THE FACTORS AFFECTING THE INFLOWS OF FOREIGN DIRECT INVESTMENT (FDI) IN SUB-SAHARAN AFRICA: EVIDENCE FROM SIX AMONG THE TOP TEN FDI RECIPIENT COUNTRIES

USMAN SULEIMAN

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BY
USMAN SULEIMAN

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**Othman Yeop Abdullah
Graduate School of Business**

Universiti Utara Malaysia

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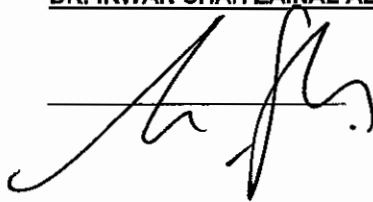*(Candidate for the degree of)*
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Abstract

This study examines the factors affecting the inflows of foreign direct investment in Sub-Saharan Africa: evidence from the six among the top ten FDI recipient countries, namely, Cote d'Ivoire, Democratic Republic of Congo, Ghana, Nigeria, South Africa, and Sudan for the period 1980-2011. The analysis of the study employed secondary data obtained from the World Bank African Development Indicator, United Nation Conference on Trade, and Development. The study used Dunning's (1977) eclectic paradigm, the panel cointegration approach and granger causality test for the empirical estimations. The empirical results show that trade openness, infrastructural facilities, human capital development, exchange rate and market size are the important determinants of inflows of FDI to the individual country while trade openness, infrastructural facilities and market size are the important determinants of inflows of FDI to them as a group. The findings of this study suggest that the policy makers and other stakeholders should encourage the non-market seeking FDIs and facilitate the ease of doing business in the region through addressing trade barriers and provision of incentives to the investors.

Keywords: FDI inflows, Granger causality, Fully Modified Ordinary Least Squares, Sub-Saharan Africa

Abstrak

Kajian ini mengkaji faktor-faktor yang mempengaruhi aliran masuk pelaburan pelaburan langsung asing di Sub-Sahara Afrika: bukti enam daripada sepuluh negara utama yang menerima aliran masuk pelaburan, iaitu, Cote d'Ivoire, Republik Demokratik Congo, Ghana, Nigeria, Afrika Selatan dan Sudan bagi tempoh 1980-2011. Kajian ini menggunakan kaedah analisis data sekunder yang diperoleh daripada Petunjuk Pembangunan Afrika Bank Dunia, Persidangan Bangsa-Bangsa Bersatu mengenai Perdagangan dan Pembangunan. Kajian ini menggunakan paradigma eklektik Dunning (1977) paradigma eklektik dan pendekatan panel kointegrasi dan ujian kesan Granger untuk anggaran empirikal. Hasil kajian menunjukkan bahawa keterbukaan perdagangan, kemudahan infrastruktur, pembangunan modal insan, kadar pertukaran dan saiz pasaran adalah penentu penting dalam aliran masuk *FDI* ke sesebuah negara manakala keterbukaan perdagangan, kemudahan infrastruktur dan saiz pasaran adalah penentu penting dalam aliran masuk FDI sebagai satu kumpulan. Hasil dapatan kajian ini mencadangkan pihak berkepentingan dan pembuat dasar perlu beri galakan kepada pasaran yang sumber utamanya bukan FDI dan membantu memudahkan perniagaan di kawasan ini dengan menangani halangan perdagangan dan memberi peruntukan insentif kepada pelabur.

Kata kunci: aliran masuk FDI, *Granger* sebab akibat, *Fully Modified Squares Ordinary Least, Sub-Sahara Afrika*

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List of Abbreviations

ADF	Augmented Dickey-Fuller
ARDL	Autoregressive Distributed Lag
BRISC	Brazil, Russia, India, China, and South Africa
CEEC	Central and Eastern European Countries
ECM	Error Correction Model
EU	European Union
FTA	Free Trade Agreement
FDI	Foreign Direct Investment
FE	Fixed Effects
FMOLS	Fully Modified Ordinary Least Square
GARCH	Generalized Auto Regressive Conditional Heteroskedasticity
GDP	Gross Domestic Product
GLS	Generalized Least Square
GMM	Generalized Method of Moments
HC	Human Capital
IMF	International Monetary Fund
INF	Inflation Rate
IPS	Im, Pesaran and Shin Unit Root
ISI	Import Substitution Strategy
LLC	Levin,Lin and Chut
MENA	Middle East and North Africa
MINT	Mexico, Indonesia, Nigeria, and Turkey

MNEs	Multinational Enterprises
MNCs	Multinational Corporations
OECD	Organization for Economic Cooperation and Development
OLS	Ordinary Least Squares
R&D	Research and Development
RER	Real Exchange Rate
RIR	Real Interest Rate
SAP	Structural Adjustment Program
SSA	Sub-Saharan Africa
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development.
US	United States
VAR	Vector Autoregressive Model
VECM	Vector Error Correction Model
WAC's	West African Countries
WDI	World Development Indicators
WTO	world Trade Organization

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Over the years FDI has been the integral part of the world source of investment. Evidence has shown that within the last two decades the world has experienced upward increased in FDI from $59 billion in 1982 to $651 in 2002. Thus, it is very vital for countries to attract FDI at all levels of their development (Ali, Chaudhri, & Tasneem, 2013).

Moreover, the rapid growth of global inflows of FDI across countries for some decades rose to $207.7 billion in 1990 and reached to the highest level of $1.402 trillion in 2000 which was greater than $54.1 billion in 1980. However, the FDI inflows declined to $565.7 billion in 2003 commencing from 2001 and drastically fall to $2100 in 2007.The consequences of global financial crisis influenced the global fall of FDI inflows in 2010 to $1.409 trillion. With regards to world records of FDI still showed a decline in FDI by 18 percent in 2012 after economic recovery in 2011. The global FDI in 2012 was $1.330 trillion against $1.700 trillion in 2011. The world experienced the returned of FDI growth after the crash in FDI in 2012 by taken several economic policies in 2013, the FDI inflows rose by 9 percent to $1.45trillion (UNCTADS, 2014).

It has been argued that FDI in developing countries has been viewed as the main instrument used for achieving positive economic growth and it facilitates the upward increase in domestic investment. It also paved way for human capital and institutional advancement in

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developing countries. The international trade encourages the efficient provision of goods and services through shifting of production to other countries that enjoy the comparative advantage in their production process (Amoro, Mingaine & Shen, 2013).

It has been confirmed that countries possessing a good developed infrastructure tend to be more attractive in the sight of foreign investors. It has also been identified that having good infrastructural facilities decreases the transaction costs thereby help to attract more inflows of international investors (Wich, 2012; Osakwe, 2005). Similarly, the study of Kaur, Yadav, & Gautan (2013) discovered the important role plays by physical infrastructural variables such as improved communication facilities, rail way and road facilities attract the FDI inflows.

Moreover, the macroeconomic stability helps in attracting FDI inflows into host countries. The variables such as exchange rate, interest rate and inflation are usually used to measure the the economic stability. The study of DE Mello (1997) confirmed that good economic environment accelerates the inflows of FDI while volatile economic environment discourages it. The increase in inflation leads to the rise in the cost of production/user cost of production thus, reduces the level of profit of the foreign investors. Tolentino (2010) shared the same views that there are two essential channels through which exchange rate affect FDI; the wealth impact channel and relative production cost. A deterioration of the host nation money causes a decrease in domestic production costs. With respect to international currency which likewise raises the gains of export-orientated FDI. The higher returns normally pull in more FDI inflows.

Furthermore, the market size of the host nations is one of the important variable that attracts FDI inflows due to the target of MNCs to reach out the growing demand of their products. The study of Alemu (2012) confirmed that the objectives of MNCs is to acquire market of their goods. Market size refers to the potential home demand for their commodities along with favorable economic conditions of the host nation which is essential for FDI.

However, Hills (2011) observed that what limit the flows of FDI in African countries was their radical measures they took against foreign Direct investment soon after gaining their independence from late 1950s to 1970s and the time tally with the era when socialism was seen as an economic way of reasoning, many African countries took immediate drastic measures on FDI by nationalizing the international-owned firms into state owned after independence. However, the radical view on FDI tends to disappear by the late 1980s and this could be attributed to the collapse of communism. Consequently, these countries embraced capitalism against communism and inversely promote foreign direct investment through privatization procedure.

A study on FDI in SSA countries which focus on the home and private direct investment across Sub-Saharan African nations was carried out. The cut of their world FDI inflows stood at 0.4% between 1990 to 2000, 2004 to 2005 stood at 24%. The most essential reasons relate to the structural and socio-political conditions. Their saving ratio in 2009 is 18.1% while inflation rate was 7.4%.the findings of the study reveals that macroeconomic reforms influence the FDI inflows; privatization procedure has prompted a tremendous capital speculation increment while 59 points of investors' risks in 2001 was due to social and political instability, wars, and pervasive corruption. The study also suggests the

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possible solution to attract FDI streams through some adjustments to curtail corruption, respect of the rule of laws, promoting good governance and eradication of violence. Lastly the provision of infrastructure needed for investment (Nosseyamba Benjamin, 2012).

1.1.1 Over View of Sub-Saharan Africa

Sub-Saharan Africa comprises the countries that are located south to the Sahara known as desert. Politically, the region comprises 49 out of 54 countries of Africa. In a nut shell, it includes all the African countries that are located partly or fully south to the Sahara while the remaining five are known as North African Arab countries (Egypt, Morocco, Algeria, Tunisia, and Libya) as shown in figure 1. Sub-Saharan Africa is the highest populous region in Africa with estimated population of 845 million and grows at 2.67% annually in 2010. Among the nations, Nigeria has the highest population with estimated population of 162 million which is 19.19% of the total population of the region; Congo is the second with 70.9 million that is 8.39% of the total population. The smallest populated country is Seychelles with 0.088million and 1.04% of the total population pertaining to the economic structure of the region agriculture remains their main economic of stay (Olatunji, 2015).

Figure 1.1
Map of Sub-Saharan Africa
Source (world map.org)

From the view of UNCTAD (2010) statistics revealed that primary sector of the region which is occupied mostly by agricultural activities contributed 40% of the region GDP while the secondary sector 25% and tertiary sector accounted 35%. The economy of the region is characterized into four main categories;

(i) Agriculture and Agro-allied sector which is under full potential utilization

(ii) Oil and mining sector

(iii) Dynamic and big informal sector

(iv) Under-developed manufacturing and services sector.

Despite of good success in 1960s and early70s, the conditions of Africa remain unchanged instead it is getting poorer. The real per capita GDP on average did not grow for the period between 1965 to 1990 while the per capita GDP growth in pacific and East Asia was over five percent and almost two percent growth per annum in Latin America (Easterly and Levine, 1997). The average country in low income country is richer than an average SSA country hence the average rate of growth in SSA has been negative since 1965, also there is almost a 35-fold wide difference between SSA countries' per capita income level and US (Acemoglu, Johnson, and Robinson, 2001). the empirical work on poor performance of SSA has been linked to executive power constraints coupled with the threat of democratic stability (Collier and Hoeffler, 2004), pervasive corruption, weak governance, and institutions (Jakobsen, De Soysa, and Jakobsen, (2013). contrary to this poor performance background of SSA countries there are some that performed well.

