103***	0.521	-0.200***	-0.175***	-0.265	-0.933***	-15.13**
	(0.169)	(0.230)	(0.019)	(0.000)	(0.147)	(0.000)	(0.000)	(0.167)	(0.000)	(0.032)
Lnlaborforce	0.081	-0.046	-0.185	-0.588**	-3.005**	0.602*	-0.153	-1.466*	-5.140***	-66.80**
	(0.183)	(0.574)	(0.156)	(0.011)	(0.034)	(0.060)	(0.877)	(0.093)	(0.009)	(0.030)
Openness	0.016***	0.020***	0.029***	0.057***	0.052	0.177***	0.181***	0.402***	0.667***	5.672***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.434)	(0.000)	(0.000)	(0.000)	(0.000)	(0.009)
N	900	900	900	900	900	943	943	943	943	943

Notes: The dependent variables used are FDI as a percentage of GDP (FDIGDP) and FDI stock as a percentage of GDP (FDISTOCK).

Continuation of table 3.7.3

	(1) (10Q) FDIGDP	(2) (25Q) FDIGDP	(3) (50Q) FDIGDP	(4) (75Q) FDIGDP	(5) (95Q) FDIGDP	(6) (10Q) FDISTOCK	(7) (25Q) FDISTOCK	(8) (50Q) FDISTOCK	(9) (75Q) FDISTOCK	(10) (95Q) FDISTOCK
Inflation	0.000	0.000	-0.000	0.000	-0.001	0.000	-0.000	0.001	-0.000	-0.102
	(0.902)	(0.881)	(0.843)	(0.986)	(0.960)	(0.984)	(0.807)	(0.908)	(0.936)	(0.850)
Human cap	-0.0633	-0.0930	0.549**	0.376	-4.666**	-4.055***	-2.027	-0.675	11.51	-158.3
	(0.724)	(0.723)	(0.042)	(0.508)	(0.030)	(0.000)	(0.345)	(0.859)	(0.111)	(0.195)
Mobile	0.003*	0.006***	0.009***	0.021***	0.051**	0.099***	0.115***	0.139***	0.160**	-1.153
	(0.072)	(0.001)	(0.001)	(0.000)	(0.028)	(0.000)	(0.000)	(0.000)	(0.016)	(0.348)
Transport	0.001	-0.003	-0.005	-0.012	-0.099	-0.067**	-0.073*	-0.233***	-0.397***	-10.17***
	(0.850)	(0.579)	(0.207)	(0.544)	(0.135)	(0.023)	(0.058)	(0.006)	(0.007)	(0.006)
_cons	-1.351	1.433	5.976**	19.32***	83.83***	-5.406	13.60	40.03**	115.9**	1675.1**
	(0.188)	(0.314)	(0.038)	(0.000)	(0.008)	(0.344)	(0.401)	(0.027)	(0.011)	(0.013)
N	900	900	900	900	900	943	943	943	943	943

Notes: The dependent variables used are FDI as a percentage of GDP (FDIGDP) and FDI stock as a percentage of GDP (FDISTOCK).

3.8 Conclusion

In conclusion, this chapter examine the determinants of FDI in Africa using panel data methods to investigates the determinants of FDI in 51 African countries over the period of 1996-2019. it provided a comprehensive analysis of the traditional, infrastructural, institutional, and financial determinants of foreign direct investment (FDI) in Africa, employing a range of econometric techniques including POLS, LSDV, PPML, and quantile regression as robustness check . The results shows that Africa continues to attract both market-seeking and resource-seeking FDI with market size, labour force, and trade openness are consistently significant drivers of FDI inflows. However, the analysis also reveals that infrastructural reliability particularly the quality and consistency of internet, electricity, and ICT services, negatively affects FDI inflows, underscoring the importance of not just access but functionality. In contrast, infrastructural accessibility as measured by gross fixed capital formation is positively associated with FDI, reinforcing the role of operational factors in investment decisions. Financial development indicators, particularly financial market institution and financial institutional access is drivers of investment, though their influence varies across specifications.

Institutional quality, when disaggregated into its component indicators, shows a mixed influence: while government effectiveness and control of corruption positively attract FDI, voice and accountability and the political institutional index are negatively significant. These findings suggest that investors may favour environments with limited democratic oversight, echoing prior literature but raising important ethical and policy concerns. Financial development indicators particularly financial market depth and institutional access are positively associated with FDI inflows, though their significance varies across specifications and quantiles.

To enhance the credibility and generalisability of these findings, the chapter incorporates two key robustness checks: the use of FDI stock as an alternative dependent variable and the application of quantile regression. The FDI stock models reaffirm the positive role of financial development while revealing a consistently negative relationship between institutional quality and long-term investment, suggesting that certain governance reforms may deter rent-seeking investors. The quantile regression results further demonstrate that the impact of institutional and financial variables is not uniform across the distribution of FDI. For instance, institutional quality becomes

significant only at the median quantile for FDI inflows, while financial development shows increasing significance at higher quantiles, particularly for FDI stock. These findings underscore the importance of distributional heterogeneity and confirm that investor behaviour varies by investment intensity.

Overall, this chapter contributes to the literature by demonstrating that FDI determinants in Africa are multifaceted and context-dependent, shaped by both structural economic factors and the interpretability of institutional and infrastructural signals. The methodological innovations and robustness checks employed here lay a strong empirical foundation for the regional and sectoral analyses in subsequent chapters.

CHAPTER 4: Institution and FDI Nexus in Africa's Five Regions

4.1 Introduction

The institutional quality of the host countries is an important tool to attract inward FDI inflow into the countries. Therefore, for the development of African countries, where FDI is an essential determinant, good governance and institutional quality are seen as part of the important factors that attract foreign investors and create a conducive investment environment in the host country. Institutions create the political, economic and incentive structures that improve the performance of the economy in the host country (Asamoah and Mensah 2019).

According to Acemoglu et al (2005) differences in economic performance among countries is due to their institutional quality, and Cull and Xu (2005) explain that local firms are discouraged from reinvesting their profits in a country with poor institutions. Thus, Asiedu and Lien (2011), explained that Africa is a continent with weak institutions, high levels of corruption and low level of infrastructure development. Hence, Adegboye et al (2020) further explain that Sub-Sahara African economies suffer from capital deficiencies. They further explain that the region therefore obtains finance and aid externally from the activities of the foreign investors, which enhances economic development and growth.

Although, the cross-country institutional determinants of FDI in Africa has been examine in Chapter 3 of this study, as all the 51 Africa countries used is investigated in one sample. Hence, considering the different features of Africa countries in socio-economic, institution and political conditions, it will be important to investigate the impact of institutional quality in the African region to account for the country's heterogeneity for a more in-depth understanding whether variation exit across such classification on the impact of institution in attracting FDI inflow into Africa region and to overcome any bias or issues that may arise due to unaccounted heterogeneity.

To contribute to knowledge, in chapter (4) of this study, Africa countries is subdivided into five regions including (Northern Africa, Central Africa, Eastern Africa, Southern Africa and Western Africa) the latter four made up sub-Sahara Africa and further divide Africa into (land locked and non-landlocked countries) for comparative study of the impact of institutional determinants in Africa sub-region as little studies has been done to investigate this (Bahati and Mbithi 2022; Korsah et al 2022); (see appendix 1 Table b3 for list of Africa sub-region). Previous studies have

investigated the determinant of FDI in Africa focusing on sub-Saharan Africa (Jaibai and shenai (2019); and the result to this is inconclusive and the determinant of FDI in the west Africa region is understudied (Korsah et al., 2022) and suggest that future research should investigates the comparative of Africa region and also consider the governance factor as a determinant of FDI flow into this region.

Secondly, noting that Africa countries is characterised by different political regime for in-depth analysis to add to knowledge of FDI inflow in Africa, the countries is divided into Authoritarian, Democracy, Flawed Democracy and Hybrid regime for better analysis on the impact of institution determinant on FDI inflow across these countries as previous studies argued that democratic regime attract foreign investors to invest in the host countries compared to authoritarian regime (Madani and Nobakht 2014). Hence, Africa countries are also divided into different income group (low-income countries, middle income countries, upper middle-income countries and high-income countries).

Lastly, this study divides African countries into different Ease of Doing Business (EDB) (Easy, medium and below average ease of doing business) to investigate the impact of institution on FDI inflow to Africa, as environment that is investment friendly is seen to attract the inflow of FDI. According to World bank (2020), to improve businesses in the global economy most of the countries want to create a conducive environment to attract investor although, due to country specific effect a countries may have, the inflow of FDI may differ across countries base on EDB and researcher has rarely examined this in reference to Africa (Ijishar et al 2023). The countries are also divided into human development index (low human development, middle human development, high human development and very high human development) and different economies freedom (Moderately free, mostly unfree, repressed and not applicable) in Africa countries. The next section explained the trend of FDI inflow in relations to institutional quality in Africa.

4.2 Trend of FDI inflow in African Sub Region

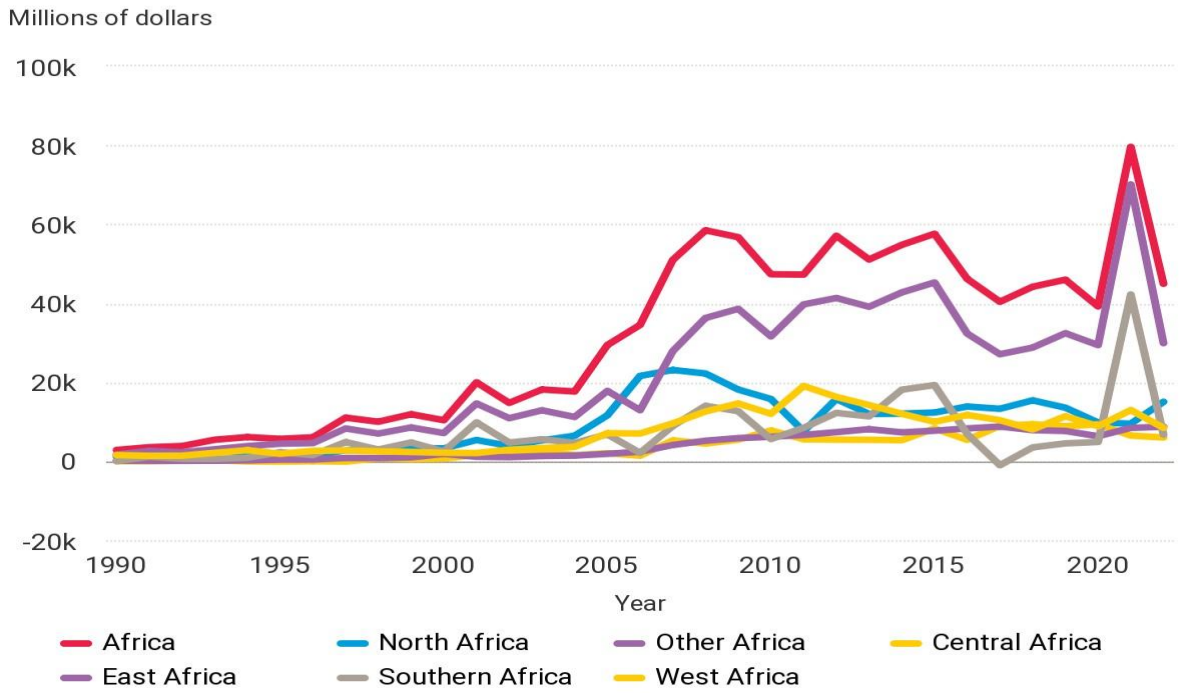
According to the world Investment Report (2022) African investment inflows are 5.2% of global FDI which account for $83billion in 2021 and this total was due to the South African intra firm financial transaction and in 2022 African experience a decline in the inflow of FDI (See chapter 3,

section 3.1.2). However, the African regions received FDI inflows to different degrees. In 2021 West Africa received an increase of 48% to $14 billion, East Africa received an increase by 35% which is $8.2 billion, Central Africa remain flat at $9.4 billion, North Africa declined by 5% to 9.3 billion and Southern African increased almost tenfold to $42 billion (World investment Report 2022).

According to the report of UNCTAD, (2023), global investment fell by 12% in 2022, the report further explains the inflow of FDI from 1990 to 2022 in the Africa sub region. In 1990, Africa attracted $2,845m, other African (i.e., sub-Sahara Africa attract $1.690 million, west Africa, north Africa, east Africa, southern African and central African inflows is $1,553 million, $1,1155 million, $133 million, $5 million and -$1million).

In 2000, considering the policy reform, incentive, and emerging economic partner with Africa countries, FDI inflows increased in Africa to $10,382million, Sub-Sahara Africa, North Africa, Southern Africa, West Africa, East African and Central Africa FDI inflow currently is $7,132million, $3,250million, southern Africa $2,476million, $2,131, $1,855million and $670 respectively. In 2010 Africa FDI is $47,335million, an inflow to sub-Sahara Africa, north Africa, west Africa, central Africa, east Africa, and southern Africa is $31,590million, $15,746 million, $12,004million, $6,181 million and $5,605 million. In 2022 Africa attract $44,929 with the share of FDI inflow to sub-Sahara $29,891 million (which is other Africa countries) north Africa $15,038 million, east Africa $8,726 million, west Africa $8.454 million, southern Africa $6,704 million, and central Africa $6,006. It is graphically show below.

Figure 4.1.1. FDI Inflow in African Sub-region from 1990- 2022 (millions of dollars)

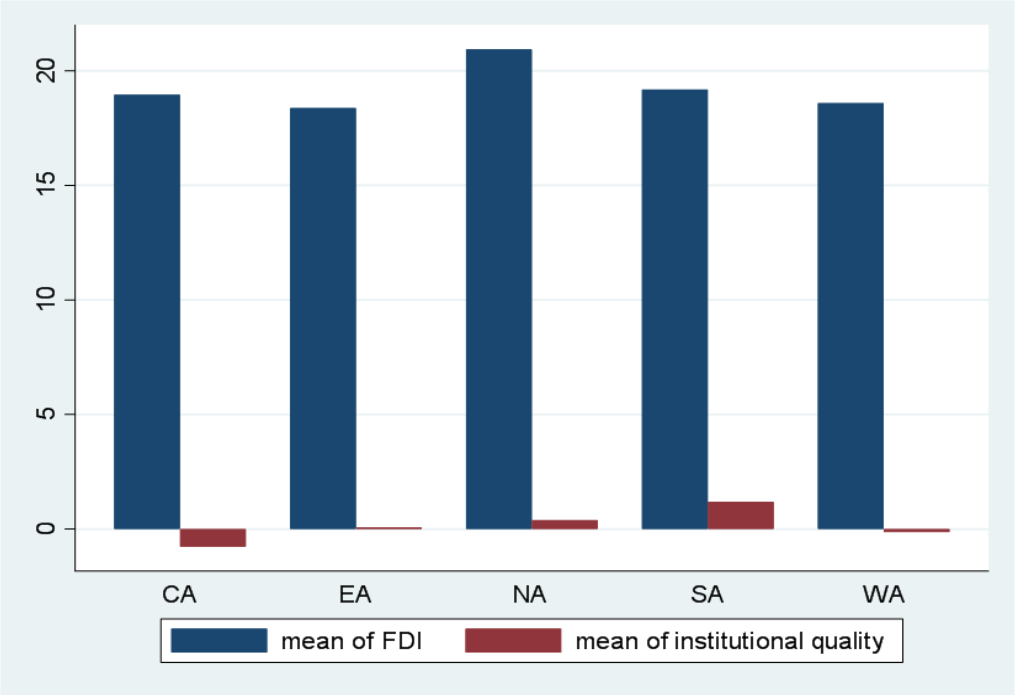


Source: UNCTAD World Investment Report 2022

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However, following the report explain above, it shows that FDI inflows varies even across African region in absolute term which signified that for policy maker to understand and make decision on the factors that attract FDI into African a region analysis of the countries is essential. Figure 4.1.2 below shows the average inflow of FDI into African region and level of institutional quality as use in this study.

Figure 4.1.2. Average FDI Inflow in African Sub-region from 1996- 2019 (Current US dollar) and Institutional Quality



c

Source: Author, World Development Indicator (2021)

Note: Central African (CA), Eastern African (EA), NA (Northern Africa), Southern Africa (SA), West African (WA)

The figure above shows the average FDI inflow into African region as used in this study from 1996 – 2019. The five African regions used in this study is the Eastern Africa (EA) which comprises of 16 African countries, Western Africa (WA) which comprises of 16 African countries, Central Africa (CA) comprises of 9 African countries, Southern Africa (SA) and North Africa (NA) comprises of 5 African countries each. As shown in the figure, FDI flow in these five regions varies this can be attributed to region specific effect like access to market by foreign investors, natural resource availability and different institutional structure (both political and socio-economic institution) across the region.

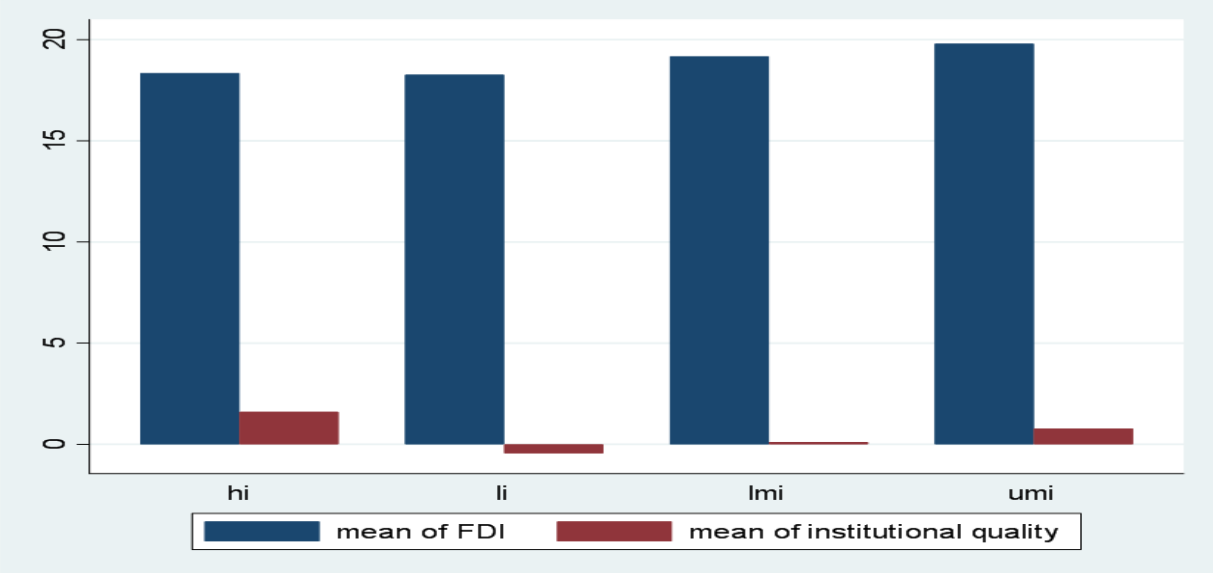
According to World investment report (2024), North Africa attract the highest FDI inflow as show in the figure as Egypt is classified as the countries receiving the highest FDI flow in this region as it has a notable sector in oil and gas infrastructure. Eastern Africa has the less FDI inflow compared

to the other region while western African attract more than Eastern Africa, central African attract more than western Africa, followed by southern African and Northern African attract more FDI than other Africa region.

The quality of institution in this region also varies as the measure use in this study is –2.5 to 2.5 which indicates weak institutional quality and strong institution quality respectively. In term of institutional quality Southern region rank highest compared to order region while central Africa region ranks the lowest indicating challenges in the governance effectiveness. The next subsection explains the trend of FDI inflow and institutional quality level across different income groups in Africa

Thus, this explain how the institution quality in Africa region is weak and as explained by Bok pin (2017) that Africa countries are characterised by weak institution, and it affect the inflow of FDI into the region. The Average FDI inflow into Africa Sub-region is graphically represented below and Cleeve (2008) found that countries with a stable macroeconomic and conducive business environment attract more FDI into other sectors and not only in sectors that are rich in natural resources.

Figure 4.1.3. Average FDI Inflow in African based on income group from 1996- 2019 (Current US dollar) and Institutional Quality



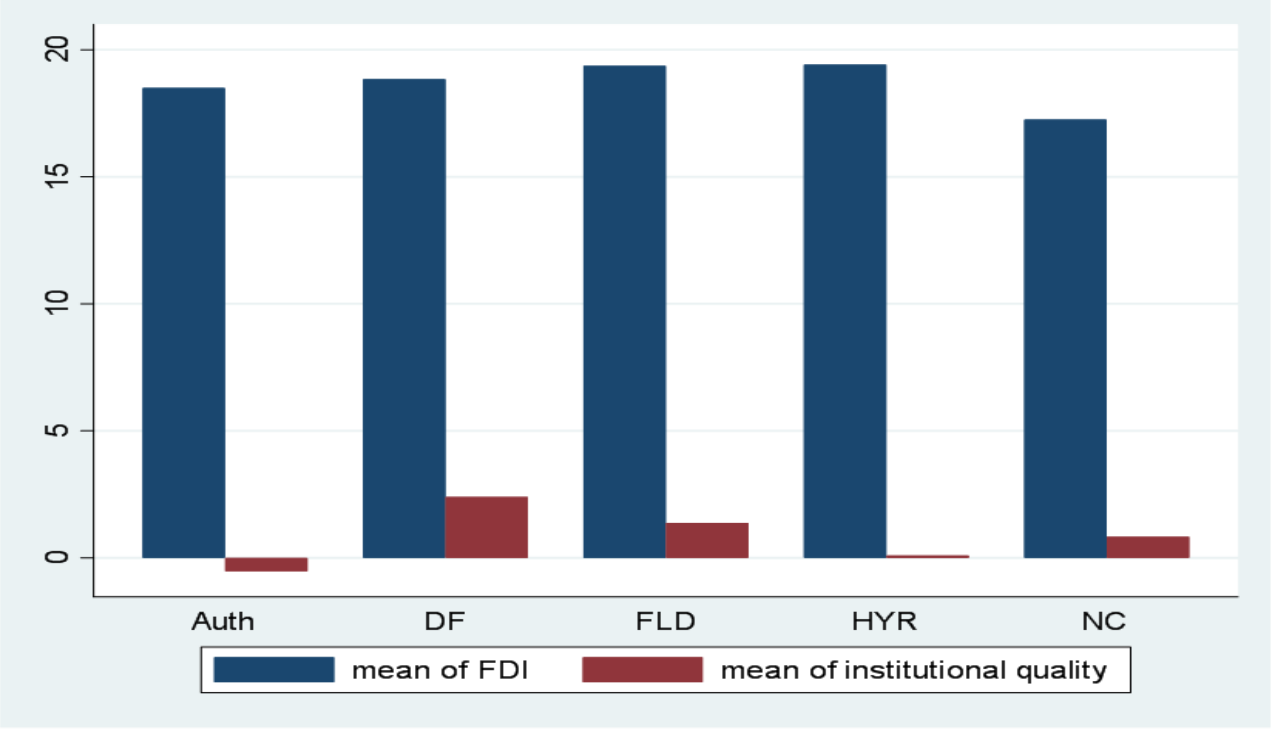
Source: Author Calculation, World Development Indicator (2021)

Note: HI (high income countries), li (low-income countries), MIL (lower middle-income countries) UMI (Upper middle-income countries).

The figure 4.1.2 show the classification of African countries based on income groups. The FDI inflow into high income (hi) countries is $18.3 million, in low income (ll) countries is $18.2 million, in middle income countries is $19.1 million while upper middle-income countries $19.8 attract more FDI than the other income group in the African region thus this study examine the institutional determinant of FDI based on different income group.

The institutional quality in African high income (hi) and upper medium income countries is above 2 and 1 respectively ranking higher than the other Africa region which is –1 for low-income countries in Africa and 0.5 for lower middle-income countries. The next sub- section discussed the trend in different political group.

Figure 4.1.4. Average FDI Inflow in African based on Political Regime of the countries from 1996- 2019 (Current US dollar) and Institutional Quality



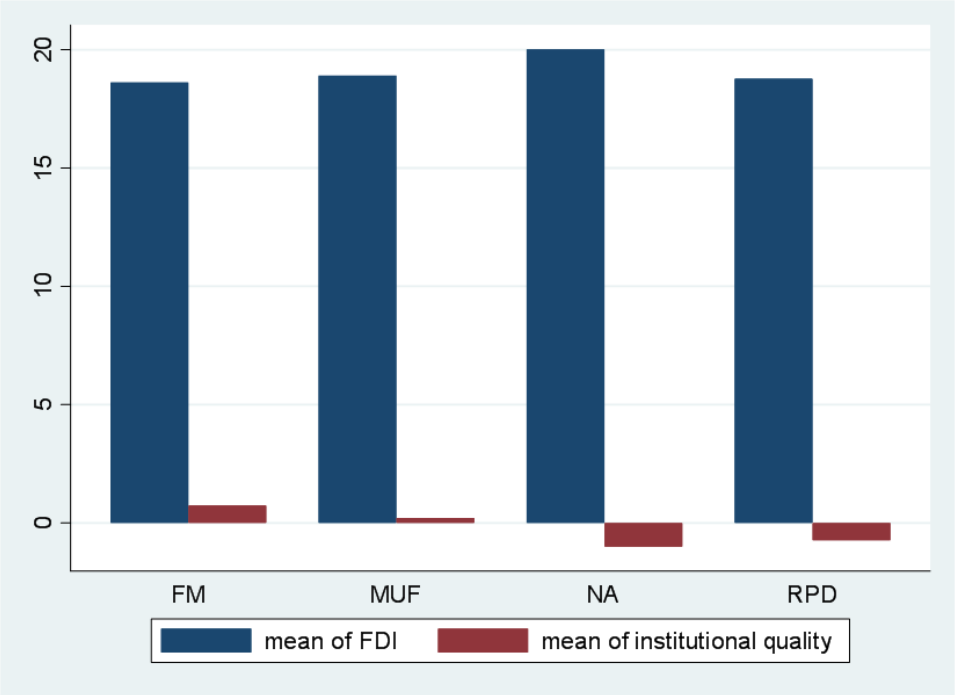
Source: Author Calculation, Democracy Index (2022)

Figure 4.1.4 shows FDI inflow into Africa based on the different political regime and this classification is based on the Democracy index (2022). The NC (Not Applicable Countries) is the African countries that does not practice any political regime the attract less FDI, DF (Full Democracies) countries attract more flows than NC in Africa. Full democracies are countries where political freedom and civil right are respected and reinforced by a conducive political culture following the democratic principles. while the Authoritarians regime are countries with dictatorships where human right is abuse and infringe and election are not free and fair. It attracts more than DF because only one Africa country practice the full Democracy regime. Hybrid regime (HYR) are countries that perform electoral fraud regularly and do not allow a free and fair democracies. The government in these countries always put pressure on political opponent and the countries are characterized by non-independent judiciaries, harassment, anaemic rule of law and governance functioning issues and flawed democracies (FLD) are countries where some civil rights are respected and there is free and fair election, but they have issues with media freedom, weak governance, critics, and political opposition suppression.

Therefore, as show below countries with weak political institution attract more FDI into Africa region as explain by Asiedu and Lien (2011) democracy impact FDI inflow in countries that the natural resource export is less as they do not allow appropriation of natural resources by foreign investors, and Jensen (2003) argue that democratic government attract more FDI inflow than an autocratic government. Furthermore, according to Bok pin et al (2017) foreign investor will want to invest in African countries with weak institution and increase corruption to bribe their way in doing business in the host country and they further explain that institution alone cannot attract FDI into Africa.

The authoritarian Africa country use in this study comprises of 25 Africa countries, the hybrid and flawed democracies countries comprises of 17 and 6 countries respectively and the full democracy is only Mauritius country (see Appendix Table A1 for list of countries). The institutional quality of the among the political regime countries also varies as full democracy alongside flawed democracy has the highest ranking and authoritarian has the lowest ranking. The next section discussed the trend of FDI in Africa countries based on ease of doing business.

Figure 4.1.5. Average FDI Inflow in African based on Economic freedom countries 1996-2019 (Current US dollar)



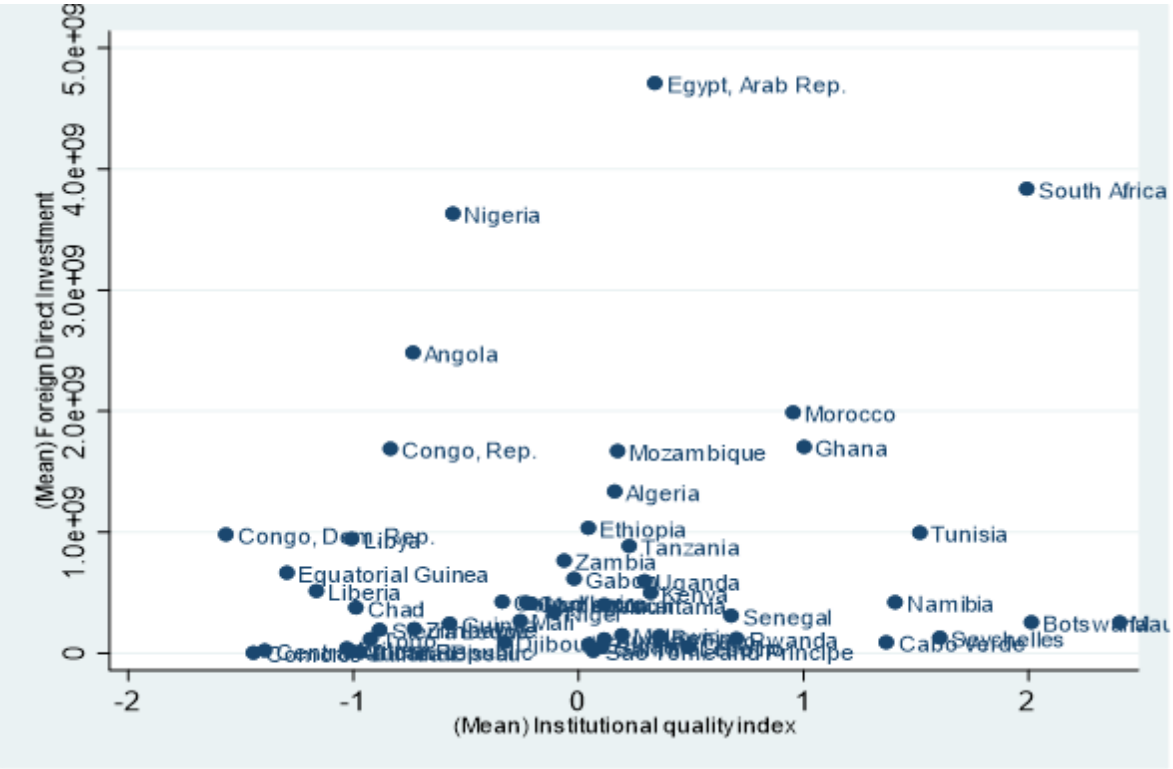
Source: Author Calculation, The heritage foundation (2023)

Note: Moderately free (FM) comprises of 5 Africa countries is rank between (60.0 -69.9), Mostly unfree (MUF) comprises of 30 Africa countries is rank (50.0-59.9), Repressed (RDP) comprises of 13 Africa countries is rank between (0 -49.9), The NA is the country without any ranking (3 Africa countries).

Figure 4.1.5 shows the inflow of FDI into African based on Economic Freedom. According to heritage foundation, economic freedom is an individual right to control their property or labour. However, in the society that is economically free, people are free to invest, produce and consume as government allow free capital, goods, and labour.

Therefore, the figure shows the inflow of FDI into the Africa country based on economic freedom. Most of the Africa country is between the rank of (50-59.9) which is moderately unfree and repressed which is rank between (0-49.9). this may affect the inflow of FDI into the region. It is graphically illustrated below. The institutional quality is rank high in countries with free economic freedom and weak in repressed countries.

Figure 4.1.6. Average FDI Inflow and Institutional Quality in Africa based on Africa Countries 1996- 2019 (Current US dollar)



Source: Author Calculation, World Development Indicators (2022)

The figure below explained the relationship of FDI and Institutional Quality. In the figure Egypt attract more FDI than other African countries and the institutional quality of Egypt lied between 0 and 1 which explain that the institutional quality of Egypt is not too weak or strong as the data of institution used in this study rank institutional quality (-2.5) as weak institution and (2.5) as strong institution. Egypt is also one of the countries that attract FDI into Northern Africa as they have large investment in production and exploration agreement in extractive industries (UNCTAD, 2022).

According to world bank statistics between 2011 to 2020 the five top recipient countries in Africa that attract FDI into its region are Egypt, Nigeria, South Africa, Mozambique, and Ghana with inflow of $56.2billion, $45.1billion, $43.1billion, Mozambique 37.17billion and $32.5 billion respectively. Thus, during the 2014 – 2018 period, China invested $72 billion and create jobs that is more than 137 000. They remain the most important contributor of FDI in Africa. The emerging

partner of Africa are China India and United Arab Emirates, and they are responsible for 34% of FDI projects. The other traditional partner countries that invest in Africa are United States, France, and United Kingdom.

In 2021, South Africa attracts more than tenfold FDI into the southern Africa because of intra financial transaction and large corporate reconfiguration (World Investment Report 2022) and it has a strong institution which lied between 2 and above and Nigeria also attract FDI into the western African region due to expansion in gas and oil investment increased the country FDI inflow. The institutional quality of the country is between 0 and -1 that show that Nigeria institution is weak. The other African countries lied below Angola. Nevertheless, Morocco, Ghana, Tunisia, Namibia, Seychelle e-tc. Institution Quality is between 1 and 2 and Congo, Central Africa, Liberia Chad e-tc. institutional quality is between -2 and -1. This show that the institutional quality of Africa is weak as most of the African country is between low institutional quality threshold, which is -2.5 and, in this study, just one which is Mauritius is above the strong institutional quality (2.5).

Thus, chapter 4 is an extension of chapter 3, and it focus on examining the institutional determinants of FDI in African sub region considering that most FDI literature focus on Sub-Sahara Africa or other Africa region and just analyse the direct relationship of FDI and institution. This study examines the comparative analysis of African region.

However, for in-depth understanding, and good judgement of policy making by policy maker in Africa region, this study divides the Africa countries into Northern and sub-Sahara African, which the sub- Sahara Africa countries which is further divided into (Eastern Africa, Western Africa, Central Africa, and Southern Africa). This study also further classified the African countries into different groups by income, political regime, human development index, economic freedom, geographical group, and ease of doing business to the best of my knowledge base on literature, this is the first of its kind. The next section is the literature review

4.3. Literature Review

This section discussed the theoretical framework and empirical literature of the impact of institutional quality on FDI inflows.

4.3.1 Theoretical framework

Institution is one of the important determinants of FDI inflow into the host country (North 1990). However, when deciding which country to invest, foreign investors has shown rapid interest in institutional quality (Bevan et al 2004). According to Dobrowolska et al (2021) property right and governance are seen as country specific factors that affects the decisions of foreign investors to invest in a particular host country and the assumption that countries with a better institutional quality attract more FDI inflows motivate policy reform among different countries (Aziz 2018). Institution is human invented constraint consisting of political, structural, social and economic issues in which actions are perform by economic actors to maximize return on investment (North 1990).

According to Wilhelms (1998) institutional FDI fitness theory, the theory argues that FDI fitness is influence by four institutions which includes the government, socio-culture, markets and education and competitive advantage is seen as a function of country's policies, institution and implementation as FDI fitness is the ability of a country to attracts, retain and absorb FDI. The inflow of FDI is utilized by a country institutional fitness to meet with the expectations of its foreign investors both internal and external. A country with a high institutional fitness, show how institution of a country is predictable, transparent, reliable and function well. Considering that Africa sub-region is characterised by different structure and institution which cause variation in the inflow of FDI between this region, although the uneven distribution of FDI inflows across countries is explains by the institution fitness theory as countries with high institution fitness attract more FDI inflow compared to countries with political instability and ineffective government.

North (1990) explained that good institution reduces business cost and affect economic activities through various means which is reducing the cost of production, manufacturing, and transaction in order to maximise profitability and a good investment location for source country is environment with good institution, also risk free to utilised FDI better (Sabir et al 2019). Hence, he further explained that countries or market that is characterised by poor institutional quality, the investment in such countries required more time and resources to monitor. However, in a country where contract enforcement is difficult, property right is protected poorly, slower economic activity and high-risk premium such country will not attract FDI inflow because of its unconducive business environment and African markets fall into these categories.

Moreover, institution presents locational advantage for foreign investors as it impacts profitability in host country. The concept of Dunning's locational advantage was expanded by including institutional factors, infrastructure, and economic factors as the focus of foreign investors has shifted from traditional locational advantages such as natural resource availability, labour cost to creative locational advantage such as institution, infrastructure and knowledge-based asset (Bevan et al 2004; Narula and Dunning 2000; Ali et al 2008). A country with good institution and best economic facilities attracts more FDI inflow into the country (Dunning 1998). He argues that the decision of foreign investors depends on other macroeconomic indicator and good institution. Thus, based on the theory of Dunning's eclectic paradigm and North's institutional theory, the inflow of FDI depends on institutional quality, market size, efficiency seeking, natural and human resources of the host country.

Thus, the next section explains the literature review of the empirical work done by researcher and scholar of international economics on the relationship of FDI and institution.

4.3.2 Empirical Framework

Institutional quality positively impacts economic growth in the theoretical literature (Ali et al. 2010; Acemoglu and Verdier 1998; Knack and Keefer 1995, North 1990). Thus, some studies investigate institutional quality effect on FDI using rule of law, property rights enforcement, government effectiveness, voice, and accountability, and control of corruption (Buchanan et al. 2012; Bénassy-Quéré et al. 2007) and find that FDI are negatively associated with weak institution.

Awadhi et al (2022) use the institutional fitness theory to examine the impact of institutional development on sub-Sahara African countries and find that only rule of law and government effectiveness attracts FDI in this region and also mentioned that market size and trade openness have strong impact in attracting FDI into SSA region as the find a positive and significant effect on FDI inflow. Musili (2023) also find positive and significant effect of institutional indicators on FDI inflows in Eastern African countries by using panel data to investigates 6 Eastern Africa countries from 2005 to 2021. He mentioned that research can be carryout to investigates the institutional factors that determines FDI inflow using comparative studies between different regions of Africa. This is examined by this study to add to knowledge of FDI in Africa.