Table 1.1
Sub-Saharan African Countries in Comparative perspectives (1970-2010)

Countries	GDP	GDP growth per capita	Life expectancy at Birth
Benin	331.59	0.67	49
Botswana	2229.55	6.24	57
Burkina Faso	186.85	1.61	48
Cameroon	629.81	1.08	51
Central African Rep	284.36	-0.86	46
Comoros	384.65	-	55
Cote' d'voire	736.25	-0.70	51
Ethiopia	140.56	1.88	48
Gambia	593.29	0.72	51
Ghana	256.10	0.65	56
Guinea-Bissau	186.66	0.13	43
Kenya	416.26	1.05	56
Lesotho	330.39	2.72	52
Madagascar	296.25	-1.22	54
Malawi	148.15	1.11	46
Mali	206.83	1.36	43
Mauritania	530.26	0.28	54
Mauritius	2782.74	3.52	69
Mozambique	224.46	2.42	44
Namibia	2186.44	0.68	58
Niger	206.60	-1.13	44
Nigeria	386.31	1.8	46
Rwanda	243.62	1.91	43
Senegal	506.49	0.22	51
Seychelles	5503.27	3.31	64

Table 1.1 (Continued)

Sierra-Leone	201.01	0.32	41
South Africa	3379.86	0.57	56
Togo	282.58	-0.14	51
Swaziland	1175.41	2.99	53
Zambia	421.73	-0.58	48
Zimbabwe	487.8	-0.50	54

Source: World Bank Development indicators

The table 1.1 above shows the Sub-Saharan African Countries in Comparative Perspective (1970-2010) have given the insight of individual performance of SSA countries in comparative view point, it is clear that Southern African countries such as (Botswana, Swaziland, Seychelles, Mauritius) have performed better than their west African counterpart(e.g. Burkina-Faso, Benin, Cote' d'voire, Mali, Guinea-Bissau, Niger, Togo and Nigeria) and East Africa such as (e.g. Burundi, Central African Republic, Comoros, Rwanda, Zimbabwe and Zambia).

Moreover, they also enjoy a better life expectancy than other regions and the performance of their economy is wonderful due to the adaptation of open trade policy which led them to have performed better than the rest of other regions with a wide margin, the success behind these could have been associated with their achievements in their export processing industries, particularly textiles, sugar and apparel. Thus, this corroborate with the findings of Sachs and Warner (1997).

Another important reason for the growth of these countries was the export of uranium, diamonds, and agricultural produce, for example Namibia happened to be the one of the

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top twenty mining states in the world and the diamond and uranium are the highest valued commodities (UNCTAD, 2010). Also, diamonds have been the contributing factor for Botswana's growth which at present account for about 40% of the country's GDP.

The study of Henry, Kneller, and Milner (2009), carried out on 57 developing countries covering the period of 1970 to 1998, revealed that Mauritius was among the top 10 efficient countries out of the sample in 1995 while some of the other countries having abundance natural resources in the region (Niger, Nigeria, Ghana, Sierra Leone), turn out to be a curse than a blessing. it appears that there is highest level of consensus that rapid growth was achieved by southern part of SSA due to having ability to adopt and manage good policies couple with the absence of civil wars or severe fighting to have control of their revenues deriving from their natural resources. There exist a good basic legal system and the government maintained small public service structure which was developed into having efficient bureaucracy and a relative low level of corruption.

Looking at the World Investment Report (2006) carried out by UNCTAD affirms that the aggregate inflows of FDI to developing nations increased by 22% to $334 billion in 2005. Furthermore, the aggregate FDI inflows to developing economies rose to $499 billion in 2007 of which SSA countries received about $33 billion. Another study revealed that the average inflows of FDI as a per cent of GDP to the SSA between 1980 and 2003 was 1.27 percent with the highest share recorded in 2003 at 2.94 per cent. many findings of empirical studies have revealed that the significance of openness as well as good infrastructural facilities cannot be ignored in the drawing more FDI inflows (Ng'ang'a, 2005 and Asiedu, 2002).

Furthermore, many authors have argued that international trade or FDI helps host countries in achieving higher levels of investment above their own home savings level. Especially, the current literature emphases its role in transferring modern technology along with innovation from developed nations to developing ones (see for example, Mankiw et al., 1992; Feenstra and Hanson, 1997).

It has been widely established also that closed economies grow slow compared to opened ones. Most of Sub-Saharan Africa got their independence in late 1950s and early 1960s and they employed the indigenization and nationalization policies trying to prevent foreign domination on their economy, the early 1980s witnessed the import substitution strategies (ISI) due to The emergence of globalization that made interdependence among countries, Sub-Saharan Africa region was not in exception and that made them thought otherwise by trying to influence the foreign investors to invest in the region through the implementation of Structural Adjustment Program (SAP) (Olatunji, 2015).

The concept of globalization was highlighted by Fischer (2003), that globalization is defined as the "ongoing process of greater economic interdependence among countries which metamorphose into the rising of cross-border trade in goods and services, the increasing volume of international financial streams and increasing streams of labor".

The necessity of macroeconomic reforms in mid 1980s was irrevocable for most of the SSA countries due to the poor stage of their social and economic condition of their nations this pave way for the imposition of adjustment reforms via the assistance of multilateral development agencies with the view for facilitating economic growth through provision of

incentives and policies that produce higher rate of savings, investment and export that centered around economic liberalization. The reforms focus on the efficient performance of market and prices that usher private enterprises but the overall performance falls to meet the desired needs as well as achieving potentials of the region while critical socio-economic difficulties prevails (Michałowski, 2012).

The concept of trade openness has been perceived differently by many scholars but according to Stensnes (2006), perceived that it would be more exact to define openness in relation to barriers to international trade imposed by governments.

Another study established that the issue of openness has been one of the major factors affecting the inflows of FDI in Africa. Morocco and South Africa happened to be the most recipient FDI countries in the region but are ranked 27 and 22 respectively out of 50 countries. Most of African countries witnessed the unilateral liberalization through structural adjustment program coupled with the regional arrangements as well as multilateral systems, among which is the world trade organization (WTO). Although Africa has been marginalized, cross-border trade in services appreciates. However, the barriers to it remain a major obstacle in influencing inflows of FDI (Kandiero and Chitiga, 2006; Liargovas and Skandalis 2012).

However, Sakwut et al., (2007) confirmed that openness had positive effect on FDI, also recommending that enabling and conducive environment that pave way for more trade openness tends to attract MNCs. The nature of the relationship could also be seen in a scatter plot in figure 1.2 below.
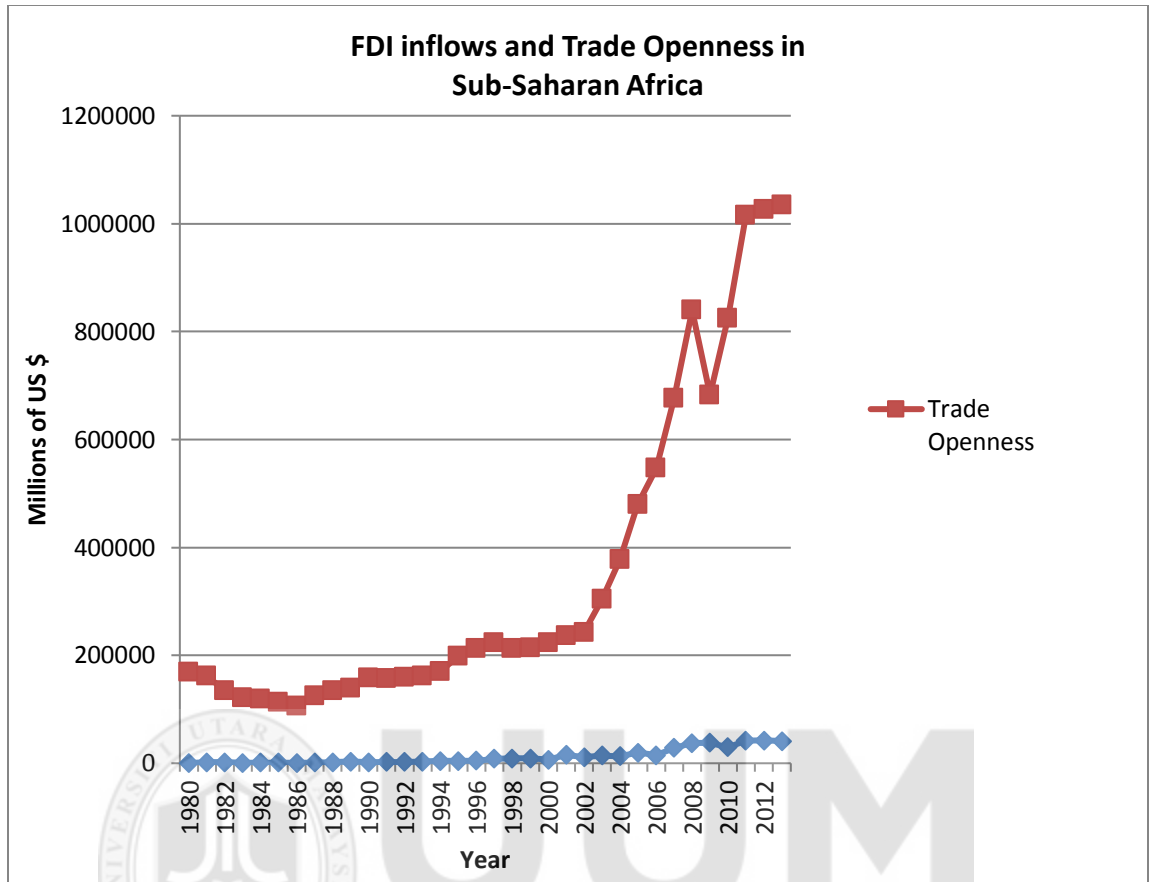
Figure 1.2
Relationship Between Trade Openness and FDI in Sub-Saharan Africa
Source: Author's, using UNCTADStat online data 02 November, 2016

The above scatter plot figure described the nature of relationship between the FDI and Trade Openness in the Sub-Saharan African region over three decades and which correspond to the theories of FDI and the findings of many empirical studies that established the positive association between them.

1.1.2 Classification of Countries in Sub-Saharan Africa

Sub-Saharan Africa countries are classified based on their level of endowed mineral resources and they are classified into two groups, which include those that are rich in mineral resources and poorly endowed as shown below in the table 1.2 below;

Table 1.2
Classification of Countries in Sub-Saharan Africa

Mineral- Rich Economies		Mineral-Poor Economies	
Angola	Mauritania	Benin	Malawi
Botswana	Namibia	Burkina Faso	Mali
Cameroon	Niger	Burundi	Mauritius
Central African Republic	Nigeria	Cape Verde	Mozambique
Chad	Republic of Congo	Comoros	Rwanda
Democratic Republic of Congo	Sierra Leone	Cote d'Ivoire	Senegal
Equatorial Guinea	South Africa	Ethiopia	Swaziland
Gabon	Sudan	Ghana	Gambia
Guinea	Tanzania	Guinea-Bissau	Togo
Lesotho	Uganda	Kenya	Zimbabwe
Liberia	Zambia		Madagasca

Source: Pinkovskiy and Sala-i-Martin (2010).