Bahati and Mbithi (2022), investigate the determinants of FDI in Central and East Africa using Panel Autoregressive Distribution Lag (P-ARDL) estimation and find that in the long run trade openness, market size, political stability and infrastructure quality, attract FDI inflow in the Central and Eastern Africa and also find that in Central Africa an increase in resource rent decrease FDI inflow into the region and regional integration is important to attract FDI in both region.

Ijirshal et al (2023) examines ease of doing business and investment among Western Africa from 2006 to 2023 using fixed and random effect model for 11 west Africa countries, they find a bidirectional relationship between ease of doing business and FDI inflow and suggest that the improvement in ease of doing business in this region will attract FDI and better ease of doing business improve domestic investment.

Anyanwu and Yameogo (2015) investigates the factors that determined FDI in Western Africa from 1970 to 2010 using GMM and OLS and find U-shape between economic development and FDI inflow and they find negative relationship between FDI and real GDP per capital, domestic credit and life expectancy in the region. Korsah et al (2022) also examines the factors that attracts FDI in 16 west Africa region using fixed and random effect from the period of 1989 to 2018, the study finds that political stability is insignificant in attracting FDI inflow in Western African.

Mohamed (2022), in his investigation the role of institutional quality in finance growth nexus in 4 North Africa countries, using dynamic GMM for the period of 2000 - 2018 in finds that a better institutional quality will lead to improvement in economic growth and encourage more FDI inflows into the North Africa region. The study also mentions that in this region, institutional development compliment financial development.

In the literature review, the following is observed. Firstly, different method and technique is used to investigates the institutional determinants of FDI which lead to mixed result. Secondly a comparative analysis is not conducted within the five Africa region to examine FDI determinants which implies that heterogeneity issue may arise due to variation across African countries and cross – section dependence may be an issue with panel data. Hence, this study investigates the institutional determinants of FDI in different African region, Income groups, political regime, ease of doing business countries and geographical region for in-depth analysis of the factors that attract

FDI into this region and this will help policy maker make inform decision. The next section explains the methodology used.

4.4. Methodology

In this chapter the study uses the methodology use in the chapter 3 above which is the prefer method (see Chapter 3.4 for details).

4.3.1 Method

This chapter adopts the Poisson Pseudo Maximum Likelihood (PPML) estimation technique, incorporating country and time fixed effects, to examine the institutional determinants of foreign direct investment (FDI) across five African sub-regions Northern, Southern, Eastern, Western, and Central Africa as well as to conduct a comparative analysis between landlocked and non-landlocked countries. The PPML estimator is selected for its robustness in handling zero-valued FDI observations, its ability to accommodate heteroskedasticity, and its suitability for multiplicative models without requiring log transformation of the dependent variable (Santos Silva and Tenreyro, 2006).

In contrast to Chapter 3, which employed multiple estimation techniques, this chapter focuses exclusively on PPML to ensure consistency and reliability in subgroup analysis. The inclusion of country and time fixed effects enables the model to control for unobserved heterogeneity across countries and over time, which is particularly important given the structural and institutional diversity within and across African sub-regions.

As PPML does not accommodate negative values, and given that net FDI inflows to Africa include some negative observations, these values have been excluded from the analysis. Specifically, 62 negative observations representing approximately 5% of the total sample were removed, as the focus of this study is on FDI inflows rather than disinvestment. This approach is consistent with the methodology adopted by Vasilyeva and Mariev (2021) and Dorkah et al. (2020), who similarly excluded negative values due to software limitations in handling dependent variables below zero in panel data estimation (see Vasilyeva and Mariev, 2021 for details).

In summary, this chapter applies PPML with country and time fixed effects to account for time-invariant country-specific characteristics and period-specific shocks, thereby enhancing the robustness of the analysis of institutional influences on FDI across African sectors and regions.

4.4.1. The Model

The model used in this chapter mirrors the specification in Chapter 3, with a particular focus on institutional quality as the key explanatory variable. The model is extended to allow for sub-regional and geographic comparisons by introducing interaction terms and subgroup analysis.

The model is specified as:

$$lNFDI_{it} = \beta_0 + \beta_1 lGDPPer\ Cap_{it} + \beta_2 GDPgrowth_{it} + \beta_3 Naturalres_{it} + \beta_4 inlaborforce_{it} + \beta_5 Openness_{it} + \beta_6 inflation_{it} + \beta_7 Infras_{it} + \beta_9 Inst.qual_{it} + \beta_9 financialdevp_{it} + U_t + Z_i + \varepsilon_{it} \quad (4.4.1.1)$$

4.5 Empirical Regression on the impact of institutional quality on FDI and Discussion

Table 4.5.1 present a PPML estimation result, with time and country fixed effect of the impact of institutional quality on FDI inflow in Africa, it two regions (Northern Africa and Sub-Saharan African), the Sub-Sahara Africa is further divided into four Africa region (i.e. Eastern Africa, Western Africa, Central Africa and Southern Africa). Africa is further divided into two geographical regions (i.e. landlocked and non-landlocked region). The methodology used in this chapter is the same as chapter 3 and the period considered is between 1996 and 2019. Column (1) presents the result for the full samples of African countries as used in chapter 3. (See result discussion in chapter 3 section 3.6.2 for details). Column 2 – 7 and 8 - 9 present result of African sub regions and geographical regions respectively. This is to examine the effect of institutional determinant on FDI inflows in different African region considering the different in the countries specific factor and characteristics for in-depth analysis.

Column (2) presents result for North African, institutional quality index (inst. qual) has a positive and significant effect on FDI inflow in north African countries at 1%. This implies that a stronger institutional quality such as legal system that is effective, a regulatory policy that is transparent and protection of property right will attract more FDI in this region and this finding is consistent with the study of Mohamed (2022) and the institutional theory (North 1990). GDP per capital is significant at 1%, this implies a positive relationship between FDI, and market size, an improve market size will increase FDI inflow into the north African region. Is also consistent with the

finding of Hakizimana (2015), Sabir et al (2019), Alshami et al (2015) and market growth as proxy by GDP growth is positive and significant in 5%. Openness is positive and significant this implies that a country characterised by free trade will attract more FDI inflow into the region. In the north African region natural resources (naturalres), (lnlaborforce), transport as a proxy of infrastructure and financial development is has a positive and insignificant relationship with the inflow of FDI in the north Africa while inflation is negative and insignificant which show that the foreign investor investing in this region will not want to invest in a country which the economic performance are unstable.

In column (3) we have the result for sub-Sahara Africa countries, institutional quality has a positive and significant relationship with FDI in the African Sub-region at 1% which implies that improving the institution will attract more FDI into this region. However, the finding of Azam et al (2012) stated that the improvement in institutional quality will help increase the credibility of the host country by securing the multi-national companies' asset. This is in line with the institutional FDI fitness theory by Wilhelms (1998), that a good institution should attract more FDI inflow into the host country as foreign investor will want to invest in a country where there is political stability and control of corruption. In the empirical literature the result is also consistent with the finding of Rodriquez-pose and Col (2017), Buchanan et al. (2012), Asamoah et al (2016)

Therefore, GDP per capital has a positive and significant effect on FDI at 1%, which implies that in sub-Saharan Africa countries an improve market size will attract FDI into the region and financial development (financial devpt) is positive and significant at 10%, this shows that a good institutional quality is a complementary to a developed financial institution in attracting FDI into the region. GDP growth and labour force is positive and significant at 1%, this shows that foreign investor will be willing to invest in this region if there is availability of labour to enjoyed low labour cost to maximise investment profit and openness is also found to be significant and positive. The study found insignificant and negative relationship between human capital (humancap), mobile, inflation and FDI inflows in Sub-Sahara Africa countries.

In column 4, this study found a different result, as institutional quality is negative and significant at 10% in Eastern Africa, this is consistent with Bokpin et al (2017). However, the negative relationship may be because of weak institution in the Eastern Africa countries which comprising of high rate of corruption, poor properties protection.

Furthermore, this implies that in this region an increase in the level of institutional quality will decrease the inflow of FDI into the Eastern Africa region. Thus, this simply mean that foreign investors that comes to this region would like to invest in the continent if there is corruption, lack of accountability and probity, breakdown in the rule of law and autocracy regime. However, Bokpin et al (2017) explained the two reasons why most study found negative correlation between institution and FDI, first reason been those foreign investors, may like to invest in autocratic countries and where the system can be exploit (Li &Resnick 2003), because the government may provide more incentive package and protection from labour union due to institutional quality break. However, when institution starts been effective the levels of investment dwindle for these investors. Thus, FDI inflow is higher in countries with low democracy and high level of corruption (Kim 2010).

Secondly, is because of the availability of natural resource, since investment in natural resource is capital intensive with long term period, foreign investor would like to invest in countries with weak institution in order to bribe their ways through, the negative association is confirm by (Asiedu and Lien 2011) that a country with a stumpy total export as a result of share of natural resources, FDI inflow is increased by democracy and a country with a high export, democracy affect the inflow of FDI negatively.

In eastern African, GDP per capital and openness is positive and significant at 1%, this is consistent with the theory of FDI. An increase in openness by 1% will attract 0.02% FDI into the region. In same vein, labour force (lnlaborforce)) is positive and significant at 5%, Mobility is a proxy for infrastructure is positive and significant at 10%, human capital (humancap) has a negative and significant effect on FDI at 5% and transport has a negative and significant effect on FDI at 1% in Eastern African region. Financial development is positive and significant at 1% in the region. Hence, inflation and natural resource are negative and insignificant in the region.

In column (5), institutional quality (inst.qual), GDP per capital (lnGDP per cap), labor force (lnlaborforce) is significant and has a positive effect on FDI at 1% in western African region. This implies that a 1% increase in the determinant it will cause an increase in FDI by 0.59, 1.10 and 5.31 unit respectively. This is consistency with the theoretical literature. While trade openness, Mobile and GDP growth has a positive effect, and it is significant at 5%. This is consistent with the finding of Adinda (2018), Bouchoucha and Benammou (2020) and the theory of FDI.

4.5 Empirical Regression on the impact of institutional quality on FDI and Discussion

Table 4.5.1: The institution determinant of FDI in Africa: Based on Africa sub-region and geographical region

	(1) Africa countries	(2) North Africa	(3) SSA countries	(4) Eastern Africa	(5) Western Africa	(6) Central Africa	(7) Southern Africa	(8) landlocked Africa	(9) Nonlandlock Africa
Inst. qual	0.320***	0.579***	0.401***	-0.350*	0.595***	-0.430	0.223	0.071	0.413***
	(0.009)	(0.002)	(0.001)	(0.058)	(0.000)	(0.272)	(0.668)	(0.719)	(0.003)
LnGDP percap	0.742***	1.380***	1.024***	1.568***	1.102***	-0.013	2.648**	1.486***	0.553**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.953)	(0.035)	(0.000)	(0.011)
GDP growth	0.007	0.006**	0.006	-0.003	0.034**	0.024*	0.057	0.029**	0.007
	(0.120)	(0.027)	(0.152)	(0.934)	(0.016)	(0.097)	(0.113)	(0.032)	(0.116)
Naturalres	-0.003	0.004	0.007	-0.005	-0.004	-0.018	0.086***	-0.012	-0.003
	(0.783)	(0.801)	(0.463)	(0.805)	(0.780)	(0.104)	(0.004)	(0.521)	(0.766)
Lnlaborforce	1.919***	3.208	1.887***	4.428**	5.305***	0.0474	-3.678*	6.692***	2.003**
	(0.007)	(0.149)	(0.001)	(0.010)	(0.000)	(0.961)	(0.070)	(0.000)	(0.013)
Openness	0.0152***	0.029***	0.0172***	0.0117***	0.0103**	0.003	0.006	0.0171**	0.016***
	(0.000)	(0.007)	(0.000)	(0.002)	(0.038)	(0.773)	(0.178)	(0.013)	(0.000)
Inflation	0.000	-0.004	-0.000	-0.008	-0.000	-0.000*	-0.004	-0.011**	0.000
	(0.517)	(0.700)	(0.229)	(0.211)	(0.943)	(0.057)	(0.868)	(0.041)	(0.577)
Humancap	-0.095	1.166	-0.044	-1.871**	-1.253	0.358	1.399**	-2.452***	0.223
	(0.798)	(0.141)	(0.904)	(0.022)	(0.163)	(0.669)	(0.042)	(0.000)	(0.631)
N	923	100	850	269	303	159	92	247	676
R^2	0.788	0.912	0.810	0.884	0.949	0.813	0.989	0.868	0.787

Institutional quality (Inst.qual), financial development (financial devpt), natural resource endowment (Naturalres), openness (trade % of GDP) *p*-values in parentheses $^{*}p< 0.10$, $^{**}p< 0.05$, $^{***}p< 0.01$

Continuation of table 4.5.1

	(1) Africa countries	(2) North Africa	(3) SSA countries	(4) Eastern Africa	(5) Western Africa	(6) Central Africa	(7) Southern Africa	(8) landlocked Africa	(9) Nonlandlock Africa
Mobile	-0.001	-0.002	-0.002	0.008*	0.008**	0.002	0.001	-0.001	-0.001
	(0.644)	(0.684)	(0.316)	(0.090)	(0.043)	(0.731)	(0.908)	(0.851)	(0.704)
Transport	0.004	0.005	0.004	-0.020***	-0.007	0.013	-0.001	0.007	0.003
	(0.435)	(0.764)	(0.341)	(0.001)	(0.157)	(0.277)	(0.892)	(0.189)	(0.577)
Financial devpt	1.931*	0.385	1.791*	9.233***	3.637	2.615	4.351	6.692*	1.282
	(0.059)	(0.871)	(0.087)	(0.001)	(0.122)	(0.580)	(0.100)	(0.067)	(0.217)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
_cons	-62.31	65.93	-53.66	150.3*	137.4**	-155.4*	53.13	142.8*	-65.63
	(0.100)	(0.409)	(0.145)	(0.091)	(0.025)	(0.085)	(0.691)	(0.077)	(0.115)
N	923	100	850	269	303	159	92	247	676
R^2	0.788	0.912	0.810	0.884	0.949	0.813	0.989	0.868	0.787

p-values in parentheses $^{*}p< 0.10$, $^{**}p< 0.05$, $^{***}p< 0.01$

In column (6), institutional quality, GDP per capital, natural resources have negative effect and is insignificant in central African. GDP growth is significant at 10% and inflation negative and significant at 10% while mobile, transport, financial development, human capital, and openness is insignificant in the region.

In column (7), in the southern Africa institutional quality, Openness, GDP growth, mobile, financial development has a positive relationship but insignificant relationship with FDI in the region. This implies that the variable does not account for attract FDI into the region.

Natural resources is positive and significant in the region at 1% that is a 1% increase in the resource of the region will increase FDI by 0.09 unit. This implies that the factor that determine FDI in this region is the availability of natural resource in the region. This is consistence with the eclectic FDI theory and the finding of Bokpin et al (2015), Sabir et al (2019) and labour force is negative and significant at 10%.

In column (8), institutional quality has a positive and insignificant effect in Africa landlocked region. This implies that an improve quality of institution in the landlock countries in Africa can attract FDI into the region. The financial development (financial devpt) has a positive and significant relationship at 10%. This is consistent with the theory of FDI, as it implies that a 10% increase in the financial institution will increase the inflow of FDI into the region by 0.067 units. However, GDP per capital (lnGDP per cap), GDP growth, labor force (lnlaborforce) and openness has positive and significant effect to FDI inflow in the land lock African region at 1%, 5%, 1%, and 5% respectively. This is consistence with the theory of FDI and the finding of Dondashe and Phiri (2018).

Furthermore, inflation and human capital is significant and negatively affect FDI in the landlock region. This implies that there is no relationship between inflation, human capital and FDI in Africa land lock region while natural resource is negative, and mobile is negative and insignificant in this region.

In column (9) institutional quality has positive relationship with FDI in non-landlock Africa countries and significant. this implies that a 1% increase or improvement in the quality of the institutional quality will attract FDI by 0.41 units. This is consistent with the with the theory. Hence, Khan et al (2020) explained that a good institutional quality encourages foreign invest and give

them confident to invest in the host country. Openness, GDP per capital and labor force is positive and significant in the non-landlock Africa countries while financial development, transport, human capital, and GDP growth is positive and not significant.

The next section presents the result of institutional determinant based on different income group and human development index in Africa.

Table 4.5.2 presents the panel regression of the institutional determinant on FDI based on different income group and human development index. However, for in-depth analysis and robustness we further divide the African countries into different income group (based on World Bank classification) and human development index (based on United Nations Development Program). In this study only the Low-income countries, low middle income countries and upper middle-income countries are included in the analysis. The high-income countries are excluded because only one country in the sample is classified as high income (i.e., Seychelles) and the human development index sub- division use in the study is low human development index, middle human development index and high development index. The very high human development index is excluded because only Mauritius is classified in that group.

Column (1-3) present the result for the income group classification while column (4-6) presents the result for the classification of African countries based on the human development index.

In column (1), institutional quality is negative and insignificant in attracting FDI into the low-income countries in African, this implies that financial institution is not an important factor in attracting FDI into this region. This finding is consistent with Peres et al (2018). However, also found that institutional quality has an insignificant impact on FDI in developing countries (which Africa is part of the developing country) due to the weak structure of institutions and Buchanan et al (2012) mention that poor institution impedes FDI by increasing the cost of FDI and act like tax.

However financial development has a positive and significant effect on FDI in the low-income African countries at 1%. This implies that an improvement in the financial institution and effective financial market in this region will attract FDI into the region. According to the literature, for sustainable economy advancement, the financial system of a country is crucial which is based on social norms, laws, and rules of a country (Fernandez Gonzalez et al 2019, Islam et al 2020).

Table 4.5.2. The panel estimation of the institutional determinants of FDI based on different Income group and human development index in the African region.

	(1) Low-income countries	(2) Low middle income	(3) Upper middle income	(4) Low human development index	(5) Middle human development index	(6) High human development index
Inst. qual	-0.239	0.095	1.281***	0.020	-0.227	0.754***
	(0.228)	(0.531)	(0.000)	(0.912)	(0.245)	(0.005)
LnGDP per cap	1.245***	0.303	0.799***	1.062***	0.611**	0.371
	(0.000)	(0.185)	(0.001)	(0.000)	(0.014)	(0.480)
GDP growth	0.022*	0.054***	0.007***	0.025**	0.025*	0.008***
	(0.093)	(0.000)	(0.003)	(0.031)	(0.079)	(0.004)
Naturalres	-0.013	-0.011	0.020	-0.006	-0.013	0.009
	(0.445)	(0.328)	(0.286)	(0.666)	(0.184)	(0.710)
Lnlaborforce	4.864***	1.991**	1.422	6.068***	0.005	1.262
	(0.006)	(0.014)	(0.201)	(0.000)	(0.994)	(0.365)
Openness	0.020***	0.006	0.006	0.019***	-0.000	0.016
	(0.000)	(0.214)	(0.457)	(0.000)	(0.943)	(0.197)
Inflation	-0.000***	-0.000	0.008	-0.001**	-0.000	-0.008
	(0.004)	(0.592)	(0.387)	(0.021)	(0.542)	(0.460)
Humancap	-0.987*	-0.679	2.885***	-1.421***	-1.043	2.932***
	(0.083)	(0.185)	(0.000)	(0.005)	(0.154)	(0.002)
Mobile	0.002	0.005	0.005	0.004	0.006*	-0.006
	(0.640)	(0.180)	(0.190)	(0.302)	(0.082)	(0.134)
Transport	-0.009	0.011	0.041***	-0.006	0.009	0.003
	(0.107)	(0.104)	(0.000)	(0.173)	(0.301)	(0.850)
Financial devpt	9.673***	2.884***	2.427	8.323***	0.077	-2.969*
	(0.009)	(0.010)	(0.157)	(0.000)	(0.955)	(0.059)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
_cons	112.8	-74.16	120.2	158.4**	-82.22	-45.56
	(0.209)	(0.202)	(0.132)	(0.019)	(0.256)	(0.546)
N	403	392	128	487	296	119
R^2	0.832	0.851	0.927	0.906	0.824	0.865

Institutional quality (Inst.qual), financial development (financial devpt), natural resource endowment (Naturalres), openness (trade % of GDP) *p*-values in parentheses $^{*}p< 0.10$, $^{**}p< 0.05$, $^{***}p< 0.01$

However, in the new institutional economics, researcher consider that ensuring institutional quality can encourage a better law and order in a country and promote the financial system of the country, this gives investors confident to invest in such country (Khan et al 2020). The finding is also consistent with the theory.

Openness and labour force is positive and significant at 1%. This is consistent with the FDI theory and the finding of Sabir et al (2019). Inflation and human capital are negative and significant at 1% and 10% respectively. This shows the inverse relationship of FDI and institution in low-income countries in Africa region. While natural resource and transport is negative and insignificant. Mobile is positive and insignificant.

In column (2), institution quality, GDP per capital, mobile, transport has a positive and insignificant effect on FDI while inflation, human capital, natural resources have a negative and insignificant relationship with FDI.Moreover, GDP growth, labor force and financial development has a positive and significant effect on FDI inflow into the low middle income countries in Africa region. This is consistent with the theory and is consistence with the work of Islam et al (2020) and Sabir et al (2019)

Column (3), institutional quality is positive and significant at 1%. This implies that a good institution will attract FDI inflow into the upper middle income African countries. That is an improvement in the institutional quality by 1% will increase FDI by 1.28. this is consistent with the theory and the finding of Buchanan et al. (2012) and Bénassy-Quéré et al. (2007) Thus, North explained that good institutions reduce business costs and affect economic activities through various means which include reducing the cost of production, manufacturing and transaction in order to maximise profitability and a good investment location for source country is environment with good institution, also risk free to utilised FDI better (Sabir et al 2019).

GDP per capital, GDP growth, human capital and transport have a positive and significant effect on FDI at 1% in the upper middle-income Africa countries. This implies that a 1% increase of the variable will attract or increase FDI at 0.01-unit, 2.89 unit and 0.41 unit. This is consistent with the finding of Chakrabarti (2001), Rodríguez Pose and Cols (2017). Thus, labor force (lnlaborforce), natural resource (naturalres), openness, inflation, mobile and financial development are positive and insignificant in the upper middle-income countries in Africa.

In column (4), financial development, GDP per capital, labor force, openness and GDP growth has a positive and significant effect at 1% each except for GDP growth which is 5%. It is consistent with the theory and the work of Sabir et al (2019). This implies that an increase in the independent variable will attract FDI into the African countries with low human development index.Therefore, institution, mobile is positive and insignificant and natural resource, transport are negative and insignificant in the Africa countries with low human development index.

In column (5), institution is positive and insignificant in the Africa countries that are categorised under middle human development index. While mobile, GDP per capital and GDP growth has a positive and significant effect on FDI at 10%, 5% and 10% respectively. However, financial development, transport, labor force has positive and insignificant effect on FDI in the Africa countries with middle human development index.

In column (6), Institutional quality is positive and significant at 1% in Africa countries with the high human development index, this implies that an improvement in the institutional quality by 1% will increase FDI by 0.75% and financial development is negative and significant at 10% and human capital and economics growth are positive and significant at 1% level. Furthermore, GDP per capita, natural resource, labour force, openness and transport are positive and insignificant in the African countries with high human development index. The next section explains the impacts of institutional quality on FDI based on the different political regime.

Table 4.5.3 presents regression estimates for African countries classified by political regime (i.e., Autocratic, Hybrid regime, and Flawed Democracy. Mauritius, the only country in the sample practising full democracy, is excluded from the analysis due to its singular representation.

Column (1) present the result for countries under autocratic regimes. Institutional quality is positive but statistically insignificant in attract FDI inflows into the countries, suggesting that political restriction such as limitations on civil liberties and freedom of speech may deter foreign investors from investing in this environment as political instability and governance concerns likely undermine investors' confidence. However, financial development is highly significant at the 1% and positively associated with FDI inflows, into the Autocratic regime countries in African region. This finding implies that, despite institutional weaknesses or political constraints, financial system depth and efficiency play a critical role in attracting foreign investment. A well-developed

financial sector facilitates access to credit, reduce transaction costs, and enhances the investment climate by enabling smoother capital flows and risk management mechanism (Islam et al., 2020).

In autocratic contexts, where institutional quality may be compromised, foreign investors may rely more heavily on the strength of financial development to mitigate operational risks. The presence of robust financial institutions such as banks, equity markets, and regulatory frameworks can compensate for governance deficits by offering predictable financial services and investment support. This aligns with the eclectic paradigm of FDI, which recognises financial infrastructure as a key location-specific advantage (Dunning, 1993). Moreover, financial development may signal macroeconomic stability and policy credibility, even in politically restrictive environments. In the African context, where institutional weaknesses often coexist with reforming financial sectors, investors seeking returns in emerging markets often prioritise financial access and liquidity over democratic governance, particularly in sectors such as banking, infrastructure, and extractives where capital intensity is high. Thus, the significance of financial development in autocratic regimes underscores its role as a strategic enabler of FDI, capable of offsetting institutional limitations and enhancing investor confidence.

GDP per capital, Openness and human capital are also significant at 1% level, reinforcing the importance of market size, trade liberalisation and skilled labour in attracting investment into the Autocratic Africa countries. Other variables including labour force size, natural resource endowment, GDP growth and transport are positive and insignificant in the Africa countries practicing this regime.

In column (2), presents result for hybrid regimes. Institution quality is positive and significant at 1% level, implying that an improvement in governance such as enhanced regulatory frameworks, reduced corruption, and more effective public administration substantially increase FDI inflows in hybrid African regimes. This supports North's (1990) theory that institutions shape economic performance by reducing uncertainty and transaction costs.

Table 4.5.3. The panel estimation of the institutional determinants of FDI based on Political regime in African Countries.

	(1) Autocracy Regime	(2) Hybrid Regime	(3) Flawed democracy
Inst. qual	0.034	0.450***	1.326***
	(0.840)	(0.001)	(0.000)
LnGDP per cap	0.848***	0.775***	1.897***
	(0.001)	(0.000)	(0.000)
GDP growth	0.004	0.0401***	0.020
	(0.303)	(0.004)	(0.319)
Naturalres	0.000	0.004	0.074***
	(0.991)	(0.733)	(0.000)
Lnlaborforce	1.437	3.022***	-2.877
	(0.117)	(0.000)	(0.138)
Openness	0.018***	0.018***	0.003
	(0.000)	(0.000)	(0.533)
Inflation	-0.000	-0.003	-0.015**
	(0.781)	(0.618)	(0.045)
Human cap	1.542***	-0.900*	1.171**
	(0.003)	(0.051)	(0.048)
Mobile	-0.002	0.002	0.007
	(0.530)	(0.523)	(0.107)
Transport	0.006	0.001	0.009
	(0.418)	(0.817)	(0.276)
Financial devpt	7.761***	2.586	0.746
	(0.000)	(0.159)	(0.722)
Country FE	Yes	Yes	Yes
Time FE	Yes	Yes	Yes
_cons	-23.17	-8.307	-59.68
	(0.639)	(0.894)	(0.481)
N	450	318	116
R^2	0.835	0.893	0.968

Institutional quality (Inst.qual), financial development (financial devpt), natural resource endowment (Naturalres), openness (trade % of GDP) *p*-values in parentheses $^{*}p< 0.10$, $^{**}p< 0.05$, $^{***}p< 0.01$

In hybrid regimes, which blend democratic and autocratic features, institutional reforms may signal political stability and gradual liberalisation, thereby boosting investor confidence. GDP per capital, GDP growth, labour force, and openness are all positively associated with FDI and significant at 1% level. These results suggest that market size, economic growth, and trade liberalisation are key location-specific advantages in these contexts (Dunning, 1993). Hence, human capital is negatively associated with FDI and significant at the 10% level. This may reflect structural mismatches between educational outcomes and investor needs, or inefficiencies in labour market absorption. It could also indicate that while hybrid regimes may offer institutional improvements, they still face challenges in translating human capital into productive investment opportunities.

Column (3) present result for flawed democracy. Institutional quality (Inst. qual), GDP per capital, natural resource (Naturalres), and human capital has positive relationship with FDI at 1%, 1%, 5% and 5% levels, respectively. These results suggest that flawed democracies despite imperfections in governance benefit from stronger institutional frameworks, larger markets, and resource availability in attracting foreign investment. This aligns with Dunning's (2000) assertion that host countries with good institutions and abundant resources are more likely to attract the inflow FDI. The significance of human capital in this regime type may reflect better educational infrastructure and workforce readiness compared to autocratic regimes. Natural resources also play a prominent role, indicating that resource-seeking FDI remains a key driver in these contexts. However, other variables such as openness, mobile subscriptions, transport infrastructure, and financial development are positively signed but statistically insignificant. This suggests that while these factors may contribute to the investment climate, they are not decisive in flawed democratic settings.

Overall, the results highlight the differentiated impact of FDI determinants across political regimes. While institutional quality is important in attracting FDI in hybrid and flawed democracies, it appears less influential in autocratic contexts, where financial development and market size play more prominent roles. These findings underscore the importance of tailoring investment strategies to the political and institutional realities of host countries, as foreign investors responds differently to governance structures, institutional risk and regime type (Li and Resnick, 2003; Kim, 2010; Buckley et al., 2018; Han et al., 2018).

Building on the regime-based analysis presented in Table 4.5.3, Table 4.5.4 extends the investigation by examining how institutional determinants of FDI vary across classifications of economic freedom and regulatory performance. This layered approach enables a more multifaceted understanding of how governance quality interacts with broader economic and institutional contexts to shape investment behaviour across African countries.

Table 4.5.4, present the regression results examining the institutional determinants of FDI across African countries, classified by level of economic freedom (column 1-3) and ease of doing business (Column 4-5). This classification reflects the structural diversity of African economies, as highlighted by Asiedu (2006) and Yimer and Geda (2023), who argue that Africa differs from other global regions in terms of institutional capacity, regulatory frameworks, and investment climate. The current analysis responds to their call for deeper investigation into how institutional quality interacts with economic governance to shape FDI inflows across Africa.

Foreign investors are reluctant to invest in many African countries due to lack of economic freedom and ease of doing business. According, to the Heritage Foundation and Wall Street Journal (2023), no African country was rated as "economically free" (score 100 – 80). Only Mauritius received a "mostly free" rating, while five countries were classified as "moderately free" (score 70–79.9). Thirty African countries fell into the "mostly unfree" category (score 50 - 59.9), and fourteen were classified as "repressed" (score below 50), although Sudan was excluded from this study's sample. These classifications reflect widespread institutional inefficiencies, poverty, and infrastructural deficits in Africa. Similarly, ease of doing business scores range from 0 to 100, with higher scores indicating better regulatory performance. the ease of doing business assess the economy and regulatory performance of a country and this is score from a scale of 0 to 100 where 100 represent best performance is 100 and 0 is lowest regulatory performance.

Column (1) present result for the panel estimation of institutional determinants of FDI inflow in moderately free Africa economic. In this economic institutional quality, financial development and economics is positive and insignificant. However, human capital and mobile subscription are positively associated with FDI and significant at 5% level, suggesting that improvements in human capital and digital connectivity enhance investment attractiveness in moderately free economies in Africa, this implies that a 5% increase in both human capital and mobile will increase FDI by 3.52 unit and 0.01 respectively. GDP per capital is positive and significant at 1% level, while inflation

and natural resources is negative and significant at 1% and 10% respectively. The inflation result indicates that macroeconomic instability reflected in volatile price levels acts as a strong deterrent to foreign investors. The negative coefficient on natural resources supports the "resource curse" hypothesis (Auty, 1993; Sachs and Warner, 2001), suggesting that poor governance and regulatory unpredictability in resource-rich countries may discourage long-term investment.

Column (2), present the result of the mostly unfree Africa countries. Institutional quality is positively associated with FDI and significant at 10% level, implying that even modest improvement in governance by 10% can attract FDI inflow into the mostly unfree Africa region by 0.32unit and this is consistent with the OLI and the institutional theory of FDI. GDP growth, labour force, and openness are significant at 1% and positively related to FDI, while natural resource and human capital have a negative and significant effect on FDI in these countries at 5% level possibly reflecting inefficiencies in resource management and education systems. Moreover, rigid labour regulations, low productivity, and limited vocational training constrain the effectiveness of human capital as a driver of FDI, particularly in contexts where educational outcomes are not aligned with investor demands (Asiedu, 2006; Yeboua, 2019). Financial development, mobile and transport are not significant in this region.

Column (3), present result of repressed economies. Institutional quality is negatively associated with FDI and significant at the 1% level. This implies that improvements in institutional frameworks such as rule of law, regulatory quality, and governance do not necessarily attract foreign investment in these contexts. In fact, stronger institutions may deter certain types of FDI, particularly those seeking lenient regulatory environments or access to extractive opportunities with minimal oversight. This finding aligns with the **"**institutional paradox**"** observed in some developing regions, where foreign investors may prefer weak institutions that allow for greater operational flexibility, lower compliance costs, and easier access to rents (Li and Resnick, 2003; Khan et al., 2023). In repressed economies, institutional reforms may introduce stricter enforcement, transparency requirements, or anti-corruption measures that constrain opportunistic investment behaviour. As a result, FDI inflows may decline in response to improved governance, especially in sectors where investors previously benefited from institutional gaps.

Moreover, repressed regimes often exhibit low political freedom, limited civil liberties, and concentrated power, which can create uncertainty around policy continuity and investor protection. Even when institutional indicators improve on paper, the underlying political environment may remain unstable or hostile to foreign ownership, further discouraging long-term investment. In repressed economies, attracting sustainable FDI may require not only improving institutional quality but also ensuring that reforms are credible, transparent, and supported by broader political liberalisation. Nevertheless, GDP per capita and financial development are both positively associated with FDI and significant at the 1% level, suggesting that economic scale and financial infrastructure can partially offset institutional weaknesses.

Column (4) present the regression result of easy ease of doing business. In countries with high regulatory efficiency, GDP growth, openness, and transport infrastructure are positively associated with FDI and statistically significant. Human capital is negatively significant, which may reflect mismatches between workforce skills and investor needs. Institutional quality and financial development are positively related with FDI but statistically insignificant, indicating that regulatory efficiency alone may not be sufficient to attract investment without broader institutional reforms.

Column (5), present result of Africa countries classified as medium ease of doing business. Institutional quality, GDP growth, and openness are all positively associated with FDI and significant at the 1% level, while financial development, transport infrastructure, and labour force size are significant at the 5% level. These findings suggest that countries with moderate regulatory performance benefit from a combination of institutional strength, economic dynamism, and infrastructure development. GDP per capita, natural resources, and human capital are not significant in the Africa country classify as medium ease of doing business.

Finally, column (6), present the result of below average ease of doing business countries. GDP per capital, labour force, human capital and financial development is positive and significant at 1% and 5% respectively. However, institutional quality, GDP growth, natural resource, openness, mobile subscription and transport have positive but statistically insignificant, indicating that structural constraint may limit the effectiveness of these variables in attracting FDI.

Table 4.5.4. The panel estimation of the institutional determinants on FDI based on Economic freedom and Ease of Doing Business

	(1) Moderately Free Africa Economies	(2) Mostly unfree Africa Economies	(3) Repressed Africa Economies	(4) Easy ease of doing business	(5) Medium ease of doing business	(6) Below average ease of doing business
Inst. qual	0.146	0.319*	-0.492***	0.375	0.637***	0.127
	(0.261)	(0.057)	(0.008)	(0.108)	(0.003)	(0.353)
LnGDP per cap	3.386***	0.274	0.684***	-0.0436	0.291	0.682***
	(0.000)	(0.234)	(0.010)	(0.924)	(0.229)	(0.001)
GDP growth	0.009	0.036***	0.030	0.131***	0.029***	0.005
	(0.728)	(0.001)	(0.116)	(0.000)	(0.007)	(0.179)
Naturalres	-0.038*	-0.022**	0.004	-0.008	0.014	0.005
	(0.088)	(0.045)	(0.781)	(0.683)	(0.168)	(0.660)
Lnlaborforce	-2.009	2.359***	-0.760	-1.036	1.833**	1.603**
	(0.279)	(0.005)	(0.520)	(0.591)	(0.020)	(0.030)
Openness	0.035***	0.016***	0.005	0.016***	0.021***	0.006
	(0.000)	(0.000)	(0.424)	(0.004)	(0.000)	(0.188)
Inflation	-0.017***	0.000	-0.000	0.002	-0.004	-0.000
	(0.000)	(0.483)	(0.202)	(0.741)	(0.222)	(0.192)
Human cap	3.515**	-0.921**	-0.527	-3.133**	0.243	1.240***
	(0.011)	(0.028)	(0.418)	(0.014)	(0.569)	(0.008)
Mobile	0.010**	0.002	-0.006	-0.005	-0.004	0.001
	(0.045)	(0.405)	(0.166)	(0.146)	(0.224)	(0.672)
Transport	-0.006	-0.001	-0.003	0.016**	0.012**	0.008
	(0.365)	(0.834)	(0.752)	(0.035)	(0.041)	(0.240)
Financial devpt	2.193	2.377	8.263***	4.342	3.297**	6.019***
	(0.194)	(0.130)	(0.000)	(0.180)	(0.011)	(0.000)
Country Fe	Yes	Yes	Yes	Yes	Yes	Yes
Time Fe	Yes	Yes	Yes	Yes	Yes	Yes
_cons	310.4***	-86.07*	-219.7***	-432.8***	-111.3*	4.801
	(0.001)	(0.066)	(0.000)	(0.000)	(0.092)	(0.915)
N	101	578	226	115	308	474
R^2	0.967	0.821	0.893	0.976	0.922	0.834

Institutional quality (Inst.qual), financial development (financial devpt), natural resource endowment (Naturalres), openness (trade % of GDP), mobile subscription (mobile) p-values in parentheses $^{*}p< 0.10$, $^{**}p< 0.05$, $^{***}p< 0.01$

4.6 conclusion

This chapter has presented a comprehensive empirical investigation into the institutional and macroeconomic determinants of FDI across African economies, using PPML estimation with country and time fixed effects over the period 1996 to 2019. A disaggregated classification of African was adopted to capture structural diversity enabling a good analysis of how institutional quality influences FDI across varying context. The findings reveal that the relationship between institutional quality and FDI is highly context dependent, varying significantly across regime types, level of economic freedom, ease of doing business, income level, human development indices, sub-region, and geographic groups.

Institutional quality emerged as a significant and positive determinant of FDI in several classifications, including mostly unfree economies, upper-middle-income countries, high human development index economies, and regions such as North Africa, Sub-Saharan Africa, and Western Africa. This is theoretically consistent with both Dunning's OLI framework and North's institutional theory. According to Dunning's OLI paradigm (Ownership–Location–Internalisation), foreign investors are motivated by three sets of advantages. The Location-specific advantages refer to host-country characteristics that make a destination attractive for investment. These include not only market size and resource endowment but also the quality of institutions such as legal systems, regulatory frameworks, and governance structures.

Strong institutional quality reduces transaction costs, enhances contract enforcement, and provides policy stability, thereby increasing the locational appeal of a country for multinational enterprises (MNEs). Hence, regions with relatively stronger institutions such as North and Western Africa are more successful in attracting FDI. Complementing this, North's (1990) institutional theory posits that institutions reduce uncertainty by providing a stable framework for exchange, which is particularly important for foreign investors operating in unfamiliar environments. In North's view, well-functioning institutions lower the cost of doing business, protect property rights, and facilitate long-term investment. The result aligns with this perspective, demonstrating that improvements in institutional quality correlate with increased FDI inflows in regions and classifications where governance is relatively more robust. It also consistent with the empirical finding of Adegboye et al (2017), Asiedu (2006), Baltabaev (2014) which found that in Sub- Sahara Africa countries the political and institutional factors affect the inflow of FDI in the sub- Sahara countries.

However, in repressed regimes and Eastern Africa region, institutional quality was negatively associated with FDI, suggesting that governance reforms may deter certain types of investment when they introduce regulatory constraints or disrupt informal arrangements. This paradox aligns with the work of Bokpin et al. (2017) and Li and Resnick (2003), who argue that weak institutions may attract opportunistic investors seeking flexibility or rent-seeking opportunities. In Southern and Central Africa, institutional quality was found to be statistically insignificant, indicating that other factors may dominate investment decisions in these regions.

Macroeconomic indicators such as GDP per capita, GDP growth, and labour force size, consistently showed positive and significant relationships with FDI, reinforcing the importance of market scale, economic dynamism, and demographic capacity. Openness to trade was also a robust predictor of FDI inflows, particularly in low-income and Sub-Saharan African countries. Conversely, natural resource endowment and human capital show mixed or negative associations with FDI across several classifications. These findings support the "resource curse" hypothesis and suggest that educational expansion alone is insufficient to attract investment without alignment to market needs. Inflation was negatively associated with FDI in selected regimes and regions, confirming that macroeconomic instability acts as a deterrent. Infrastructure and financial development variables added further nuance. Mobile subscriptions were positively associated with FDI in Eastern and Western Africa, while transport infrastructure showed a negative and significant relationship in Eastern Africa, possibly reflecting inefficiencies. Financial development was a strong and consistent driver of FDI in Africa overall, Sub-Saharan Africa, Eastern Africa, and landlocked countries.

In southern and central Africa institutional quality is insignificant for FDI inflow into the region. Thus, financial development has a positive effect and is significant in the Sub-Sahara African countries, Africa, and east Africa. this consistent with the theory of FDI as explain by Dunning (2000) and Islam et al (2020) and in the other African region like the north, central and west Africa the quality of institution is insignificant.

The study also finds that in non-landlock countries institutional quality attract FDI inflow and does not in landlocked countries as mentioned by Asiedu (2002) factors that attract FDI in the landlocked countries is different from the countries that are not landlocked. In the hybrid and flawed democracies Africa countries institutional quality is significant in attract FDI inflow into

the region and in the Authoritarian African countries, institution is not significant while financial institution is positive and significant in landlocked countries and authoritarian regime countries.

Furthermore, institutional quality attracts more FDI inflow upper middle income African countries and African countries with high human development index and in low-income countries, low middle income countries, low human development index Africa countries and medium human development index countries institutional quality does not attract FDI inflow. While financial institution is significant in low-income countries, low human development index countries low middle income countries in Africa is positive and significant and is negative and significant in high human development index African countries and transport is significant in upper middle income Africa countries. This implies that in these African countries the quality of infrastructure attracts FDI into the region.

In the repressed economic freedom, institution is negative and significant while in the mostly unfree African countries and medium ease of doing business countries institutional Quality attract more FDI into the region.

Although informal institutions such as cultural norms and social practices are widely acknowledged as influential in shaping international economic interactions, their role is not directly examined in Chapter 4 of this study. This chapter focuses exclusively on host country level institutional quality, operationalized through formal governance indicators namely, rule of law, control of corruption, government effectiveness, voice and accountability, regulatory quality, and political stability. While informal institutional differences, particularly cultural distance, are conceptually relevant, their inclusion in this chapter would not be methodologically appropriate given the absence of bilateral relational dynamics. Instead, cultural distance is addressed in Chapter 5, where bilateral flows between home and host countries are explicitly modelled. In that context, cultural distance serves as a proxy for informal institutional divergence, incorporating dimensions such as individualism and uncertainty, power distance, collectivism and individualism, typically measured using the Kogut and Singh index derived from Hofstede's cultural framework. This structural separation ensures conceptual clarity and analytical consistency across chapters.

Chapter 5: Bilateral Foreign Investment Locational Choices within Africa: Institutional Influences and Sectoral- level Differences

5.1 Introduction

Foreign Direct Investment (FDI) positively impacts the host country through numerous economic perquisites such as modernisation, technological progress and globalisation which enhances economic growth, development, dynamism and interconnection in the economy and is seen as a possible panacea that will assist Africa in dealing with the problems of inequality, poverty and passive growth (Mondolo 2019; Varma et al., 2020). Over the years, the United States of America, China, France, India, and the United Kingdom have invested in other countries, primarily for commercial reasons or as a part of their growth strategies. There has been an increase in FDI inflow into Africa from these countries (Statista 2024). Although developed countries dominated investment in Africa during the 20th century, more recently emerging economies have contributed a greater share (Ezemenari et al., 2016). According to the Business Insider (2022) report, for over a decade now, China has remained the largest investor in Africa, with the United States of America (USA) as the second-largest investor, France as the third, United Kingdom (UK) as the fifth and India seventh. Hence, by 2026, the estimated investment of China into Africa will reach $200 billion, China has invested in African economic development and infrastructure since the early 2000s (Statista 2024).

African countries have become highly attractive destinations, for foreign investors searching for new markets and opportunities over the past two decades and this is determined by numerous factors such as the region's improving business environment, market size because of increasing population with high demand for goods and services and abundant resources (Lyttle 2024). Hence, foreign investors (i.e. multinational companies) want to explore Africa as they increase their investments in different African sectors like manufacturing, telecommunications, retail, banking, construction, service and mining. They see the region as an advantageous country with initial potential and a growing consumer base. However, some investors despite the development, restrain from putting their capital in African countries due to inadequate infrastructure, political instability and regulatory uncertainty. African countries have experience high level of price instability

(Ambaw and Sim, 2018; Mustafa, 2019) and countries that have less independent central bank tend to have higher price instability (Agoba et al., 2017; Garriga and Rodriguez, 2020).

African countries policies makers see FDI as a vital tool in attaining sustainable development goals, economic growth and development (Dhahri and Omri, 2020). Therefore, to attract more FDI into Africa it is important to solve these issues mentioned above (Lyttle 2024). This makes Africa an interesting case study to investigate in these studies.

Furthermore, according to the theory of location choice advantage, good quality institutions are considered important factors that attract multinational investors to select a host country (North 1990; Dunning 1998; Dunning and Lundan 2008). However, studies have noted it is not just the quality of formal institutions, but the similarity of both formal and more informal aspects, including culture, between home and host countries that have a role to play (Holmes et al 2013; Moshin et al 2021; Kostova et al., 2020, Dau et al., 2022). This has attracted more attention in the recent studies which have investigated the influence of cultural and institutional distance on bilateral aggregated flows (Moshin et al 2021; Nayyar 2024; Munjal et al 2022). A gap in existing studies that remains is the limited study of sectoral-level bilateral foreign investment choices in Africa (Lious et al 2017; Munjal et al 2022, Bergougui and Murshed 2023). This chapter investigates the sectoral foreign direct investment locational choice in Africa to add to the literature and address this gap.

Lyttle (2022), explained that the investment of the UK and France are tied to their colonial relationship with Africa that began in the 15th century. The historical ties between China and Africa can be traced back to the Bandung Conference in 1955 held in Indonesia to promote cultural operations and Afro-Asian understanding (Cheung et al 2012; Ayenagbo et al 2012), which marked the beginning of closer political and economic cooperation. China's foray into Africa originates from the early 2000s principally with aspirations to secure natural resources and broaden its sway. Conversely, India has long-standing cultural and historical connections with Africa dating back to ancient times.

Lately, both nations have diversified their investments, extending beyond resource procurement and entering sectors like infrastructure, construction, mining, banking, manufacturing, agriculture, and services. However, the drivers of China and India's foreign direct investment (FDI) into Africa have attracted significant attention in recent years with increasing flows raising the importance of

these south-–south relationships. Both countries have emerged as major investors in the African continent, contributing substantially to its economic growth and development. USA has economic tie with Africa, recently, the U.S government went into partnership with Africa through the Partnership for Global Infrastructure and Investment (PGII) and prosper Africa initiative. This partnership is to promote two-way trade and investment and has invested into 47 Africa countries. Hence, this study selects the five top investing countries in Africa as source countries to examine the locational choice of choosing where to invest in Africa and the factors attracting them to various countries within the region.

This paper used data from the Orbis cross-border database, World Governmental Indicator (WGI), Hofstede cultural dimension database, Centre for Prospective Studies and International Information'(CEPII) database, and World Development Indicator (WDI) to examine the influence of formal and informal institutional on the location choice and volume or scale of investment. Foreign investor has two decision making process which is where to invest and how much to invest in the selected host countries (Tang and Buckley 2022). Thus, the Heckman two-stage regression is used for the analysis using the gravity bilateral model in the first stage, this study used probit regression to examine the factors that determine the location choice of foreign investment from five home countries (USA, France, UK, China, and India) into 51 African countries. The second stage used the capital expenditure to examine the determinate of FDI using the Poisson Pseudo Maximum Likelihood (PPML). The period 2013 to 2022 is considered. As well as reviewing the overall patterns, the study also considers whether the influence of institutional quality, institutional distance, and cultural distance varies by sector. Seven sectors attracting higher levels of investment are considered (Manufacturing, Mining, Agriculture, Infrastructure, Banking, Construction and Service).

Lastly, the study undertakes comparative analysis of the foreign investment locational choice from the emerging countries (China and India) and traditional countries, which are OECD countries (i.e. France, UK and USA) within Africa. This will assist in understanding if the factors attracting foreign investment differ between the two groups of countries given the different historical and cultural relationships, and potential motivations for the investments being made.

Building on the foundational work of Munjal et al., (2022) and Bergougui and Murshed (2023), this study offers a novel contribution to the literature on foreign direct investment (FDI) by

examining the role of formal and informal institutions in shaping the locational choices and investment scale of FDI into Africa. Munjal et al., (2022) conducted a comparative analysis of Indian and Chinese FDI in Africa, focusing on governance and strategic alliances using aggregated data and the Heckman two-stage model. In contrast, Bergougui and Murshed (2023) employed instrumental variables and two-stage least squares to assess the impact of institutional quality on FDI across three sectors (i.e. primary, secondary and tertiary sectors) in MENA countries.

This study extends the scope of previous research by analysing FDI from five major source countries China, India, France, the UK, and the US across seven key sectors: manufacturing, mining, agriculture, infrastructure, banking, construction, and services. It incorporates both formal institutions (i.e., the institutional quality of host countries and institutional distance between home and host countries) and informal institutions (i.e., cultural distance) to understand how these factors influence sectoral investment decisions.

This study makes several contributions to the literature of international business. Firstly, the study investigates formal institution (i.e. institutional quality of the host country (absolute institution) and institutional distance (relative institution) between the home and host country) and informal institutions (i.e. cultural distance between the host and home countries) sectoral foreign investment locational choice from the top five investing source countries (China, India, France, UK and USA) to Africa (Bergougui and Murshed 2023; Islam and Beloucif 2024).

Secondly, the study examines the impact of institutions on the capital expenditure used to invest in Africa sectors by the big five home countries. Thirdly, the study examines the comparative analysis of formal and informal institution on locational foreign investment from traditional and emerging countries into Africa sectors by dividing the home countries into traditional economies (USA, UK and France) and emerging economies (India and China). Fourthly, the host countries is divided into landlocked and non-landlocked countries to determine the foreign investment locational choice and factor that attract foreign investors into various Africa sectors. Thus, Asiedu (2002) mention that factors that determined FDI inflow into landlocked is different for the nonland locked countries.

Therefore, the chapter is structured as follows. The next section provides an overview of the bilateral FDI trend between Africa and the selected home countries. Coverage of the theoretical framework used in the study follows this along with the hypotheses developed. The data and

methodology are then introduced, followed by the findings. The last section discusses the conclusion.

5.2 Bilateral FDI Trends

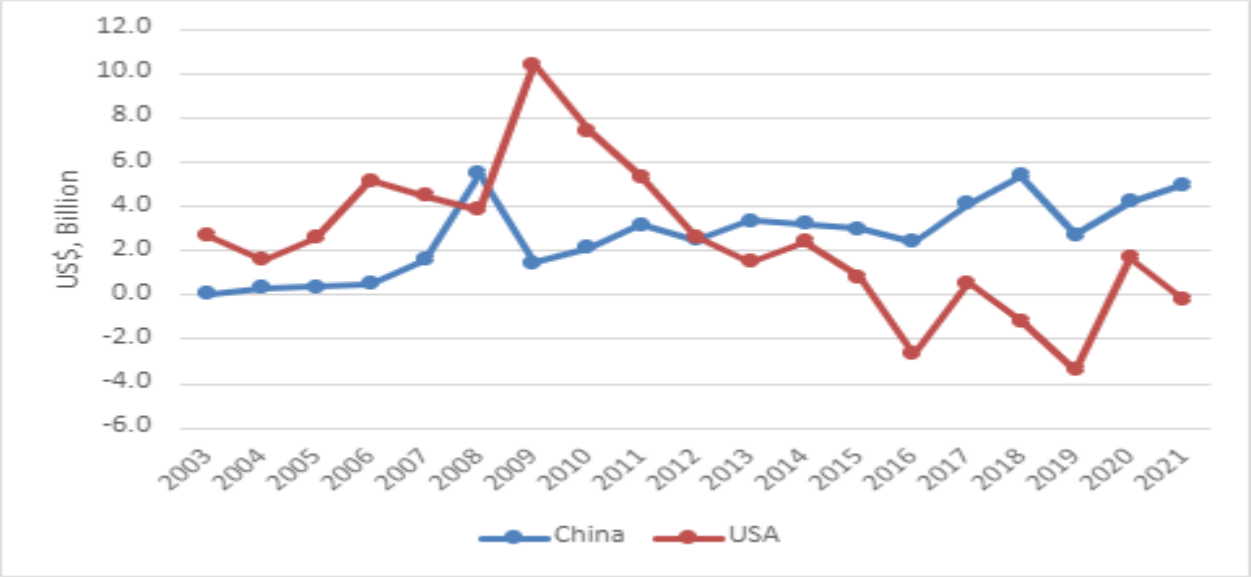
The main source of FDI inflow to Africa is the Organisation for Economic Co-operation and Development (OECD) countries (Adam, and Opoku 2017; OECD 2011). However, recently the emerging economies China and India have stepped forward as main players in terms of FDI inflows, in infrastructure, agriculture and industry. Thus, from the developing world, the major capital provider in Africa is China (see figure 5.1 for details of China and USA FDI inflow to African). China is included among the top three leading trading partner of Africa since 2005 along with France and USA (UNCTAD 2007).

According to Rodriguez-Pose and Cols (2017), over the last two decades, there is an increasing trend of the growing global FDI flows but on average Africa merely received 2 percent of these flow. However, in 2021, FDI to African countries reached a record of $83 billion, even with the increased, investment flows to Africa this only counted for 5.2% of global FDI, up from 4.1% in 2020 (UNCTAD 2022). In the last two-decades Africa has received more investment inflows from the emerging economies (such as China and India) than from the traditional economies (i.e. USA, UK, and France) (Anwar 2014). China and India have significantly increased their presence in Africa through their respective FDI activities. In the last two decades, both nations significantly amplifying their financial commitments in the region, China has become the largest source of FDI for the continent, while India has also experienced a steady rise in its investments. The historical ties between China and Africa can be traced back to the Bandung Conference in 1955 held in Indonesia to promote cultural operations and Afro-Asian (Cheung et al 2012; Ayenagbo et al 2012), which marked the beginning of closer political and economic cooperation. China's foray into Africa originates from the early 2000s principally with aspirations to secure natural resources and broaden its sway. India, on the other hand, has long-standing cultural and historical connections with Africa dating back to ancient times. Lately, both nations have diversified their investments, extending beyond resource procurement and entering sectors like infrastructure, construction, mining, banking, manufacturing, agriculture, and services.

China has overtaken the US in terms of its FDI inflow into Africa as it expands its manufacturing activities. Economically China is a global leader with a large supplier of international markets. It has taken advantage of is low wage economy and, efficient human capital to attract more industries (Abekah-Koomson and Chinweokwu 2020). Figure 5.1 shows the FDI inflow from China and US to Africa. In 2003 a summit for the first tri-annual forum for China-Africa Cooperation (FOCAC) was held in Beijing to signal China's strategies in Africa and improve cooperation between China and the Africa states. In the figure 5.1, 2003, when FOCAC (the China-Africa relation cooperation) started, shows how the traditional economic (US) outflow of capital to Africa exceeded the Chinese outflow. However, Chinese investment increased until the start of the financial crisis in 2008--2009, when the investment flow of China to Africa first outweighed that of the USA. In 2009, China investment dropped, and the industrial economies inflows increased.

However, in 2013, China seeking to rejuvenate the old trading routes launched China Belt and Road Initiative (BRI), in which many Africa countries joined. The initiative quickly expanded with the infrastructure project having a lot of signatures from Africa and Asia. After 2013 China's investment into Africa exceeded that of the US into the region. The social programs instigated after 2013 having helped develop medical institutions, educational projects, agricultural technologies, anti--malaria centres with large scale investment projects in Africa financed by the Export-Import Bank of China and China Development Bank (Oladipo 2010, Pigato and Tang 2015).

Figure 5.1 The Traditional and Emerging Country (USA and China) FDI inflow to Africa



Source: Own Calculation Data from The Statistical Bulletin of China's and U.S. Bureau of Economic Analysis

This study shift from the inflow and discuss the investment into Africa countries by projects numbers from China, France, India, UK and USA to Africa and its sectors. This is explained in 5.2.1.

5.2.1 Trend of China, India, France, UK and USA Investment choice in Africa

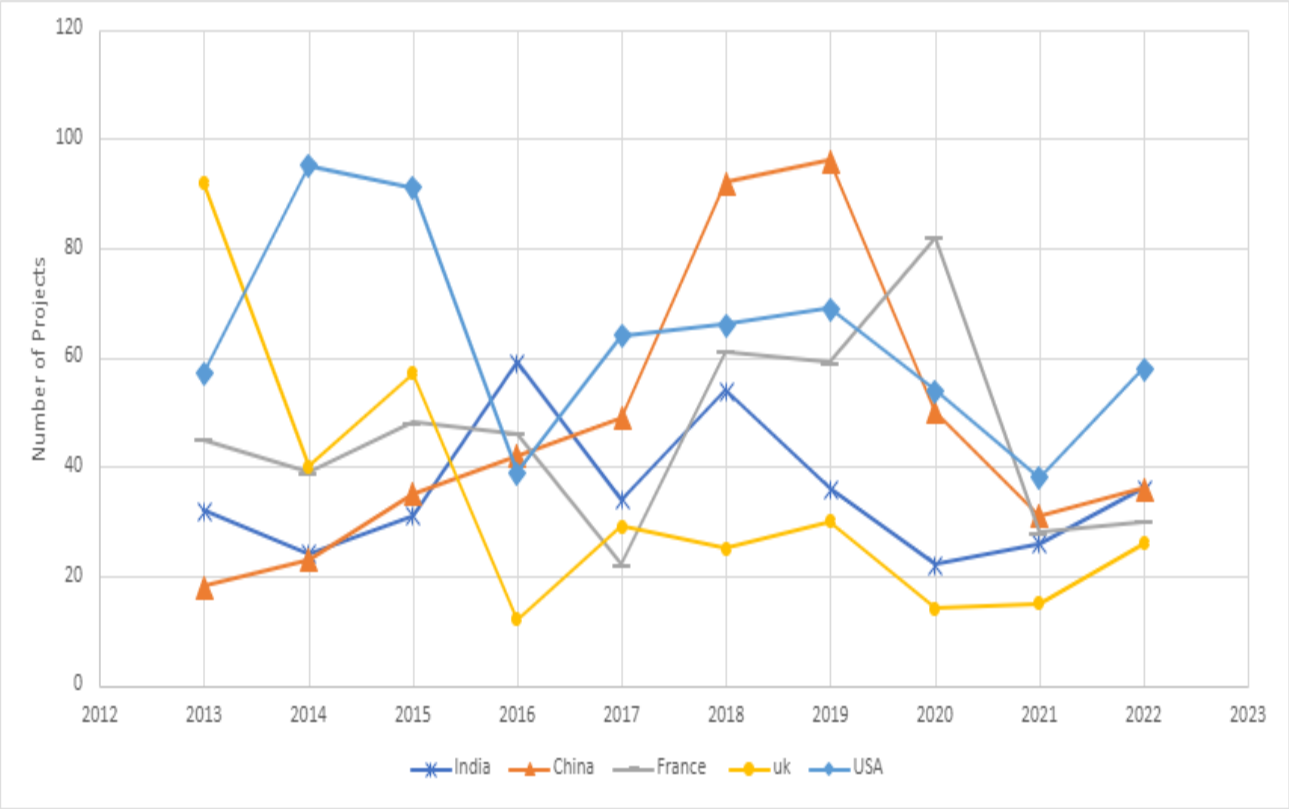
In Africa, European investors are the largest foreign assets holder led by those from the UK and France investing $65 billion and $60 billion respectively (UNCTAD 2022). Thus, by project number USA remain Africa largest investor, contributing to Africa 13% of total investment, although its trails France and India in capital term when measured (EY 2023). Therefore, in terms of African economic growth and development China, India, France, UK and USA play vital roles by investing in Africa through the transfer of wealth, assets, infrastructural facilities, job creation and technological development.

China's Foreign Direct Investment (FDI) into Africa has seen significant growth in recent years. Beginning in the early 2000s, China is controlled by state-owned enterprises (SOEs) due to China's financial market imperfection (Kamal et al 2020). Hence, SOEs are supported by the government thus, private firms are disheartened to invest abroad. More than 70% of the Chinese Outward Foreign Direct Investment (OFDI) and all the major investment projects are generated by SOEs.

The investment of China is based on “going out global” not return and risk as it provides for domestic needs which is increased demand for resources, exploration of new markets for China, and high domestic labour cost (Cheng &Stough 2007). China's geographical distribution for its OFDI has remained focused on Africa and Asia countries as investing in these countries is parallel with China's political objective and its increasing demand for raw materials to compete in the developed world with established companies. Perkins (2006) mentioned that the investment of Chinese firms in an institutional weak environment is due to China's inimical home institution environment and having an edge to survive and invest in countries with a poor institutions and others say it is due to open exploitation (Morck et al., 2008). Thus, the distribution of China's investment in different African sectors is not different as China invests 40% of their OFDI in African resource-rich countries (Kolstad &Wiig 2012; Buckley et al., 2015)

In figure 5.2, shows the trend of investment from China, France, India, UK and USA to Africa investment. UK investment by project falls in 2014, while China and USA investment is rising with the USA investment over the other home countries. In 2015 the USA investment to Africa start falling in 2015 to 2016 and start rising but China investments is above USA from 2017 to 2019 and start falling in 2019. In 2021 USA investment start increasing above France, China, India and UK. As USA government enter trade agreement with Africa during this period.

Fig 5.2. Bilateral Foreign direct Investment Choice by project from India, China, France, UK and USA to Africa



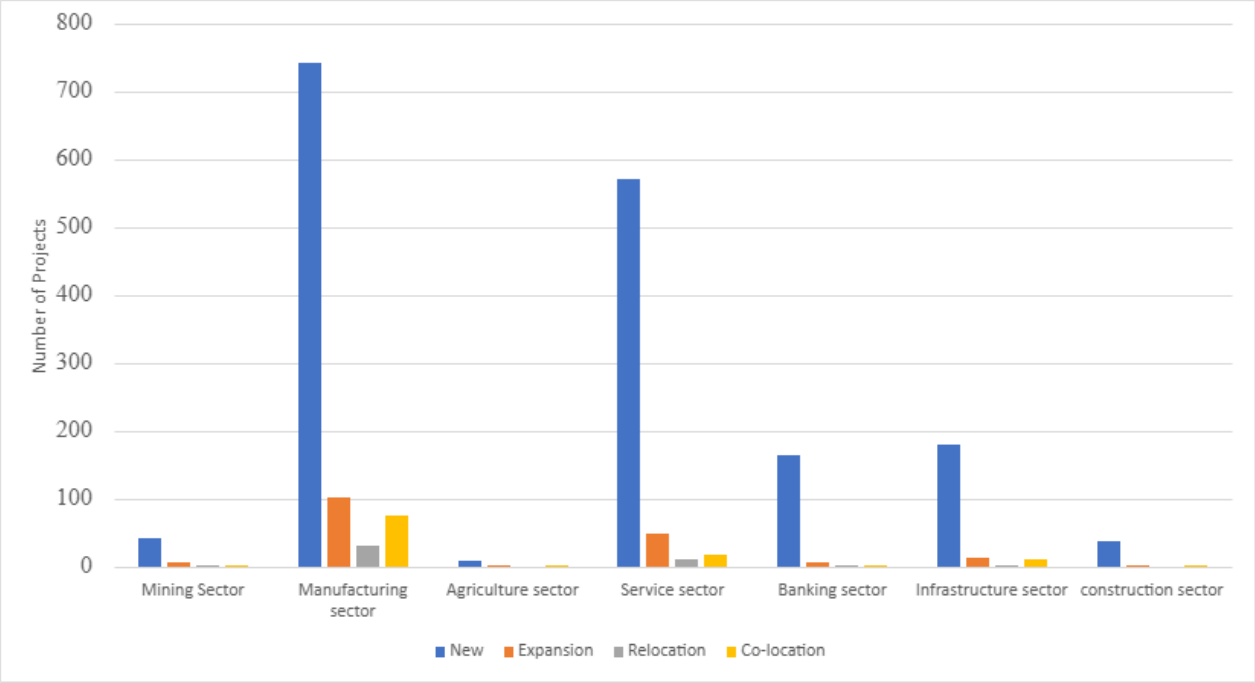
Source: Own calculation from Orbis cross border investment data

5.2.2 The trend of Investment project type in Africa

The Orbis cross border investment database is a global database which covers greenfield and merger and acquisitions (M&A) FDI. The foreign investment project types are classified into four categories. New projects-, are those investments which entail new operations such as sales and regional headquarter or a manufacturing plant of the home country in the host country. Expansion project are when the home countries added capital or invest more in the existing project in the home country's such as hiring new staffs, adding more manufacturing plant to an existing one. Co-location project are foreign investment into different business in the same location (i.e. a foreign investor companies complementing its manufacturing plants in the host country by setting up a regional distribution centre). Lastly, relocation projects are when a project or investment moves from one destination to the other. African countries receive all four types of foreign investment project in their various sectors see figure 5.2.

Figure 5.2 below illustrates how Africa receives a lot of green field projects. Manufacturing has the highest number, followed by the services sectors, infrastructure and banking. According to UNCTAD, (2023), green field projects announced increase by 39% and six of the top 15 worth more than $10 billion were in African countries. Foreign investment projects are highly diversified with investments into manufacturing and service sector not just raw materials (Qiang et al 2021). The manufacturing sector also received expansion, relocation and co-location types of projects.

Figure 5.3 FDI Investment Project type into Africa sectors



Source: Own Calculation (Orbis Cross-border data)

The next section explained the sectoral trend of foreign investment by numbers of Projects to Africa sectors

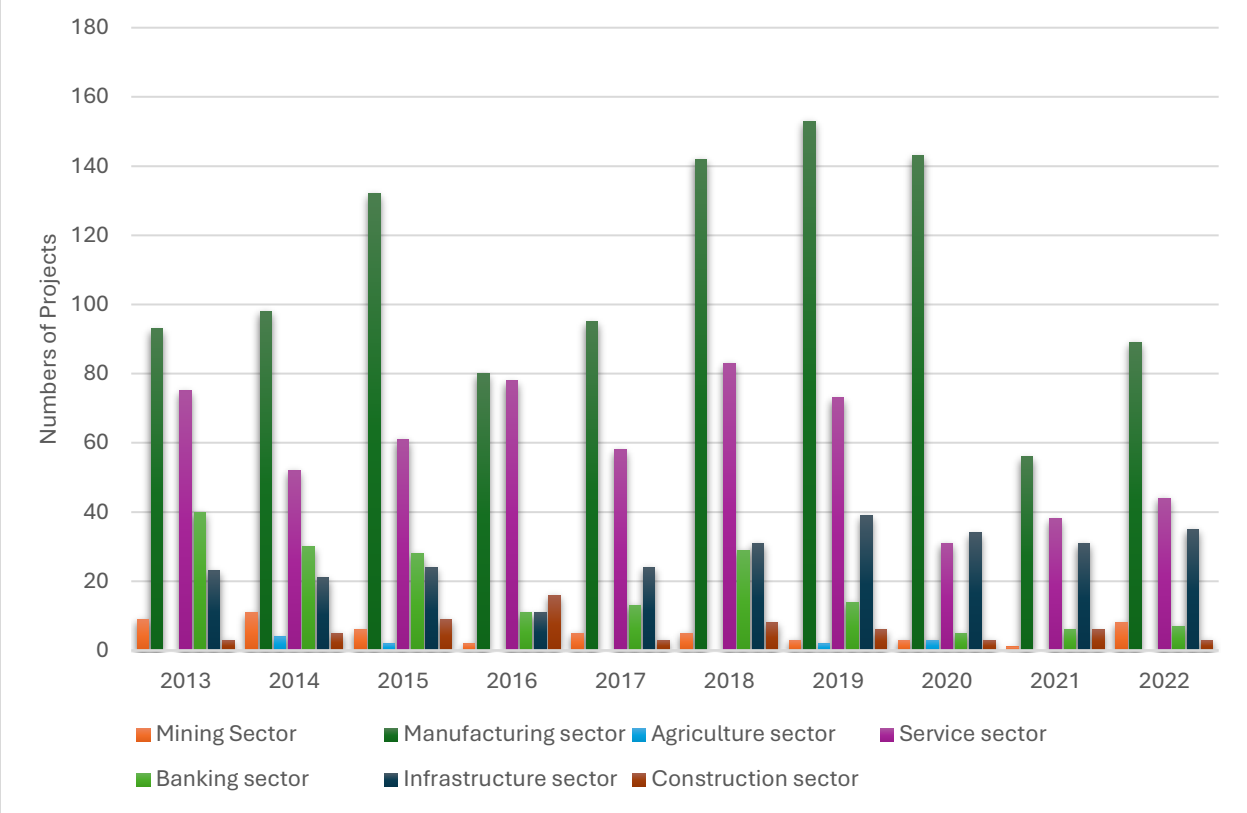
5.2.3. Trend of Sectoral Foreign investment project from China and India, France, UK and USA to Africa

Fig 5.4, show the sectoral trend of projects number of China and India, France, UK and USA to Africa from 2013 to 2022. Africa has received investment from China and India, France, UK and USA into it manufacturing, service, mining, banking, construction, infrastructure and agricultural sectors as shown in Fig 5.4 and most of this investment by number of projects are greenfield project

as shown in Fig 5.3. For instance, in the extractive sector (mining oil and gas) the major recipients' country is Nigeria, South Africa and Angola (Trend Research 2024).

Infrastructure and Constuction sectors have also received significant level of investment project which is aid at enhancing facilities and Urban development and investment have been received in service sectors. Thus, Fig 5.5 and Fig 5.6 show the investment from emerging economies and traditional economies respectively.

Fig 5.4 Sectoral Foreign Investment Projects from China and India, France, UK and USA to Africa



Source: Own Calculation (Orbis Cross-border Data)

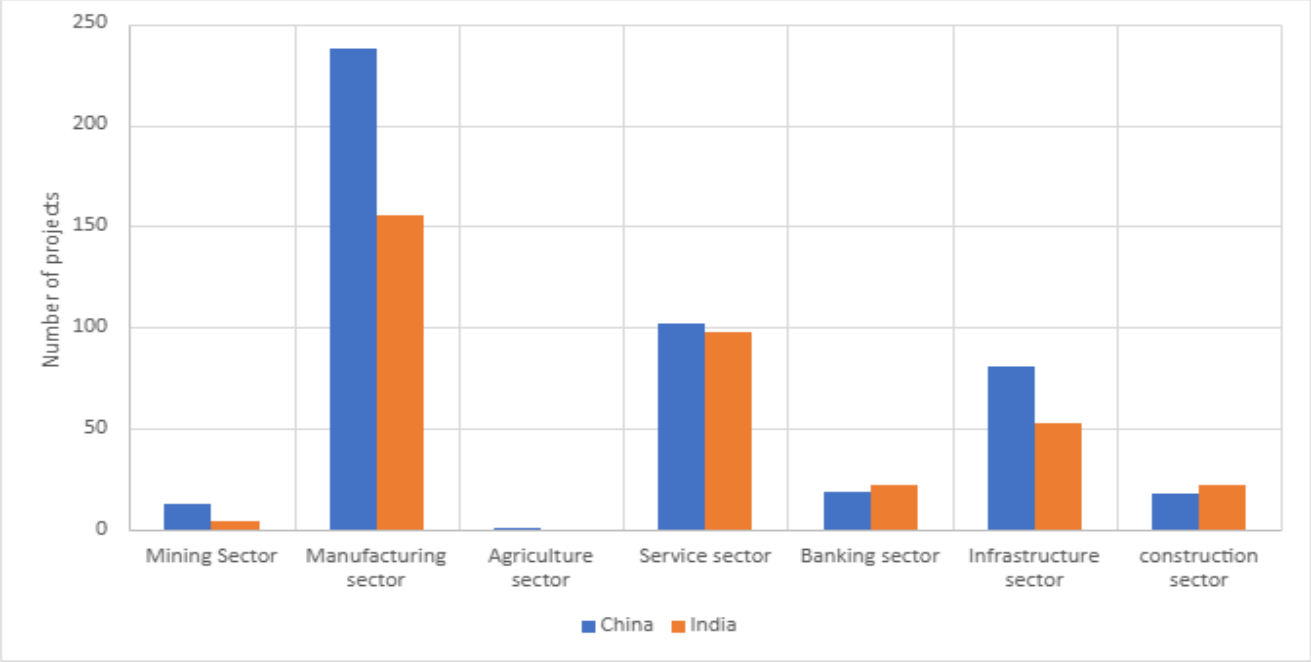
Fig 5.5 and Fig 5.6 shows the number of investment projects invest in Africa sector by the emerging and traditional economies. In the emerging economies, China invests more in mining sectors than India in Africa (see Fig 5.5). Eric et al., (2020), explain that the investment of China in the mining economies between 1995 and 2018 has increased Chinese control in Africa mineral and metal production and oversee less than 7% of mine production in Africa, between 2005 and 2017, the invested $58 billion in energy and mining sector in sub-Sahara (Mining Indaba 2019).

In 2019, Chinese investment is over $100 billion in Africa mining sectors. Hence, India is still trail behind China in their investment and over influence in mining sectors (Siddiqui 2023).

In manufacturing sector, the number of projects from China investment is more than India (see fig 5.5), as India overall investment volume is less than China (Khan and Arora 2017). China invests most on greenfield project in manufacturing sector and through this valuable capital investment and employment opportunity are created in Africa (Chen et al., 2024). The investment of China in Africa service sectors is part of Belt and Road initiative and economic engagements and recently China invests in different Africa such as banking, infrastructure service and telecommunications (Chen et al., 2024; Moses 2024).

Lastly, the emerging economies (China and India) are seen as part of the major investor in Africa. India project in Africa's financing and construction sector is to encourage local development and participation and the involvement of China in financial and infrastructure sectors has strengthen China position as an importance partner (Chauhan 2022).