Considering the large number of the countries in Sub-Saharan Africa couple with the limited availability of relevant data, this study focused on the only six among the top ten FDI recipients' countries in Sub-Saharan Africa. The inflows of FDI in the area proved to be unevenly distributed among the top ten recipients, the first five top recipients as per the

table 1.3 below accounted for 69.0% of the total inflows of FDI stock with South Africa having the lion's share of 35.9% and Nigeria which was the second with only 16% while the remaining five countries accounted for only 11%. However, it is clearly shown that South Africa played most significant role in attracting FDI inflows amongst the top ten recipients as shown in the table below;

Table 1.3
Top 10 recipients of FDI in Sub-Saharan Africa

Country	FDI inward stock in millions of US$(2010)	FDI inward stock as percent of total FDI inward stock of Sub-Saharan Africa
South Africa	132396.4	35.9
Nigeria	60326.7	16.4
Angola	25027.7	6.8
Sudan	20742.7	5.6
Republic of the Congo	15982.6	4.3
Ghana	9098.0	2.5
Zambia	8514.9	2.3
United Rep of Tanzania	7966.3	2.2
Equatorial Guinea	7373.6	2.0
Cote d'Ivoire	6640.8	1.8

Source: UNCTAD (2012)

1.1.3 Foreign Direct Investment and Current Trends in Africa

The aggregate foreign direct investment has expanded in the 1980s both in supreme and relative terms. It has additionally turned out to be broadly scattered among outward investors and beneficiary nations. Aggregate inflows of FDI to developing nations expanded from $3.5 billion in 1970 to $16.2 billion in 2002. The distribution of FDI inflows Amongst the developing nations, is uneven. Figure 1.3 demonstrates the pattern of inflows of FDI to Africa, Asia, and Latin America. Beginning from comparable levels in

the 1970s, yearly inflow to Africa fallen a long way behind Asia and Latin America. In 1970 for instance, the normal FDI inflows to Africa was $1 billion against $1.6 billion and $3.3 billion obtained by Asia and Latin America as well as the Caribbean islands, respectively.

However, in 1980s, the sum got by African nations declined while the sum gotten by Latin America and Asia extended remarkably. Subsequently, Africa's portion of FDI inflows among the developing nations diminished from 20 % in 1970s to 9.8 % in 1980s and to 5.5 % in 1990s. Starting in the 1980s Africa has been left behind other developing regions as far as its relative worth of FDI inflows. In the 1990s, the difference expanded broadly when the overall world surge in FDI streams to developing nations by-passed the Area (UNCTAD, 2005; Sukar, Ahmed & Hassan, 2007).

FDI inflows to Africa are little in supreme terms, however, it has more effect on their economies than what the supreme figure recommends. The mean share of FDI streams in gross domestic capital formation stood at 13.9 % (UNCTAD, 2012).

Furthermore, the success of growth in foreign investments in Africa after close to ten years declined from $72 billion in 2008 to $59 billion in 2009. Thus, there was 19 % declined in the inflows of FDI in 2009 against 2008 because of world economic downturn. It also led to another decline in FDI inflows in 2010 to $44 billion. The existence of economic recovery thereafter in 2011 pave way for the appreciation of foreign investment flows to Africa by 3.6% in 2013 leading to achieving $57 billion greater than what was achieved in

2012 $55. In terms of global aggregate inflows of FDI as of 2013 Africa attracts only 3.9% (UNCTAD, 2014).
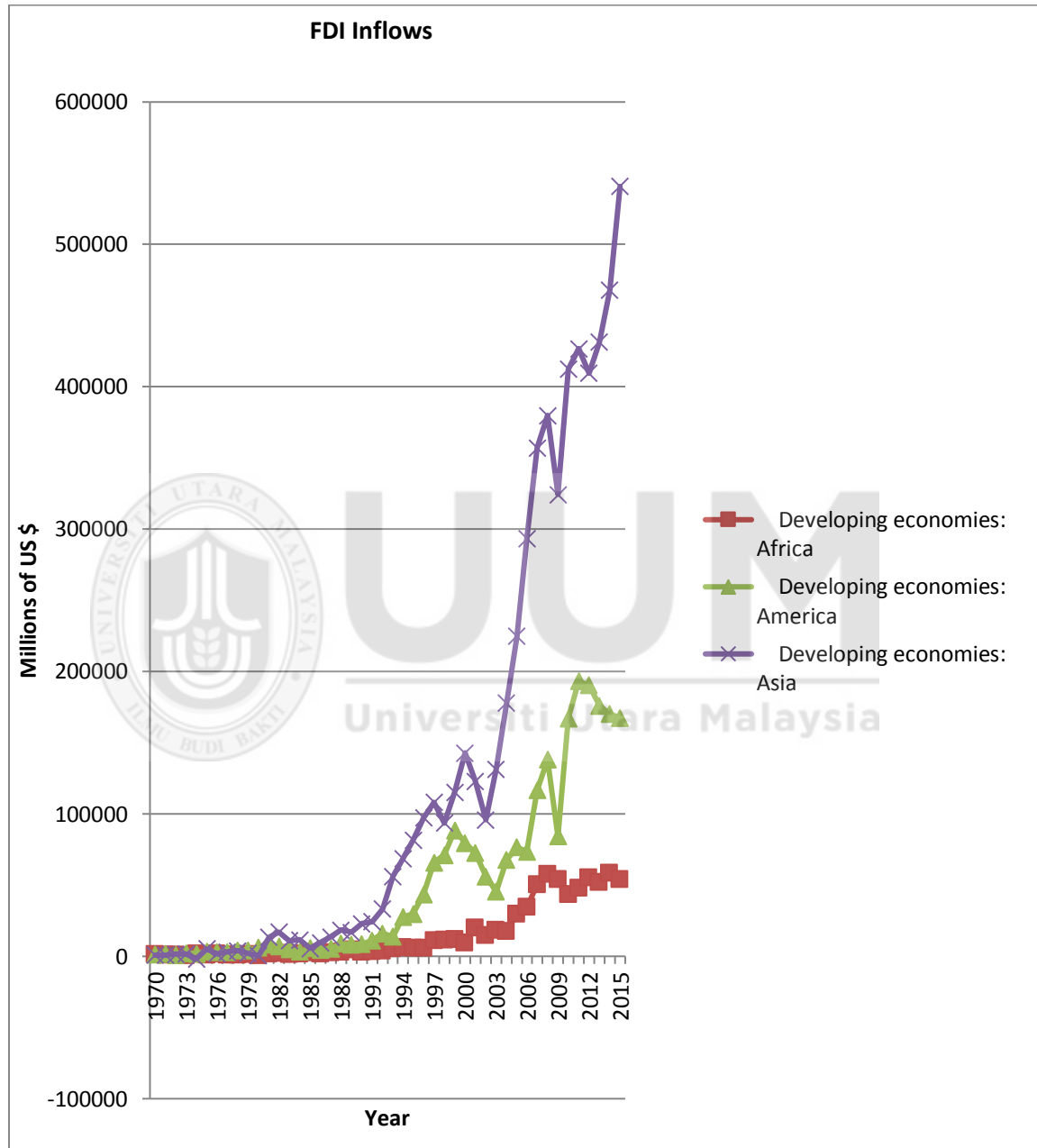
Figure 1.3
FDI inflows to Africa, Asia, and Latin America
Source: Author's, using UNCTADStat online data 02 Nvember, 2016.

However, Sub-Saharan Africa being part of Africa achieved increased in FDI inflows in 2011 from \$29.5 billion and rose to \$36.9 billion but it remains very low relative to the other regions of the world sharing similar degree of development as shown in the figure 1.3. The concentration of these inflows goes to Nigeria, Ghana, and South Africa. Nigeria alone received more than one-fifth of all inflows that goes to the region (UNCTAD, 2012). As shown in figure 1.3, the largest part of all the FDI inflows to developing nations goes to East and South Asia then Latin American while Africa comes last with having relatively lowest share FDI inflows.

Anyanwu (2011) provide the evidence that shows Africa has never enjoyed being the major beneficiary of FDI inflows as against other parts of the world. The region's share of FDI on yearly average basis stood at 2.6 % between 1980 to1989; 1.9% between 1990 to 1999; and 3.2 % in 2000-2009. While at the same time its Asian counterpart received the FDI inflows of 14.2%, 19.1% and 19.1% of aggregate world inflows respectively. This could be seen clearly in figure 1.3.

1.2 Problem Statement

The FDI inflows in Africa has been drastically falling from 1970s to date relative to its counter parts of Asia and Latin America as shown in figure 1.3. Thus, the in ability of the region to attract more FDI inflows has to do with the policies of indigenization, nationalization and privatization employed by most of the Sub-Saharan Africa to protect their economies against foreign domination in one hand and to promote more FDI inflows on the other hand.

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The statistic we got from UNCTAD (2005) proved that the Africa was left far behind by its counterpart even though they shared the same level of development in 1970s. The FDI inflows in 1970s to Africa was $1 billion, Asia $1.6 billion and $3.3 billion for Latin America and Caribbean. In 1980s the inflows to Africa declined while the sum obtained by Asia, Latin America and the Caribbean impressively appreciated. The Africa's share of FDI inflows declined from 20% in 1970s to 9.8% in 1980s and to 5.5% in 1990s.

Anyanwu (2011) provides the statistics of FDI inflows share to Africa on yearly average basis between 1980 to 1989 was 2.6%, 1990 to 1999 was 1.9% and 2000 to 2009 was 3.2% while at the same time Asia had 14.2%,19.1% and 19.1% respectively. UNCTAD (2014) shows that the share of Africa's FDI inflows declined from $72 billion in 2008 to $59 billion in 2009. there was declined of 19% in FDI inflows in 2009 against 2008 due global economic downturn leading to another declined in 2010 to $44 billion. The recovery of world economy in 2011 increased the FDI inflows by 3.6% in 2013 to $57 billion greater than what was achieved in 2012 $55 billion. In terms of aggregate global FDI inflows as of 2013 Africa attracts only 3.9%.

Similarly, Sub-Saharan African being part of Africa achieved increase in FDI inflows in 2011 from $29.5 billion to $36.9 but remain very low compared to other regions such as Asia and Latin America shown in figure 1.3.

However, the global inflows of FDI according to UNCTAD (2014) shows that in 1980 was 54.1 billion and in 1990 was $207.7 billion and in 2000 was $1.402 trillion. the FDI inflows declined to $565.7 billion in 2003 commencing from 2001 and drastically fall to $2100 in

2007.The consequences of global financial crisis influenced the global fall of FDI inflows in 2010 to $1.409 trillion. With regards to world records of FDI still showed a decline in FDI by 18 percent in 2012 after economic recovery in 2011. The global FDI in 2012 was $1.330 trillion against $1.700 trillion in 2011. The world experienced the returned of FDI growth after the crash in FDI in 2012 by taken several economic policies in 2013, the FDI inflows rose by 9 percent to $1.45trillion. considering the global FDI inflows the Sub-Saharan Africa attract very low FDI inflows.

Another factor is that the emergence of globalization pave way for the interdependence among countries leading to trade openness and exchange rate era. Though SSA countries embrace it through Structural Adjustment Program to facilitate more FDI inflows. The desired inflows of FDI is not achieved because there are differences between the development objectives of the host countries with the objectives of the investors even when there are conducive and favorable atmosphere. The justification of this is the effort of the Nigerian president to attract more foreign investment into Nigeria in 2016 he assured the investors for bringing them on board in making the environment conducive for investment through the removal of any impediment that could affect the inflows of FDI in the country and ensuring them the achievement of their objectives. While the response of the investors was that the eyes of them focus on Africa and they consider it to be the next possible place for growth.

The search for foreign direct investment among Sub-Saharan Africa is very essential due to the poor stage of their social and economic conditions in mid 1980s. This made them to have macroeconomic reforms to facilitate the economic growth via provision of incentives

and policies and good economic environment (good infrastructural facilities, Human capital development and market size) that produce higher rate of savings, investment and export that centered around economic liberalization. The target of these reforms was to usher private enterprises but it fails to meet the desired objectives while the socio-economic difficulties prevails.

The good economic environment which includes; Good improved infrastructural facilities, human capital development market size and ensuring good macroeconomic stability. It has been confirmed that countries possessing a good developed infrastructure tend to be more attractive in the sight of foreign investors. It has also been identified that having good infrastructural facilities decreases the transaction costs thereby help to attract the more inflows of international investors (Wich, 2012; Osakwe, 2005). Similarly, the study of Kaur, Yadav, & Gautan (2013) identify the important role plays by physical infrastructural variables such as improved communication facilities, rail way and road facilities attract the FDI inflows. However, in Sub-Saharan Africa the state of their infrastructure is in bad shape thereby contributes to their low FDI inflows as shown in figure 1.3. Therefore, more studies are needed on the effect of this variable and this justify the necessity of this research work.

Moreover, the macroeconomic stability helps in attracting FDI inflows into host countries. The variables such as exchange rate, interest rate and inflation are usually used to measure the the economic stability. The study of DE Mello (1997) confirmed that good economic environment accelerates the flows of FDI while volatile economic environment discourages it. The increase in inflation leads to the rise in the cost of production/user cost

of production thus reduces the level of profit of foreign investors. Tolentino (2010) shared the same views that there are two essential channels through which exchange rate affect FDI; the wealth impact channel and relative production cost. A deterioration of the host nation money causes a decrease in domestic production costs. With respect to international currency which likewise raises the gains of export-orientated FDI. The higher returns normally pull in more FDI inflows. The economy of Sub-Saharan Africa is volatile as the exchanges rate is volatile which makes the user cost of production not stable and hence scares foreign investors to take their investment into the region and this justify the need for this study.

Furthermore, the market size of the host nations is one of the important variable that attracts FDI inflows due to the target of MNCs to reach out the growing demand of their products. The study of Alemu (2012) confirmed that the objectives of MNCs is to acquire market of their goods. Market size refers to the potential home demand for their commodities along with favorable economic conditions of the host nation which is essential for FDI. Though there is good market size in the region but the social vices such as kidnapping, robbery, and fraudulent activities caused by large population size makes it difficult for the smooth inflows of FDI in the region.

Therefore, based on the afore mentioned discussed, this study would attempt to answer the outlined research questions below;

1.3 Research Questions

The research questions deemed to be relevant as per this study are outlined below:

1. What is the relationship between trade openness and FDI inflows in six among the top ten FDI recipient SSA?

2. What is the relationship between market size and FDI inflows in six among the top ten FDI recipient SSA?

3. What is the relationship between infrastructural facilities and FDI inflows in six among the top ten FDI recipient SSA?

4. What is the relationship between human capital development and FDI inflows in six among the top ten FDI recipient SSA?

5. What is the relationship between exchange rate and FDI inflows in six among the top ten FDI recipient SSA?

6. Does the causality exist between trade openness, market size, infrastructural facilities, human capital development and exchange rate with the FDI?

1.4 Research Objectives

The main objective of this research is to investigate the effect of the factors affecting foreign direct investment inflows in six among the top ten recipient Sub-Saharan Africa countries while the specific objectives are stated below;

1. To examine the effect of trade openness on FDI inflows in six among the top ten recipient SSA.

2. To identify the effect of market size on FDI inflows in six among the top ten FDI recipient SSA.

3. To investigate the effect of infrastructural facilities on FDI inflows in six among the top ten FDI recipient SSA.

4. To examine the effect of human capital development on FDI inflows in six among the top ten FDI recipient SSA.

5. To identify the effect of exchange rate on FDI inflows in six among the top ten FDI recipient SSA.

6. To investigate the causality between trade openness, market size, infrastructural facilities, human capital development and exchange rate with the FDI.

1.5 Significance of the Study

This research is mindful of the persistent bottleneck surrounding the smooth inflows of FDI across the Sub-Saharan Africa especially pertaining to the low domestic savings, poor infrastructural facilities, low human capital development, market size, pervasive exchange rate issues, and impediment that hinders the trade openness and other issues related to that. However, the importance of FDI inflows cannot be over emphasized so.

The significance of this study therefore is to evaluates the impact of the determinants of trade openness on FDI inflows in Sub-Saharan Africa in order to furnish the policy makers with the valuable information base on the results of the study so as to take appropriate measures on formulation of policies needed to attracts more FDI inflows. It will also assist

other stakeholder such as domestic and foreign investors in taking decision associated to the risks and benefits of their investments.

Similarly, this study will contribute to the existing body of knowledge, unlike the previous studies that focus on the developing countries and the individual country for the estimation of the relationship between the FDI and its determinants using time series and panel approach. This will focus specifically on the top FDI recipient countries in Sub-Saharan Africa while employing panel cointegration approach in estimating the effect of the determinants of trade openness on FDI.

1.6 Scope of the Study

The study is confined to the effect of trade openness on FDI in six selected among the top ten recipients of FDI SSA countries base on the panel data from 1980 to 2011. The focus should be on all the top ten FDI recipient countries in the region but due to lack of data of some of the important variables for some countries which will affect the empirical result of the study. The sample number is prune down to six countries namely: Nigeria, Ghana, south Africa, Democratic Republic of Congo, Sudan, and Cote d'Ivoire.

1.7 Organization of the Study

Chapter two will focus on the theoretical and empirical literature of FDI inflows and its determinants in relation to the eclectic theory of FDI in six recipients of FDI in SSA countries it will also review literature on the application of the eclectic theory of FDI.

Chapter three which describe the research methodology will focus on the theoretical frame work, estimation model, method of estimation which comprises the panel unit root, cointegration test, granger causality and the FMOLS approach while other things in this chapter includes: sources of data and the description of variables.

Chapter four focused on the data analysis and discussion of the empirical results. Which involves the confirmation of the order of integration of the series via unit root, followed by cointegration test, granger causality test and the FMOLS co-efficient estimation using Eviews statistical package. Lastly the discussion of the results.

Chapter five focus specifically on the major findings along with the discussion on the policy implication of the findings to policy makers and other stakeholders of the region. It also provided the summary of the study as well as the suggestions for the future research.
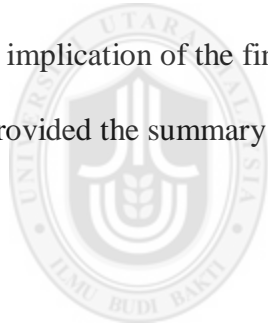
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter focused on the review of the related literature on dependent and independent variables of the study from both theoretical and empirical reviews. While the theories of foreign direct investment are also reviewed.

2.2 Theory of Foreign Direct Investment

Over a long period of time, the inspirations of multinational enterprises for taking part in FDI has been perceived from a few theoretical perspectives which involves neoclassical trade theory, product lifecycle theory, market imperfection, Eclectic paradigm and so on.

2.2.1 The Neoclassical Trade Theory

The neoclassical trade hypothesis expands on the Heskscher-Ohlin model which affirms that capital streams and trade opportunities between two nations rely upon the relative blessing of factors of production. This suggests that multinational companies put resources into nations to exploit higher degrees of profitability or low cost of production (Kindlerberger, 1969; Eiteman et al., 2007).

2.2.2 The Market Imperfection Theory

The market imperfection hypothesis contends that since markets are not perfect, multinational companies can channel their activities either production or businesses to other nations so as to enjoy the ownership advantages, economies of scale and government motivations (Kindlerberger, 1969; Eiteman et al., 2007).

Moreover, the theory affirms that market imperfection existence in host nations triggered multinational ventures to internalize their operations in-host nations which is the most sparing method for shielding their intangible resources (Buckley and Casson, 1976; Hennart, 1982; Shapiro, 2006).

2.2.3 The Product Lifecycle Theory

The product lifecycle hypothesis created by Vernon (1966) affirms that the lifecycle of items are in four phases –introduction, expansion, peak, and diminishing – and takes after an example whereby new items are initially presented in developed nations and spread to developing nations overtime .Thus, the phases of the product lifecycle induces the choice of multinational ventures between exports of product or establishing production plant in international markets to get lower cost of production, to take care of both growing demand at the international market along with the domestic market at a market prevailing price.