Fig 5.5 Sectoral Foreign Investment Projects from emerging countries (China and India) to Africa

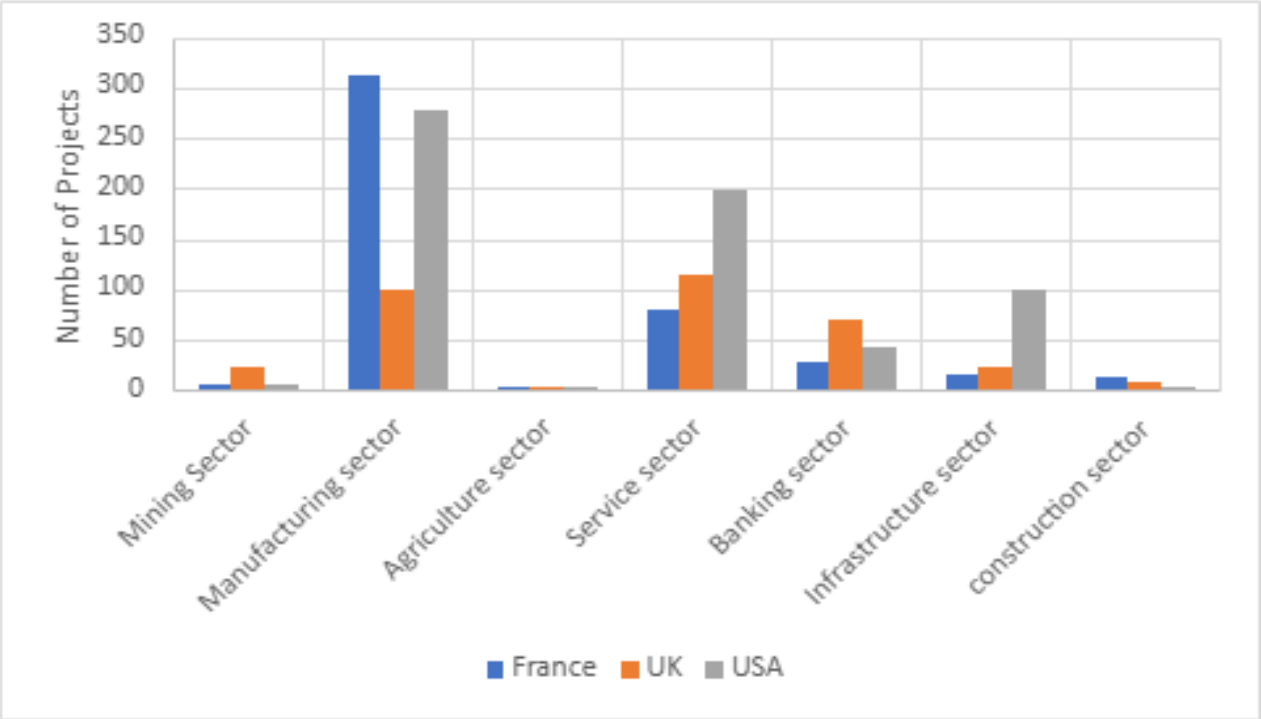


Source: Own Calculation (Orbis Cross-border data)

Fig 5.6 shows the sectoral investment trend from the traditional economies (France, UK and USA) to Africa sectors. The FDI stock in the UK increase by 15% to £50.6 billion and quarrying mining and financial service sector receives significant investment. In 2023, UK invested £725 into Africa sustainable development through British International Investment (BII) and UK investment is focus on climate finance, financial service and renewable energy (Staff 2024; Raga and Velde 2021). As see in fig 5.6, UK investment by project in Africa, in the mining and banking sector is more than USA and France.

USA investment in Africa by project number in service and infrastructure sector is higher than France and UK. The main USA investment sector in Africa includes business service telecommunication, and technology sector (Trend Research 2024). Fig 5.6 shows that Africa received more investment from USA in service and infrastructure sector than France and UK and France investment is more in manufacturing sector.

Fig 5.6 Sectoral Foreign Investment Projects from Traditional Economies (France. UK and USA) to Africa sectors



Source: Own Calculation (Orbis Cross-border data)

5.3 Literature review

According to international economics literature, locational choice is determined by economic and non-economic factors (Kang & Jiang 2012). Economic factors allow foreign multinational companies to reduce their costs and increase their revenue. Economic factors which are host country-specific include the market size of the host, workforce and natural resource availability. Non-economic factors include local regulations and culture of the host countries (Kogut & Singh 1998; Luiz & Charalambous 2009; Holmes et al 2013).

Thus, scholars in the literature of international business have explained that for an investing firm to succeed in gaining legitimacy and survive in the host country, foreign investors must abide by the host country's market rules, cultural norms, ideology, regulations and societal beliefs (Tihanyi et al 2005; Rathert 2016; Kostova 2020). Hence, scholars have discussed the importance of institutions as the host country ownership and location advantage (Peng 2002; Peng et al., 2009; Kostova et al., 2008; Dunning & Lundan 2008; Schwens et al., 2011; Duanmu 2014; Maksimov et al., 2017; Shirodkar et al., 2017; Lious et al 2017; Kostova 2020; Moshin et al 2021; Zang & Yang 2022; Munjal et al 2022, Chen et al., 2023, Bergougui et al 2023; Nayyar 2024; Zang |& Su 2024). Empirical studies have investigated the importance of these institutional and locational foreign investment in African countries (Dadzie & Owusu 2015; Ajide & Raheem 2016; Lious et al 2017; Ross et al., 2019; Agbo et al 2020, Munjal et al 2022; Chen & Rygh 2023; Bergougui et al 2023). Fewer studies investigate the foreign investment choices into Africa on a sector-by-sector basis as suggested by Bergougui et al (2023).

Thus, the next section explains the theoretical framework, Hypothesis development and empirical literature review.

5.3.1 Theoretical framework and hypotheses development

The theoretical framework provides a conceptual basis for understanding the drivers of China France, India, USA and UK FDI into Africa. It establishes the foundation for analysing the theories that can explain this phenomenon. By examining the theoretical perspectives, this framework aims to shed light on the motivations behind these countries' investments in Africa and the factors that influence their decision-making processes, and hypotheses to be tested in this study are developed.

Comparative advantage theory suggests that countries engage in FDI when they possess unique capabilities or resources that give them a competitive edge in specific industries or sectors. In the context of China, France, India, USA and UK FDI into Africa sectors, this theory implies that these countries invest in Africa based on their comparative advantages. This could include factors such as large labour pools, institutional quality, technological expertise, access to capital, or abundant natural resources. By leveraging these advantages, China, France, India, USA and UK aim to enhance their global presence and secure economic benefits through their investments in African sectors. Kang and Jiang (2012) argue that the factors affecting FDI location choice are economic and non-economic. The former benefits the investing firms by raising their profit or return and reducing their cost of production, this is the host country's location advantages, such as the size of host's country market, natural resource availability, and labour force and this is also explained in the OLI framework as factors of locational advantages (Dunning 1993). The latter is the host countries features such as local regulation and culture which also affect the home country's decision to invest in the host country (Kogut and Sing 1988; Charalambous 2009). Hence, in comparative institutionalism theory, different socio- economic interconnections from institutional arrangements such as the legal framework, national innovation system, role of state and development level in a country are emphasised (Kostova et al., 2020).

Therefore, the theory analyses the national institutional system which is parallel market or liberal market economy (Porter 2003; Nelson & Rosenberg 1993) and institution environment are seen to be complementary when the institution reflects the difference observe of a country (Jackson & Deck 2019). Chang (2015) uses a comparative advantage theory at country level between countries of different institutional qualities, by focusing on south- based MNEs using 219 economies from 2001 –2010, found that MNEs in a country with poor institutions will undertake FDI in countries with weaker institutions and invest more in poor informal institutions. They recommend future work be undertaken at the sectoral and firm level. This study examines the bilateral sectoral foreign investment choice in seven African sectors (manufacturing, service, mining, agriculture, construction, infrastructure and banking see data section for details) from traditional countries with good institutional qualities as a home countries (France, UK and USA) and an emerging countries (China, India) which are characterized as countries with weaker institution quality as home country. This study includes cultural distance as a proxy for informal institution. This implies that emerging economies (China and India) invest in African countries sectors because of the similar institution

quality which is a weak institution as this will enable them to exploit the specific asset locational advantages of the host country location.

According to resource-based view theory suggests that FDI is driven by the desire to acquire or exploit valuable resources that are scarce or unavailable in the home country. In the case of China, France, India, USA and UK in Africa, this theory implies that these countries are motivated by the need for strategic resources such as oil, minerals, or agricultural products. Africa offers abundant reserves of these resources, making it an attractive destination for investment (Lytte 2024). By securing access to these resources, China, France, India, USA and UK can ensure a stable supply for their domestic industries, support their economic growth, and reduce their dependence on external suppliers. The distinction between market-seeking and resource-seeking FDI is important in understanding the drivers of home investments in Africa. Market-seeking FDI occurs when companies aim to penetrate or expand in foreign markets to access new customers and increase their sales. On the other hand, resource-seeking FDI focuses on acquiring or securing access to strategic resources. China and India's FDI in Africa encompasses both market-seeking and resource-seeking motives. While they seek to tap into Africa's growing consumer market, they also target the continent's natural resources, such as oil, minerals, and agricultural produce (Lyttle 2024). The next section explains how institutions and FDI locational choice are related and discusses the key variable of interest.

Institutional Theory and FDI Locational Choice

Institutional theory argues that FDI is influenced by the formal and informal rules and regulations that shape the business environment in host countries (Kostova et al.., 2020, North 1990). Thus, it is defined by North (1990) as rules of the game that structure human interaction and human devised constraints, societal norms and shared values. In the case of China, France, India, USA and UK FDI in Africa, institutional factors play a significant role in shaping their investment decisions as suggested by Dunning & Lundan (2008). Institutions determine the decision of foreign investors due to their influence on ownership advantage and transaction costs and should be seen as an important determinant to choose a specific host country to invest in by the source country. Important institution elements include the legal frameworks, political stability, governance systems, and cultural norms prevalent in African countries. China France, India, USA and UK are likely to

invest in countries with favourable institutional environments that provide a conducive setting for business operations and offer protection of property rights. Understanding these institutional factors is crucial in comprehending the motivation behind the selected source countries' FDI in Africa.

In foreign investment locational choice, institutions are seen as an important factor that affects the home country's decision to invest in a particular host country, but the mechanisms through which foreign investment locational choice is affected is still unsettled (Aguilera & Grogaard 2019). For example, recent research has investigated the impact on foreign investment locational choice from institutional distance and institutional quality (Cuervo-Cazurra el al.., 2019; Nyarr and Luiz 2024). The locational decision of foreign investor is the combination of the internalization motive, ownership advantage, locational advantage including the host country institutions (Nielsen et al 2017; Kim et al., 2017). Dunning (1998), extends his interest by explaining the activities of MNE locational decision, with there being an interdependence between locational advantage in the eclectic paradigm Ownership, Location, Internalization advantages (OLI) and the relevance of institutions with relation to FDI. The multinational enterprise seeks to identify the specific asset of location with its firm specific advantages as the internalization motivation relies on locational advantages existence and non-existence (Cuervo & Narula 201; Fedderke et al., 2024).

According to Kostova et al., (2008) and North (1990) institutions are divided into the formal and informal. This guideline enhances exchange and reduces transaction costs between China, France, India, the USA and the UK with Africa leading to sustainable growth. Hence, in the empirical literature. emerging economies the impact of cultural distance between the host and home countries in attracting OFDI varies while in the developed economies are attracted to the country with less distance with their system and are high quality (Jiang & Lattemann 2018; Dhahri & Omri 2020). Thus, formal and informal institutions are explained below.

Formal institutions and FDI

In this study, formal institutions are divided into host countries (Africa) institutional quality (absolute institutions) and second is institutional distance (relative institutions) which is the difference between the home countries (China, France, India, USA and UK) institutional quality and the host country's (African) institutional quality. Cuervo-Cazurus, (2019) suggest that the

effect of the host country's institutional quality and institutional distance should be distinguished. It is raised in the literature on the danger of combining institutional quality and institutional distance effect on FDI as this distinction shows different managerial and academic importance, institutional quality focuses on reducing the exposure to institution environment that is unfavourable and institutional distance on bridging the institutional break (Nayyar et al., 2024; Van Hoorn & Maseland 2016; Brouther et al., 2016;). To get a clearer effect of the impacts of the institution on FDI, this study divides the formal institution into two as mentioned above.

The institutional quality of the host country is seen to build the confidence of the home country's foreign investors to invest in a particular host country and create a good business environment (Shah et al 2016; Luke et al., 2016). Weak institutions such as where corruption, high political risk, and lack of good governance are present limit FDI inflows into the host country (Fan et al., 2009; Chakrabarti 2001; Bailey 2018). A country with institutions that are well developed enhance accuracy of patents, accounting information for good valuations of targets and assist in decision making (Gubbi et al., 2010). Following this the first hypothesis of this study is written as

H1: China, France, India, UK and USA, foreign investment locational choice and amount invested in Africa sectors is determine by the institutional quality of the host countries and is positively related to FDI locational choice.

However, according to James et al., (2020), institutional distance includes definite regulatory framework, administrative processes and legal structure that distinguish home and host countries. Hence, institutional distance factors are vital in understanding the challenges encountered by MNEs in their effort for expansion and cross-border disparities. The MNEs operational success and strategies performance are linked to the institutional environment factors which includes task dynamics, resource provisioning, involvement of the stake holder and the foundation of the institution. Institutional distance central ideas mean a MNEs that engage in business activities are expose and entrenched to different type of institutional environment across national border in home and host countries which can result to risk and difficulties due to the cultural difference and this can affect both the managerial decision and firm strategic action (Kostova 1999; Kostova 2020)

H2: China, France, India, UK and USA foreign investment locational choice and amount invested in African sectors is determined by institution distance between the host country and the home countries and it should be negatively related.

For more in-depth analysis, this study divides the source countries into traditional (France, UK and USA) and emerging economies (China and India) to understand further the impact of institutional quality on the developed source countries and developing source countries to African countries. However, a more applicable revised theory for the emerging economies' foreign investment locational choice is requested by Dunning and Dunning (2006) regardless of the relevance of the OLI theory. According to Warsame (2021), developing countries foreign investment location choice are different from developed countries foreign investment choice and foreign investors from developing countries (China and India) invest in locations with weak intellectual property protection and strong knowledge-based asset countries while the developed economies are not attracted to countries with weak intellectual property protection (Yao et al 2016; Surtherland et al 2020). Thus, FDI from developed countries are faced with adaptation cost that lower profit and investment from developed countries into developing countries. (Cezar & Escobar 2015). Li et al., (2020) explained that OFDI flow from developed countries to developing countries is lower if there is a larger institutional distance between the host countries and the home countries. Mohamued et al., (2024), find that Chinese MNEs can invest in countries with comparable institutional features and find a positive impact between Chinese OFDI and cultural distance and explain that between China and Africa FDI inflow can be maximised with high institution distance. Thus, this study hypothesis is written as

H3: Emerging economies (China and India) foreign investors invest in African sectors and amount invested because they have similar or weaker institutions, emerging economies have comparable institution with Africa countries. These studies expect a positive or (negative) relationship.

H4: Traditional economies (France, UK and USA) investment locational choice and amount invested is determined by institutional distance (institutional quality of the host country) between the host and the home countries with a negative (positive) relationship expected.

Informal institutions and FDI

Chang & Chen (2021) suggest future research should construct a proxy of informal institutions. In the extensive literature on international economics, cultural distance has been used to explain FDI location and internalisation advantage (Shenkar 2001). It is argued that a cross-border investment transaction is connected to different societal values (Tihanyi et al 2005) and a shared culture is maintained and created within nations, even though homogeneous values systems are not always present within national boundaries (Hofstede, 1980). Foreign investors operating in different countries may have an additional burden adapting to local cultural values (Schwartz 1999). Zeng et al., (2016) find that cultural distance does not limit Chinese MNEs from investing in new markets and foreign investors attracted to manufacturing sectors prefer countries with cultural similarities unlike foreign investors investing in marketing and R&D which is high value-added and find that positive institutional difference promote emerging economies entries into the host countries.

H5: The locational choice and investment volume of FDI from China, France, India, UK and USA into African sectors is negatively associated with cultural distance.

H6: The locational choice and investment volume of FDI from traditional economies (France, UK and USA) into African sectors is negatively associated with informal institution (cultural distance).

H7: The locational choice and investment volume of FDI from emerging economies (China and India) into African sectors is negatively associated by informal institution (cultural distance), as these economies tend to invest in culturally similar regions.

Thus, the next section discusses the empirical literature on sectoral FDI and institution.

5.3.2 Empirical review on sectoral FDI and institution

This section discusses the empirical literature on the impact of institutions on FDI in Africa. In the extensive literature, most studies that investigate the effect of institutions on attracting FDI and locational choice, focus on the aggregate country indices level. Only a few studies examine the

impact of institutions on sectoral FDI inflow, particularly in Africa. We discuss the previous empirical analysis on institutions and FDI below.

Warsame (2021), uses cross border data from the Financial Times database of 3768 firms across 88 different countries to examine the location choice of FDI and economic development in 54 African countries, GDP and GDP per capita are used to represent market size and income level respectively and governance indicator (Control of corruption, Government effectiveness, political stability and regulatory quality) is used to reflect institutional quality. The North American Industry Classification System (NAICS 2007) is used to classified sectors into manufacturing, tertiary and natural resources sectors within a multinomial logistics regression specification. Host countries were classified into different market size, geographic and income level. He finds that landlocked countries are vulnerable to exploitation due to their economics constraints and are more likely to attract extractive resource seeking FDI rather than manufacturing and service providing FDI. He also found that the location choice of FDI in Africa is determined by labour quality, market size, political stability and level of development. He also finds that big markets and high income attract France, the UK and the USA FDI to African countries. India invests more in small and medium markets and low and medium-income countries relative to China. He mentioned that the locational factors that attract FDI to one sector are different to the factors that will attract foreign investment locational choice to other African sectors.

Therefore, Warsame (2021) focusing on the three broad sectors, highlighted the need for more subtle research on how various aspects of institutional quality affect the FDI decision to choose a particular host country. However, this study looks more details into Sectoral analysis by creating seven sectors (i.e. manufacturing, service, mining, agriculture, construction, infrastructure and banking using the recent NAIC (2017) for in-depth analysis of the factors that attract China, India, France, the UK and the USA foreign direct investment locational choice to African sectors and also focus on the source countries by dividing them into traditional and emerging economies.

Jame and Jiangyan (2010) examine the sectoral and institutional approach to determine FDI inflow. They find FDI determinants vary significantly across different sectors (primary, secondary and tertiary). In the primary sector, (e.g. petroleum, mining and agriculture) FDI is leveraged by the availability of natural resources with economic stability and the market size of the host countries

attracting FDI from the manufacturing and service sectors. Institutional quality (i.e. better legal framework, low level of corruption and good governance) attracts, secondary and tertiary sectors FDI as foreign investors in these sectors, are anxious about the business environment predictability and economic stability. Inflation and stable exchange rates attract FDI in primary, secondary and tertiary sector and developing countries with better institution quality and strong economies attract foreign investors into the service and manufacturing sectors. Asiedu (2002) finds that institutional quality (expropriate risk and political instability) does not discourage FDI in the primary sector (i.e. petroleum sector) and this is because this sector can compensate for any risk that arise due to the profitability of the sector. Others also find evidence to support the argument that institutional quality has no significant effect on energy and mining sectors (Jiang & Martek 2021; Doytch; 2021)

Furthermore, Bergougui & Murshed (2023), in their sectoral analysis of institutional quality and FDI in 10 Middle East and North Africa (MENA) regions from 1990 to 2018, find that institutional quality differs across sectors and better institutions attract more FDI into the manufacturing and service sectors compared to the primary sector (i.e. oil and gas). FDI into the primary sector are not driven by institutional quality but by availability of natural resources. Their result is also consistent with Saikia (2021) as institutions are found to matter for attracting FDI into manufacturing and service sector. Ali et al., (2010), also held the view that institutional quality attracts sector FDI differently and they find that it attracts FDI in secondary and tertiary sectors rather than the primary sector in their sample of 69 developed and developing countries between 1981 and 2005. Ahmad et al (2018) used ARDL to examine the impact of institutional quality in Pakistan he found that in the service and manufacturing sector institution quality attract FDI while it does in the primary sector.

However, another, researcher Ekeocha et al., (2023) investigates the sectoral outcome and institutional quality nexus in Sub-Sahara Africa (SSA). They found that in SSA the role of institutional quality for sectoral and aggregate economic performance is muted. They conclude that to attract FDI into African sectors, an increase in the development of human capital, institutional reform, and capital accumulation is needed in Africa sub-region. Similarly, Bailey & Warby (2019) found in the mining or manufacturing sectors there is no relationship between FDI and political stability and democracy. Contradicting other studies, Kucera & Principi (2014)

examine both the aggregate and disaggregate levels and find negative relationship between democracy and mining but a positive effect in service sector (i.e. finance insurance and information).

Most of these studies mentioned above have studied three broad sectors (i.e. primary, manufacturing and tertiary). Few focus on the institutional quality of the host countries. Only a few studies discuss institution and sectoral FDI in Africa (Warsame 2021; Ekeocha et al., 2023). A majority focus on measures of institutional quality rather than institutional distance. This study investigates the impact of formal (institutional quality of the host country and institutional distance) and informal (cultural distance) on sectoral foreign investment locational choice from China, France, India, UK, and USA to Africa countries using cross-border data from Orbis from (2013 to 2022) to address the literature gap identify. The study also creates seven sectors (i.e. manufacturing, mining, agriculture, construction, infrastructure, service and banking by using NAIC 2017) for in-depth analysis of the impact of formal and informal institutions in attracting FDI from China, France, India, UK and USA to various sectors in Africa. It further divides the home countries into traditional and emerging countries. To the best of our knowledge this level of disaggregation of countries, sectors and institutional measures makes this a novel study in the African context. Thus, the next section discusses the methodology use in this study

The impact of institutional factors on FDI performance in Africa is a crucial aspect to analyse when investigating the sectoral foreign investment locational choice and investment in Africa FDI. Institutional factors such as political stability, legal frameworks, infrastructure development, and government policies play significant roles in attracting and influencing FDI flows to the continent. China's emphasis on state-owned enterprises and government policies, coupled with its long-standing relationship with Africa, has resulted in substantial FDI outflows. On the other hand, India's focus on private sector investment and government policies has also contributed to its growing FDI presence in Africa. Understanding these institutional factors and their effects on FDI performance in Africa is essential for policymakers and investors seeking to enhance FDI inflows to the continent

5.4 Methodology and Data

This section explains the data use in this research work. The study selected five source countries, which include two emerging countries which are (China and India) and three from Organisation for Economic Co-operation and Development (OECD) countries which include (France, USA and UK) these countries are selected because they are part of the top countries investing countries in African (*Statista* 2024) and they have historical tie, colonial tie and economic cooperation with Africa countries. The data collection process for bilateral locational choice of China, France, India, USA and UK Foreign Direct Investment (FDI) into Africa involves gathering relevant data from various sources. These are outlined below by first explaining the section which includes all the data used in this research (i.e. dependent variable, independent variable and control variable). This is followed by the method used in the research work. The next sub-section is the data section

5.4.1 Data

This sub-section explains the data collected for this research work, the definition and the source of the data. In this study, a country level and bilateral FDI data are collected. The country level data comprises that used as independent and the control variables. This is obtained from World Development Indicator (WDI) and World Government Indicator (WGI) database, Hofstede cultural database and Centre d'Études Prospectives et d'Informations Internationales (CEPII) database. The bilateral sectoral data is from the Bureau Van Dijk Zephyr database (i.e. Orbis cross-border data base). The bilateral sectoral data collected for this research work are 354, 472, 460, 340,630 foreign investment projects from India, China, France, UK and USA multinational companies investing into various Africa countries respectively. (i.e. a total of 2256 foreign investment projects). The sample consist of 51 African host countries from (2013-2022), (see Appendix A1 for a list of host countries use in this research work). Somalia, Sudan and South Sudan are not included in the sample due to data availability issues. The choice of the time period to investigate and countries covered are due to data availability. The Orbis data starts from 2013 nevertheless this is when Chinese investment into Africa started increasing and therefore is the most relevant period to investigate. We created seven sectors from 2256 firm level data project from China, France, India, UK and USA into 51 Africa countries using data from Orbis cross-

border database using the International Standard Industrial Classification (ISIC)code to classify each firm level data to different African sectors. We use the North American Industry Classification (NAICS 2017) code as specific in Orbis database in creating the sectors (USDC 2022). This is shown in table 5.6 below

Table 5.1 Shows the Sectoral Classification Using NAICS (2017)

Sectors	Industrial Sectoral Code	Source
Manufacturing sector 31- manufacturing 311 to 316 comprises of food, beverage and tobacco product, textile mill, apparel allied and leather manufacturing 32 – manufacturing 321 to 327 comprises of wood, paper, printing and related support activities, chemical, petroleum and coal, rubber and plastic and non-metallic manufacturing 33- manufacturing 331 to 339 includes primary metal, fabricated metal, machinery, computer and electronic, electrical equipment, transport equipment, furniture and miscellaneous manufacturing 42- wholesale trade 44- retail trade	31, 32,33,42,44,45 (311 – 339, 423, 453) 31 comprises of 311, 312, 313,314,315,316 – these comprises of (3111 to3119; 3121 to3122; 3131 to 3133; 3141 to3149; 3151 to 3151,3152,3159 and 3161,3162 3169 respectively) 32 comprises of (321;322,323;324;325;326;327) - these made-up of (3211 to 3219; 3221 to 3222; 3231;3241; 3251 to 3259; 3261 to 3262 and 3271 to 3279 respectively) 33 comprises of (331,332,333,334,335,336,337 and 339) - these include (3311 to3315; 3321 to 3329; 3331 to 3339; 3341 to 3346; 3351 to 3359; 3361 to 3369; 3371 to 3379 and 3391 to 3399) 42 comprises of (423 to 425) and 44 comprises of (441 to 448)	NAICS 2017
Minning sector 211-Oil and Gas Extraction 212 – Mining (except oil and Gas) 213- support activities for mining	21(211 – 213) 211 comprises of (2111) 212 comprises of (2121 to 2123) 213 comprises of (2131)	NAICS 2017

Source: Own Compilation Cross-border data (US Bureau Census, NAICS 2017)

Continuation of sectoral industrial code breakdown

Sectors	Industrial code	Source
Agricultural sector 111- crop production 112 – animal production and aquaculture 113- forestry and logging 114 –fishing, hunting and trapping 115- support activities for agriculture and forestry	11(111 – 115) 111 comprises of (1111 to 1119) 112 comprises of (1121 to 1129) 113 comprises of (1131 to 1133) 114 comprises of (1141 to 1142) and 115comprises of (1151 to 1153)	NAICS 2017
Construction sector	23 (212 –237)	NAICS 2017
Infrastructural sector 22- utilities 221- utilities 2211 – electric power generation, transmission and distribution 2212- Natural gas distribution 2213 – water, sewage and other system 51 – information 515- broadcasting (except internet 517- telecommunications	22, 51 221 comprises of (2211 to 2213) 515 comprises of (5151 to 5152) 517 comprises of (5173 to 5179)	NAICS 2017

Source: Own Compilation Cross-border data (US Bureau Census, NAICS 2017)

Continuation of sectoral industrial code breakdown

Sectors	Industrial codes	Sources
Service sector 54- professional, scientific and technical services 61- education services 62 – health care and social assistance 72- accommodation and food service 81- other services	54, 61, 62,72, 81(541, 611,721,722) 541 comprises (5411 to 5419) 611 comprises of (6111 to 6117) 621,622,623,624 comprises of (6211 to 6219; 6221 to 6223; 6231 to 6239; 6241 to 6244) 721 comprises of (7211 to 7213) 722 comprises of (7223 to 7225) 811 comprises of (8111 to 8114) 812 comprise of (8121 to 8129)	NAICS 2017
Banking sector 52 finance and insurance 521- monetary authorities 522- credit intermediation and related activities 523- securities, commodity contracts and other financial investment 524- insurance carriers and related activities 525- funds, trust and other financial vehicles	52 (521, 522,523, 524) 521 comprises of (5211) 522 comprises of (5221 to 5223) 523 comprises of (5231,5232 and 5239) 524 comprises (5241 to 5242) 525 comprises (5251 to 5259)	NAICS 2017

Source: Own Compilation cross- border data (US Bureau Census, NAICS 2017)

Thus, the dependent variable is classified into sectors using the above code as shown in fig 5.3

Table 5.2: Shows the bilateral foreign direct investment choice from the five home countries to 51 Africa countries use in this research work.

Bilateral foreign direct Investment Choice by Project in Africa						
Years	India	China	France	UK	USA	Total
2013	32	18	45	92	56	243
2014	24	23	39	40	95	221
2015	31	35	48	57	91	262
2016	59	42	46	12	39	198
2017	34	49	22	29	64	198
2018	54	92	61	25	66	298
2019	36	96	59	30	69	290
2020	22	50	82	14	54	222
2021	26	31	28	15	38	138
2022	36	36	30	26	58	186
TOTAL	354	472	460	340	630	2256

Source: Own calculation from Orbis cross border investment data

Dependent Variable

The dependent variable used in this research to test the research hypotheses developed in the literature section above comprises of bilateral disaggregated (sectoral) data as explain in table 5.8 above. The disaggregated data is the sectoral investment choice made by the selected five home countries (China, France, India, UK and USA) multinational companies into 51 African countries from 2013- 2022, the data is collected from Orbis database due to data availability. However, the sectoral dependent variable use in this analysis is created using dummy variable, this research assigned a value of 1 if there is investment in any of the sector Africa from the five-home country and 0 if there is no investment within a given country. Likewise for the total investment we assigned 1 if there is investment from any of the five sources countries in any of the sectors in the African countries and 0 otherwise, the using of dummy variable is to reduce selection bias (see Table 5.9 for data definition).

The next section will explain the variable of interest, and the control variables.

Independent Variables

The independent variables employed in this study are consistent with both the existing literature and the theoretical framework underpinning FDI locational choice. Three key variables are of particular interest. First, institutional quality, which captures the formal institutional characteristics of the African host countries, is measured using governance indicators such as government effectiveness, rule of law, and regulatory quality. Second, institutional distance, defined as the divergence in formal institutional structures between the home countries (China, India, France, the UK, and the USA) and the African host countries, reflects the extent of institutional asymmetry and is derived using principal component analysis. Third, cultural distance, which represents informal institutional differences, is calculated using Hofstede's cultural dimensions to assess the behavioural and normative divergence between investor and host countries. Together, these variables provide a comprehensive framework for analysing the institutional and cultural determinants of bilateral FDI flows. This is explained in detailed below:

Cultural distance

This research uses the six cultural dimensions by Hofstede (1980), to measure cultural distance which includes, power distance, individualism vs collectivism, masculinity vs femininity motivation towards achievement and success, uncertainty avoidance, long term orientation and indulgence and use Kogut and Singh's (1988) index to calculate the cultural distance index. The data is available for 18 African countries; this research extends the score to some African countries that are culturally close to get a total of 51 African country. This is also in line with the work of (O'Scawn 2018). According to Transaction Cost Economics (TCE) theory (Williamson 1975, 1985), According to Transaction Cost Economics (TCE) theory (Williamson, 1975; 1985), greater cultural distance between the investing country and the African host country increases uncertainty, adaptation costs, and the risk of opportunism. In response, multinational enterprises from countries such as China, the UK, the USA, France, and India tend to favour high-control entry modes, such as wholly owned subsidiaries, to internalise operations and reduce transaction costs. As argued by Li and Guisinger (1992), wide cultural differences prompt firms to take direct ownership of their investments in order to safeguard strategic interests and ensure operational alignment within culturally unfamiliar environments. This is particularly relevant in sectors such as banking,

infrastructure, and services, where institutional compatibility and managerial control are critical to performance.

Therefore, when the foreign firms have a greater percentage of equity ownership, they take charge of the international operations which is encouraged by institution and cultural value differences. Thus, when there is a greater control of the investing country it increases the effective of the multinational companies. North (1990) and Peng et al., (2008) argue that the informal institution of a countries reflects culture which is share value and noncodified sanction. The value, belief, assumption and priorities and norms are influence by culture (Hofstede 1980; Sirmon and Lane 2004).

To account for the institutional and behavioural differences between investing and host countries, this study incorporates the concept of cultural distance, measured using the Kogut and Singh (1988) index. Cultural distance captures the extent to which the societal values, norms, and practices in the host country diverge from those of the investor country, thereby influencing transaction cost, managerial control, and entry mode decision. The index is construct using Hofstede's six cultural dimensions, which provide a widely recognised framework for assessing cross-national cultural variation (Hofstede, 1980; Hofstede et al., 2010).

These dimensions are defined as follows: Power Distance (PDI) refers to the extent to which inequality and hierarchical authority are accepted within a society; Individualism versus Collectivism (IDV) captures whether people prioritise personal autonomy or group loyalty; Masculinity versus Femininity (MAS) reflects the degree to which societies value competitiveness and achievement versus cooperation and quality of life; Uncertainty Avoidance (UAI) assesses how comfortable a culture is with ambiguity and risk; Long-Term Orientation (LTO) indicates whether a society values future planning and perseverance over short-term results and tradition; and Indulgence versus Restraint (IVR) measure the extent to which societies permit gratification of desires and leisure, as opposed to emphasising discipline and social control. These dimensions form the basis for calculating cultural distance between investor countries (e.g. China, India, USA, UK, and France) and African host countries, thereby enabling a more nuanced analysis of bilateral FDI flows and entry mode preferences. These definitions are based on the framework developed by Geert Hofstede (1980). Based on this framework, cultural distance is calculated using the index

proposed by Kogut and Singh (1988), which quantifies the institutional and behavioural divergence between the home (investor) and host (recipient) countries. The formula is expressed as

$$CD_{ij} = \frac{1}{6}\sum_{k=1}^{6}\left(I_{kj} - I_{ki}\right)2 \ / \ V_k \quad - \quad (5.4.1.1)$$

Here,

CD_{ij} in equation (5.4.1.1) is the cultural distance between the country j (host country- African countries) and country i (home country- China, UK, USA, France and India),

I_{kj} is the Hofstede score for host country j (Africa) on the kth cultural dimension

I_{ki} is the Hofstede score for home country i on the kth cultural dimension

V_k is the variance of dimension k across all countries.

The kth dimension includes (power distance, individualism vs collectivism, masculinity vs femininity motivation towards achievement and success, uncertainty avoidance, long term orientation and indulgence) and n is the number of Hofsted dimension used.

According to the theory of internalization, institutional quality has a direct relationship with the ownership advantage and transaction cost which has impact on the decision of multinational companies to invest in the host countries (Dunning and Lundan 2008). According to Scott (1995) institutions also shape the experience and behaviours of the host and partner countries involved in investment exchange as the boundary and structure for which social exchange take place is created and most of the international business scholars argue that institutions should be seen as an unequivocal contextual factor that affect FDI and trade between countries by creating challenges and opportunity to the firms or industries that are entrenched in this contextual grounds and not to be merely express as the background conditions for the countries involved (Meyer et al 2009; Peng and Heath 1996; Peng et al 2009; Munjal and Pereira 2015).

Institutional quality (Absolute institution)

Institutional quality serves as a foundational construct in this study's analysis of bilateral FDI flows from China, India, France, the UK, and the USA into African sectors. While a detailed breakdown of institutional quality indicators is provided in Chapter 3, this chapter builds on that framework by applying the Worldwide Governance Indicators (WGI) to construct an institutional distance index between home and host countries. The six WGI dimensions government effectiveness, rule of law, control of corruption, regulatory quality, political stability and absence of violence/terrorism, and voice and accountability are used to capture formal institutional divergence, in line with North's (1990) conceptualisation of institutions as the formal "rules of the game." These indicators, ranging from –2.5 to +2.5, are sourced from a comprehensive dataset compiled from over 30 sources (Kaufmann et al., 2010). A detailed discussion of institutional distance follows, building on the operationalisation of institutional quality and extending the analysis to capture formal governance divergence between investor and host countries.

Institutional distance (Relative institution)

This study uses the six governmental indicators by Kaufmann et al (2011) as shown in table 5.5 for institutional quality as being use in the literature to investigate formal institutional quality of a country (Cuervo-Cazurra and Genc 2008; Tang and Buckley 2022) and a principal component analysis (PCA) is used to construct the index to deal with heteroskedascity and correlation issue noted in the literature, which prevent all six indicators being used in one model (Dorka 2020; Munjal et al 2022, Nayyar et al., 2024) see table A6 for the components analysis. The formula uses to derive the institutional distance is

$$ID_{ijt} = \sum_{k=1}^{6}\left(I_{kit} - I_{kjt}\right) \qquad (5.4.1.2)$$

Where

ID_{ijt} in equation (5.4.1.2) represent the institutional distance between a home countries (i) (i.e. China, India, France, UK and USA) and an African host country (j) in a given year (t)

I_{kit} Institutional indicator k for country i (home country) in year

.I_{kjt} institution indicator k for African country j in year t

k = 1 to 6; refers to six institutional dimensions (governance indicators - effectiveness, rule of law, control of corruption, regulatory quality, political stability and absence of violence/terrorism, and voice and accountability)

The institutional variables are the six governance indicators. which are used to measure formal institutions in line with North's (1990) theoretical concept of institutional framework. This choice is further justified by Kostova et al (2020, p.490), who note that the economic freedom index has "a slight ideological bend", whereas the WGI dataset offers a more comprehensive and neutral representation. The WGI indicators are compiled from over 30 data sources, which include Economic Freedom index and comprises of various hundred variables (Kaufmann et al 2010), making them suitable for robust cross country institutional comparison.

Control Variables

The control variables used in this research work are determined to ensure consistency with the existing literature and OLI theory of FDI. The research also used locational advantages factors as control variables such as African region natural resource rent as a proxy for natural resource of the host country, this variable covered all the resource rent both hard and soft this made it more advantageous than the traditional dummy variable (Anyanwu and Yamaego 2016, Munjal et al 2022; Nayyar and Liuz 2024) and is important in attracting FDI as foreign investors are interested more in the availability of natural resources in the host country (Kolstad and Wiig 2012), GDP per capital and GDP growth are used to capture market potentials (Buckley et al 2012; Glaister et al 2020, Tang and Bukley 2022). Exchange rates are included as in theory the higher the exchange rate of the host country, the lower the FDI inflow into the region (Buckley et al 2012). Inflation is also included to the control variable as it captures the destination country economic environment (Sutherland et al 2020) Trade openness is also used as a control variable as the literature suggests an open host economy attracts more FDI. According to Kim et al (2020) FDI is likely to go to countries that are geographically closer to the home country as the farther the host country the higher the transaction cost the geographical distance is also accounted for. Table 5.5 explain the data used in this research, the definition, and sources.

Table 5.3 Definition of Variable and Choice of Dependent Variable

Variables	Description	Source
Dependent Variable for locational choice		
Total investment Choice	Dummy variable equal 1, if China, France, India, USA and UK company invest in any Africa sectors and zero otherwise	Bureau van Dijk Zephyr database (Orbis cross border data base)
Mining sector choice	Dummy variable equal 1, if China, France, India, USA and UK company invest in mining sector of any of the 51 Africa country selected in this study and zero otherwise	Bureau van Dijk Zephyr database (Orbis cross border data base)
Manufacturing sector choice	Dummy variable equal 1, if China, France, India, USA and UK company invest in manufacturing sector of any of the 51 Africa country selected in this study and zero otherwise	Bureau van Dijk Zephyr database (Orbis cross border data base)
Banking sector choice	Dummy variable equal 1, if China, France, India, USA and UK company invest in banking sector of any Africa country and zero otherwise	Bureau van Dijk Zephyr database (Orbis cross border data base)
Construction sector choice	Dummy variable equal 1, if China, France, India, USA and UK company invest in construction sector of any of the 51 Africa country selected in this study and zero otherwise	Bureau van Dijk Zephyr database (Orbis cross border data base)
Service sector choice	Dummy variable equal 1, if China, France, India, USA and UK company invest in service sector of any of the 51 Africa country selected in this study and zero otherwise	Bureau van Dijk Zephyr database (Orbis cross border data base)
Agriculture sector choice	Dummy variable equal 1, if China, France, India, USA and UK company invest in agriculture sector of any of the 51 Africa country selected in this study and zero otherwise	Bureau van Dijk Zephyr database (Orbis cross border data base)
Infrastructure/ information sector choice	Dummy variable equal 1, if China, France, India, USA and UK company invest in infrastructure sector of any of the 51 Africa country selected in this study and zero otherwise	Bureau van Dijk Zephyr database (Orbis cross border data base)
Scale of Investment	Continuous variable representing the total value (in USD) of amount spent on project from China, India, France, UK and USA into each African country sector pair. Used to assess investment intensity.	Bureau van Dijk Zephyr database (Orbis cross border data base
Independent variable		
Informal inst.	Cultural distance between host country and host country the study uses the six cultural dimensions by Hofstede (1980), power distance, individualism, motivation towards achievement and success, uncertainty avoidance, short vs long term orientation, restraint vs indulgence. And use Kogut and Singh (1988) calculation index.	Hofstede cultural data base
Formal inst. (host institutional quality)	PCA of government effectiveness, control of corruption, political stability, rule of law, regulatory quality and voice and accountability (-2.5 to 2.5)	WGI
Formal inst. (institutional distance)	The institutional distance home and host countries institution	WGI

Continuation of list of variables

Control Variables	Control variables	Control variables
Resource	Resource rent (% of GDP). Total of oil rent, coal rent, gas rent, coal rent, forest and mineral rent	WDI
Openness	Trade (% of GDP)	WDI
GDP growth	GDP growth (annual %)	WDI
GDP per Capital	GDP Per Capital (current US dollar)	WDI
Exchange rate	Nominal exchange rate	Bruegel data base
Inflation	Inflation (CPI)	WDI
Geo-distance	Is the geographical distance from the home and host countries	CEPII

All dependent variables reflect bilateral FDI flows from five investor countries China, India, France, the United Kingdom, and the United States into 51 African host countries. This coverage enables a comprehensive analysis of locational and sectoral investment patterns. The categorisation of investor countries into emerging (China and India) and traditional (France, the UK, and the USA) sources is introduced in later sections to support comparative analysis of entry mode preferences and institutional responsiveness. Where relevant, this distinction is applied to isolate strategic differences in FDI behaviour across sectors.

Summary Statistics and Correlation Matrix

Table 5.4 Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Dependent variable					
Totals invest choice	2545	0.282	.45	0	1
Manufact choice	2548	0.174	.379	0	1
Mining choice	2545	0.019	.137	0	1
Services choice	2549	0.137	.404	0	1
Construction choice	2547	0.024	.152	0	1
Agriculture choice	2548	0.008	.209	0	1
Banking choice	2550	0.049	.227	0	1
Infrastructure choice	2538	0.84	39.69	0	1
Total capex	639	315.7	1689	0	2086
Manufacture capex	400	166.4	703.6	0	9383
Mining capex	37	1062	3105	1	1600
Service capex	469	58.62	423.0	0	6000
Construction capex	35	1432	4186	0	2000
Agriculture capex	79	5.964	21.80	0	124.6
Banking capex	213	11.01	29.38	0	298.73
Infrastructure capex	74	82.83	122.6	1	684.2
Independent variable					
Formal inst.$_{t-1}$	2295	0.003	1.420	-4.542	3.100
Inst qual (host)	2550	-1.14×10^{16}	1.003	-1.831	3.118
Inst qual (home)	2550	-7.22×10^{16}	1.008	-1.427	1.288
Informal inst.	2550	10.16	4.672	1.468	23.88
Control variable					
LGDPG $_{t-1}$	2245	2.93	5.42	-36.39	32.49
LnGDPPC $_{t-1}$	2250	7.404	0.975	5.379	9.778
Resource $_{t-1}$	2250	9.568	8.535	.002	61.03
Openness $_{t-1}$	2225	74.32	46.07	22.24	347.9
Inflation $_{t-1}$	2155	7.409	29.10	-4.295	557.20
Lngeographic $_{t-1}$	2550	8.863	.465	7.036	9.611
Lnexchange $_{t-1}$	2160	4.35	0.38	2.700	4.95

In the table total capex is the capital expenditure of the total investment for a project, manufacture capex, mining capex, service capex, construction capex, agricuture capex, banking capex and infrastructure capex is the capital value invested in manufacturing, mining, service, construction, agriculture, banking, and infrastructure sectors respectively. Lngeographic Informal inst. and Lnexchange is the log of geographical distance, cultural distance and log of exchange rate

respectively. Formal inst, inst qual (host) and inst qual (home) is the institutional distance between home and host country, inst qual is the institutional qualities of the host countries and home countries, respectively. Openness is the trade % of GDP, and resource is the total resource rent % of GDP. t-1 is the lag value of the time varying independent variable.

Tables 5.4, 5.5 and 5.6 show the summary statistics, the mean, standard deviation, minimum and maximum values, and the correlation matrix of the data used in this study, respectively. In table 5.5 the coefficient of the correlation suggests a positive association between China, France, India, UK and USA investment choice into Africa and formal institutions (host countries institutional quality) and informal institutions and a negative association for institutional distance between the host and the home countries. Table 5.6 shows a positive association between formal, informal institutions and foreign investment value from China, France, India, UK and USA to Africa.

Table 5.5 and 5.6,the coefficient value range from - 0.7 to +0.67, this indicates that there is no serious issues of multicollinearity in the data set use for the analysis in this chapter and for more validity of the issues of multicollinearity, variance inflation factors (VIF) is also calculated and the mean value for formal institution (i.e. absolute institution which is the institution of the host country and relative institution which is the institutional distance between the host and home countries) for the foreign investment choice is 1.42 and 1.57 (see Appendix table A2 and A3) and for the foreign investment value is 2.27 and 1.66 (see appendix table A4 and A5) respectively and this is lower than the threshold of 10 which is used to measure the VIF for multicollinearity (Hair 2009).

Table 5.5 Correlation matrices for foreign investment locational choice

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) total investment	1.000										
(2) formalinst.$_{t-1}$	-0.202	1.000									
(3) lnst. Qual (host)	0.240	-0.700	1.000								
(4) informal inst.	0.012	0.358	-0.029	1.000							
(5) LnGDPPC $_{t-1}$	0.025	-0.331	0.472	-0.082	1.000						
(6) GDPG $_{t-1}$	0.105	-0.039	0.063	0.013	-0.171	1.000					
(7) Resources $_{t-1}$	-0.127	0.380	-0.546	0.106	0.018	-0.184	1.000				
(8) Openness $_{t-1}$	-0.182	-0.138	0.197	-0.109	0.406	-0.065	-0.163	1.000			
(9) Inflation $_{t-1}$	0.124	0.058	-0.081	0.240	-0.060	0.048	0.150	-0.147	1.000		
(10) Lngeographic	0.002	-0.321	0.097	-0.208	0.008	-0.006	-0.071	0.039	0.002	1.000	
(11) Lnexchange $_{t-1}$	-0.181	0.069	-0.104	-0.211	0.073	-0.016	-0.042	0.093	-0.637	-0.066	1.000

Table 5.6 Correlation matrices for foreign investment value

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) total investment	1.000									
(2) formalinst $_{t-1}$	0.019	1.000								
(3) informalinst	0.077	0.310	1.000							
(4) LnGDPPC $_{t-1}$	-0.019	-0.409	-0.147	1.000						
(5) GDPG $_{t-1}$	0.049	0.093	0.052	-0.383	1.000					
(6) Resource $_{t-1}$	0.095	0.372	0.103	-0.032	-0.005	1.000				
(7) inflation $_{t-1}$	0.167	0.045	0.263	-0.166	0.088	0.165	1.000			
(8) lngeographic $_{t-1}$	-0.003	-0.226	-0.074	0.098	0.034	-0.014	0.004	1.000		
(9) lnexchange $_{t-1}$	-0.061	0.022	-0.276	0.222	-0.112	-0.179	-0.712	-0.029	1.000	
(10) imr	-0.004	0.319	-0.096	-0.126	0.145	0.345	-0.252	0.055	0.296	1.000

5.4.2 Model Specification and Estimation Techniques

This section outlines the empirical approach used in this chapter to examine the influence of formal and informal institutional on bilateral FDI investment choice and scale of investment of five major investor countries China, France, India, UK, and USA into African economies. The analysis focus on both the decision to invest and the volume of investment across sectors, specifically Manufacturing sector, Mining sector, Service sector, Construction sector, Agriculture sector, Banking sector and Infrastructure sector using a two-stage econometric framework. The rationale, model selection, and estimation techniques are discussed in detail to provide a clear understanding of the modelling approach.

5.4.2.1 Estimation Techniques

The study is grounded in the gravity model of international investment, which has become a dominant empirical tool for analysis bilateral trade and investment flows (Blonigen et al., 2007; Andres et al., 2013). Originating from Newton's law of universal gravitation, the gravity model posits that economic interaction between two countries is positively related to their economic size and negatively related to the distance between them (Linda, 2006). First applied to trade by Tinbergen (1962), the model has since been extended to FDI analysis, incorporating variables such as geographical distance and economic distance. This study employs gravity-based variables including geographical distance, institutional distance, and cultural distance alongside other locational characteristics of host countries that are relevant for attracting foreign investors. While geographical distance represents the traditional core of the gravity model, institutional and cultural dimensions offer additional explanatory power by capturing formal and informal frictions between home and host countries consistent with Mishra and Jena (2019), who argue that augmented gravity model improve explanatory power and insightful results. These variables are integrated with conventional locational determinants to assess how formal and informal institution influence FDI decisions to invest and the scale of investment across African sectors.

This framework is complemented by internationalisation theory (Buckley and Casson, 1976), which explains why multinational enterprises (MNEs) internalise cross-border operations to reduce transaction costs and manage market imperfections. Studies such as Cheung et al. (2012), Tang and Buckley (2022), and Munjal et al. (2022) have extended its core principles in empirical

research to conceptualise FDI behaviour as involving two interrelated decisions: first, the locational choice, which concerns whether to invest in a particular country-sector combination; and second, the commitment decision, which reflects the scale of capital invested once entry is determined. These decisions are shaped by institutional quality, cultural compatibility, and perceived risk. Higher uncertainty or strategic importance may lead to larger investments to maintain control and mitigate exposure.

To operationalise these two-stage logic, the study employs the Heckman two-stage model consistent with prior research. In the first stage, a probit model estimates the likelihood that the firm undertakes investment across African sectors. The dependent variable is binary: it takes the value 1 if an investment occurs and zero otherwise. This model is applied both to total investment and sector-specific investment decisions. In a two-stage research design, the probit model is preferred over alternatives such as conditional logit model because it allows for the computation of the inverse mills ratio (IMR), which is necessary for correcting potential sample selection bias in the second stage analysis. The correction follows the Heckman (1979) procedure, which addresses bias arising from non-random selection into sample.

The second stage estimates the scale of bilateral investment using Poisson pseudo-maximum likelihood (PPML) estimators with robust variance, in line with methodological recommendations by Wooldridge (2010) and Santos Silva and Tenreyro (2006). This approach avoids the limitations associated with log-transforming non-negative, skewed dependent variables, accommodates zero investment flows, and is robust to heteroskedasticity, which is commonly observed in FDI datasets. Given the uneven distribution of investment volumes across sectors and the presence of zero flows, log transformation would result in data loss and biased estimates. The choice of PPML is therefore appropriate and closely aligned with Tang and Buckley (2022), who similarly employ a probit model in the first stage and a Poisson estimator in the second.

To mitigate potential endogeneity issue that may arise between independent variable and investments decisions, the study includes one year lag values of the time varying independent variables, which help reduce reverse causality and simultaneity bias by ensuring that explanatory variables precede the investment outcome in time. Therefore, since the decision to invest in a host country reflects a process of self- selection, the inclusion of the investment observations in the sample is inherently non-random, raising concern about selection bias. Ignoring this bias can result

in the error terms of the regression being correlated with the explanatory variables, thereby producing biased and inconsistent estimates. To address this issue and correct for sample- induced endogeneity, this study follows Satori (2003) and Munjal et al., (2022) by excluding host country openness from the outcome model as it is more likely to influence the location decision than the scale of investment. Furthermore, the Inverse Mill Ratio (IMR) drive from the first stage probit model, is included in the second stage estimation to correct for sample bias. This exclusion restriction enhances identification and supports the internal consistency of the two-stage framework. This approach enables us to evaluate how institutional factors influence both the decision to invest and the scale of the investment across the African sectors.

Thus, country dummies were excluded in this study to avoid overparameterization and to preserve the variation necessary for identifying the effect of formal and informal institutions on sectoral investment decisions. Including dummies in this context would absorb much of the institutional variation, potentially obscuring the relationship of interest. This approach is consistent with Nayyar and Luiz (2023), who although use a two-stage Heckman model rather than PPML, also exclude country dummies in their second stage estimation to isolate the effects of institutional quality and institutional distance on Indian outward FDI. This study control for heterogeneity through year dummies which account for global shock and time-specific influences, disaggregation of home countries into traditional (France, UK, and USA) and emerging (China, India) countries which capture origin country heterogeneity more meaningfully than generic dummies. Hence, from the host countries perspective subsample analysis such as comparing landlocked vs non-landlocked countries, allowing for deeper insight into how geography and accessibility influence investment decisions. The next subsection explains the model use in this chapter.

5.4.2.2 Model

This section explains the model used in this research and presents the mathematical formulation of both stages of the Heckman estimation procedure, including the derivation of the inverse Mills ratio. The modelling approach adopted in this chapter is closely aligned with the bilateral framework developed by Munjal et al., (2022). In their study, Munjal et al., (2022), employed a two-stage model using an FDI dummy and FDI value based on aggregated bilateral data to conduct a comparative analysis of Indian and Chinese investment in Africa. Their independent variables

included three institutional indicators control of corruption, voice and accountability, and political stability alongside natural resource endowment, GDP growth rate, inflation, exchange rate, GDP, cultural distance (measured via power distance, uncertainty avoidance, individualism, and masculinity), and alliance membership.

This study builds upon and extends their framework in two keyways. First, it incorporates disaggregated sectoral bilateral investment data, allowing for a more granular analysis of FDI flows across seven key sectors: manufacturing, mining, services, construction, agriculture, banking, and infrastructure. Second, it expands the institutional variables by including the relative institutions, which is the institutional distance between the host and home countries, doing business across borders exposes these firms to manifold and distinct institutional settings that presents unique complexities as MNEs are contextually embedded in institutional environments (Kostova et al., 2020; Nayyar and Luiz 2024). Third. the study enhances the analysis of informal institution by incorporating all six dimensions of cultural distance from Hofstede's framework including long-term orientation and indulgence versus restraint dimensions omitted in prior studies Munjal et al., (2022). This extension enables a more comprehensive assessment of both formal and informal institutional influences on FDI decisions, offering more context sensitive understanding of investment patterns across Africa sectors.

The first estimates the probability that a home country investor i invests in host country j at time t, using a probit model. The dependent variable is binary. Thus, the first model is expressed in equation (5.3) as:

$$y_{ijt} = 1 \; if \; y^*_{ijt} > 0$$

$$y_{ijt} = 0 \; if \; y^*_{ijt} = 0 \qquad (5.3)$$

Here in equation (5.3), y_{ijt} is equal 1 is the likelihood of home country investor i investing in the host country sector j in time t. $y_{ijt} = 0$ is the likelihood of home country i not investing in the host country j in t time. y^*_{ijt} is the latent variable representing the propensity to invest, which depends on institutional and economic characteristics of the host country. The probit model is specified as:

$$y^{*}_{ijt} = \alpha + \beta_1 formalinst_{ijt-1} + \beta_2 informalinst_{ijt} + \beta_4 X_{jt-1} + \varepsilon_{ij} \quad (5.4)$$

where: The above equation (5.4), means $\beta_1 \ldots\ldots \beta_4$ is the regression coefficient,

Formalinstijt−1 includes institutional quality (absolute institutions) and institutional distance (relative institutions) between host and home countries.

Informalinstijt captures cultural distance, operationalised using all six dimensions from Hofstede's framework: power distance, individualism vs collectivism, masculinity vs femininity, uncertainty avoidance, long-term orientation, and indulgence vs restraint. X_{jt} i - 1 is a vector of the lagged control variables for the host country j including (GDP per capita, GDP growth, natural resource, inflation, openness and exchange rate) of the host country and the geographical distance between the host and home country. The t-1 all-time varying independent variable are lag and εij is the error term.

Thus, to correct for sample selection bias in the second stage, the inverse mill ratio (IMR) is derived from first-stage probit model. The expected value of the error term conditional on selection is the inverse mill ratio used in the second stage is written in equation (5.5) as

$$E\left(y_{ijt} / X_{ij,} y^{*}_{ijt} > 0\right) = X'_{jt}\beta_1 + E\left(u_{jt} \setminus u_{jt} > -X'_{jt}\beta\right) \quad (5.5)$$

The equation (5.5) is re-written as

$$= X'_{jt}\beta + \sigma\left[\frac{\emptyset\left(X'_{jt}\beta / \sigma\right)}{\emptyset\left(X'_{jt}\beta / \sigma\right)}\right] \neq X_{jt}\beta \quad (5.6)$$

Where:

Φ and Φ *in equation 5.6* denote the standard normal probability density and cumulative distribution functions, respectively.

The term in brackets, $\left[\frac{\emptyset\left(X'_{jt}\beta / \sigma\right)}{\emptyset\left(X'_{jt}\beta / \sigma\right)}\right]$ in equation (5.6) represent the inverse mill ratio and refer to the ratio of probability that China, France, India, UK and the USA will invest in any of the sectors (i.e. Manufacturing sector, Mining sector, Service sector, Construction sector, Agriculture sector,

Banking sector and Infrastructure sector) across African countries to the cumulative probability of the choice to invest by any of the home country. The study uses this ratio as a control variable in the second stage model that determines the scale of investment, along the other explanatory variable.

Therefore, the second stage estimates the scale of investment using gravity model framework, incorporating the IMR as a correction term. The model is specified as:

$$FIL\ choice_{ijt} = \beta_o + \beta_1 formalinst_{ijt-1} + \beta_2 \text{infor}malinst_{ijt} + \beta_3 LnGDPPC_{jt-1} + \beta_4 GDPG_{jt-1} + \beta_4 Resources_{jt-1} + \beta_5 Openness_{jt-1} + \beta_6 Inflation_{jt-1} + \beta_7 Lngeograghic_{ijt} + \beta_8 Lnexchange_{jt-1} + \varepsilon_{jt} \quad (5.7).$$

Here

FIL $choice_{ijt}$ in equation (5.7) is the capital expenditure from home countries i (China, France, India, UK and USA) i to any of the sector across the host country j (51 African countries) at time t. λIMRijt represents the inverse mills ratio.

$\beta_1 \ldots\ldots\ldots\ldots \beta 11$ is the coefficient of the variable of interest and control variable. $Formalinst_{ijt}$ is the variable of interest includes institutional quality (absolute institutions) and institutional distance (relative institutions) between host and home countries. Informalinstijt is the second variable of interest it captures cultural distance, operationalised using all six dimensions from Hofstede's framework: power distance, individualism vs collectivism, masculinity vs femininity, uncertainty avoidance, long-term orientation, and indulgence vs restraint. $Lngeographic_{jt}$ log of geographical distance between the home and the host countries and Lnexchange is the log of exchange rate of the host countries.

Thus, having established the theoretical framework and detailed the model specification, the next section presents the empirical results of the study. It examines how formal and informal institutional factors, alongside conventional locational determinants, influence both the likelihood of investment and the scale of capital committed across African sectors. having written the model, the next section will explain the result of this study

5.5 Results and Discussion

This section of the chapter presents the regression result and discussion. A panel technique is used to test the hypotheses of the two-stage foreign investment decision framework (i.e. first is the choice of location and second is volume of investment). Table 5.7 and Table 5.8 present the result of the impacts of formal institution (institutional quality) of the host country and informal institution (cultural distance between the host and home countries) on foreign investment locational choice of China, France, India, UK and USA to Africa sectors. Table 5.7 present the analysis of the first stage (foreign investment location choice, which is the likelihood of selecting a location) of China, France, India, the UK and the USA to Africa sector. In model 1 this study examines if a particular country in Africa will become a foreign investment location choice and model 2-8, shows if any of the 7 Africa sector (i.e. Manufacturing, Mining, Service, Construction, Agriculture, Banking and Infrastructure) become the foreign investment choice. Table 5.8 present result for second stage by examining the impact of formal institution (institution quality of the host country) and informal institution on (the Volume of FDI) from China, France, India, the UK and the USA to Africa sector. Tang and Buckley (2022) explain that there are two foreign investment stages, the first is the choice of selecting a host country and the second stage is the scale or volume of investment the home country is willing to invest in the selected host country.

The study uses probit and PPML for the first and second stages respectively and all the time variant independent variable where lag to reduce endogeneity following (Tang and Buckley 2022, Nayyar et al 2024). Table 5.7 and Table 5.8 test the first (H1) and fifth hypotheses (H5) used in this study respectively. The first (H1) hypothesis implies that, in Africa, the formal institution as shown in table 5.7 (i.e. Absolute institution; the institutional quality of the host countries) is positively associated with foreign investment locational choice in African countries, and it sectors. The sixth hypothesis (H6) predict that informal institution (cultural distance) will be negatively correlated with foreign investment locational choice in Africa sectors. Formal institution (institutional quality of host countries- Africa) has a positive and significant association with the locational foreign investment choice in the total investment, manufacturing, service, construction, agriculture and infrastructure sectors with 1% level of significant for total investment, manufacturing, service sectors, 5% level for construction sector and 10% level of significant agriculture and infrastructure sectors at stage one of decision.

The likelihood of China, France, India, UK and USA foreign investment to choose to invest in African and these sectors is motivated by the formal institution (institutional quality) of Africa. This is consistent with the predicted hypothesis and the OLI theory that foreign investor locational choice is motivated by locational advantage of the host country as this is vital in the decision of the firm to internationalised (Dunning 2000). Shah et al., (2016) and Luke et al., (2016) argue that the formal institution (institutional quality of the host countries) builds the confidence of the home country to invest in a particular host country. Bergougui et al., (2023) and Ali et al (2010) find consistent result as find that formal institution affects FDI inflow into manufacturing and service sector than primary sector. This study finds that foreign investment location choice from China, France, India, UK and USA to African is not motivated by institutional quality in the mining and banking sector as argue in the literature the foreign investment choice in this sector depends on the natural resource of the host country (Ali et al 2010).

Informal institution (Cultural distance) is negatively associated with investment locational choice from China, France, India, UK and USA to Africa and this is consistent with the hypothesis (H5). As mentioned by Schwartz (1999) to adapt to local culture, foreign investor may have additional burden or cost. This implies that the likelihood of China, France, India, UK and USA to choose to invest in Africa countries will decrease if there is increase in informal institution (cultural distance). China, France, India, UK and USA FDI location choice to Africa prefer a cultural close host countries to reduce adaption cost. The negative effect is consistent with the finding of Bi et al., (2020). In this finding of stage one, the control variable GDP per capital as a proxy of host countries (Africa) market size is positive and significant at 1% for total investment, manufacture sector, Banking and infrastructure sector and 5% for service sectors, that is the foreign investment location choice of China, France, India, UK and USA to Africa and investment in this Africa sector depend on the market size of Africa as argue by Lytte (2024) that foreign investor want to invest in Africa region because the advantageous the will obtain for this region which is market to sell their products in the host country domestics market which implies that Africa countries with high GDP per capital can attract FDI into the region.

Alshamsi et al., (2015) examine the impact of inflation and GDP per capital on foreign investment; the case study of United Arab emirate and Hakizimana (2015) investigate the relationship between FDI and GDP per capital in Rwanda, this study mention finds a positive relationship between GDP

per capital and FDI. Natural resource, Openness, inflation and exchange rate is negative and significant in this study. In the service, banking and infrastructure sector natural resource is significant at 5% and 1% respectively, the negative effect may be as a result of crowding out effect on the natural resource sectors, which mean that investment into other sectors will be discourage and there is repulsive effect on non-extractive investment due to political instability in this (Africa) region (Asiedu and Lieu 2011; Gylfason and Zoega 2006) and Poelhekke and van der Ploeg (2013) also find a negative effect between FDI and Natural resources. In mining and Agriculture sector, natural resource is positive and insignificant in stage one. Trade openness is negative and significant at 1% in total investment, manufacture, service, banking and infrastructure sector and 5% in constructure sectors. Dunning (1993) and Markusen and Maskus (2002), argue that there is varies effect of trade openness and FDI and this is as a result of the inspiration behind FDI activities motive and result is consistent with Seim (2009) and Tahmad et al., (2018)

This study find negative effect between exchange rate and foreign investment locational choice of China, France, India, UK and USA to Africa in total investment, manufacturing sector, service sectors, banking and infrastructural sector at 1% level of significant and weak negative significant for construction sector, this implies that foreign investment location choice in Africa decrease as exchange rate increase, this explain by risk aversion theory (Kosteletou and Liargovas 2000). According to Sutherland et al., (2020) exchange rate and inflation, explain the host countries economic environment. The appreciation of the host country currency decreases FDI inflow into the countries and a depreciation increase FDI inflow into the Africa countries. . Buckley et al., (2012) and Munjal et al., (2022) also find a negative relationship between exchange rate and FDI which is consistent with this study. Inflation is negative and significant at 5% in manufacture and service sector, this implies that an economy that is unstable will deter FDI inflow into Manufacturing and service sectors. China, France, India, UK and USA to this Africa sector is influence by the level of economics instability in Africa countries.

Table 5.8, present the second stage of foreign investor (MNCs) decision process, which deal will the scale of measurement. Using PPML regression analysis, the study find that the amount of capital invested in host from China, France, India, UK and USA to Africa sectors has a positive associated with the formal institution (institutional quality of the host country) in mining and Agriculture sector at 1% and 5% level of significant respectively, which implies that a good

institutional quality of the host countries (Africa) will attract China, France, India, UK and USA FDI (Scale of investment) into Africa mining and Agricultural sector. This is consistent with the theory of OLI and the set H5 hypothesis. In this stage the study finds weak negative association for manufacturing, construction and banking sector, this implies that Africa weak institution deter FDI from these sectors. This is consistent with the finding of (Makoni 2021; Ajide and Raheem 2016). This show that there is a U shape relationship between formal institution (institutional quality of the host country) and foreign direct investment (locational choice and scale of investment) from China, France, India, UK and USA to Africa sectors in the first stage of choosing where to invest they foreign investor are attracted by the locational advantage in Africa such as market size and resources, in the extractive sector (mining and Agriculture sectors) and when there is crowd out in extractive sector it has negative effect on the other sector due to government instability (Gylfason and Zoega 2006).

Cultural distance is positive and significant at 1% and 10% in mining, service and agriculture sector respectively. Tang (2012) argues that investment opportunities can still be created as cultural difference does not always imply cultural conflict as different cultural dimension can affect investor in different ways individualism can attract FDI and different in power distance between the host and home country can encourage it. In our finding, this study finds that in mining, service and Agriculture sector, foreign investor from China, France, India, UK and USA are still attracted to these Africa sectors irrespective of the cultural distance.

The control variable GDP per capital is positive and significant for mining, infrastructure and construction. An increase in GDP per capital in Africa sectors will increase the volume of investment in Africa mining, infrastructure and construction sectors. Geographical distance is seen to be positive and significant at 1% in construction and infrastructure sectors, this implies that irrespective of the geographical distance, foreign investors from China, France, India, UK and USA will want to invest in these Africa sectors, this may be due to diversification of risk from the origin country by operating in various region or incentive or government policies offer by Africa government to attract infrastructural development in the host countries. lastly, there is abundant of natural resource in Africa, this includes energy, oils and mineral etc and foreign investor want accessibility to these valuables for infrastructure and construction development which can lead to positive attract FDI.

Table 5.7 Probit regressions of the effect of formal institution (institutional quality of the host countries) foreign investment location choice of China, France, India, UK and USA to Africa.

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Formalinst $_{t-1}$	0.434***	0.320***	0.145	0.287***	0.306**	0.449*	-0.0137	0.171*
	(0.000)	(0.000)	(0.237)	(0.000)	(0.013)	(0.078)	(0.898)	(0.088)
Informalinst.	-0.019**	-0.014	0.006	-0.014	-0.020	-0.025	0.016	-0.015
	(0.015)	(0.123)	(0.744)	(0.138)	(0.188)	(0.367)	(0.208)	(0.256)
LnGDPPC $_{t-1}$	0.000***	0.576***	-0.000	0.000**	-0.000	-0.000	0.470***	0.000***
	(0.001)	(0.000)	(0.761)	(0.023)	(0.826)	(0.195)	(0.000)	(0.000)
GDPG $_{t-1}$	0.018**	0.015	0.022	0.002	-0.010	0.060*	0.001	0.005
	(0.016)	(0.104)	(0.180)	(0.274)	(0.485)	(0.076)	(0.921)	(0.710)
Resources $_{t-1}$	0.001	-0.005	0.002	-0.017**	-0.002	0.029	-0.028**	-0.046***
	(0.846)	(0.524)	(0.444)	(0.031)	(0.880)	(0.206)	(0.020)	(0.001)
Openness $_{t-1}$	-0.017***	-0.028***	-0.001	-0.015***	-0.006**	-0.013	-0.019***	-0.019***
	(0.000)	(0.000)	(0.497)	(0.000)	(0.042)	(0.105)	(0.000)	(0.000)
Inflation $_{t-1}$	-0.002	-0.021**	0.016	-0.001	0.015	0.035	-0.030**	-0.020
	(0.834)	(0.033)	(0.349)	(0.894)	(0.382)	(0.186)	(0.041)	(0.186)
Lngeograhic	-0.066	-0.045	-0.0103	-0.003	-0.224	0.529	0.156	0.137
	(0.349)	(0.576)	(0.950)	(0.976)	(0.105)	(0.187)	(0.214)	(0.277)
Observation	1832	1831	1828	1831	1831	1831	1832	1822
loglikelihood	-913.64	-647.12	-141.15	-637.28	-187.96	-52.91	-281.99	-301.98
R^2	0.20	0.24	0.03	0.12	0.07	0.21	0.20	0.20

The table present the result of the effect of formal institution (institution quality) on Foreign investment locational choice from China, France, India, UK and USA to seven African sectors .model (1) show if foreign investor choice to invest goes to any (all) of the sectors and model (2-8) shows the various sectors in Africa that foreign investor choose to invest.p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Lngeographic is the geographical distance between home country and Africa. Formalinst. is the institutional quality of the host country and Informalinst. is the cultural distance between the host countries and the home countries. LnGDPPC is the log of per capital GDP of the host country, GDPG is the GDP growth of the host country, Resources is the Natural resource rent as % of GDP of the host country, openness is the ratio of trade as % GDP of the host country. The t-1 is the time lag of each time varying independent variable.

Continuation of Table 5.7

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Lnexchange $_{t-1}$	-0.766***	-0.990***	0.192	-0.573***	-0.480*	-0.406	-0.709***	-0.965***
	(0.000)	(0.000)	(0.530)	(0.000)	(0.063)	(0.370)	(0.002)	(0.000)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
_cons	138.4***	116.7***	58.20	125.7***	113.0*	166.1	271.3***	186.5***
	(0.000)	(0.001)	(0.344)	(0.000)	(0.055)	(0.152)	(0.000)	(0.000)
Observation	1832	1831	1828	1831	1831	1831	1832	1822
loglikelihood	-913.64	-647.12	-141.15	-637.28	-187.96	-52.91	-281.99	-301.98
R^2	0.20	0.24	0.03	0.12	0.07	0.21	0.20	0.20

p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Lnexchange is the log of nominal exchange rate,

Table 5.8 PPML regressions of the foreign investment Capital expenditure of China, France, India, UK and USA to Africa, institutional quality of the host country as formal institution.

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Formalinst $_{t-1}$	-0.442	-0.787*	4.577***	-0.233	-1.705*	3.059**	-1.473*	0.245
	(0.328)	(0.052)	(0.000)	(0.565)	(0.073)	(0.029)	(0.072)	(0.626)
Informalinst.	0.053	0.018	1.310***	0.064***	0.015	0.122*	0.047	-0.040
	(0.185)	(0.339)	(0.000)	(0.005)	(0.822)	(0.079)	(0.461)	(0.461)
LnGDPPC $_{t-1}$	0.000	0.000***	0.000*	0.372	4.296***	-0.000	-0.000	-0.000
	(0.914)	(0.008)	(0.092)	(0.502)	(0.000)	(0.398)	(0.948)	(0.465)
GDPG $_{t-1}$	0.090	0.163	0.750***	0.134	1.316***	0.552	0.057	0.061
	(0.264)	(0.193)	(0.000)	(0.239)	(0.000)	(0.139)	(0.432)	(0.402)
Resources $_{t-1}$	0.030	-0.053	0.501***	0.027	0.518***	0.152	-0.103**	0.0234
	(0.610)	(0.152)	(0.000)	(0.586)	(0.007)	(0.323)	(0.019)	(0.696)
Inflation	0.106**	0.063**	-0.418***	0.014	-0.093	0.041	-0.046	0.057
	(0.025)	(0.050)	(0.007)	(0.751)	(0.290)	(0.613)	(0.496)	(0.354)
lngeographic	0.036	-0.574	-8.753***	-0.105	2.859***	1.210	-0.142	1.481***
	(0.939)	(0.157)	(0.000)	(0.884)	(0.000)	(0.367)	(0.652)	(0.003)
observation	416	272	17	297	25	50	138	48
R^2	0.042	0.295	0.997	0.009	0.999	0.349	0.153	0.398

The table present the result of the effect of formal institution (institutional quality) on Foreign investment volume from China, France, India, UK and USA to seven African sectors .model (1) shows the amount foreign investor is willing to invest if foreign investor choice to invest goes to any (all) of the sectors and model (2-8) shows the volume of investment foreign investor are will to invest in each of the seven sectors in Africa that foreign investor choose to invest-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Lngeographic is the geographical distance between home country and Africa. Formalinst. is the institutional quality of the host country and Informalinst. is the cultural distance between the host countries and the home countries. LnGDPPC is the log of per capital GDP of the host country, GDPG is the GDP growth of the host country, Resources is the Natural resource rent as % of GDP of the host country. The t-1 is the time lag of each time varying independent variable.

Continuation of table 5.8

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Lnexchange $_{t-1}$	0.792	-0.631	-28.31***	-0.101	0.355	4.310**	-0.357	1.754*
	(0.336)	(0.209)	(0.000)	(0.839)	(0.827)	(0.029)	(0.517)	(0.098)
Mill ratio	-0.353	0.971*	20.38***	-0.317	-11.58***	2.292*	-1.961	-1.058**
	(0.724)	(0.061)	(0.000)	(0.683)	(0.001)	(0.064)	(0.163)	(0.049)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
constant	-14.85	241.4	-978.7***	-170.9	-1877.9***	-1010.1**	31.05	-217.2
	(0.953)	(0.342)	(0.000)	(0.575)	(0.000)	(0.014)	(0.908)	(0.396)
observation	416	272	17	297	25	50	138	48
R^2	0.042	0.295	0.997	0.009	0.999	0.349	0.153	0.398

p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Lnexchange is the log of nominal exchange rate, and mill ratio is include which is inverse ratio of the probability that China, France, India, UK and USA. Invest in Africa and its sectors

Table 5.9 and Table 5.10, present the probit and the PPML result, which is the foreign investment location choice, and volume of investment respectively. This is to test the hypothesis (H2) and (H5) which is the impact of formal institution (institution distance between the host country and the home countries) and informal institution (cultural distance between the host and home countries) on foreign investment locational choice and volume of investment of China, France, India, UK and USA to Africa sectors. This study finds that the likelihood of China, France, India, UK and USA to invest in Africa and its sector is deter by formal institution (institutional distance) as negative relationship is find between foreign investment location choice and formal institution (institutional distance between the home and host countries) in total investment, manufacturing sector, construction sector at 1% level of significant and 10% level of significant for service sector. This is consistent with the finding of (Nayyar 2024; Cezar et al., 2015). This implies that formal institution (institutional distance) deters foreign investment locational choice of China, France, India, UK and USA to African sectors (i.e. total investment, manufacture, construction and service sectors) due to adaptation cost as this reduce FDI profitability.