New product phase   maturity phase   peak/standardization phase   Diminishing Phase
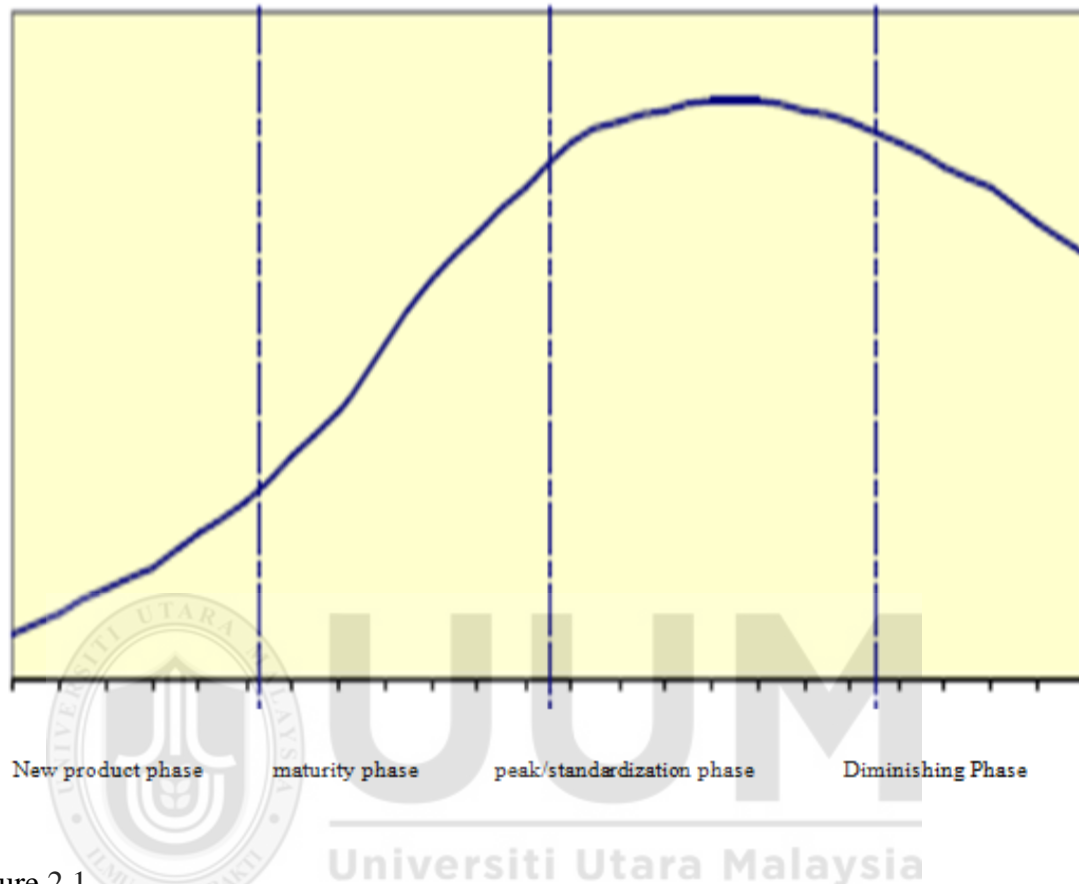
Figure 2.1
Phases of Product Cycle Theory
Source: own elaboration based on Vernon (1966).

2.1.4 Eclectic Paradigm

Dunning (1977) proposed a general comprehensive theoretical system trying to clarify the

presence and the development of multinational ventures. The eclectic paradigm meant to

integrate other relevant theories into a simpler one that clarify the international production

(such theories comprises: The commodity life cycle, internationalization hypothesis, and

foreign trade theories).Dunning's "OLI paradigm" (1977) consolidates the impacts of

ownership components (rent-manufacturing firm know how), location variables

(geographical contrasts), and internalization elements (exchange related worries), to clarify the structural decision of exports, authorizing, or investment to enter an international host market. According to Dunning, multinational firms take part in international manufacturing only when they cover at the same time these three particular advantages as shown in figure 2.2

Internalisation advantages (I)
These types of advantages are seen
as being determined by market
failure, due to risk, uncertainty and
incomplete contracting

Ownership advantages
Knowledge-based and firm-specific
assets which provide cost advantages
and market power sufficient to
overcome the costs of producing in a
foreign location.

Location advantages (L)
Depend on the host country's
characteristics and are available to
all firms; examples: Ricardian type
of endowments, cultural, political,
governmental policies, institutional
policies

"The OLI triad of variables (…)
determining foreign direct
investment(FDI) and MNE activity may be
likened to a three-legged stool; each leg is supportive of the other, and the stool is only functional if the
three legs are evenly balanced" (Dunning 1998: 45)

Figure 2.2
 Eclectic Paradigm Chart
Source: Own elaboration based on Dunning (1995, 1998)

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Ownership (O) advantages refers to the ability of one nation's firm to acquire specific advantages not open (or not available in positive terms) to a few other nation's firm. Ownership preferences are seen one of the kind components intended to overcome the cost (risk) of foreignness (Hymer, 1976; Zaheer, 1995).

The concept of foreignness refers to a competitive burden a subsidiary of multinational enterprises (MNE) incurs in a host country. These burden are usually characterized as "all extra costs an enterprise operation in a business sector abroad brings about that a domestic enterprise would not experience" (Zaheer, 1995: 342) and are grouped into four sorts of sources that vary among nations: costs connected with geographical distance (travel, transportation, correspondence), expenses because of the obscure domestic environment, costs because of absence of authenticity of international firms and economic patriotism, and expenses from home nation environment. The expense of foreignness is influencing more market-looking for/horizontal MNEs than vertical MNEs, as even MNEs contend with domestic firms for a share of the domestic market, i.e. they rely more upon home markets than vertical associations (Zaheer, 1995).

Hymer (1960/1976) declared that, keeping in mind the end goal to beat the drawbacks they confront when contending with domestic enterprises, MNEs must have certain advantages particularly those that are associated with their ownership. This thought was motivated by Bain's (1956) whose work saw the expenses of foreignness as a hindrance to rivalry in local markets (Bailey and Driffield, 2002).

Dunning alludes that location components (nation-level factor value advantages) influence the decision of manufacturing site; and that internalization (exchange cost) elements shows if foreign production will be made via market (licensing) or chains of importance (FDI). Even though Dunning includes certain parts of the oligopoly power model and of location aspects, he depends on internationalization contentions to validate the utilization of specific entry or another after selection of product and market.

Additionally, he keeps on characterizing multi-nationality by the utilization of FDI. The points of interest of internalization are determined market failure experienced in CEE. Several imperfections, dangers and vulnerabilities are available on these markets and can be stayed away from by internalizing them inside the firm. Location (L) focal points are outside to firm and, so as to distinguish them, Dunning (1977) proposed to examine first the system (the O-focal points) and afterward to decide how that exact location encourages internalization of moderate item market. The location focal points emerge from contrasts in factor enrichment, transport expenses and distance, synthetic hindrances, and existence of motivations at several foreign locations.

An arrangement of location variables are indicated, the most vital ones includes:

i. The uneven distribution of natural and made asset enrichments markets;

ii. Input costs;

iii. Quality and profitability;

iv. Global transport and correspondence costs;

v. Speculation motivating forces and disincentives;

vi. Simulated boundaries to exchange products and administrations;

vii. Economies of centralization of R&D creation and promoting

viii. Institutional system for asset assignment and cross country philosophies;

ix. Dialect, social, business, political contrasts, and natural conditions.

Deriving from the existing literature the fact that FDI decisions rely on many features of the host nation, such features include among others exchange rate, openness, market size, stability, trade cost, labor cost, human capital, inflation, tax, domestic investment, investment cost, political stability, government consumption, external debt, energy use and budget deficit (Bloningen, 2005). Provision of economically favorable environment draws foreign business which brings about FDI inflows (Kumar, 2002).

The interaction between physical infrastructure, institutional quality, macroeconomic stability, political stability and import tariffs on Inflows of FDI are generally positive as established in the findings many studies such as (Trevino et al., 2002). Moreover, the role of economic growth of a host country on inflows of FDI is usually positive (Grosse and Trevino, 1996; Trevino et al., 2002).

This study centered on the trade openness being the important phenomenon affecting inflows of FDI. Even though openness may be regarded as socio-economic indicator but our only concern as per this study is based on the economic aspect that is trade. However,

trade openness influence export-oriented FDI and trade restrictions draw "tariff-jumping" FDI, which has the goal of taking benefit of the home market (Kosteletou and Liargovas, 2000).

Theoretically, openness or trade barriers may affect the FDI either negatively or positively. Usually, the policies upon trade openness could yield an important effect in influencing FDI. For instance, via the realization of free trade agreement (FTA), many Latin American nations succeed in attracting higher degree of FDI flows.

Goldberg and Klein (1998) assert that FDI encourages import, export substitution, or substantial trade in inputs. Conversely, Raff (2004) contends that under specific conditions, FTA does not prompt FDI, Although FDI would be welfare making strides. This could happen, due to external equilibrium tariffs are too small to influence FDI or due to the existence of various equilibria and nations are fixed in one that does not facilitate FDI. Additionally, there are several studies that have found a positive association between openness and FDI streams (see for instance Biglaiser and, deRouen ,2006; Chakrabarti, 2001).

On contrary, others (e.g. Seim, 2009) locate a negative association between FDI streams and the level of openness for nations in transition. In other words, the association between trade openness and FDI streams is extremely intricate, needs watchful clarification and may rely upon the features of every situation. Hypothetically, the impact of openness on the FDI streams changes as indicated by the inspiration for taking part in FDI exercises (Dunning, 1993; Markusen and Maskus, 2002).

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2.3 Theoretical Review

2.3.1 Review of theoretical Literature on Foreign Direct Investment

The concept of FDI was described as an investment that has long-term association between mother enterprise or a foreign investor and foreign affiliate or affiliate enterprise. It entails that the foreign investor has important level of influence on the affairs of the enterprise in the host country. The transactions include the initial and the subsequent between the two parties and among incorporated and non-incorporated foreign affiliates. The economic reasons for giving special incentives to draw the FDI is gotten from the ordinary believe that FDI yields positive externalities through transfer of technology and acquiring business skill (Kyereboah-Coleman & Agyire-Tettey, 2008).

2.3.1.1 Types of Foreign Direct Investment

Going by the literature the types of foreign direct investment can be categorized into three in accordance with their unique features like motive, direction, and target (Bellos, 2010). The motives of FDI according to Sichei and Kinyondo (2012) have recognized another three-category known as market motives, resource motives, as well as efficiency motives. At the same time, Dunning (1998) categorized them into four:

i. Market Seeking,

ii. Resource Seeking,

iii. Efficiency Seeking

iv. Strategic Seeking.

According to him, the above outlined types of FDI are described as;

    i.   **Market Seeking;** happens when the major reason of the company is supply the domestic market due to take benefit of new market.

    ii.   **Resource Seeking:** Take place when the major motive of the company is to gain access to the resources of the host nation which are not attainable in their countries like low cost of production because of uneven distribution of natural endowment across the countries.

    iii.   **Efficiency Seeking** occurs in terms of what an international firm could benefit when the host governments are efficient along with existence of large economic of scale. Conversely, Okurut, Narayana and chidozi (2012) assert that the efficiency seeking firms wants to the benefit of efficiency along with quality infrastructure, cheap and skill labor,

    iv.   **Strategic Seeking;** is always achieved due to the existence of strategic union with some companies or activities that might strengthen the barriers to competitors as well as guaranteeing their market stand in secured.

Others includes the directional FDI which is also categorized into two as shown below;

    i.   **Inward FDI:** entails the investment of foreign capital in to domestic markets.

    ii.   **Out ward FDI:** refers to the investment of domestic capital in the foreign markets.

Another set is known as the target FDI as outlined below;

i.   **Green field FDI:** where the foreign firms establish new facilities and production

        plant in the host nation.

ii.   **Brownfield FDI:** refers to the mergers and acquisitions of already existing firms

        in the host country by the foreign firm resulting to the new subsidiary of MNCs.

The last set is the one identified by Paul and Maurice (2015) in their book as the horizontal

FDI and vertical FDI.

i.   **Horizontal FDI;** takes place when investment goes to a subsidiary of an

        international firm that replicates what its parent firm produces in the host

        countries.

ii.   **Vertical FDI;** refers to the investment that goes to the firms in host countries

        that after breaking down the production processes by the parent firm, transfer

        portions of the processes to the subsidiaries in host countries.