Table 5.10 present the PPML result of the scale of investment of China, France, India, UK and USA to invest in Africa and its sector. Using the scale of investment in the second stage we have a positive association between FDI and formal institution (institutional distance) in the mining, infrastructure, banking sectors at 1% and 5% respectively and a weak positive for agriculture and construction at 10%. This implies that the amount invested by China, France, India, UK and USA to Africa and its sector is motivates by cultural distance. China, France, India, the UK and USA investors would like to invest in a country they are better than institutionally due to location advantages and internalisation advantage which include market potentials, resource access, low production cost (i.e. in developing countries production costs are usually lower), diversification which will allow foreign investors to spread risk in variety market by balancing risk in case where one market suffer downturns in the economic the other might have a good performance and developed economies foreign investors, can manged the challenges that are as a result of institutional distance as they have the capabilities and resources to adapts to different institutional environment (Johanson & Vahlne 2017).

Informal institution (cultural distance) is positive and significant in the mining and service sector at 1% significant level and 10% at total investment this implies that FDI from China, France, India,

UK and USA to these Africa sectors is motivated by cultural distance. Hence, in Africa the total investment, mining and service sector, China, France, India, UK and USA FDI are attracted to this sector irrespective of cultural distance, this may be as a result of internalisation advantage of the Africa countries. This is consistent with the work of Kapas and Czegledi (2020) and is negative and significant at 10 percent in construction sectors. In construction sector, informal institution deters FDI into the sector. O'scawn (2018) find negative association between FDI and Cultural distance. The natural resource of the host countries positively attracts FDI from China,

Table 5.9 Probit regressions of the foreign investment location choice of China, France, India, UK and USA to Africa, institutional distance as formal institution.

Models	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture sector	Mining sector	Services sector	construction sector	Agriculture sector	Banking sector	Infrastructure sector
Formalinst $_{t-1}$	-0.185***	-0.261***	-0.010	-0.072*	-0.304***	-0.068	0.008	0.018
	(0.000)	(0.000)	(0.892)	(0.056)	(0.000)	(0.560)	(0.886)	(0.738)
Informalinst	0.002	0.015	0.008	-0.004	0.012	-0.020	0.017	-0.015
	(0.842)	(0.112)	(0.657)	(0.650)	(0.429)	(0.483)	(0.206)	(0.289)
LNGDPPC $_{t-1}$	0.000***	0.000***	0.000	0.000***	-0.000	0.025	0.000***	0.000***
	(0.000)	(0.000)	(0.713)	(0.000)	(0.810)	(0.890)	(0.000)	(0.000)
GDPG $_{t-1}$	0.019***	0.007	0.022	0.012	-0.009	0.049*	-0.005	0.007
	(0.009)	(0.366)	(0.177)	(0.178)	(0.524)	(0.069)	(0.687)	(0.620)
Resources $_{t-1}$	-0.020***	-0.020***	0.000	-0.033***	-0.003	0.012	-0.038***	-0.063***
	(0.000)	(0.001)	(0.979)	(0.000)	(0.753)	(0.539)	(0.000)	(0.000)
Openness $_{t-1}$	-0.013***	-0.025***	-0.002	-0.014***	-0.005*	-0.015*	-0.016***	-0.019***
	(0.000)	(0.000)	(0.447)	(0.000)	(0.076)	(0.059)	(0.000)	(0.000)
Inflation $_{t-1}$	-0.001	-0.017*	0.012	-0.007	0.012	0.018	-0.023	-0.024*
	(0.869)	(0.066)	(0.479)	(0.471)	(0.477)	(0.464)	(0.112)	(0.100)
Lngeographic	-0.162**	-0.257***	0.005	-0.020	-0.419***	0.555	0.113	0.166
	(0.027)	(0.002)	(0.977)	(0.816)	(0.006)	(0.161)	(0.384)	(0.194)
N	1822	1831	1828	1831	1831	1831	1832	1822
Log	-937.32	-677.52	-141.84	-644.18	-181.75	-54.60	-293.43	-303.39
R^2	0.14	0.21	0.02	0.12	0.11	0.20	0.12	0.20

The table present the result of the effect of formal institution (institution distance) on Foreign investment locational choice from China, France, India, UK and USA to seven African sectors .model (1) show if foreign investor choice to invest goes to any (all) of the sectors and model (2-8) shows the various sectors in Africa that foreign investor choose to invest. *p*-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Lngeographic is the geographical distance between home country and Africa. Formalinst. is the institutional distance between the home and host countries and informalinst. is the cultural distance between the host countries and the home countries. LnGDPPC is the log of per capital GDP of the host country, GDPG is the GDP growth of the host country, Resources is the Natural resource rent as % of GDP of the host country, openness is the ratio of trade as % GDP of the host country. The t-1 is the time lag of each time varying independent variable

Continuation of table 5.9

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture sector	Mining sector	Services sector	construction sector	Agriculture sector	Banking sector	Infrastructure sector
Lnexchange $_{t-1}$	-0.779***	-0.988***	0.0883	-0.690***	-0.404	-0.773*	-0.722***	-1.071***
	(0.000)	(0.000)	(0.762)	(0.000)	(0.114)	(0.064)	(0.001)	(0.000)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
_cons	109.6***	95.32***	64.27	132.2***	99.06*	202.8*	251.6***	199.0***
	(0.000)	(0.004)	(0.299)	(0.000)	(0.096)	(0.096)	(0.000)	(0.000)
N	1822	1831	1828	1831	1831	1831	1832	1822
Log	-937.32	-677.52	-141.84	-644.18	-181.75	-54.60	-293.43	-303.39
R^2	0.14	0.21	0.02	0.12	0.11	0.20	0.12	0.20

p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Lnexchange is the log of nominal exchange rate,

Table 5.10 PPML regressions of the foreign investment Capital expenditure of China, France, India, UK and USA to Africa, institutional distant as formal institution.

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Formalinst $_{t-1}$	-0.279*	-0.121	3.547***	-0.259	1.075*	1.322*	0.562**	0.506***
	(0.070)	(0.354)	(0.009)	(0.301)	(0.090)	(0.078)	(0.024)	(0.001)
Informalinst.	0.075*	0.018	2.026***	0.088***	-0.095*	-0.113	-0.005	0.014
	(0.063)	(0.465)	(0.000)	(0.006)	(0.084)	(0.450)	(0.931)	(0.816)
LnGDPPC $_{t-1}$	-0.000	0.000	0.003***	0.067	4.003***	0.001	-0.000	0.000
	(0.557)	(0.999)	(0.000)	(0.885)	(0.000)	(0.180)	(0.443)	(0.252)
GDPG $_{t-1}$	0.137*	0.145	-0.387	0.139	1.467***	0.751*	0.024	0.001
	(0.092)	(0.271)	(0.466)	(0.242)	(0.000)	(0.057)	(0.728)	(0.993)
Resources $_{t-1}$	0.077*	0.006	0.033	0.054*	0.623***	-0.208	-0.039	-0.022
	(0.072)	(0.806)	(0.254)	(0.077)	(0.000)	(0.162)	(0.299)	(0.609)
Inflation	0.128***	0.081**	-0.234	0.028	-0.019	0.102	-0.043	0.026
	(0.006)	(0.021)	(0.187)	(0.406)	(0.862)	(0.177)	(0.507)	(0.684)
Lngeographic	-0.206	-0.514	2.384	-0.287	3.899***	0.002	0.027	1.008***
	(0.599)	(0.141)	(0.345)	(0.603)	(0.000)	(0.998)	(0.911)	(0.003)
Observation	416	272	17	297	25	50	138	48
R^2	0.04	0.26	0.99	0.01	0.99	0.52	0.13	0.50

The table present the result of the effect of formal institution (institution distance) on Foreign investment volume from China, France, India, UK and USA to seven African sectors .model (1) shows the amount foreign investor is willing to invest if foreign investor choice to invest goes to any (all) of the sectors and model (2-8) shows the volume of investment foreign investor are will to invest in each of the seven sectors in Africa that foreign investor choose to invest.p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Lngeographic is the geographical distance between home country and Africa. Formalinst. is the institutional quality of the host country and Informalinst. is the cultural distance between the host countries and the home countries. LnGDPPC is the log of per capital GDP of the host country, GDPG is the GDP growth of the host country, Resources is the Natural resource rent as % of GDP of the host country, . The t-1 is the time lag of each time varying independent variable.

Continuation of table 5.10

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Lnexchange $_{t-1}$	1.612**	0.055	-25.06***	0.297	3.234	-4.520	0.001	1.201
	(0.038)	(0.903)	(0.000)	(0.349)	(0.145)	(0.119)	(0.999)	(0.141)
Mill ratio	-0.209	1.081*	35.60***	-0.396	-12.78***	4.356**	-1.401	-0.940**
	(0.841)	(0.062)	(0.000)	(0.673)	(0.000)	(0.016)	(0.247)	(0.018)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
constant	-146.5	99.87	-582.7	-184.9	-2529.6***	-6.448	-33.54	-37.32
	(0.518)	(0.653)	(0.216)	(0.495)	(0.000)	(0.987)	(0.903)	(0.855)
observation	416	272	17	297	25	50	138	48
R^2	0.04	0.26	0.99	0.01	0.99	0.52	0.13	0.50

p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Lnexchange is the log of nominal exchange rate, and mill ratio is included which is inverse ratio of the probability that China, France, India, UK and USA. Invest in Africa and its sectors

France, India, the UK and USA to total investment, service and construction sector in Africa countries at 10% and 1% respectively

Robustness Checks result.

For robustness check this study divided the home country sample into two, that is the emerging economies (India and China) and the traditional economies (France, UK and USA) to test hypothesis (H3) and (H7) for emerging economies and hypothesis (H4) and (H6) for traditional economies. This is to test the impact of formal and informal institution on foreign investment location of emerging economies (China and India) to Africa, and it sectors.

Table 5.11 and table 5.12, present the probit and PPML regression of the impact of formal institution (institutional distance) and informal institution (cultural distance) on the foreign investment locational choice and volume of investment of emerging economies (China and India) to Africa and it sectors. This study find negative and significant association in total investment, manufacture sector, service sectors, construction sector and infrastructural sector. The significant level is (weak) for construction sector at 10% level of significant and 1% for in total investment, manufacture sector, service sectors and infrastructural sectors between institutional distance and foreign investment locational choice. This implies that the likelihood of emerging economies to invest in Africa and its sectors increase with decrease in formal institution (institutional distance). Negative association was found between total investment, manufacture and service sectors at 10% and 1% level of significant respectively. This is consistent with (H4). This is consistent with the finding of (Mohammued et al., 2024)

Informal institution is negative and significant at 5% level of significant for mining sector, this implies that the likelihood of foreign investment location choice of emerging economies (China and India) to invest in Africa sectors decreases with a large cultural distance and increase with a lower cultural distance. This is consistent with our hypothesis (H7) and is consistent with the finding of Silajdzic and Mehic (2021) and O'scawn (2018). The studies also find negative association between volume of investment and informal institution (cultural distance) in construction and infrastructure at 1% level of significant.

Table 5.13 and table 5.14, the studies find positive association between foreign investment locational choice of emerging economies (China and India) and formal institution (institutional

quality of the host country) in Total investment at 1%, which implies that the investment choice of emerging economies into Africa depend on the quality of the host countries institution and in manufacturing sectors, infrastructure sector we find positive and significant result at 5% and 10% for mining and service sector. This is consistent with the finding of Jame and Jiangyan and Bergougui & Murshed (2023) and the study find no significant in construction and service sectors. Using PPML to investigates the volume of investment in table 5.14, we find significant association between foreign investment (volume of investment) and formal institution (institutional quality of the host country) in construction and service sectors at 10% and 1% significant level and negative association in Agriculture sector.

Informal institution is find to be negative and significant for total investment and mining sector in table 5.13 and in table 5.14 in construction and infrastructure sector, emerging economies scale of investment is negative associated with informal. Institution.

The control variable GDP per capital is found to be positive in total investment, manufacture, service, banking, Agriculture and construction sector, which implies that the increase in the market size of Africa countries will attract China and India FDI into Africa and it sectors this is consistent with the OLI theory of FDI that home country will be attracted to a host country will a locational advantage such as market size (Dunning 1993). We found mixed significant (positive and a negative significant) in infrastructure sector. GDP growth is also found to be positive and significant in total investment, manufacturing, service sector, construction sector, agriculture and infrastructure sector. A host country with a good market potential will attract foreign investor. An increase in the market potential in Africa and its manufacturing, service sector, construction sector, agriculture and infrastructure sector will attract emerging economies (India and China) to invest in these sectors.

We found a negative relationship between foreign investment locational choice and trade openness in total investment, manufacturing, mining, service, construction, banking and infrastructure sectors. Natural resource and geographical distance are found to have mixed effect across the sectors and exchange rate has a negative impact on China and India FDI into Africa sectors.

Table 5.11 Present the result of the probit regression of the foreign investment choice of emerging economies (China and India) to Africa.

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Formalinst $_{t-1}$	-0.290***	-0.425***	0.0879	-0.209***	-0.220*	1.240*	0.120	-0.356***
	(0.000)	(0.000)	(0.440)	(0.003)	(0.097)	(0.090)	(0.154)	(0.005)
Informalinst.	-0.015	0.004	-0.105**	0.014	-0.017	-0.450	0.007	0.056
	(0.458)	(0.868)	(0.019)	(0.556)	(0.663)	(0.140)	(0.805)	(0.212)
LnGDPPC $_{t-1}$	0.000***	0.000***	0.000	0.000***	0.000	0.384	0.000***	0.000***
	(0.002)	(0.000)	(0.274)	(0.001)	(0.423)	(0.697)	(0.001)	(0.000)
GDPG $_{t-1}$	0.0126	0.037**	0.023	-0.001	-0.025	0.394*	-0.000	-0.026
	(0.317)	(0.026)	(0.328)	(0.944)	(0.266)	(0.061)	(0.999)	(0.307)
Resources $_{t-1}$	-0.013	-0.001	-0.006	-0.033***	-0.027	-0.263	-0.031**	-0.075***
	(0.124)	(0.915)	(0.727)	(0.005)	(0.246)	(0.145)	(0.023)	(0.002)
Openness $_{t-1}$	-0.021***	-0.031***	-0.011**	-0.022***	-0.015***	-0.055	-0.015***	-0.045***
	(0.000)	(0.000)	(0.047)	(0.000)	(0.007)	(0.138)	(0.000)	(0.000)
Inflation $_{t-1}$	-0.029**	-0.055***	0.025	-0.037**	0.001	-0.058	-0.025	-0.092**
	(0.046)	(0.002)	(0.260)	(0.049)	(0.982)	(0.566)	(0.232)	(0.021)
Lngeograhic	-0.252*	-0.136	-0.025	-0.089	-0.167	6.968*	0.472*	-0.156
	(0.088)	(0.485)	(0.934)	(0.634)	(0.656)	(0.097)	(0.085)	(0.679)
observation	729	732	731	732	732	733	733	723
loglikelihoo	-338.2	-227.68	-77.51	-220.30	-66.66	-14.83	-138.76	-70.98
R^2	0.20	0.31	0.08	0.20	0.20	0.50	0.11	0.40

The table present the result of the effect of formal institution (institution distance) on Foreign investment locational choice from China, France, India, UK and USA to seven African sectors .model (1) show if foreign investor choice to invest goes to any (all) of the sectors and model (2-8) shows the various sectors in Africa that foreign investor choose to invest. *p*-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Lngeographic is the geographical distance between home country and Africa. Formalinst. is the institutional distance between the home and host countries and informalinst. is the cultural distance between the host countries and the home countries. LnGDPPC is the log of per capital GDP

of the host country, GDPG is the GDP growth of the host country, Resources is the Natural resource rent as % of GDP of the host country, openness is the ratio of trade as % GDP of the host country. The t-1 is the time lag of each time varying independent variable

Continuation table 5.11

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Lnexchange $_{t-1}$	-1.232***	-1.592***	0.030	-1.051***	-1.165**	-8.841	-0.785**	-1.927***
	(0.000)	(0.000)	(0.949)	(0.000)	(0.018)	(0.116)	(0.015)	(0.001)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
constant	128.1***	81.87	83.26	216.5***	229.6**	1283.9	168.2**	611.2***
	(0.006)	(0.144)	(0.326)	(0.000)	(0.039)	(0.110)	(0.023)	(0.000)
Observation	729	732	731	732	732	733	733	723
loglikelihood	-338.2	-227.68	-77.51	-220.30	-66.66	-14.83	-138.76	-70.98
R^2	0.20	0.31	0.08	0.20	0.20	0.50	0.11	0.40

p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Lnexchange is the log of nominal exchange rate,

Table 5.12 PPML regressions of the foreign investment Capital expenditure of China and India to Africa, institutional distance between the host country and the home as formal institution (institutional distance).

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Formalinst $_{t-1}$	-0.274*	-0.518***	.	-1.282***	-0.160	.	0.005	-0.438
	(0.061)	(0.002)	(.)	(0.003)	(0.679)	(.)	(0.989)	(0.337)
Informalinst.	-0.024	-0.013	.	0.136	-0.179***	.	0.067	-0.162***
	(0.847)	(0.776)	(.)	(0.472)	(0.002)	(.)	(0.294)	(0.000)
LnGDPPC $_{t-1}$	0.000	-0.000	.	0.001*	0.003***	-0.001	-0.000	-0.000***
	(0.292)	(0.942)	(.)	(0.073)	(0.000)	(0.419)	(0.204)	(0.000)
GDPG $_{t-1}$	0.224	0.020	.	0.538*	2.317***	.	0.064	0.596***
	(0.106)	(0.743)	(.)	(0.065)	(0.000)	(.)	(0.458)	(0.000)
Resources $_{t-1}$	0.041	0.014	.	0.046	0.823***	.	-0.024	0.086***
	(0.452)	(0.584)	(.)	(0.373)	(0.000)	(.)	(0.552)	(0.000)
Inflation	0.165***	0.076***	.	0.107	-0.399***	-1.388***	-0.095	-0.277***
	(0.000)	(0.004)	(.)	(0.381)	(0.007)	(0.007)	(0.265)	(0.000)
Lngeographic	1.116	0.557	.	-0.283	-7.217***	.	-0.521	-3.902***
	(0.248)	(0.438)	(.)	(0.760)	(0.007)	(.)	(0.373)	(0.000)
observation	154	108	11	93	19	14	44	13
R^2	0.575	0.296	.	0.736	1.000	0.983	0.706	0.992

The table present the result of the effect of formal institution (institution distance) on Foreign investment volume from China, France, India, UK and USA to seven African sectors .model (1) shows the amount foreign investor is willing to invest if foreign investor choice to invest goes to any (all) of the sectors and model (2-8) shows the volume of investment foreign investor are will to invest in each of the seven sectors in Africa that foreign investor choose to invest.p-values in parentheses * p < 0.10, ** p < 0.05, *** p < 0.01. Lngeographic is the geographical distance between home country and Africa. Formalinst. is the institutional quality of the host country and Informalinst. is the cultural distance between the host countries and the home countries. LnGDPPC is the log of per capital GDP of the host country, GDPG is the GDP growth of the host country, Resources is the Natural resource rent as % of GDP of the host country, . The t-1 is the time lag of each time varying independent variable

Continuation of table 5.12

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Lnexchange $_{t-1}$	2.100	-0.315	.	1.822	-2.965	-10.37***	0.364	-1.920***
	(0.188)	(0.659)	(.)	(0.396)	(0.288)	(0.004)	(0.695)	(0.002)
Mill ratio	-2.901***	-0.739	.	-6.396**	-21.57***	0.606	.	-4.789***
	(0.005)	(0.172)	(.)	(0.010)	(0.000)	(0.469)	(.)	(0.000)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
constant	-558.0	-55.14	6.077***	-452.4	-3173.6***	-4189.3**	-405.5	-868.3***
	(0.105)	(0.801)	(0.000)	(0.369)	(0.000)	(0.034)	(0.122)	(0.000)
observation	154	108	11	93	19	14	44	13
R^2	0.575	0.296	.	0.736	1.000	0.983	0.706	0.992

*p-values in parentheses * p < 0.10, ** p < 0.05, *** p < 0.01. Lnexchange is the log of nominal exchange rate, and mill ratio is included which is inverse ratio of the probability that China, France, India, UK and USA. Invest in Africa and its sectors*

Table 5.13 Present the result of the probit regression of the foreign investment choice of emerging economies (China and India) to Africa. Use institutional quality of the host country as formal institution

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Formalinst $_{t-1}$	0.337***	0.278**	0.324*	0.238*	0.245	1.038	-0.048	0.541**
	(0.000)	(0.027)	(0.099)	(0.053)	(0.327)	(0.240)	(0.753)	(0.031)
Informalinst.	-0.044**	-0.030	-0.110**	-0.006	-0.032	-0.239	0.009	0.013
	(0.035)	(0.233)	(0.016)	(0.823)	(0.432)	(0.143)	(0.754)	(0.778)
LnGDPPC $_{t-1}$	0.000***	0.661***	-0.000	0.000**	0.000	-0.000	0.488***	0.000***
	(0.002)	(0.000)	(0.814)	(0.017)	(0.641)	(0.263)	(0.000)	(0.001)
GDPG $_{t-1}$	0.016	0.053***	0.021	-0.002	-0.025	0.235	0.006	-0.030
	(0.219)	(0.003)	(0.389)	(0.904)	(0.277)	(0.111)	(0.747)	(0.236)
Resources $_{t-1}$	-0.002	0.005	0.024	-0.026*	-0.023	-0.475	-0.018	-0.046
	(0.813)	(0.719)	(0.226)	(0.074)	(0.405)	(0.104)	(0.289)	(0.128)
Openness $_{t-1}$	-0.024***	-0.033***	-0.012**	-0.021***	-0.015***	-0.036	-0.018***	-0.044***
	(0.000)	(0.000)	(0.042)	(0.000)	(0.007)	(0.318)	(0.000)	(0.000)
Inflation $_{t-1}$	-0.029**	-0.054***	0.034	-0.032*	0.005	-0.129	-0.033	-0.071*
	(0.045)	(0.003)	(0.161)	(0.089)	(0.856)	(0.260)	(0.112)	(0.064)
Lngeograhic	0.136	0.571***	-0.242	0.195	0.191	0.215	0.280	0.342
	(0.275)	(0.001)	(0.324)	(0.219)	(0.565)	(0.881)	(0.182)	(0.323)
Observation	733	732	731	732	732	733	733	723
loglikelihood	-339.21	-226.26	-76.39	-222.89	-67.62	-15.84	-134.48	-72.50
R^2	0.20	0.31	0.10	0.20	0.20	0.47	0.13	0.40

The table present the result of the effect of formal institution (institution quality) on Foreign investment locational choice from China, France, India, UK and USA to seven African sectors .model (1) show if foreign investor choice to invest goes to any (all) of the sectors and model (2-8) shows the various sectors in Africa that foreign investor choose to invest.p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Lngeographic is the geographical distance between home country and Africa. Formalinst. is the institutional quality of the host country and Informalinst. is the cultural distance between the host countries and the home countries. LnGDPPC is the log of per capital GDP of the host country,

GDPG is the GDP growth of the host country, Resources is the Natural resource rent as % of GDP of the host country, openness is the ratio of trade as % GDP of the host country. The t-1 is the time lag of each time varying independent variable.

Continuation of table 5.13

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Lnexchange $_{t-1}$	-1.299***	-1.578***	0.350	-1.049***	-1.142**	-7.457*	-0.748**	-1.822***
	(0.000)	(0.000)	(0.492)	(0.000)	(0.020)	(0.076)	(0.024)	(0.002)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	152.7***	84.73	73.59	199.2***	206.1*	1366.7*	189.3**	577.8***
	(0.001)	(0.135)	(0.377)	(0.001)	(0.059)	(0.082)	(0.013)	(0.000)
Observation	733	732	731	732	732	733	733	723
loglikehood	-339.21	-226.26	-76.39	-222.89	-67.62	-15.84	-134.48	-72.50
R^2	0.20	0.31	0.10	0.20	0.20	0.47	0.13	0.40

p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Lnexchange is the log of nominal exchange rate,

Table 5.14 PPML regressions of the foreign investment Capital expenditure of China and India to Africa, institutional quality of the host country as formal institution.

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Formalinst $_{t-1}$	-0.578	-0.151	38.37	-1.272	1.620*	-1.608***	-0.710	0.837***
	(0.497)	(0.775)	(.)	(0.513)	(0.083)	(0.000)	(0.307)	(0.006)
Informalinst.	-0.020	-0.011	6.918	-0.063	-0.288***	0.512***	0.066	-0.155***
	(0.943)	(0.845)	(.)	(0.691)	(0.000)	(0.000)	(0.250)	(0.000)
LnGDPPC $_{t-1}$	0.000	0.000	-0.005	3.350	6.784***	0.001***	-0.000	-0.001***
	(0.225)	(0.496)	(.)	(0.132)	(0.000)	(0.000)	(0.930)	(0.000)
GDPG $_{t-1}$	0.242*	0.074	7.711	0.593**	2.200***	0.359***	0.067	0.611***
	(0.084)	(0.192)	(.)	(0.040)	(0.000)	(0.000)	(0.388)	(0.000)
Resources $_{t-1}$	0.006	-0.022	3.353	-0.003	0.821***	-0.473***	-0.087	0.098***
	(0.950)	(0.690)	(.)	(0.979)	(0.000)	(0.000)	(0.160)	(0.000)
Inflation	0.160***	0.078***	-1.816	0.153	-0.569***	0	-0.081	-0.232***
	(0.000)	(0.004)	(.)	(0.363)	(0.000)	(.)	(0.278)	(0.000)
Lngeographic	1.976	1.886**	-18.59	6.515	-5.313***	0	-0.605	-3.125***
	(0.112)	(0.021)	(.)	(0.168)	(0.002)	(.)	(0.239)	(0.000)
Observation	154	108	11	93	19	6	44	13
R^2	0.47	0.33	0.99	0.61	0.99	0.94	0.50	0.85

The table present the result of the effect of formal institution (institutional quality) on Foreign investment volume from China, France, India, UK and USA to seven African sectors .model (1) shows the amount foreign investor is willing to invest if foreign investor choice to invest goes to any (all) of the sectors and model (2-8) shows the volume of investment foreign investor are will to invest in each of the seven sectors in Africa that foreign investor choose to invest-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p <$ 0.01. Lngeographic is the geographical distance between home country and Africa. Formalinst. is the institutional quality of the host country and Informalinst. is the cultural distance between the host countries and the home countries. LnGDPPC is the log of per capital GDP of the host country, GDPG is the GDP growth of the host country, Resources is the Natural resource rent as % of GDP of the host country. The t-1 is the time lag of each time varying independent variable

Continuation of table 5.14

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Lnexchange $_{t-1}$	1.814	-0.341	-87.48	1.056	-8.306***	0	-0.096	-1.343**
	(0.240)	(0.638)	(.)	(0.592)	(0.001)	(.)	(0.907)	(0.020)
Mill ratio	-3.046***	-1.018*	13.24	-4.519**	-18.93***	0	0.754	-4.544***
	(0.009)	(0.073)	(.)	(0.026)	(0.000)	(.)	(0.286)	(0.000)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
constant	-529.8	-56.90	-8067.8	-848.7	-2024.3***	-5.980***	-327.9	-989.5***
	(0.139)	(0.815)	(.)	(0.135)	(0.000)	(0.000)	(0.103)	(0.000)
Observation	154	108	11	93	19	6	44	13
R^2	0.47	0.33	0.99	0.61	0.99	0.94	0.50	0.85

*p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Lnexchange is the log of nominal exchange rate, and mill ratio is included which is inverse ratio of the probability that China, France, India, UK and USA. Invest in Africa and its sectors*

Table 5.15 and table 5.16 present the probit regression of the impact of formal (institution distance and institutional quality of the host country respectively) and informal institution (cultural distance) on foreign investment location choice of traditional economies (France, UK and USA) to Africa and its sectors. In table 5.15, Institution distance is negatively associated with foreign investment location choice in total investment, manufacture and construction sectors at 1% level of significant. This implies that the likelihood of France, UK and USA to invest in Africa and its manufacture and construct sectors will decrease with large institution distance. This is consistent with the hypothesis (H4) of this study and Li et al (2020) argued that institutional distance lowers the outward FDI flow from developed to developing countries and this MNEs are faced with adaptation cost which lower their profit (Cezar & Escobar 2015).

Informal institution (Cultural distance) is Positive and significant in the manufacture sector at 5% level of significant of foreign direct investment location choice of France, UK and USA to Africa. This implies that in manufacturing sector an increase in cultural distance increase FDI into this Africa sectors. This maybe because developed countries are richer to pay for the adaptation cost in learning the norms and value of the host countries and have diversify market to sell their product, this will reduce the risk of the cultural distance from this sector.

The study also divides the host country into landlocked and non-landlocked countries as argued by Asiedu (2002), that the factors that determine FDI in landlocked countries is different from non-land locked country. This study finds that in non-land locked country, formal institution (institution distance) is negatively associated with foreign investment location choice in total investment, manufacture sector, service and construction sectors in table B1. Institutional quality of the host country is positive and significant in total investment, manufacturing, service sector at 1% level of significant and 5% in construction and 10% in infrastructure

Informal institutional (cultural distance) has a weak negative association in the foreign investment location choice of China, France, India, UK and USA to Africa non-landlock countries at 10% level of significant at Table B2 and no significant effect is found for the sectors.

In landlock countries in table B3, formal institution (institutional distance) is negatively associated with foreign investment locational choice of China, France, India, UK and USA to Africa landlocked countries in manufacture and construction sector at 10% level of significant. Informal institution is negatively associated with foreign investment locational choice in service sectors,

and this study did not find significant impact for the other sector. In table B4, Institution quality has positive effect on foreign investment locational choice of China, France, India, UK and USA to Africa landlock country in total investment and manufacture sector. Informal institution is found to be negatively associated with foreign investment locational choice of China, France, India, UK and USA to Africa land lock in service sector and total investment.

Lastly, for robustness check for the probit regression use in this study, we use another method logit regression to test the impact on formal and informal institution on foreign investment location choice of China, France, India, UK and USA to Africa countries and its sectors. (See appendix table C1 and C2).

Table 5.15 Present the result of the probit regression of the foreign investment choice of Traditional economies (France, UK and USA) to Africa. Use institutional distance as formal institution and cultural distance as informal institution for independent variable.

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Formalinst $_{t-1}$	-0.155***	-0.158***	0.045	-0.021	-0.382***	-0.346	0.027	0.076
	(0.001)	(0.005)	(0.738)	(0.712)	(0.000)	(0.118)	(0.776)	(0.327)
Informalinst.	0.021	0.030**	-0.006	0.002	0.032	0.043	0.005	-0.004
	(0.104)	(0.042)	(0.867)	(0.885)	(0.193)	(0.404)	(0.832)	(0.865)
LnGDPPC $_{t-1}$	0.000***	0.000***	0.000	0.000***	-0.000	-0.103	0.000***	0.000***
	(0.000)	(0.000)	(0.765)	(0.000)	(0.448)	(0.674)	(0.008)	(0.000)
GDPG $_{t-1}$	0.021**	-0.003	0.022	0.017	-0.003	0.032	-0.006	0.015
	(0.020)	(0.721)	(0.380)	(0.127)	(0.886)	(0.344)	(0.728)	(0.357)
Resources $_{t-1}$	-0.024***	-0.035***	0.002	-0.036***	0.006	0.045*	-0.058***	-0.066***
	(0.000)	(0.000)	(0.928)	(0.000)	(0.654)	(0.079)	(0.001)	(0.000)
Openness $_{t-1}$	-0.010***	-0.0230***	0.00202	-0.0118***	-0.00124	-0.0128	-0.0193***	-0.0157***
	(0.000)	(0.000)	(0.453)	(0.000)	(0.687)	(0.250)	(0.000)	(0.000)
Inflation $_{t-1}$	0.0111	-0.00210	0.00915	0.00310	0.0186	0.0262	-0.0184	-0.0177
	(0.282)	(0.858)	(0.737)	(0.798)	(0.389)	(0.396)	(0.380)	(0.290)
Lngeograhic	-0.209**	-0.430***	-0.277	-0.0619	-0.525***	0.785	-0.0879	0.134
	(0.028)	(0.000)	(0.258)	(0.563)	(0.006)	(0.202)	(0.611)	(0.371)
observation	1093	1099	1097	1099	1099	1098	1099	1099
loglikelihood	-583.01	-424.5	-54.87	-413.8	-109.4	-29.98	-149.4	-213.7
R^2	0.12	0.20	0.04	0.09	0.11	0.20	0.16	0.20

Continuation of table 5.15

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Lnexchange $_{t-1}$	-0.564***	-0.748***	-0.193	-0.511***	-0.0350	-0.166	-0.840**	-0.895***
	(0.000)	(0.000)	(0.659)	(0.007)	(0.916)	(0.757)	(0.012)	(0.000)
Years dummie	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	108.0***	117.6***	71.52	106.3**	41.40	106.6	346.2***	116.6*
	(0.003)	(0.006)	(0.493)	(0.013)	(0.586)	(0.478)	(0.000)	(0.052)
observation	1093	1099	1097	1099	1099	1098	1099	1099
loglikelihood	-583.01	-424.5	-54.87	-413.8	-109.4	-29.98	-149.4	-213.7
R^2	0.12	0.20	0.04	0.09	0.11	0.20	0.16	0.20

Table 5.16 Present the result of the probit regression of the foreign investment choice of Traditional economies (France, UK and USA) to Africa. Use institutional quality of the host countries as formal institution and cultural distance as informal institution for independent variable.

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Formalinst $_{t-1}$	0.510***	0.372***	0.112	0.310***	0.365**	0.575*	0.0520	0.102
	(0.000)	(0.000)	(0.568)	(0.000)	(0.017)	(0.080)	(0.738)	(0.384)
Informalinst.	-0.007	-0.000	-0.000	-0.004	-0.029	-0.013	0.006	0.007
	(0.488)	(0.968)	(0.978)	(0.751)	(0.181)	(0.744)	(0.740)	(0.668)
LnGDPPC $_{t-1}$	0.000*	0.556***	-0.000	0.000	-0.000	-0.000	0.457***	0.000***
	(0.064)	(0.000)	(0.823)	(0.232)	(0.489)	(0.254)	(0.001)	(0.000)
GDPG $_{t-1}$	0.0190**	-0.000244	0.0226	0.0151	-0.00297	0.0347	-0.00195	0.0139
	(0.041)	(0.982)	(0.383)	(0.180)	(0.876)	(0.454)	(0.920)	(0.382)
Resources $_{t-1}$	0.00370	-0.00973	0.0116	-0.0145	0.00699	0.0553**	-0.0398**	-0.0498***
	(0.618)	(0.305)	(0.546)	(0.128)	(0.638)	(0.048)	(0.028)	(0.002)
Openness $_{t-1}$	-0.0138***	-0.0277***	0.00251	-0.0119***	-0.00184	-0.0102	-0.0227***	-0.0150***
	(0.000)	(0.000)	(0.365)	(0.000)	(0.568)	(0.332)	(0.000)	(0.000)
Inflation $_{t-1}$	0.0152	-0.00230	0.0138	0.0115	0.0227	0.0384	-0.0238	-0.0137
	(0.160)	(0.853)	(0.626)	(0.359)	(0.297)	(0.236)	(0.268)	(0.424)
Lngeograhic	-0.268***	-0.423***	-0.285	-0.0882	-0.487***	0.370	-0.0336	0.144
	(0.006)	(0.000)	(0.245)	(0.410)	(0.005)	(0.466)	(0.846)	(0.337)
observartion	1099	1099	1097	1099	1099	1098	1099	1099
loglikelihood	-558.40	-393.03	-54.77	-407.22	-133.25	-29.40	-143.4	-213.8
R^2	0.20	0.25	0.04	0.11	0.07	0.21	0.20	0.20

Continuation of table 5.16

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Lnexchange $_{t-1}$	-0.489***	-0.679***	-0.0613	-0.332*	-0.165	-0.0297	-0.745**	-0.757***
	(0.003)	(0.000)	(0.890)	(0.079)	(0.627)	(0.959)	(0.023)	(0.002)
Years	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
constant	138.1***	144.5***	63.69	95.06**	87.80	144.6	361.4***	97.33*
	(0.000)	(0.001)	(0.531)	(0.024)	(0.233)	(0.321)	(0.000)	(0.096)
observartion	1099	1099	1097	1099	1099	1098	1099	1099
loglikelihood	-558.40	-393.03	-54.77	-407.22	-133.25	-29.40	-143.4	-213.8
R^2	0.20	0.25	0.04	0.11	0.07	0.21	0.20	0.20

p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5.6 Conclusions

This study examines the impact of formal and informal institution on foreign investment locational choice and scale of investment of China, France, India, UK and USA to Africa and its sectors. The study uses 2257 foreign investment projects from China, France, India, UK and USA Multinational companies to Africa sectors which is a bilateral data, and the use of bilateral data is advantageous because it makes it easier to investigate the relative institution (institutional distance) between the home and host countries (Aleksynska and Havrylchyk 2013). The data is collected from Orbis cross- border data base from 2013 to 2022. The study uses NAICS (2017) industrial codes to create seven sectors (i.e. Manufacturing, Service, Mining, Agriculture, Infrastructure, Construction, Banking sector) as used in this study. According to Chen et al (2015) they suggest that it will be important to investigate the different sectors, the manufacturing, agricultural, construction and service sectors, as different motivations and drivers will have varying sector effects on bilateral FDI inflows.

According to Tang and Buckley (2022), there is two stages of investment, the first stage is for foreign investor to choose where to invest and the second investment stage is the amount they want to invest in the selected country as mentioned by Romero-Martinez (2019), in internationalization, choice of location is the first stage of investment. Thus, this study uses the Heckman (1979) two stage regression to investigates the impact of formal (absolute and relative institution) and informal (cultural distance) of China, France, India, UK and USA to Africa and her sectors. n this study, the Heckman two-stage model is employed to investigate the determinants of foreign investment from China, France, India, the UK, and the USA into Africa. The first stage uses a probit model to estimate the probability of foreign investment occurrence (investment choice), while the second stage applies Poisson Pseudo Maximum Likelihood (PPML) to assess the scale of investment conditional on selection.