As a substitute for horizontal FDI, the mother firm could license an autonomous firm to

manufacture and sell its commodity in an international location equally as substitute for

vertical FDI mother firm might contract with an autonomous firm to execute definite

components of manufacturing process in an international location with cost advantage. The

latter is called foreign out sourcing which is the substitute for vertical FDI.

2.3.2 Theoretical Review on Trade Openness

The Sub-Saharan Africa in the last decades faced serious problems regarding to their macro-economic environment which had a serious effect on the performance of manufacturing sector of their economy. In 1970s they had adopted policies for industrialization known as the import substitution strategies for their development. In the mid of 1980s the popular "structural adjustment programs" with the assistance of the World Bank along with other international organization was introduced in the region. The introductions of these macroeconomic reforms pave way for privatization and trade liberalization.

The emergence of globalization that led to the trade openness and exchange rate era, most of these Sub-Saharan African countries employed several measures to foster the inflow of FDI which was viewed as the cardinal factor for the solution of their problems of low local capital and productivity. However, in 1990s they seriously began to attract foreign investors but to their surprised the FDI flow was relatively lower compared to their counterpart. This could be attributed to the difference in the development objectives of the host country with the objectives of the foreign investors even when there was conducive and favorable political environment (Olatunji, 2015).

2.3.3 Theoretical Review on Market Size

The contention on the market size being the determinant of FDI is quite clear because the cardinal objective of most MNCs is to acquire market of their goods. Market size refers to the potential home demand for their commodities along with favorable economic conditions of the host Nation which is essential for FDI. It is measured through proxy by

real GDP, GDP per capita and GDP growth. It is anticipated to have positive association with FDI (Alemu, 2012).

2.3.4 Theoretical review on Infrastructure

This determinant is seen as the significant factor for attracting FDI inflows to host nation, especially, telecommunications which draws FDI and leads to economic growth (Canning and Bennathan, 2000). This determinant is anticipated to have positive relationship with the FDI and it is represented by transportation and electricity, telecommunication, water, and military expenditure (Sschei & Kinyondo, 2012). Evidence from the study of Kaur, Yadav, & Gautam (2013) has shown that the physical infrastructural variables such as improved communication facilities, rail way and road facilities influence FDI inflows.

2.3.5 Theoretical Review on Human Capital Development

The human capital development as a one of the important factor that determine the inflows of FDI has been highlighted that in many studies as in the study of Dhingra and Sidhu (2011) the human capital development variables such as the level of education, skills and wage affect the flows of FDI in the host country. Hence, the availability of cheap labor attracts more inflows of FDI and this translates to the positive relation of this variable to inflows of FDI.

Moreover, Kaur, Yadav, & Gautam (2013) viewed that besides the economic reforms of India in 1991 which brought about a lot of changes in their policy and regulatory frame work on FDI inflows emphasizing policies that are geared towards trade liberalization and

deregulation of most of the sectors for investment. The study identified that the human capital development variables influence the inflows of FDI.

2.3.6 Theoretical Review on Macroeconomic Stability

The FDI inflows to the host countries are determined by the level of good economic environment which accelerate the flows of FDI while volatile economic environment discourages it. The measure of economic stability includes among others: exchange rate, inflation and interest rate. For instance, the increase in inflation leads to the rises in cost of production/user cost of production hence decreases the level of profit of FDI (foreign investors) negatively (DE Mello, 1997).

Similarly, Tolentino (2010) recorded that there are two essential channels through which exchange rate affect FDI: the wealth impact channel as well as the relative production cost channel. A deterioration of the host nation money causes a decrease in domestic production costs, with respect to international currency, which likewise raises the gains of export-oriented FDI and higher returns normally pull in more FDI inflow.

2.4 Review of Empirical Literature

2.4.1. Empirical Review on Foreign Direct Investment

Ayanwu and Yamengo (2015) examined the determinants of foreign investment in West Africa by using OLS and GMM models while considering panel data from 1970 to 2010. The outcomes of the study show that there is significant and positive effect of trade openness, natural endowment, and real per capita GDP on FDI inflows in the region.

Leibrecht and Riedl; Aleksendra (2010) corroborate that FDI determinants in transition and developing economies over the period of 1989 to 2006 had been the trade openness, interest rate, growth rate, inflation rate as well as the lag of FDI via spatial augmented gravity model. While Jadhav (2012) explored the effect of economic, political, and institutional factors for attractive FDI to BRICS member nations. The study used panel from 2000 to 2009 and multiple regression approach of estimation, the result of the study showed that trade openness, market as well as rule of law significantly play vital roles in influencing FDI inflows in Brazil, Russia, India, China and South Africa BRICS while on the other hand the natural resource endowment had negative effect on FDI inflow to them.

Jadhav and Katti (2012) also revealed that regulatory and good governance have positive impact on FDI inflow to BRICS while corruption control and political instability have negative effects. The multiple regression model was employed for the estimation of the model which gave us the above result.

Another study was carried out to examine the FDI determinants using random effects model and data from 1975 to 2007 the finding shows that gross capital formation, labor cost, market size and infrastructure help positively while inflation rate and trade openness prove to be insignificant (Vijayakumar et al,2010).

In related study on FDI determinants in BRICS that is the acrimony's of (Brazil, Russia, India, China, and South Africa) and MINTS which is the acronym of (Mexico, Indonesia, Nigeria and Turkey) using panel analysis to investigate their effect on FDI. The pool time series cross-sectional analysis was first employed to estimate the model for individual

samples; BRICS, MINT and a combination of BRICS and MINT then the random effect model was used to estimate for the BRICS and MINT model. The findings revealed that infrastructure, market size and trade openness significantly attract FDI to BRICS and MINT, on contrary, the natural endowment, and institutional quality are not significant. They conclude by given suggestion to them for them to sustain the inflows of FDI in their countries they should maintain the attractiveness of their countries towards FDI inflows and to ascertain that their economies acquired more know how as well as technological benefits from FDI inflows so as to promote long-run economic growth through investing heavily on human capital (Akpan,Isihak & Asongu, 2014).

However, Rogmans and Ebber (2013) analyzed the determinants of foreign direct investment flows to Middle East and North America(MENA) using panel data between 1987 to 2008 and the multiple ordinary least square regression model. The empirical result showed that the natural endowment negatively contributed to FDI inflows while the trade openness has positive effect. The rationale behind negative effect of natural endowment to FDI could be attributed to the tendency of highly endowed nations to have imposed protectionist policies that limit the possibility of the foreign direct investment inflows.

Another study on flows of FDI in Malaysia was carried out to investigate the effect of corruption as well as the China enlisting WTO in year 2001, using the ARDL approach to cointegration along with ECM (Error Correction Models). The finding revealed that there exist the cointegration between FDI and its determinant and interest rate, openness, inflation, the degree of corruption and the enlisting of China into the WTO happened to be

the main determinants describing the Malaysia FDI inflows, both in short run and long run (Yong & Tuck, 2009).

The determinants of FDI were examined in Nigeria by Dinda (2014) the study employed cointegration approach using the time series data from 1970 to 2006. The study recommends that the natural resource endowment, trade openness as well as the inflation and exchange rate are important determinants that attract foreign direct investment to Nigeria and the findings show that the FDI inflows to Nigeria is resource seeking, similarly the result recommend that the Nigeria's trading associates such as United Kingdom in the North-South trade association together with the China in the South-South trade associations have greater impact on out flows of FDI.

2.4.2 Empirical Literature on Trade Openness

Many empirical studies have been carried out to examine the connection between trade openness and economic growth with the specific attention given to the significance of an outward-oriented plan and exports in performance of the economy. However, the proof about the export-led growth premise remains quite mixed. Specifically, recent studies on time series fail to give uniform backing to this hypothesis. Checking that openness is expanding trade as well as foreign direct investment flows; they have utilized a vector autoregressive (VAR) model to test the presence and nature of the causal relationship between output level, trade and inward FDI in Brazil, Argentina, and Mexico from the mid-seventies to 1997.

Moreover, their vital point is to analyze the degree and wellsprings of universal linkages amongst openness and economic performance in these developing nations. Even though they have not discovered confirmation about the ELG speculation, their outcomes propose a critical impact of FDI on economic growth and trade in the examined nations (Cuadros, Orts and Alguacil,2001).

The trade openness has been one of the important variables that contributes to the inflows of FDI in developing economies as has been established by many empirical studies such as in the study of Liargovas and Skandalis (2012) investigate the important of openness in attracting the inflows of FDI in 36 selected developing countries from Africa, Latin America, Eastern Europe, and CIS (Common Wealth of Independent States). The period of study covers 1990 to 2008. The causality test was tested between inflows of FDI, trade openness along with other important variables. The major empirical finding via panel regression analysis showed that trade openness positively influence the FDI inflows in the developing nations in the long run.

Jdhav (2012) also investigated the effect of economic, political, and institutional factors for FDI inflows to BRICKS member nations. Using panel data from 2000 to 2009 and multiple Regression technique of estimation, the finding confirmed that the trade openness is one of the factors that significantly attract FDI inflows to BRISKS. Trade openness is measured in literature as the ratio of trade to GDP (Import, Export)/GDP.

Vijayakumar et al. (2010) used panel analysis via random effect approach to observe the determinants of FDI to BRICS and revealed that infrastructure, market size, gross capital

formation and labor cost, contributed positively while inflation and trade openness were insignificant.

More so, many empirical studies were carried out on the trade openness and FDI in SSA countries and the objectives and the empirical results differ. The study of Seyoum Wu, and Lin (2014) considered yearly balanced panel data derived from 25 SSA economies for the period of 1977 to 2009 to examine the granger causality association between FDI and trade openness. The result shows the bidirectional causal association between them in the region hence SSA should put more effort for the FDI attraction and expanding their productive ability to produce and export thereby addressing supply-side constraints leading to have positive multiplier of FDI on trade.

However, association among the trade openness, foreign direct investment, infrastructure and economic growth through a panel of 42 SSA countries for the period 1980 to 2003, a fixed effect method was employed and the empirical result reveals that foreign direct investment depends upon trade openness as well as the GDP per capita additional result shows that there is a little increase in FDI inflows as a result of the trade openness and infrastructure interaction while it shows the significance and positive effect of FDI on growth. The degree of FDI inflows could be enhanced via infrastructural development and trade openness for achieving sustainable growth (Babatunde 2011).

Yaoxing, Y. (2010) considers Cote d'Ivoire and observed the long-run effect of trade openness and FDI on economic growth. The co-integration approach and VAR granger causality were employed using data from 1980 to 2007. One of the key results discovered a

long run association between trade openness, FDI and output; while the Granger causality/block exogeneity wald tests shows, unidirectional causal association exists from FDI, trade openness to output also from output, foreign direct investment to trade openness. Hence trade openness and foreign direct investment are significant in explaining the output growth in Cote d'Ivoire.