The results reveal that institutional distance negatively influences the likelihood of foreign investment in total investment, manufacturing, services, and construction sectors. This suggests that greater institutional dissimilarity between home and host countries reduces the probability of investment entry in these sectors. However, in the second stage, a positive relationship is observed between institutional distance and the scale of investment in mining, construction, agriculture,

banking, and infrastructure. This indicates that, once investment occurs, firms from institutionally distant countries tend to commit larger volumes of capital in these sectors.

These findings suggest a U-shaped relationship between institutional distance and foreign investment behaviour. Initially, institutional dissimilarity deters investment entry, but beyond a certain threshold, it appears to facilitate larger-scale commitments—possibly due to strategic adaptation, institutional arbitrage, or the pursuit of high-return opportunities in complex environments. This non-linear pattern underscores the importance of accounting for both entry probability and investment intensity when analysing the effects of institutional distance on FDI.

Informal institution (cultural distance) is positive and significant in total investment, mining sectors, service sector, Agricultural sector in the second stage but negative in total investment in stage one and in stage two construction sector.

For robustness check the sample of the host countries is divided into emerging economies (China and India) and traditional economies (France, UK and USA). According to Warsame (2021) he argues that developed countries foreign investment location choice is different from developing countries. This study finds that emerging economies (China and India) foreign investment choice (and scale of investment) to Africa and its sectors is affected by formal institution (institution distance) between emerging economies (China and India) and Africa in total investment, manufacturing, service, construction and infrastructure sectors as this lower the investment choice of emerging economies in these Africa sector as the study find a significant negative association. But has a positive and not significant association in mining, banking sectors and agriculture sectors has a weak positive and significant association. Informal institution (cultural distance) deters foreign investment choice in mining, infrastructure and construction sectors.

Emerging economies investment choice into Africa and its sectors in determined by the quality of the host (Africa) countries institution in total investment, manufacturing, mining, service and infrastructure sectors as this is positively associated. In the scale of investment, it is negatively and significantly associated in agriculture sector which implies that China and India can investment their capital in a weak host countries institution in agriculture sector. Bukley et al., (2018) and Han et al., (2018) has suggested that institutional risk can be tolerated by emerging economies. Cultural

distance is positive and significant in Agricultural sectors. This may be due untapped resources and market (Tadesse 2024)

Traditional economies (France, UK and USA) foreign investment choice (scale of investment) to Africa and its sectors is lower by formal institution (institutional distance) in total investment, manufacturing and construction as there is a negative and significant association this is consistent with the study hypothesis (H4) and North (1990) theory of institution. The study does not find a significant between in mining, infrastructure, banking, agriculture and service sectors.

Informal institution (cultural distance) is positive and significant for manufacturing sectors, this implies that traditional economies (France, UK and USA) will invest in Africa country manufacturing sector and there is no significant association in total investment, mining, service, construction, agriculture, banking and infrastructure sector. Formal institution (institutional quality of the host country is positive and significant in total investment, manufacturing, service, construction, agriculture sectors, this implies an increase in institutional quality of the host (Africa) country will attract FDI from traditional economies (France, UK and USA) into Africa countries and its sectors (i.e. manufacturing, service, construction, agriculture sectors,). This is consistent with the finding of Sabir et al (2019), institutional theory North (1990) and OLI theory Dunning (1993).

African countries are also divided into land locked and non-landlocked countries, as Africa has the highest landlocked region in the world, out of the 44 landlocked region, Africa has 16, Asia has 12, Europe has 14 and south America has two this study find that in landlocked region. The studies find that the foreign investment locational choice of China, France, India, UK and USA to Africa and its sectors. The study finds that formal institution (institutional quality of the host (Africa) country) attracts foreign investment locational choice in total investment and manufacturing sectors and institutional distance lower investment in this region manufacturing and construction sectors. Informal institution (cultural distance) is negative and significant in total investment and service sector.

In non-landlocked countries, institutional quality motivates foreign investment locational choice in total investment, manufacture, service, construction and infrastructure sectors and institutional distance deter foreign investment in total investment, manufacture, service, construction and

cultural distance has no significant association with foreign investment locational choice in non-landlocked Africa sector.

The finding shows that formal institution (institutional quality of the host countries) is importance in attracting FDI into total investment, manufacturing, service, construction, infrastructure sectors and institutional distance lower foreign investment locational choice of both traditional and emerging economies in total investment, manufacturing, service, construction and infrastructure sector and informal institution (cultural distance) deter emerging economies foreign investment choice in total investment, mining and construction and infrastructure sectors in Africa and Hence, institutional quality improvement in Africa countries will motivates foreign investor from both traditional (France, UK, USA) and emerging economies (China and India) to choose African as a location to invest their capital in Africa manufacturing, service, construction and agricultural sectors. This can be achieved through regulatory reforms that will reduce corruption, improve governance and regulatory process should be streamlined. Therefore, a strengthening formal institution such as regulatory quality, government effectiveness, political stability, corruption control, rule of law voice and accountability in Africa will attracts more FDI into Africa and its sectors. Policy makers should focus on making policies that will create an efficient environment for FDI to enhance positive spillover into institutional development.

To reduce institutional distance between emerging economies and Africa, Africa countries should enter multilateral and bilateral agreement such as reduction in protecting investment environment, tariffs reduction and customs procedures should be simplified to enhance investment and cooperation between the emerging economies and Africa. An initiative training programs through capacity building should be organised for Africa business leaders and government officials. Africa counties should encourage connectivity and easier business operation by developing their internet connection, transportation network and improving their supply of energy this will attract more foreign investors and MNEs to invest in Africa region.

To reduce informal institution (cultural distance), between the home countries (China, France, India, UK and USA) and Africa, Africa should encourage mutual trust and understanding with other region of the world through promoting cultural exchange programs.

The preceding chapter extended the analysis by examining bilateral sectoral FDI flows from five major investor countries, revealing how institutional and cultural distance shape investment

decisions across seven African sectors. By employing a Heckman two-stage model and PPML estimation, the chapter demonstrated that both formal and informal frictions influence not only the likelihood of investment but also its scale and sectoral orientation. These findings underscore the importance of investor origin, sectoral characteristics, and institutional compatibility in shaping FDI patterns. Building on this multi-layered analysis, the final chapter synthesises the key empirical insights, reflects on the theoretical and methodological contributions of the thesis, and outlines implications for policy, practice, and future research.

Chapter 6: Conclusion, Contributions, Limitation, Further Research and Policy implications

This chapter draws out the overall conclusions from the findings within the thesis. The contributions of the completed study for research, policy and practice are identified. The limitations of the research are also noted along with future directions for further research.

6.1 Thesis Summary

This thesis set out to investigate the institutional, infrastructural, and financial development determinants of FDI in Africa, motivated by the region's persistently low FDI inflows compared to other developing economies. Chapter 1 outlined the study motivation and how FDI inflow in Africa is relatively low compared to others developing countries. Introduced the research problem, highlighting key challenges faced by African countries which include inadequate infrastructure, weak institutional quality, and low levels of financial development. Having discussed the challenges and motivation behind the research, chapter 2 of the study move onto setting out the theoretical framework for investing FDI patterns. Drawing on the existing literature, specifically that focused on Africa and other developing countries, how FDI is related to institutional, infrastructure and financial development determinants is considered.

Therefore, with the understanding of the market imperfection theory of FDI which illustrates how market failure can leads to FDI, and the OLI theory of Dunning (1988;1993) explaining the factors that determined FDI inflows into a country (institutional quality, infrastructural determinants and financial development) -and the motives behind investors choice to invest in a particular country, (market seeking, resource seeking and efficiency seeking), chapter 3 sought to build on the existing literature to investigate the determinants of FDI into 51 African countries focusing on the role of institution, infrastructure and financial development. This included accounting for the different motives by accounting for resource seeking, market seeking, and efficiency seeking investments using traditional determinants (GDP per capita for market seeking, labour force measures for efficiency seeking and natural resource rent for resource seeking). A variety of estimators were applied consisting of OLS (Ordinary Least Square), FE (Fixed effects), LDVS (Least Square Dummy Variable) and PPML with country fixed and time effects to allow for different issues typical of FDI data. The study found that African countries appear to attract market seeking,

resource seeking and efficient seeking FDI into the region. However, the study finds insignificant result for the quality of labour (human capital). This implied that African countries attract wide variety of investor types.

Furthermore, in chapter 3 contributing to knowledge I also investigated the infrastructural, institutional and financial development determinants of FDI using the Pseudo-Poisson Maximum Likelihood (PPML) with time and country fixed effect. Although previously noted as important these had not been investigated through more comprehensive measures of each, which can be broken down into measures accounting for specific elements of the overall influence on FDI for African countries. To capture the infrastructural determinants, I use the communication index (as infrastructure availability) internet index (as infrastructural reliability) and electricity index and gross fixed capital formation as (infrastructural accessibility). In combination these measures reflect the different ways infrastructure can affect in determining FDI inflows into Africa. Previously most studies focused on the availability of infrastructure in terms of individual proxies such as fixed telephone or mobile usage rather than covering a wider variety of potential influences. As a robustness check as well as combining measures into indices the individual indicators of infrastructural were utilised.

Following Dunning and Lundan (2008) and Islam et al's (2019) claims that good institutional quality is one of the crucial factors that attract multinational companies to invest in a host country, this study used an index of institutional quality to investigate its role in determining the inflow of FDI into Africa. For more in-depth analysis of the institutional factors, I divided the index into separate indices for political institutions (i.e. the index of voice and accountability, and political stability) and socio-economic institutions (i.e. the index of regulatory quality, control of corruption, rule of law and government effectiveness). This acknowledges Ullah and Khan (2017) argument that it is important to capture both the political and socio- economic impact of the institutional quality as determinants of FDI.

Noting the importance of financial development for the inflow of FDI highlighted in the literature, this study also used financial development index. This is one of the comprehensive indicators of financial development (Khan et al 2019). The analysis within my thesis therefore differs from previous African focused studies such as Asiedu (2022), Okafor et al (2017) which use one indicator of financial development I further divide this more comprehensive index of financial

development into a financial institution index and financial market institution index, with the financial institution index further divided into (financial depth, access and efficiency indices). As Khan et al (2020) and Yeboua (2019) suggest that FDI stock captures the impact of financial development as a determinant of FDI in the long run in a manner that FDI inflows are unable to, I also use FDI stock as dependent variable as a robustness check to examine the impact of financial development on attracting FDI in chapter 3. Panel quantile regressions are used as a final estimator to capture how this relationship may vary across African countries.

Considering that Africa country is a heterogenous country characterised by different behaviour and structures (Chen et al, (2015), FDI into Africa may be more diversified within different sub-regions Chapter 4 of this study investigates the institution-determinants of FDI into the five African sub-regions (North Africa, Southern Africa, East Africa, West Africa and Central Africa). To examine the potentially heterogenous relationships between African institutions and the inflow of FDI, PPML with country and time effects is applied. Considering that African has the larger landlocked countries in the world, I also divide the countries into landlocked and non-landlocked countries. The institutional determinants of FDI are further examined for countries in different income groups (low, lower, middle, high income), political regimes (autocracy, democracy and flawed democracy) and the study further investigates the determinants of FDI based on different human development index and the degree to which a free business environment is present.

Therefore, having examined the cross-country institutional, infrastructure and financial development determinants of African FDI in chapters 3 and 4 using cross country aggregated data, chapter 5 of this study uses disaggregated data to examine the influence of formal and informal institution on sectoral bilateral inflow of FDI from the big five investor countries (USA, France, UK, China and India) to specific African sectors (i.e. Manufacturing, Mining, Agriculture, Infrastructure, Banking, Construction, and Service) over the time period 2013 to 2022. Using the gravity bilateral model, the Heckman technique (probit and PPML) and logit for robustness check. I further divide the host country into traditional (USA, France and UK) and emerging countries (China and India). This allows more recent patterns of investments to be examined with emerging country FDI inflows to Africa increasing greatly to play a more major role lately. The analysis within this study will help the policy makers to make informed decisions that will assist them in attracting FDI from different investors including those from differing countries. The next section

highlights the main contributions to knowledge and key conclusions drawn from the research findings.

6.2 Contributions

Through the use of both aggregated and disaggregated data, this thesis has contributed to the empirical literature on the factors that determined FDI in Africa in various ways. using the cross country aggregated FDI data, the thesis investigates the determinants of FDI in Africa, with focus on the role of institutional, infrastructure and financial development as determinants of FDI. Firstly, by applying advanced econometric techniques and offering regional and sectoral insights the thesis goes beyond existing studies and make several methodological contributions that enhance the empirical rigour and contextual sensitivity of FDI analysis in Africa. This built on the work of Sabir et al. (2019), and Nondo et al. (2016), who use fixed effect and GMM to examine institutional determinants of FDI across income groups and Sub-Saharan Africa respectively. To address the prevalence of zero FDI flows and heteroskedasticity in Africa investment data, issues common in African investment data but often overlooked, the thesis advances the literature by applying PPML with country and time effects. This technique ensures that countries with no recorded inflows are retained in the analysis, avoiding sample bias and enhancing the reliability of the model. Unlike the conventional linear model use in earlier studies (e.g. Sabir et al., 2019; Nondo et al., 2016), PPML accommodates the skewed nature of FDI data and provide consistent estimates even in the presence of non-normal error distributions.

Quantile regressions were applied to capture any distributional heterogeneity in FDI determinants. This approach reveals that the influence of institutional quality and financial development varies across the investment spectrum. For instance, financial development becomes increasingly significant at higher quantiles, while institutional quality shows significance only at the median. These findings challenge the assumption of uniform effects and demonstrate that investor responsiveness is contingent on investment scale an insight obscured in the mean- based models. To validate the consistency of core findings, the thesis conducts robustness checks using FDI stock as an alternative dependent variable. This extension addresses concerns raised by Islam et al. (2020) and Yeboua (2019) regarding the limitations of flow-based measures. The FDI stock models reaffirm the positive role of financial development and reveal a persistently negative relationship between institutional quality and long-term investment, suggesting that stronger

institutions may deter rent-seeking investors. These results reinforce the paradoxical dynamics of governance and investment in African contexts. The thesis introduces a Heckman two-stage selection model in chapter 5 to analyse bilateral FDI flows from five major investor countries across seven African sectors. This technique distinguishes between the decision to invest (selection equation) and the scale of investment (outcome equation), allowing for a greater understanding of how institutional and cultural distance affect investment behaviour. By combining the Heckman model with PPML estimation, the thesis offers a robust framework that accounts for selection bias and sectoral variation, advancing methodological sophistication in the study of FDI in the African context by allowing patterns (some initially appearing, paradoxical) and sectoral dynamics that are obscured in aggregate model. This contributes to knowledge by offering a more accurate and policy relevant understanding of investment behaviour.

Secondly, while studies such as Asiedu and Lien (2011), and Anyanwu (2011) emphasize weak institutions and poor infrastructure as barrier to FDI in Africa, this thesis constructs composite indices for institutional quality and infrastructure using PCA, allowing for a multidimensional analysis. Hence, chapter 3 further investigates the infrastructural determinants of FDI using the PPML and the study find that infrastructural reliability is negatively related to the flow of FDI into Africa. This counterintuitive result suggests that higher levels of digital connectivity do not necessarily attract more foreign investment. Instead, it implies that FDI into Africa may be concentrated in low-tech, resource-based, or rent-seeking sectors such as mining, agriculture, and construction where internet penetration is less critical to operational success. Investors in these sectors may prioritise access to natural resources, strategic concessions, cost advantages or favourable institutional arrangements over investments in less relevant, but expensive, digital infrastructure. Infrastructural accessibility, as measured by gross fixed capital formation, is found to be important in attracting FDI in this region. This implies that an improvement in Africa infrastructure quality will attract more investors into the region. The availability of infrastructure is one of the crucial factors needed to run an efficient business and by improving access to market and available market size, good infrastructure is essential for attracting FDI inflows and a provision of a reliable electricity is important to attract FDI inflow into a country (Kinda 2012). However, a better investment climate, that includes infrastructural availability encourages FDI inflow (Dollar et al. 2006). The finding that infrastructural reliability negatively affects FDI, while accessibility

(e.g., gross fixed capital formation) positively influences it, offers more understanding of how infrastructure matters not just its presence, but its quality and accessibility.

The study further finds that institutional quality (i.e. the index of the six indicators of institution used in this study), as well as each indicator considered separately, such as, control of corruption, government effectiveness and political stability, is important in attracting FDI into this region. This is consistent by North's (1990) argument that good institutional quality is important for attracting FDI to the host countries. However, the political institutional index and voice and accountability are found to be negatively significant. This is not necessarily an unexpected result given prior work on FDI in Africa, as discussed below, but remains worrying as it means that foreign investors will prefer to invest in the continent if there is corruption, lack of accountability and probity, breakdown in the rule of law and autocracy.

Bokpin et al (2017) provide two explanations for why most studies found a negative correlation between political institutions and FDI. The first reason is that foreign investors, may like to invest in autocratic countries and where the system can be exploited (Li and Resnick 2003). Governments in such countries may provide more incentive packages and protection from labour unions. Hence, when institutions start to be effective the levels of investment dwindle for these investors. Thus, FDI inflow is higher in countries with low democracy and high level of corruption (Kim 2010). Obviously, this highlights a potential dark side to FDI where intentions to exploit workers and other actors in the African economies remain present.

This study contributes to the literature by revealing that institutional quality does not exert a uniformly positive influence on FDI inflows across African economies. Notably, the finding that institutional quality is negatively associated with FDI in politically repressed economies challenges conventional assumptions and highlights a critical paradox. While strong institutions are typically expected to attract foreign investment, this result suggests that in politically repressive contexts, governance reforms may introduce regulatory constraints or disrupt informal arrangements that previously facilitated investment. This aligns with the theoretical insights of Li and Resnick (2003), who argue that democratic institutions, while reducing country risk, may simultaneously impose limitations on foreign capital. Similarly, Khan et al. (2023) find that certain institutional indicators are negatively associated with FDI in developing countries, implying that investors may prefer environments with less regulatory friction.

In the African context, Bokpin et al., (2017) demonstrate that weak institutions in resource-rich countries undermine the positive impact of natural resource endowment on FDI, reinforcing the notion that institutional quality alone is insufficient to attract investment. These findings collectively support the view that institutional reforms must be credible, transparent, and sector-sensitive to be effective. In repressed economies, where political freedoms are limited and governance structures are often opaque, institutional improvements may be perceived as superficial or politically motivated, thereby increasing uncertainty and deterring long-term investment. The other reason is because investments in natural resources are capital intensive and made over a long duration, foreign investors would like to invest in countries with weaker institutions in order to bribe their way through. Asiedu and Lien (2011) find that in a country with limited export levels, because of a lower share of natural resources, FDI inflows are increased by democracy but in a country with high export levels, democracy affects the inflow of FDI negatively.

By disaggregating African economies according to regime type, economic freedom, and regulatory performance, this thesis advances a context-sensitive understanding of how institutional determinants interact with broader governance structures. It underscores the importance of tailoring investment strategies to the political and institutional realities of host countries, rather than assuming a linear or universally positive relationship between institutional quality and FDI inflows.

Thirdly, the thesis contributes to the underexplored areas of financial developments relationship with FDI in Africa. Unlike prior studies, such as Asiedu (2002) AND Nkoa (2018) among others that use single proxies (e.g., domestic credit or quasi money, interest rate, market capitalisation), this study employs the IMF's financial development index, disaggregated into financial institution and financial market indices to examine the effect of financial development on FDI inflows to Africa. It finds the financial market index to have a positive impact on the FDI inflows. However, this is a weakly significant relationship for the measure of financial development and financial institution depth. This maybe because of the FDI inflow measure used. Yeboua (2019) and Islam et al (2020) indicate that FDI stock better captures the effect of financial development than FDI inflows as explained in section (3.4.1). When instead FDI stock is used as a robustness check, the

financial development index, financial market index, financial institution index, financial institution access and depth measures are all found to be important determinants of FDI in the African region. This shows the importance of validating the consistency of core findings, of the thesis conducts using FDI stock as an alternative dependent variable in the robustness checks. This extension addresses concerns raised by Islam et al. (2020) and Yeboua (2019) regarding the limitations of flow-based measures. The FDI stock models reaffirm the positive role of financial development and reveal a persistently negative relationship between institutional quality and long-term investment, suggesting that stronger institutions may deter rent-seeking investors. These results reinforce the paradoxical dynamics of governance and investment in African contexts.

To further contribute to knowledge in chapter, the study also captures the unobserved heterogeneity, heterogenous covariates and the different slope of the dependent variable across quantiles. The study finds that for all quantiles, using FDI stock (10, 25, 50, 75 and 95) institutional quality negatively attracts FDI and the financial development index positively attract FDI for all but the highest quantile, where an insignificant relationship is found. Financial institutions are found to attract FDI only in the 50 quantiles and financial market index attracts FDI in the 10, 25 and 50 quantiles. This highlights the need to regard groups of African countries as distinct with different determinants playing varying roles for each group. The thesis provides robust evidence that financial development measured through financial market index, financial institution access, and financial institution efficiency is a consistent driver of FDI across models. This relationship is especially pronounced at higher quantiles and in FDI stock models, suggesting that investors with larger commitments prioritise financial system reliability and access to credit. These findings extend the work of Asiedu (2006) and Yeboua (2019), who highlight financial constraints but do not explore their distributional effects or long-term implications.

Fourthly, responding to calls by Korsah et al., (2022), and building on Okafor et al., (2017) this thesis disaggregates African countries by sub-region, income level, landlocked status, political regime, human development index and ease of doing business in chapter 4 of this study to examines institutional quality impacts on FDI in African sub- regions. This acknowledges that African countries are characterised by different political structures, institutions and economic behaviour so it is crucial to capture all this structure for in-depth understanding. It finds that good quality institutions attract FDI in North Africa, Sub-Saharan African, Western African and non-

landlocked countries but are negatively significant in the Eastern African region and not significant in central Africa, Southern and landlocked African countries. Institutional quality is significant in upper middle income Africa countries and African countries with high values for the Human Development Index. This further confirms the need to account for the heterogeneity of African countries when seeking to research and understand FDI inflows

Investigating the political regime, the study find that institutional quality attracts FDI in hybrid regime and flawed democracy countries but in autocracy regime Africa countries institution is not as crucial in attracting FDI as the other two regimes. It is also important in countries with medium level of ease of doing business. This provides further insights into the reasoning behind the negative relationship with institutions found in chapter 3. It appears it is not necessarily the poor-quality institutions themselves which are key, but rather the political regimes which are the origins of these weaker institutions. This confirms that treating Africa as a homogeneous unit masks important heterogeneity in FDI determinants.

This thesis makes a distinctive contribution to the literature on foreign direct investment (FDI) in Africa by integrating sectoral, institutional, and methodological innovations that are not well established in prior research. While earlier studies such as Cheung et al. (2012), Tang and Buckley (2022), Munjal et al. (2022), and Warsame (2021) have examined bilateral FDI flows and institutional determinants, they typically rely on aggregated data, limited sectoral coverage, or partial institutional indicators. In contrast, this study introduces a sectoral disaggregated bilateral FDI framework, enabling a more granular analysis across seven African sectors. It also expands the institutional lens by incorporating both absolute institutional quality and relative institutional distance, capturing the formal governance gap between home and host countries. Furthermore, the study includes all six dimensions of cultural distance from Hofstede's framework, offering a more comprehensive view of informal institutional influences. These extensions are theoretically grounded in internationalisation theory and relevance theory, which together explain how firms interpret institutional and cultural signals when making strategic investment decisions. Methodologically, the use of a Heckman two-stage model combined with Poisson pseudo-maximum likelihood (PPML) estimation addresses selection bias and accommodates zero investment flows, enhancing robustness. By applying this framework to both traditional and emerging investor countries, the thesis reveals nuanced patterns such as the U-shaped relationship

between institutional distance and investment scale that are not captured in existing models. These findings advance knowledge by demonstrating that institutional effects on FDI are sector-specific, regime-dependent, and shaped by the origin of the investor country, thereby offering a more context-sensitive understanding of investment behaviour in African economies.

Fifthly, the thesis makes a novel contribution by using disaggregated bilateral- sectoral FDI data from Orbis data base in chapter 5 to examine locational choices and scale of investment within Africa. Investigating the institutional influences (formal that is institutional quality – absolute institution and institutional distance – relative institution) and informal (cultural distance) and sectoral level differences from USA, UK, France, China and India (the big five) using Heckman (1979) two stage model (probit and PPML). This follows Tang and Buckley's (2022), and Munjal et al.,'s(2022) arguments that there are two stages of investment. The first stage is for foreign investor to choose where to invest and the second investment stage is determining the amount they want to invest in the selected country.

In the first stage probit regressions are used to investigates the foreign investment choice of which country is invested in. The study finds that formal institution as measured by institutional quality (absolute institution) attract foreign investors from the big five into the African manufacturing sector, service sectors, construction sectors, agricultural sectors and infrastructural sectors. Institutional distance (relative institution) reduces the likelihood of foreign investment choice in total investment, manufacturing, service and construction sectors. In the second stage, we find a positive relationship in mining, construction, agriculture, banking and infrastructure. This means that the impact of institutional distance for China, France, India, UK and USA to Africa and its sectors is potentially a U-shape relationship. These are countervailing forces where institutional distance can make investment less likely to occur in the first place, but where investments do take place, on average they are larger in magnitude. Similarly, informal institutions (cultural distance) are a positive and significant influence on total investment, and the mining sector, services sector and agricultural sector in the second stage but negative in total investment in stage one and in stage two construction sector.

The recipient countries are further divided into traditional economies (USA, UK, France) and emerging economies (China and India) as Warsame (2021) suggest developed countries foreign investment location choice is different from that of companies based in developing countries.

Emerging economies investment choice into Africa and its sectors is positively determined by the quality of the host (African) countries institutions for total investment, and the manufacturing, mining, service and infrastructure sectors. In terms of the scale of investment, it is negatively and significantly associated in agriculture sector which implies that China and India invest their capital in host countries with weak institutions in the agriculture sector. Bukley et al., (2018) and Han et al.,(2018) suggest that institutional risk can be tolerated by emerging economies. Traditional economies (France, UK and USA) foreign investment choice (scale of investment) to Africa and its sectors is reduced by formal institution (institutional distance) for total investment, and the manufacturing and construction sectors. This is consistent with the North's (1990) theory of institutions. Interestingly it appears investors from developed countries are less able/willing to bear the risk from greater institutional distance when considering the scale of investment than those from emerging countries. This may reflect the weaker quality of their home country institutions, where this experience prepares them for dealing with more variable institutional quality. However, the quality of institutions for selecting to invest in the first place remains important for companies from emerging economies in most sectors. Informal institution (cultural distance) is negative and significant in total investment and service sectors for both groups of countries.

In non-landlocked countries, institutional quality motivates foreign investment locational choice in total investment, and the manufacture, services, construction and infrastructure sectors. Institutional distance deters foreign investment in total investment, and the manufacture, service, and construction sectors. Cultural distance has no significant association with foreign investment locational choice in non-landlocked Africa sector. This lack of affect from informal institutions may reflect the greater openness and accessibility of these countries, which makes for greater tolerance and understanding even where greater distance exists.

This thesis demonstrates that FDI determinants in Africa are highly context-specific, varying across regions, sectors, and investor types. It shows that institutional quality is not universally positive, its effect depends on political regime and investors origin. Emerging economies are more tolerant of institutional distance risk, while traditional investors are more sensitive to institutional distance. Infrastructure accessibility matter more than reliability and financial development influences FDI differently across investment levels. These findings challenge the assumption of

homogeneity in African FDI behaviour and offer a more nuanced, empirically grounded framework for future research and policy design.

6.3 Conclusions

This thesis has provided a comprehension and multidimensional analysis of the determinants of FDI in Africa, integrating both macro-level and micro-level perspectives. By employing advanced econometric techniques including PPML, quantile regression, and Heckman two-stage modelling and constructing composite indices for institutional quality, infrastructure, and financial development, the study offers robust empirical insights that challenge conventional assumptions and extend the existing literature.

The findings confirm that Africa attracts both market-seeking and resource-seeking FDI, consistent with Dunning's (1993) eclectic paradigm. However, the role of institutional quality, infrastructure, and financial development varies significantly across sub-regions, income groups, political regimes. Institutional quality is positively associated with FDI in North and West Africa, upper-middle income countries and flawed democracies, but is insignificant or negative in autocracies, landlocked states, and lower- income regions. These results underscore the importance of disaggregating African economies when analysing investment behaviour.

Financial development, particularly financial market institution, is shown to influence FDI more strongly than institutional access or efficiency, especially when measured using FDI stock rather than inflows. Infrastructure accessibility measured by gross fixed capital formation is found to be a more consistent driver of FDI than infrastructural reliability, suggesting that even imperfect infrastructure in Africa can facilitate investment if the market access is improved. The study highlights the mediating role of political regimes, showing that institutional quality is more influential in flawed and hybrid democracies than in autocracies.

Through bilateral- sectoral analysis, the thesis demonstrates that institutional and cultural distance significantly affect both the location and scale of investment. Traditional investors from the USA, UK, and France are more sensitive to institutional distance while emerging economies such as China and India exhibit greater tolerance for institutional risk, especially in infrastructure and agriculture. The U-shaped relationship between institutional distance and investment scale offers a novel interpretation of how risk and opportunity interact in Africa investment decision.

Lastly, this thesis contributes to knowledge by integrating theoretical framework with meticulous empirical analysis, offering policy relevant insights for African governments and international investors. It lays the foundation for future research that further disaggregates investors behaviour, explores firm long-term developmental impact of FDI across Africa economies.

6.4 Policy Implication

The findings of this thesis offer several policy-relevant insights that can inform strategic decision-making by African governments and investment promotion agencies. By uncovering sectoral variation, investor heterogeneity, and paradoxical institutional effects, the study challenges conventional assumptions and provides a more nuanced basis for policy formulation.

This thesis finds that infrastructural factors are important in attracting FDI into the Africa region. The positive role of infrastructure, especially electricity access and transport connectivity highlight the need for sustained investment in public goods that reduce transaction costs and enhance investor confidence. This implies that African governments should prioritize investment in major infrastructure such as communication networks, internet connectivity, electricity and transportation by promoting regional integration. To achieve this, strengthening public private partnerships will help infrastructure development resources to be mobilized. Better infrastructural quality will enhance FDI inflows into Africa by reducing operational cost for investors.

Institutional quality is seen as one of the important factors that attracts FDI into Africa as found in chapters 3, 4 and 5 encouraging policy reform such as strengthening the legal system, reduction of corruption and improving and implementing the regulatory framework will improve institutional quality which will enhance better economic performance and creating a conducive environment for the operation of business. This may in turn attract more FDI inflows as poor institutional quality that comprises of weak governance, lack of regulatory transparency, and corruption can discourage foreign investors who are looking for a stable and conducive business environment. However, negative relationships with some institutions are found for at least some countries in Africa. These results and insights from the literature suggest that such FDI may be looking to exploit African countries' workers and resources, and therefore it should not necessarily be encouraged. The benefits of attracting such FDI in terms of economic development, at the very least need considering in terms of the negative consequences of this exploitation. Contrary to the

prevailing view that institutional reform uniformly attracts FDI, the thesis finds that certain governance improvements such as increased democratic accountability may deter investment in rent-seeking sectors. This paradox underscores the importance of recognising that institutional signals are interpreted differently by investors depending on their strategic motives, risk tolerance, and sectoral focus. Policymakers should therefore avoid one-size-fits-all reform narratives and instead consider the profile of target investors when designing governance interventions.

Given that institutional and cultural distance can deter investment, softer interventions may be necessary. These include cultural training programmes, investor workshops, and ongoing support to help foreign investors navigate unfamiliar institutional environments. The thesis finds that institutional distance has a stronger influence on the initial decision to invest rather than the scale of investment, suggesting that early-stage engagement and relational trust-building are critical to attracting FDI. The sectoral disaggregated analysis reveals that investor responsiveness to institutional and cultural distance varies across sectors. For example, banking and services are more sensitive to governance quality and cultural proximity, while mining and infrastructure are more tolerant of institutional gaps. This implies that investment promotion strategies should be tailored to specific sectors and investor origins. Agencies should develop targeted messaging, sector-specific incentives, and culturally attuned engagement protocols that reflect the strategic priorities of different investor groups. .

This study indicates that financial development, particularly in the form of financial markets, institutional access, and financial efficiency, is a consistent driver of FDI across models and quantiles in Africa. This suggests that African governments and policy maker should prioritise the development of robust financial systems, including credit access, banking infrastructure, and capital market regulation, reducing the cost of transactions, and creating a better financial services access, which will improve the overall Africa investment climate. Further, creating a financial market that is well developed in order to encourage capital allocation efficiency by pairing any investment opportunities with investors in Africa and other countries will be beneficial. This will enhance FDI inflows as investors will be attracted by the high return on capital.

Overall, a key insight for policy makers in African countries is that the relationships found in relation to infrastructure, institutions and financial development are not necessarily constant for all countries but vary by grouping. They also vary for the sectors being considered. This means

that although there is potential to learn from one country's experience of what helps to attract more inward FDI, this has to be treated with caution. Differences in institutions, culture and sectoral composition of the economy may mean that a 'copy and paste' approach is unlikely to be successful.

6.5 Limitations and Future Research Direction

In light of the findings and research innovations presented, this thesis has fulfilled its core objective to deepen understanding of the structural and sectoral determinants of FDI in African economies through a multidimensional and methodological rigorous lens. By integrating composite indices, distributional analysis and a Heckman two stage model, the study not only addresses gaps in the literature but also challenges prevailing assumptions about uniformity of FDI drivers across Africa. These insights underscore the need for more granular, context-sensitive approaches to investment analysis.

This thesis investigates those factors affecting FDI inflows to African countries in order to provide insights for African policy makers allowing them to develop more effective policy to achieve this. However, as with all research, there is some weakness worth mentioning. First, there is missing data on FDI inflow for some countries. Given that the study finds results differ between groups of countries for those countries where there is missing data, future work would be encouraged to investigate the relationships present for these countries as data becomes available. This could be particularly important as these countries are typically smaller or suffering from crises, such as war, that make their circumstances unique.

One notable limitation of this study is the exclusion of financial stability as a component of financial development. While the analysis incorporates depth, access, and efficiency using the IMF's Financial Development Index, financial stability was not included due to data constraints. Specifically, stability indicators such as systemic risk measures and banking sector resilience have only become available in more recent years and are not consistently reported across African economies for the full study period. Moreover, the IMF's composite index used in this thesis does not encompass financial stability, which is financial outcome. As such, the study focuses on the dimensions most widely available and methodologically consistent across countries. Future research could build on this framework by integrating financial outcome indicators, including

stability, to better capture the risk-adjusted attractiveness of African financial systems for foreign investors.

The data for institutions limited the time frame of the study as it started from 1996. Nevertheless, this can be regarded as comprehensive data set as it is collected from 30 data sources to create these measures of institutions which allowed a deeper investigation into those institutions which are most important. Future research may want to look at other institutional measures to consider longer-run patterns.

Additionally, in chapter 4, only the institutional determinant are used to examine the inflow of FDI into African sub-regions. Future research can consider other factors discussed in chapter three of this study to also investigate the impact of financial development in the African sub-regions.

Although the study advanced knowledge by considering how investment from different countries may differ between sectors, only the big five investor countries were considered. One particular area of investigation that was not considered is the manner that investment between African countries (and other developing countries investing into African countries) might be driven by different influences. This could be particularly insightful as it would be expected that the institutional and cultural distances would be lower.

This study primarily focused on the determinants of FDI for African countries and whether these differed between groups of countries, for different investor countries, and sectors. It was found that different motivations appear to be behind some of these patterns. However, what is not investigated within this study is the consequences of these investments being motivated by different factors and drawn in by differing determinants. To fully understand and develop policy to attract productive FDI further investigation into the consequences for the population and businesses operating in African countries would be required. This might not just be in terms of average outcomes but effects on inequality patterns as well. Moreover, the dynamic nature of global investment flows suggests that future research should incorporate evolving geopolitical and environmental factors, including climate resilience and digital infrastructure.