2.4.3 Empirical Review on Market Size

The effect of Market size has been investigated in many studies as in the study of Leitao (2010) considers the impact of foreign direct investment in japan, brazil and EU-15 via GMM estimator along with fixed effects estimators, according to the findings the market size and trade openness happened to be the most important factors that attracts the aggregate FDI inflows.

Anyanwu (2011) used panel data and made robust estimation via OLS and GLS (Generalized Least Square) on determinants of FDI in Africa from 1980 to 2007. His findings reveal that the variables: market size along with trade openness and high government spending have positive impact on FDI inflows. Similar studies reveal the same result such as the study of Wei (2000), Quazi (2007, 2014), Al-Sadiq (2009), Porters (2010), Freckleton, Wright and Craigwell (2013), Bellos and Subasat (2011), Baxamusa and Jalal (2014) and Subasat and Bellos (2013) employed market size of the home nation. They found a positive relationship between market size and FDI inflows. Conflicting with the investigations of Mauro (1995), Tanzi (1998), Habib and Zurawicki (2002), Anyanwu (2006), Dreher and Gassebner (2011) found a negative relationship between market size and FDI inflows.

2.4.4 Empirical Review of Infrastructure

Most of the previous studies discovered that the quality of infrastructure is directly related to FDI. According to Groh and Wich (2012) confirmed that countries possessing a good developed infrastructure tend to be very attractive in the sight of international investors. While Dupasquier and Osakwe (2005) discovered that increasing provision of infrastructure can facilitate FDI climate. The study also discovered that infrastructure provide "the best long term opportunities for foreign investors"(p.258) and having good infrastructural facilities decreases transaction costs.

Meanwhile another study evaluates several proxies used for measuring infrastructure and discovered that good infrastructure draws FDI regardless of what proxy is employed (Goodspeed, Martinez-Vasquez, Zhang 2006). Kok and Ersoy (2009) affirmed that quality of infrastructure has significant and direct impact on FDI.

Mina (2007), Asiedu (2006), Grubaugh (2013), and Demirhan and Masca (2008) discover the same results. On the other hand, Onyeiwu and Shrestha (2004) and Blonigen and Piger (2014) discovered that there was no association between infrastructure quality and FDI.While Bellos and Subasat (2011) and Quazi et al. (2014) in their respective studies discovered an indirect relationship between infrastructure and FDI inflows. The anticipated sign is positive.

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2.4.5 Empirical Review on Human Development

Karimi, Yusop, Hook and Chin (2013) examined the degree Human Capital adds to national economies, and the impact it has on resulting FDI streaming into those economies. A deliberate observational study considering the Generalized Method of Moments (GMM) for 50 advanced and developing nations have been captured by this study; keeping in mind the end goal to assess the effect of HC on FDI inflows utilizing all indicators used before as a proxy of HC in the past studies. They had used a recently created index that is engaged on weighted HC stock to look at the impacts of HC on FDI inflows. The outcomes plainly show that HC is vital for pulling in FDI in developing and advanced nations. It shows that the general educational achievement of a nation is of significance in the FDI connection. Doubtlessly HC arrangement ought to be stressed in developing nations if FDI fascination is to be considered as a legitimate policy goal.

However, Granger causality was employed to investigate the spillover impacts, both positive and negative FDI inflow on human capital advancement in India furthermore, to ascertain if FDI causes the Human capital development or not. The outcomes demonstrated that there is just feeble unidirectional causality from FDI to human capital advancement characterized as rate of change in yearly school enrollment. Nevertheless, human capital advancement characterized as spending on higher education and the number of tertiary institution over 16 zones in India had a positive relationship with FDI inflow.

Furthermore, inflation and import development were other essential determinants of FDI development. The study presumes that spending on primary education could crowd out investments in facilities development which draws in FDI inflow in the short run.

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Nevertheless, distribution of more assets for primary education can be more remunerating over the long-term through advancement of a powerful human capital base going about as an impetus for drawing in the worldwide investors (Kar, 2013).

The findings of other previous studies also proved that human capita development have positive and statistically significant impact on FDI inflows as in the studies of Basu and Yao (2009), Kim and Park (2013) and Kheng, Sun and Anwar (2016). While the studies of Noorbakhsh et al. (2001) found estimated coefficient statistically insignificant.

2.4.6 Empirical Review on Exchange Rate

The effect of exchange rate volatility has been examined in several studies among which is the study of Gebrehiwot (2016) observed the effect of exchange rate volatility on FDI in Ethiopia using GARCH i.e the Generalized Autoregressive Conditional Heteroscedasticity model for capturing the volatility of exchange rate in both nominal and real term. Meanwhile the ARDL was employed to estimate the long-term association between the variables. The findings of the study show that the long-standing devaluation policy of a nation serve as a motivational tool for drawing foreign investment and counterproductive in nation's foreign export.

Moreover, Liargovas and Skandalis (2012) examined the FDI determinants in 36 selected developing countries from Latin Africa, Africa, and East Europe specifically on the role played by exchange rate which proved to have the positive effect and significantly attract FDI inflows using causality test. There is contrast evidence that the effect of exchange rate on the operation of firms when currency of the host country depreciates will unambiguously

increases the inflows of FDI from foreign firms. If the foreign firms have technological advantage the depreciation of currency of the host country reduces FDI inflows and increases if otherwise.

the positive and statistical significant effect of exchange rate on FDI is established in the studies of Nasser and Gomez (2009) and Kinda (2010). Conversely, the studies of Ghana by Kyereboah-Coleman and Agyire-Tettey (2008), Ramiraz (2006) and (Jeon and Rhee, 2008). while the studies of Brahmasrene and Jiranyakul (2001), Ajayi (2006); Naud and Krugell (2007) found statistical insignificant effect of exchange rate on FDI inflows.

2.5 Conclusion

The previous literature review on the inflows of FDI can be sum to implies the effects of some important variables on FDI through different direction, negative, positive, and the causality. The above literature gave several insights on how market size, infrastructure, trade openness, exchange rate and human capital development accelerate FDI inflows across the globe.

However, most of the studies carried out on FDI in Sub-Saharan Africa were either on individual country which could not be used for generalization or on the bases of region/trading bloc such as Economic Community of West Africa (ECOWAS) etc. while other category were on the combination of Sub-Saharan Africa countries and the other developing countries and were on comparative form on the flows of FDI using some of its determinants which did not give clear insight of their unique features among the Sub-

Saharan African. Such as the inflows of FDI to the top recipients or least recipients or the combination of the two.

This study therefore, would attempt to bridge part of the literature gap by trying to investigate the effect of the factors affecting FDI inflows among the top FDI recipient Sub-Saharan African countries while employing appropriate econometrics techniques of panel cointegration approach, Granger causality and Fully modified Ordinary Least Squares (FMOLS) for having optimum estimation co-efficient.

Table 2.1
Selected Literature Review Summary

Determinants of FDI	Study	Sample	Method	Result
	Jadhav (2012)	BRICS	multiple regressions	Positive Significant
	Vijayakumar et al, (2010)	BRICS	Random effect model	Insignificant
	Akpan,Isihak and Asongu, (2014)	BRICS and MINT	Random effects model	Significant
	Rogmans and Ebbers (2013)	Middle East & North America(MENA)	Multiple ordinary least	Significant
	Yong and Tuck (2009)	Malaysia	squared regression model ARDL cointegraion/ECM	Significant
	Dinda (2014)	Nigeria	Cointegration Approach time series	Significant
	Liargovas and Skandalis (2012)	36 selected developing countries from Latin America, Africa and East Europe	causality test/ panel regression analysis	Significant
Openness	Seyoum Wu, and Lin (2014)	25 SSA economies	granger causality association between FDI and Openness	bidirectional causal association
	Babatunde (2011)	42 SSA countries	Fixed Effect Method	Significant
	Yaoxing, Y. (2010)	Cote d'Ivoire	co-integration approach and VAR granger causality	a long run association and existence unidirectional causal relationship
	Leitao (2010)	Japan, brazil and EU-15	GMM estimator along with fixed effects estimators	Significant
	Anyanwu (2015)	West Africa	OLS and GMM models	Positive and significant
	Leibrecht, and Riedl (2010).	Central and Eastern European Countries (CEEC)	Spatial gravity model	Positive significant

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Table 2.1 (Continued)

Determinants of FDI	Study	Sample	Method	Result
Infrastructure	Vijayakumar et al, (2010)	BRICS	Random effect	Significant
	Akpan,Isihak and Asongu, (2014)	BRICS and MINT	Random effect model	Significant
	Babatunde (2011)	42 SSA countries	Fixed Effect Method	Significant
	Leibrecht, and Riedl (2010).	Central and Eastern European Countries (CEEC)	Spatial gravity model	Positive significant
Human Capital Development	Karimi, Yusop, Hook and Chin (2013)	50 advanced and developing nations	GMM	Significant
	Kar (2013)	India	Granger causality	Week unidirectional causality from FDI to human capital advancement
Exchange Rate	Dinda (2014)	Nigeria	Cointegration Approach time series	Significant
	Gebrehiwot (2016)	Ethiopia	GARCH, ARDL	Positive effect
	Liargovas and Skandalis (2012)	36 selected developing countries	Causality test/ panel regression analysis	Significant
	Dinda (2014)	Nigeria	Cointegration Approach time series	Significant
Market Size	Jadhav (2012)	BRICS	Multiple regressions	Significant
	Vijayakumar et al, (2010)	BRICS	Random effect model	Significant
	Akpan,Isihak and Asongu, (2014)	BRICS and MINT	Random effect model	Significant
	Anyanwu (2011)	Africa	robust (OLS) estimations and robust GLM	Significant
	Leitao (2010)	Japan, brazil and EU-15	GMM estimator along with fixed effects estimators	Significant

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CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The trade openness as a main determining factor for inflows of FDI in developing economies for achieving economic growth has been the major arguments among many economists and policy makers in describing the growth in developing states (Dawson, 2006; Dutta&Ahmed, 2001; Ruiz Estrada Yap, 2006). However, the FDI nexus and trade-growth nexus (Lipsey, 2000 and Pahlavani *et al*, 2005) have agreed that FDI and openness encourage economic growth.

However, there are obvious signs that the enhancing effect of growth from both FDI inflows and trade openness changes from nation to nation. To this view, there have been conflicting and diverse empirical evidences on trade growth nexus and FDI growth nexus in country specific and cross country. the major reason of these differences includes; the data employed, measurement; timeframe as well as the methodology. This chapter will focus on the theoretical model, estimation model, method of estimation, sources of data and the description of variables.

3.2 Theoretical Framework

The theoretical framework of this study is built on the Eclectic paradigm which tries to show the flows of FDI through the three dimensions known as the advantages in ownership,

location, and the internationalization of MNCs (Dunning, 1977). This study focused on the location specific advantages which comprises the desired business atmosphere that ensure security on investment and the degree of trade openness (decrease in trade barriers which facilitate capital flows and returns).