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Appendix 1

Appendix A. Computation of institutional quality index using the World Governance Indicators (WGI)

Table A1 Descriptive statistics of the institution determinant Variable

Variable	Obs	Mean	Std. Dev.	Min	Max
Gov't effective	1070	-.699	.601	-1.922	1.057
Control	1071	-.592	.601	-1.816	1.217
Polstab	1070	-.482	.848	-2.845	1.282
Regulatory	1071	-.658	.593	-2.347	1.127
Rule of law	1071	-.647	.617	-2.13	1.077
Voice&acctb	1071	-.587	.762	-2.226	8

Table A2 Pair wise Correlation Matrix of the institution determinant Variable

Variables	(1)	(2)	(3)	(4)	(5)	(6)
Gov'teffective	1.000					
Control	0.835	1.000				
Polstab	0.606	0.641	1.000			
Regulatory	0.857	0.727	0.568	1.000		
Rule of law	0.897	0.870	0.716	0.850	1.000	
Voice&acctb	0.631	0.640	0.516	0.666	0.708	1.000

Table A3 Descriptive statistics of the financial determinant of FDI in Africa

Table A3 Descriptive Statistics of Financial institution determinants					
Variable	Obs	Mean	Std. Dev.	Min	Max
Financial devpt	1200	0.14	0.104	0.003	0.643
Fin mkt index	1176	0.061	0.104	0	0.583
Fin inst index	1200	0.218	0.127	0.004	0.731
Fin inst access	1200	0.1	0.137	0	0.899
Fin inst depth	1200	0.11	0.156	0.001	0.877
Fin inst efficiency	1200	0.496	0.146	0.005	0.793
Pair wise correlations					
Variables	-1	-2	-3	-4	-5
Financial devpt	1				
Fin mkt index	0.869	1			
Fin inst index	0.919	0.613	1		
Fin inst access	0.694	0.419	0.8	1	
Fin inst depth	0.839	0.646	0.835	0.455	1
Fin inst efficiency	0.503	0.258	0.6	0.304	0.303

Tables A4 Eigen Value of Components Analysis for Institutional Quality

Principal Components Table **A4**. Eigenvector				
Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	4.604	4.092	0.767	0.767
Comp2	0.511	0.074	0.085	0.852
Comp3	0.438	0.178	0.073	0.926
Comp4	0.250	0.152	0.043	0.969
Comp5	0.108	0.029	0.018	0.986
Comp6	0.079	.	0.013	1
Number of Observation = 1069, RHO = 1.0000, No of group = 6				

Source: Author's Computation use data from WGI

Table A5 Eigen Vector of Components Analysis for Institutional Quality

Principal components Table A5. Eigenvector							
Variable	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Unexplained
Control	0.421	0.031	-0.210	-0.741	0.421	0.228	0
Gov'teffective	0.432	-0.150	-0.375	0.039	-0.727	0.347	0
Polstab	0.355	0.863	0.248	0.209	-0.010	0.155	0
Regulatory	0.418	-0.287	-0.208	0.632	0.524	0.160	0
Rule of law	0.450	0.015	-0.124	-0.032	-0.093	-0.879	0
Voice&actb	0.366	-0.385	0.834	-0.079	-0.099	0.077	0
Note : The calculation of institutional Quality using the six governance indicators from WGI (government effectiveness, political stability, control of corruption, voice and accountability,requlatory quality and rule of law)							

Tables A6 Eigen Value and Eigen vector of Components Analysis for socio-economic institution

Principal components Table A6. Eigenvector					
Variable	Comp (1)	Comp (2)	Comp (3)	Comp (4)	Unexplained
Gov'teffectiv e	0.5101	-0.0886	-0.8251	0.2264	0
Control	0.4871	0.7119	0.3299	0.3834	0
Regulatory	0.488	-0.693	0.4523	0.2777	0
Rule of law	0.5142	0.0711	0.0767	-0.851	0
Eigenvalue					
Component	Eigenvalue	Difference	Proportion	Cumulative	
Comp (1)	3.52152	3.2481	0.8804	0.8804	
Comp (2)	0.273415	0.160384	0.0684	0.9487	
Comp (3)	0.113031	0.0209945	0.0283	0.977	
Comp (4)	0.0920365	.	0.023	1	
Note : The calculation of socio- economic institutional using the four governance indicators from WGI (government effectiveness, control of corruption, regulatory quality and rule of law) Number of observation 1070, No of group 4, RHO 1.0000, Trace: 4					

Tables A7 Eigen Value and Eigen vector of Components Analysis for Political institution

Principal components Table A7. Eigenvectors)				
Variable	Comp (1)	Comp (2)	Unexplained	
Polstab	0.7071	0.7071	0	
Voice&acctb	0.7071	-0.7071	0	
Eigenvalue				
Component	Eigenvalue	Difference	Proportion	Cumulative
Comp (1)	1.51571	1.03142	0.7579	0.7579
Comp (2)	0.484292	.	0.2421	1
Note: The calculation of Political institutional using the two governance indicators from WGI (Political stability and Voice and accountability) Number of observation 1070, No of group 2, RHO 1.0000, Trace: 2				

Appendix B. Table B1 Kaiser-Meyer-Olkin measure for sampling adequacy of the model

Variable	kmo
FDI	0.552
Inst.qual	0.703
Financial devpt	0.795
GDP per capita	0.750
Human capital	0.827
Inflation	0.693
Openness	0.735
Mobile	0.762
lnlaborforce	0.534
Natural resource	0.626
GDP growth	0.591
transport	0.797
Overall	0.7009

Table B2 shows the VIF of institutional determinants of FDI in Africa.

	VIF	1/VIF
Rol	10.131	.099
Inst. index	9.296	.108
Regulatory	5.892	.17
Control	5.192	.193
LGDP Per Cap	3.292	.304
Poliinst	3.048	.328
Financial devp	2.697	.371
lnlaborforce	2.129	.47
Socioecnin	2.083	.48
Naturalres	1.85	.541
Mobile	1.806	.554
Openness	1.535	.652
GDP growth	1.055	.948
Inflation	1.031	.97
Mean VIF	3.645	.

Table B3 VIF of financial institution determinant

Variance inflation factor

	VIF	1/VIF
Fin inst. index	304.169	.003
Financial devp	116.992	.009
Fin inst. depth	87.793	.011
Fin inst.access	37.387	.027
Fin mkt index	34.48	.029
Fin inst.efficncy	18.043	.055
D. credit	4.553	.22
LGDP Per Cap	3.19	.314
lnlaborforce	2.156	.464
Mobile	2.024	.494
Openness	1.661	.602
Naturalres	1.478	.676
GDP growth	1.03	.971
inflation	1.025	.976
Mean VIF	43.999	.

Table B4 shows list of Africa countries use in the research work.

Table B3 List of Africa countries use in this study				
West Africa	Eastern Africa	Northern Africa	Central African	southern African
Nigeria	Ethiopia	Egypt	Congo Democratic Republic	South Africa
Ghana	Tanzania	Algeria	Angola	Namibia
Cote d'lvoire	Kenya		Cameroon	Botswana
Niger	Uganda	Morocco	Chad	Lesotho
Burkina Faso	Mozambique	Tunisia	Congo Republic	Eswatini
Mali	Madagascar	Libya	Central African Republic	
Senegal	Malawi		Gabon	
Guinea	Zambia		Equatorial Guinea	
Benin	Seychelles		Soa Tome & Principle	
Togo	Zimbabwe			
Sierra Leone	Rwanda			
Liberia	Burundi			
Mauritania				
Gambia	Eritrea			
Guinea Bissau	Mauritius			
Cabo Verde	Djibouti			
	Comoros			

Source: UNCTAD 2022

Table B5 shows the data code, description, sign and source

Variable	Description	signs	sources
Dependent Variables			
lnFDI	log of foreign direct investment, net inflows (bop, current US$)		WDI
FDI stocks	Inward FDI as a % of GDP		UNCTAD
Independent Variables			
Marketing Seeking			
LGDP Per Cap	GDP per capita (current US$)	positive/negative	WDI
GDP growth	GDP growth (annual %)	positive	WDI
Efficiency Seeking			
Lnlaborforce	Labour force, total	positive	WDI
Humancap	human capital index based on year of schooling and return to education	positive	WDI
Resources Seeking			
Naturalres	Total natural resources rents (% of GDP)	positive	WDI
Institutional Determinants	all variable is Ranging from approximately -2.5 to 2.5		
Control	Control of Corruption (COC)	. positive	WGI
Gov'teffective	Government Effectiveness	. positive	WGI
Polstab	Political Stability and Absence of Violence/Terrorism	. positive	WGI
Requlatoryqual	Regulatory Quality	. positive	WGI
Rule of Law:		. positive	WGI
Voice&acctb	Voice and Accountability	. positive	WGI
Inst index	PCA of all the six institutional variables above	. positive	Author calculation
Socio-economies inst.	PCA of control of corruption, rule of law, regulatory quality, voice and accountability.	. positive	Author calculation
Pol inst	PCA of voice and accountability, and political stability and avoidance of violence	. positive	Author calculation
Financial Determinants (all in index)			
Fin inst.depth	Financial Institution Depth (FID)	positive	IMF
Fin inst. access	Financial institution Access (FIA)	positive	IMF
Fin inst effncy	Financial Institution Efficiency (FIE)	positive	IMF
Fin inst. index	Financial Institution Index (FII)	positive	IMF
Fin mkt index	Financial Market Index (FMI)	positive	IMF
Financial devpt	Financial development index	positive	IMF

Continuation of Table B5

Table B4 continuation		positive	
Infrastructure Determinants			
Infrastructural reliability index	PCA of Individual using internet and internet user	positive	WDI
Infrastructural accessibility index	PCA of access to electricity % of population", "electric power consumption kwh per capital", "electric production % of total"	positive	WDI
Infrastructural availability index	PCA of mobile cellular subscription per 100 people", "fixed telephone subscription per 100 people"	positive	WDI
ICT	ICT service export (% of total goods export)	positive	WDI
Mobile	Mobile cellular subscriptions (per 100 people	positive	ITU
Electricity	Access to electricity (% of GDP)	positive	IEA Statistics
Internet	Individual using internet (% of population)	positive	WDI
GFCF	Gross fixed capital formation (% of GDP)	positive	WDI
Transport	Transport serv ices (% of service import, BOP)	positive	WDI
		positive	WDI
Control variable			WDI
Inflation	Inflation, consumer prices (annual %)	negative/positive	WDI
Openness	Trade (% of GDP)	positive	

Appendix 2

Table A1, present the list of African countries by political regime use in this study

Full Democracy	Flawed Democracy	Hybrid Regime	Authoritarian Regime
Mauritus	Botswana	Morocco	Algeria
	cape Verde	Tunisia	Egypt
	Ghana	Angola	Libya
	Lesotho	Benin	Burkina faso
	Namibia	cote d'lvoire	Burundi
	South Africa	Gambia	Cameroon
		Kenya	Cental African Rep.
		Liberia	Chad
		Madagascar	Comoros
		Malawi	Republic of congo
		Mauritania	Democratic of Congo
		Nigeria	Djibouti
		Senegal	Equatorial Guinea
		Sierra leone	Eritrea
		Tanzania	Eswatini

Source: Author, The Democracy Index (2022)

Continuation of Table A1

Full Democracy	Flawed Democracy	Hybrid Regime	Authoritarian Regime
		Uganda	Ethiopia
		Zambia	Gabon
			Guinea
			Guinea-Bissau
			Mali
			Mozambique
			Niger
			Rwanda
			Togo
			Zimbabwe

Source: Author, The Democracy Index (2022)

Table A2 present the list of countries base on Economic freedom.

List of African Countries Base on Economic Freedom		
Moderately free	Mostly unfree	Repressed
Cabo Verde	Benin	Liberia
Botswana	Seychelle	Egypt
Sao tome principle	Madagascar	Equatorial Guinea
Cote d'Ivoire	Morrocco	Ethiopia
Tanzania	Ghana	Republic of Congo
	Gambia	Dem. Of Congo
	Namibia	Zambia
	Senegal	Guinea-Bissau
	Burkina Faso	central Africa
	Djibouti	Algeria
	Gabon	Burundi
	South Africa	Eritrea
	Mauritia	Zimbabwe
	Togo	
	Eswatini	
	Mali	

Source: Economic Freedom Index (2022)

Continuation of table A2

Moderately free	Mostly unfree	Repressed
	Nigeria	
	Comoros	
	Guinea	
	Angola	
	Tunisia	
	Malawi	
	Mozambique	
	Kenya	
	Rwanda	
	Chad	
	Cameroon	
	Lesotho	
	Uganda	
	Sierra Leone	

Source: Economic Freedom Index (2022)

Table A3 present the list of countries base on Economic freedom

Easy of doing business	Medium of doing business	Below average of doing business
Kenya	Seychelles	Mali
Tunisia	Namibia	Benin
South Africa	Malawi	Burkina Faso
Zambia	Cote d'lvoire	Mauritania
Botswana	Djibouti	Gambia
Togo	Egypt	Guinea
	Uganda	Algeria
	Ghana	Ethiopia
	Eswatini	Comoros
	Lesotho	Madagascar
	Senegal	Sierra Leone
	Nigeria	Burundi
	Niger	Camerron

Source: Ease of Doing Business Index (2022

Continuation of Table A3

Easy of doing business	Medium of doing business	Below average of doing business
	Zimbabwe	Gabon
	Tanzania	Sao Tome and Principe
		Guinea-Bissau
		Liberia
		Angola
		Equatorial Guinea
		Congo
		Chad
		Democratic of Congo
		Central Africa Republic
		Libya
		Eritrea

Source: Ease of Doing Business Index (2022)

Table A4 present the list of countries base on Human development index

Low human development Index	Medium human development Index	High human development Index
Nigeria	Kenya	Egypt
Ethiopia	Uganda	South Africa
DR Congo	Morrocco	Algeria
Tanzania	Angola	Tunisia
Mozambique	Ghana	Libya
Madagascar	Cameroon	Botswana
cote d'Ivoire	Zambia	Mauritius
Niger	Zimbabwe	
Mali	Namibia	

Source : Human development index (2023)

Continuation of table A4

Low human development Index	Medium human development Index	High human development Index
Burkina Faso	Gabon	
Malawi	Equatoria Guinea	
Chad	Eswatini	
Senegal	Comoros	
Guinea	Cape Verde	
Benin	Sao Tome and Principle	
Rwanda		
Burundi		
Togo		
Sierra Leone		
Liberia		
Central Africa Republic		
Mauritania		
Eritea		
Gambia		
Lesotho		
Guinea Bissau		
Djibouti		

Source : Human development index (2023)

Appendix 3

Table A1 Show the list of Africa countries used in this study

List of Africa Countries use in this research work				
Angola	Comoros	Libya	Nigeria	Zambia
Burundi	Cabo Verde	Lesotho	Rwanda	Eritrea
Benin	Djibouti	Madagascar	Senegal	Equatorial Guinea
Burkina Faso	Gabon	Mali	Sierra Leone	South Africa
Botswana	Ghana	Mozambique	Sao Tome and Principe	Uganda
Central African Republic	Guinea	Mauritania	Eswatini	Egypt
Cote d'Ivoire	Gambia, The	Mauritius	Seychelles	Tunisia
Cameroon	Guinea-Bissau	Malawi	Chad	Algeria
Congo, Dem. Rep.	Kenya	Namibia	Togo	Ethiopia
Congo, Rep.	Liberia	Niger	Tanzania	MOROCCO
				Zimbabwe

Table A2 Variance Inflation Factor (VIF) for foreign direct investment choice - institutional distance as formal institution

Variable	VIF	1/VIF
$LnGDPPC_{t-1}$	1.51	0.66
Formal inst. (distance)$_{t-1}$	1.77	0.56
Trade $_{t-1}$	1.32	0.756
$Lnexchange_{t-1}$	1.83	0.55
$Resource_{t-1}$	1.35	0.74
informalinst	1.28	0.78
Lngeographic	1.16	0.86
$GDPG_{t-1}$	1.11	0.90
$Inflation_{t-1}$	1.80	0.55
Mean VIF	1.42	

Table A3 Variance Inflation Factor (VIF) for foreign direct investment choice - institutional quality of the host country as formal institution

Variable	VIF	1/VIF
$LnGDPPC_{t-1}$	1.98	0.50
Formal inst. $(inst.\ qual)_{t-1}$	2.40	0.42
$Openness_{t-1}$	1.30	0.77
$Lnexchange_{t-1}$	1.91	0.52
$Resource_{t-1}$	1.89	0.54
informalinst	1.14	0.873
Lngeographic	1.08	0.92
$GDPG_{t-1}$	1.11	0.89
$Inflation_{t-1}$	1.84	0.54
Mean VIF	1.57	

Table A4 Variance Inflation Factor (VIF) for foreign direct investment expenditure - institutional quality of the host country as formal institution

Variable	VIF	1/VIF
$LnGDPPC_{t-1}$	3.25	0.31
Formal inst. $(inst.\ qual)_{t-1}$	4.26	0.23
$Lnexchange_{t-1}$	3.20	0.24
$Resource_{t-1}$	3.15	0.32
informalinst.	1.12	0.88
Lngeographic	1.04	0.96
$GDPG_{t-1}$	1.40	0.71
$Inflation_{t-1}$	2.26	0.44
Mean VIF	2.27	

Table A5 Variance Inflation Factor (VIF) for foreign direct investment expenditure - institutional distance as formal institution

Variable	VIF	1/VIF
$LnGDPPC_{t-1}$	1.56	0.64
Formal inst. $(inst.\ Dist.)_{t-1}$	1.82	0.54
$Lnexchange_{t-1}$	2.72	0.36
$Resource_{t-1}$	1.65	0.60
Informalinst.	1.27	0.78
Lngeographic	1.08	0.92
$GDPG_{t-1}$	1.40	0.71
$Inflation_{t-1}$	2.15	0.46
Mean VIF	1.66	

Table A6 Principal Component Analysis for institutional quality

Components	Eigenvalue	Difference	Proportion	Cumulative
Government effectiveness	4.71	4.19	0.78	0.78
Control of corruption	0.52	0.12	0.09	0.87
Political stability	0.39	0.18	0.07	0.93
Regulatory quality	0.21	0.11	0.03	0.97
Rule of law	0.11	0.05	0.02	0.98
Voice and accountability	0.06	.	0.01	1.00
Number of observation 2550, RHO = 1.00, number of group = 6				

Source: Own Calculation

Table B1 Probit regression for Nonland locked countries (institutional distance)

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Formalinst $_{t-1}$	-0.216***	-0.312***	0.007	-0.0855*	-0.314***	-0.137	-0.026	0.033
	(0.000)	(0.000)	(0.940)	(0.050)	(0.000)	(0.374)	(0.671)	(0.567)
Informalinst.	0.005	0.015	0.006	-0.000	0.004	0.004	0.0155	-0.019
	(0.554)	(0.153)	(0.786)	(0.985)	(0.815)	(0.902)	(0.305)	(0.215)
LnGDPPC $_{t-1}$	0.000***	0.000***	0.000	0.000***	-0.000	-0.054	0.000***	0.000***
	(0.001)	(0.000)	(0.544)	(0.000)	(0.431)	(0.817)	(0.000)	(0.000)
GDPG $_{t-1}$	0.019**	0.009	0.024	0.017	-0.003	0.035	-0.006	0.003
	(0.026)	(0.303)	(0.180)	(0.106)	(0.861)	(0.327)	(0.640)	(0.851)
Resources $_{t-1}$	-0.018***	-0.015**	-0.005	-0.028***	0.000	0.009	-0.040***	-0.058***
	(0.001)	(0.024)	(0.717)	(0.000)	(0.976)	(0.740)	(0.000)	(0.000)
Openness $_{t-1}$	-0.013***	-0.027***	-0.002	-0.015***	-0.005	-0.030**	-0.019***	-0.019***
	(0.000)	(0.000)	(0.487)	(0.000)	(0.109)	(0.024)	(0.000)	(0.000)
Inflation $_{t-1}$	0.005	-0.011	0.020	-0.008	0.015	0.008	-0.019	-0.018
	(0.550)	(0.275)	(0.253)	(0.465)	(0.401)	(0.767)	(0.231)	(0.250)
Lngeograhic	-0.099	-0.213**	-0.000	0.046	-0.393**	0.332	0.122	0.320**
	(0.236)	(0.023)	(0.998)	(0.639)	(0.021)	(0.496)	(0.394)	(0.030)
N	1297	1305	1302	1305	1305	1305	1306	1305
log	-686.3	-511.80	-100.20	-483.94	-150.34	-38.26	-233.70	-244.96
R^2	0.14	0.216	0.03	0.12	0.11	0.21	0.20	0.20

Continuation of table B1

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Lnexchange $_{t-1}$	-0.517***	-0.716***	0.030	-0.629***	-0.342	-0.682	-0.718***	-1.036***
	(0.000)	(0.000)	(0.924)	(0.000)	(0.202)	(0.214)	(0.003)	(0.000)
Years dummie	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
constant	90.57***	93.63**	62.45	125.4***	56.63	216.5	285.7***	220.2***
	(0.006)	(0.013)	(0.407)	(0.001)	(0.393)	(0.154)	(0.000)	(0.000)
N	1297	1305	1302	1305	1305	1305	1306	1305
log	-686.3	-511.80	-100.20	-483.94	-150.34	-38.26	-233.70	-244.96
R^2	0.14	0.216	0.03	0.12	0.11	0.21	0.20	0.20

Table B2 Probit regression for Nonland lock (Institutional quality)

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Formalinst $_{t-1}$	0.536***	0.421***	0.175	0.428***	0.337**	0.545	0.159	0.216*
	(0.000)	(0.000)	(0.241)	(0.000)	(0.018)	(0.163)	(0.211)	(0.050)
Informalinst.	-0.018*	-0.013	0.004	-0.012	-0.025	-0.015	0.013	-0.018
	(0.055)	(0.216)	(0.845)	(0.254)	(0.127)	(0.667)	(0.353)	(0.204)
LnGDPPC $_{t-1}$	0.000	0.512***	-0.000	0.000	-0.000	-0.000	0.482***	0.000***
	(0.168)	(0.000)	(0.847)	(0.627)	(0.474)	(0.272)	(0.000)	(0.000)
GDPG $_{t-1}$	0.020**	0.019*	0.027	0.018	-0.003	0.045	0.000	0.003
	(0.020)	(0.076)	(0.152)	(0.104)	(0.868)	(0.410)	(0.983)	(0.864)
Resources $_{t-1}$	0.008	0.000	0.007	-0.003	0.002	0.032	-0.023*	-0.036***
	(0.229)	(0.976)	(0.611)	(0.654)	(0.854)	(0.339)	(0.092)	(0.009)
Openness $_{t-1}$	-0.017***	-0.029***	-0.002	-0.016***	-0.006*	-0.028**	-0.023***	-0.018***
	(0.000)	(0.000)	(0.557)	(0.000)	(0.068)	(0.032)	(0.000)	(0.000)
Inflation $_{t-1}$	0.007	-0.010	0.026	0.000	0.018	0.021	-0.023	-0.014
	(0.487)	(0.338)	(0.163)	(0.955)	(0.303)	(0.503)	(0.157)	(0.391)
Lngeograhic	0.031	0.037	-0.024	0.086	-0.156	0.454	0.159	0.290**
	(0.701)	(0.681)	(0.898)	(0.367)	(0.308)	(0.349)	(0.246)	(0.045)
N	1306	1305	1302	1305	1305	1305	1306	1305
log	-663.00	-492.50	-99.50	-471.98	-155.18	-37.37	-221.83	-243.19
R^2	0.20	0.25	0.03	0.15	0.08	0.23	0.20	0.21

Continuation of table B2

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Lnexchange $_{t-1}$	-0.492***	-0.718***	0.163	-0.446***	-0.406	-0.406	-0.655***	-0.876***
	(0.001)	(0.000)	(0.623)	(0.009)	(0.133)	(0.484)	(0.008)	(0.000)
Year dumm	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
constant	127.8***	118.9***	55.32	120.2***	74.63	175.8	308.7***	205.2***
	(0.000)	(0.002)	(0.458)	(0.002)	(0.254)	(0.226)	(0.000)	(0.000)
N	1306	1305	1302	1305	1305	1305	1306	1305
log	-663.00	-492.50	-99.50	-471.98	-155.18	-37.37	-221.83	-243.19
R^2	0.20	0.25	0.03	0.15	0.08	0.23	0.20	0.21

Table B3 Probit regression for Land lock countries (Institutional distance)

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Formalinst $_{t-1}$	-0.094	-0.154*	-0.052	0.021	-0.433*	-0.224	0.161	0.011
	(0.155)	(0.073)	(0.714)	(0.796)	(0.085)	(0.747)	(0.252)	(0.947)
Informalinst.	-0.018	0.020	0.011	-0.049**	0.045	-0.237	0.028	-0.021
	(0.333)	(0.380)	(0.781)	(0.044)	(0.459)	(0.213)	(0.487)	(0.640)
LnGDPPC $_{t-1}$	0.000***	0.000***	0.000	0.000**	0.000	0.580	0.000	0.000**
	(0.000)	(0.006)	(0.943)	(0.021)	(0.827)	(0.614)	(0.742)	(0.011)
GDPG $_{t-1}$	0.023	-0.001	0.016	0.003	-0.025	0.065	0.018	0.063
	(0.143)	(0.941)	(0.654)	(0.851)	(0.353)	(0.738)	(0.595)	(0.190)
Resources $_{t-1}$	-0.026*	-0.033	0.020	-0.070***	-0.021	0.122	-0.001	-0.164**
	(0.072)	(0.103)	(0.487)	(0.005)	(0.612)	(0.260)	(0.978)	(0.023)
Openness $_{t-1}$	-0.015***	-0.018***	-0.001	-0.015***	-0.005	-0.011	-0.005	-0.029***
	(0.000)	(0.000)	(0.868)	(0.000)	(0.558)	(0.714)	(0.408)	(0.002)
Inflation $_{t-1}$	-0.042**	-0.067***	-0.031	-0.016	-0.018	0.079	-0.047	-0.097**
	(0.022)	(0.004)	(0.511)	(0.460)	(0.752)	(0.641)	(0.239)	(0.041)
Lngeograhic	-0.424**	-0.548***	0.0404	-0.219	-0.946*	2.980	0.043	-0.538
	(0.013)	(0.005)	(0.926)	(0.266)	(0.054)	(0.280)	(0.912)	(0.118)
N	525	526	526	526	526	526	526	517
log	-233.96	-144.08	-40.12	-151.50	-26.35	-7.73	-49.63	-49.10
R^2	0.20	0.3	0.03	0.12	0.20	0.58	0.07	0.30

Continuation of table B3

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Lnexchange $_{t-1}$	-1.897***	-2.477***	0.180	-0.918**	-0.863	-3.382	-0.767	-1.903**
	(0.000)	(0.000)	(0.815)	(0.012)	(0.371)	(0.301)	(0.213)	(0.015)
Years dummi	-0.090***	-0.057	-0.048	-0.092**	-0.185*	-0.767	-0.058	-0.113
constant	193.7***	131.4*	93.10	191.2**	383.4*	1524.6	118.8	241.2
	(0.001)	(0.076)	(0.422)	(0.012)	(0.050)	(0.211)	(0.313)	(0.111)
N	525	526	526	526	526	526	526	517
log	-233.96	-144.08	-40.12	-151.50	-26.35	-7.73	-49.63	-49.10
R^2	0.20	0.3	0.03	0.12	0.20	0.58	0.07	0.30

Table B4 Probit regression Land Locked Countries (institutional quality)

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Formalinst $_{t-1}$	0.240**	0.313*	0.201	-0.027	0.609	1.018	-0.413	0.378
	(0.043)	(0.081)	(0.459)	(0.859)	(0.157)	(0.537)	(0.152)	(0.283)
Informalinst.	-0.034**	-0.005	0.004	-0.046**	-0.029	-0.217	0.054	-0.018
	(0.049)	(0.806)	(0.926)	(0.026)	(0.491)	(0.200)	(0.152)	(0.616)
LnGDPPC $_{t-1}$	0.000***	0.398**	-0.000	0.000**	-0.000	-0.000	0.307	0.000*
	(0.006)	(0.017)	(0.807)	(0.038)	(0.804)	(0.821)	(0.264)	(0.066)
GDPG $_{t-1}$	0.020	-0.004	0.011	0.003	-0.030	0.104	0.025	0.052
	(0.191)	(0.843)	(0.761)	(0.848)	(0.306)	(0.771)	(0.467)	(0.262)
Resources $_{t-1}$	-0.012	-0.007	0.032	-0.071**	0.001	0.131	-0.013	-0.120
	(0.469)	(0.731)	(0.345)	(0.016)	(0.986)	(0.328)	(0.716)	(0.129)
Openness $_{t-1}$	-0.017***	-0.021***	-0.001	-0.015***	-0.005	0.002	-0.007	-0.028***
	(0.000)	(0.000)	(0.876)	(0.000)	(0.549)	(0.952)	(0.255)	(0.004)
Inflation $_{t-1}$	-0.043**	-0.076***	-0.032	-0.016	-0.005	0.101	-0.062	-0.090*
	(0.022)	(0.002)	(0.521)	(0.458)	(0.928)	(0.615)	(0.138)	(0.059)
Lngeograhic	-0.364**	-0.453**	0.0518	-0.221	-0.756*	2.310	0.083	-0.641*
	(0.033)	(0.027)	(0.901)	(0.263)	(0.079)	(0.118)	(0.830)	(0.070)
N	526	526	526	526	526	526	526	517
log	-229.9	-139.42	-39.90	-151.52	-26.95	-7.739	-49.20	-48.51
R^2	0.20	0.30	0.04	0.12	0.20	0.58	0.08	0.30

Continuation of table B4

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Lnexchange $_{t-1}$	-1.848***	-2.429***	0.262	-0.923**	-0.840	-1.922	-1.028	-1.914**
	(0.000)	(0.000)	(0.745)	(0.014)	(0.395)	(0.671)	(0.122)	(0.019)
Years dummi	-0.096***	-0.057	-0.044	-0.092**	-0.182**	-0.633	-0.075	-0.098
constant	205.8***	127.1*	85.10	191.1**	375.2**	1257.3	150.0	212.6
	(0.000)	(0.091)	(0.460)	(0.014)	(0.048)	(0.304)	(0.232)	(0.167)
N	526	526	526	526	526	526	526	517
log	-229.9	-139.42	-39.90	-151.52	-26.95	-7.739	-49.20	-48.51
R^2	0.20	0.30	0.04	0.12	0.20	0.58	0.08	0.30

Appendix Table C Table C1 For robustness check logit regression (institutional distance)

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Formalinst $_{t-1}$	-0.327***	-0.468***	-0.023	-0.133*	-0.693***	-0.280	0.029	0.013
	(0.000)	(0.000)	(0.900)	(0.058)	(0.000)	(0.342)	(0.791)	(0.900)
Informalinst.	0.0025	0.029*	0.023	-0.008	0.029	-0.035	0.032	-0.031
	(0.859)	(0.072)	(0.620)	(0.643)	(0.415)	(0.625)	(0.271)	(0.267)
LnGDPPC $_{t-1}$	0.000***	0.000***	0.000	0.000***	-0.000	-0.000	0.000***	0.000***
	(0.000)	(0.000)	(0.758)	(0.000)	(0.911)	(0.357)	(0.000)	(0.000)
GDPG $_{t-1}$	0.033***	0.013	0.044	0.016	-0.026	0.140**	-0.005	0.006
	(0.009)	(0.392)	(0.228)	(0.331)	(0.403)	(0.044)	(0.838)	(0.836)
Resources $_{t-1}$	-0.039***	-0.046***	0.001	-0.074***	-0.019	0.041	-0.097***	-0.140***
	(0.000)	(0.000)	(0.983)	(0.000)	(0.501)	(0.415)	(0.000)	(0.000)
Openness $_{t-1}$	-0.032***	-0.047***	-0.0046	-0.031***	-0.014*	-0.031	-0.037***	-0.048***
	(0.000)	(0.000)	(0.486)	(0.000)	(0.052)	(0.105)	(0.000)	(0.000)
Inflation $_{t-1}$	-0.019	-0.036**	0.026	-0.018	0.026	0.063	-0.050	-0.054*
	(0.185)	(0.035)	(0.525)	(0.328)	(0.473)	(0.289)	(0.110)	(0.065)
Lngeograhic	-0.310**	-0.504***	0.052	-0.053	-0.902***	1.400	0.197	0.365
	(0.014)	(0.001)	(0.906)	(0.749)	(0.008)	(0.159)	(0.488)	(0.207)
observation	1832	1831	1828	1831	1831	1831	1832	1822
loglikelihood	-916.5	-671.8	-141.2	-636.7	-181.6	-54.3	-291.5	-294.8
R^2	0.20	0.22	0.02	0.12	0.11	0.20	0.13	0.22

The table show the result of the bilateral foreign direct investment choice of China, France, India, UK and USA to Africa. We use logit regression as a robustness check for probit and the result are consistent with the result in the main chapter. In the table the coefficient and p-value in bracket showing p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Continuation of table C1

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Lnexchange $_{t-1}$	-1.644***	-1.825***	0.153	-1.392***	-0.958*	-1.533	-1.645***	-2.483***
	(0.000)	(0.000)	(0.828)	(0.000)	(0.091)	(0.150)	(0.001)	(0.000)
Years dummi	-0.127***	-0.088***	-0.094	-0.135***	-0.125*	-0.223	-0.278***	-0.229***
constant	267.9***	191.5***	184.1	278.2***	261.4*	439.6	566.3***	469.6***
	(0.000)	(0.001)	(0.255)	(0.000)	(0.062)	(0.151)	(0.000)	(0.000)
observation	1832	1831	1828	1831	1831	1831	1832	1822
loglikelihood	-916.5	-671.8	-141.2	-636.7	-181.6	-54.3	-291.5	-294.8
R^2	0.20	0.22	0.02	0.12	0.11	0.20	0.13	0.22

*The table show the result of the bilateral foreign direct investment choice of China, France, India, UK and USA to Africa. We use logit regression as a robustness check for probit and the result are consistent with the result in the main chapter. In the table the coefficient and p-value in bracket showing p-*values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table C2 For robustness check logit regression (institutional quality)

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Formalinst $_{t-1}$	0.760***	0.863***	0.354	0.519***	0.655**	1.105*	0.333	0.374*
	(0.000)	(0.000)	(0.230)	(0.000)	(0.024)	(0.073)	(0.128)	(0.080)
Informalinst.	-0.036***	-0.022	0.016	-0.026	-0.044	-0.063	0.031	-0.033
	(0.007)	(0.146)	(0.707)	(0.113)	(0.188)	(0.373)	(0.243)	(0.204)
LnGDPPC $_{t-1}$	0.000***	0.000***	-0.000	0.000***	-0.000	-0.000	0.000***	0.000***
	(0.000)	(0.000)	(0.748)	(0.002)	(0.989)	(0.202)	(0.009)	(0.000)
GDPG $_{t-1}$	0.031**	0.001	0.046	0.013	-0.027	0.153*	-0.012	0.003
	(0.018)	(0.526)	(0.223)	(0.457)	(0.407)	(0.063)	(0.658)	(0.914)
Resources $_{t-1}$	-0.002	-0.009	0.024	-0.041**	-0.017	0.080	-0.067**	-0.103***
	(0.822)	(0.547)	(0.449)	(0.011)	(0.609)	(0.153)	(0.018)	(0.001)
Openness $_{t-1}$	-0.033***	-0.049***	-0.004	-0.032***	-0.016**	-0.030	-0.038***	-0.051***
	(0.000)	(0.000)	(0.529)	(0.000)	(0.033)	(0.130)	(0.000)	(0.000)
Inflation $_{t-1}$	-0.005	-0.018	0.038	-0.007	0.029	0.081	-0.045	-0.050*
	(0.707)	(0.291)	(0.362)	(0.716)	(0.413)	(0.188)	(0.170)	(0.100)
Lngeograhic	-0.180	-0.307**	0.009	-0.035	-0.467	1.448	0.139	0.289
	(0.143)	(0.035)	(0.981)	(0.830)	(0.130)	(0.139)	(0.614)	(0.316)
observation	1832	1831	1828	1831	1831	1831	1832	1822
loglikelihood	-903.3	-670.3	141.3	-630.4	-187.9	-53.15	-290.3	-293.2
R^2	0.17	0.22	0.02	0.13	0.08	0.21	0.13	0.23

The table show the result of the bilateral foreign direct investment choice of China, France, India, UK and USA to Africa. We use logit regression as a robustness check for probit and the result are consistent with the result in the main chapter. In the table the coefficient and p-value in bracket showing p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Continuation of table C2

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
Lnexchange $_{t-1}$	-1.451***	-1.650***	0.425	-1.192***	-1.187**	-1.089	-1.420***	-2.323***
	(0.000)	(0.000)	(0.565)	(0.000)	(0.041)	(0.314)	(0.004)	(0.000)
Years dummi	-0.128***	-0.088***	-0.087	-0.127***	-0.148**	-0.207	-0.267***	-0.219***
constant	267.9***	190.1***	169.3	262.3***	305.3**	405.1	543.3***	450.0***
	(0.000)	(0.001)	(0.286)	(0.000)	(0.029)	(0.155)	(0.000)	(0.000)
observation	1832	1831	1828	1831	1831	1831	1832	1822
loglikelihood	-903.3	-670.3	141.3	-630.4	-187.9	-53.15	-290.3	-293.2
R^2	0.17	0.22	0.02	0.13	0.08	0.21	0.13	0.23

*The table show the result of the bilateral foreign direct investment choice of China, France, India, UK and USA to Africa. We use logit regression as a robustness check for probit and the result are consistent with the result in the main chapter. In the table the coefficient and p-value in bracket showing p-*values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table C3 PPML for traditional economies

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
$Formalinst_{t-1}$	-0.155	0.250		0.681**			0.594*	0.152
	(0.513)	(0.275)		(0.028)			(0.092)	(0.558)
informalinst	0.193***	0.059		0.184***			-0.180	0.084
	(0.005)	(0.136)		(0.008)			(0.189)	(0.246)
$LnGDPPC_{t-1}$	-0.000	0.000		-1.091*		0.000	-0.000**	-0.000
	(0.115)	(0.784)		(0.081)		(0.341)	(0.045)	(0.825)
$GDPG_{t-1}$	0.084	0.214***		0.016		0.686***	-0.058	-0.006
	(0.203)	(0.006)		(0.820)		(0.000)	(0.630)	(0.943)
$Resources_{t-1}$	0.126**	0.0114		0.085*		0.416***	-0.028	0.027
	(0.019)	(0.667)		(0.070)		(0.004)	(0.642)	(0.707)
$Inflation_{t-1}$	0.153*	0.121**		0.075*		0.575**	0.026	-0.053
	(0.057)	(0.050)		(0.077)		(0.014)	(0.590)	(0.568)
Lngeographi	-1.234**	-0.985***		-1.926***			-0.432	1.492***
	(0.020)	(0.000)		(0.001)			(0.377)	(0.002)
observati	262	164	6	204	6	32	94	35
R^2	0.487	0.744	.	0.596	.	0.862	0.676	0.569

Continuation table C3

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total Investment	Manufacture Sector	Mining Sector	Services Sector	construction Sector	Agriculture Sector	Banking Sector	Infrastructure Sector
$Lnexchange_{t-1}$	1.937*	0.430		-0.0308		16.76**	-1.662	1.437
	(0.096)	(0.655)		(0.962)		(0.018)	(0.106)	(0.183)
Mill ratio	0.892	1.531***		0.663		-5.231	-4.212***	-1.109**
	(0.269)	(0.000)		(0.125)		(0.100)	(0.001)	(0.033)
year dummies	Yes	Yes		Yes		Yes	Yes	Yes
_cons	262.7	344.3*	8.012***	100.5	4.821***	-140.2	430.8**	-38.85
	(0.281)	(0.056)	(0.000)	(0.775)	(0.000)	(0.459)	(0.045)	(0.887)
observati	262	164	6	204	6	32	94	35
R^2	0.487	0.744	.	0.596	.	0.862	0.676	0.569

p-values in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0$