The possibility of investing in another nation is generally is influenced by many factors as rightly identified by Dunning and Lunda (2008) the four major reasons have been highlighted as the causes for FDI inflows from advanced nations to developing ones, these reasons includes:

i.   The market seeking FDI; to exploit the market for more sales the international firms export or establish new markets in their host countries. It also pave way for these firms to boycott trade barriers like rule of origin and transportation cost

ii.   Efficiency seeking; the rationale behind this is to use few economies so as to satisfy larger markets

iii.   Rent seeking; the overall objective of this is for the foreign firms to have access to low cost of factor inputs

iv.   Strategic seeking FDI; aimed at sustaining the international firms' position and competitiveness internationally.

Most of the Sub-Sahara Africa nations fall under the category of countries that have low income. Thus, FDI may perhaps fall in non-market seeking FDI because non-market seeking FDI commodities are manufactured within the country and take them overseas

meanwhile in the market seeking situation, commodities are manufactured and sold domestically.

Furthermore, the variables considered relevant for this study have been chosen base on their relationship and significance within the context of SSA countries' economies and the possibility of having available data for undertaking an empirical research; the econometric model that is intended to study is; net FDI inflows; openness; human capital development; exchange rate; infrastructure, market size as assert by (Shahmoradi and Baghbanyan,2011; Hassan, Abubakar & Abdullah, 2014).
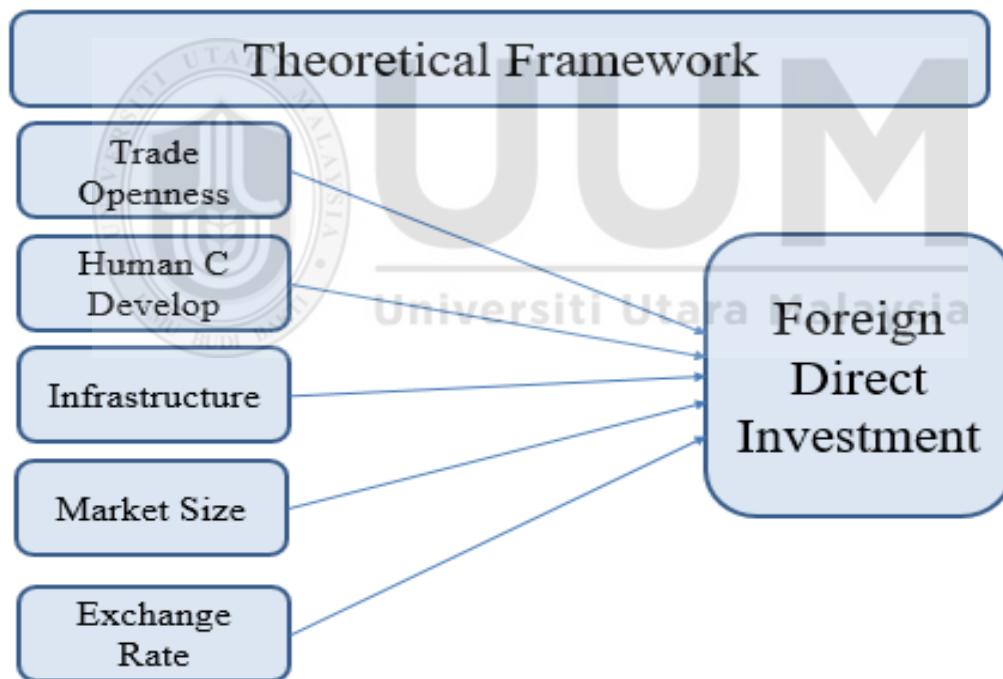
Figure 3.1
Theoretical Frame Work Chart

3.3 Model Specification

It is established from the previous literature that FDI inflows is mostly determined by some variables: Trade Openness (OPN), Market Size (MTS), Infrastructure (INFR), Human Capital Development (HCD) and Real Effective Exchange Rate (REER). Thus, FDI model of Shahmoradi and Baghbanyan (2011) and Hassan, Abu Bakar and Abdullah (2014) is adopted with little modification for this study this study. This is described in the equation [1] below:

$$FDI = f(OPN, MKTS, INFR, HCD, EXC) \qquad\qquad [1]$$

$lnFDI_{it} = \beta0 + \beta1lnTOPN_{it} + \beta2lnMKT_{it} + \beta3lnINFR_{it} + \beta4lnHCD_{it} +$

$\beta5lnREER_{it} + \mathcal{E}_{it}$ $\qquad\qquad\qquad\qquad\qquad\qquad\qquad$ [2]

Where;

 FDI= total net inflows of foreign Direct Investment

TOPN= Trade Openness

MKTS= Market Size

INFR= Infrastructural Facilities

HCD= Human Capital Development

REER= Real Effective Exchange Rate

Ɛ= White Noise

In the above equation [2] the dependent variable Net FDI inflows represents the total inflows of net FDI into 6 -Sub-Saharan Africa countries express in billion US Dollar, while the independent variables are: OPN represents the degree of trade openness which is measured by trade intensity ratio that is (Aggregate import plus Aggregate Export by aggregate GDP), REER represents the real effective exchange rate of individual countries relative to US $, MKTS proxy by GDP per capita, INFR proxy by telephone line and mobile subscribers per 100 people and HCD represents the human capital development proxy by secondary school enrollment ratio,. These variables are chosen base on their relevant and accessibility of data and other properties of the model *ß0* is the constant parameter, *ß1* to *ß5* are the unknown parameters of the independent variables to be estimated while $\mathcal{E}_{it}$ is a white noise.

3.4 Estimation Procedure

This involves the procedure of estimating the relationship between FDI inflows in 6-SSA and the explanatory variables in equation (2) which also involves dual steps; cointegration analysis and parameters estimation.

3.4.1 Panel Unit Root Test

This is the first step taken in panel analysis because of its significance to make a panel unit root test for the data series. Im, Pesaran and Shin (IPS) (1995) is used for the panel unit root test which expanded the LLC test by letting heterogeneity on the coefficient of Y_{it}

variable and proposing as a basic testing procedure one based on the average of the individual unit-roots statistics (Hassan, Abu Bakar, and Abdullah,2014).

To begin with, the IPS use separate ADF regression for individual cross-section with individual effect. The IPS test provides separate estimations for each i section, allowing different specifications of the parametric values, the residual variance and the lag lengths

$$\Delta Y_{i,t} = \alpha_i + \rho_i Y_{i,t-1} + \sum_{k=1}^{n} \phi_k \Delta Y_{i,t-k} + \delta_i t + \varepsilon_{it} \qquad [3]$$

Where i = 1,.........,N and t =1,.......,T

Hypotheses:

$H_0 : \rho\ i = 0$

$H_1 : \rho\ i < 0$ for at least one i (stationary) or

$H_1 : \rho\ i < 0$ for i =1,2,…,N)

$H_1 : \rho\ i < =$ for N_1+1,…,N)

IPS (1977) formulated their model under restrictive assumption that T should be the same for all cross-sections, requiring a balanced panel to compute the test statistic. IPS statistic for testing for unit roots in panels given by:

$$t_{IPS} = \frac{\sqrt{N}\left(\bar{t} - \frac{1}{N}\sum_{i=1}^{N}E[t_{iT}|\rho_i = 0]\right)}{\sqrt{\frac{1}{N}\sum_{i=1}^{N}Var[t_{iT}|\rho_i = 0]}} \Rightarrow N(0,1) \quad \bar{t} = \frac{1}{N}\sum_{i=1}^{N}t_{\rho_i} \qquad [4]$$

The t bar ($\bar{t}$) is standardized it shows that the standardized $\bar{t}$ statistics converges to the standard normal distribution as N and T→ ∞. IPS (1995) confirmed that $\bar{t}$ test perform well if N and T are small and recommend a cross-sectionally demeaned version of both test to be used should there be errors in diverse regressions consist a common time –specific component.

3.4.2 Cointegration Analysis

To investigate the long-run association among the variables this approach is used but to possibly have the panel cointegration. It is required to first test for the panel unit root test for the data series if the unit root satisfy the conditions for cointegration then the following steps apply:

The steps for the long-run cointegration test between FDI and the explanatory variables via long-run cointegration test as suggested by Pedroni (1999, 2004) where emphasis is given to the determination of appropriate estimate of residuals from a cointegration regression after normalizing the panel statistics with correction term.

$$Y_{it} = \alpha_i + \delta_t + \sum_{m=1}^{M}\beta_{mi}X_{mi,t} + \varepsilon_{it} \qquad [5]$$

For *t=1,……,T; i=1,….,N; m=1,…,M,*

Where T denotes the quantity of observation after some time, N denotes the quantity of units of cross-section in the panel, and M is the quantity of regressors while αi is the intercept which varies over individual units of cross-section. The same applies to the slope coefficient and member specific time impacts, $\delta_i t$.

The test for the existence of a long run association between FDI and the explanatory variables via panel cointegration test as recommended by Pedroni (1999,2004) two group of tests for panel cointegration are proposed which consist of heterogeneous panel as well as group mean test statistics. He described the two group statistics. The first group of three statistics.

$$ Z_{\hat{v},N,T} = T^2 N^{3/2} \left(\sum_{i=1}^{N} \sum_{t=1}^{T} \hat{L}_{11i}^{2} \hat{e}_{i,t\ 1}^{2} \right) \qquad [6] $$

$$ Z_{\hat{\rho}N,T\ 1} = T\sqrt{N} \left(\sum_{i=1}^{N} \sum_{t=1}^{T} \hat{L}_{11i}^{2} \hat{e}_{i,t\ 1}^{2} \right)^{1} \sum_{i=1}^{N} \sum_{t=1}^{T} \hat{L}_{11i}^{2} \left(\hat{e}_{i,t\ 1} \Delta\hat{e}_{i,t} \hat{\lambda}_i \right) \qquad [7] $$

$$ Z_{tN,T} = \left(\tilde{\sigma}_{N,T}^{2} \sum_{I=1}^{N} \sum_{T=1}^{T} \hat{L}_{11i}^{2} \hat{e}_{i,t\ 1}^{2} \right)^{1/2} \sum_{i=1}^{N} \sum_{t=1}^{T} \hat{L}_{11i}^{2} \hat{e}_{i,t\ 1}^{2} \left(\hat{e}_{i,t1} \Delta\hat{e}_{i,t} \hat{\lambda}_i \right) \qquad [8] $$

Where $\hat{e}_{i,t\ 1}$ is the residual vector of the OLS estimation of equation [5] and where the other terms are properly defined by Pedroni.

The last group of statistics are based on pooling the residuals along the between dimension of the panel. It allows for a heterogeneous autocorrelation parameters across members. The statistics are as follows:

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$$\widetilde{Z}_{\hat{\rho}N,T}{}_{1} = \sum_{i=1}^{N}\left(\sum_{t=1}^{T}\hat{e}_{i,t}^{2}{}_{1}\right)^{1}\sum_{t=1}^{T}\left(\hat{e}_{i,t}{}_{1}\Delta\hat{e}_{i,t}\hat{\lambda}_{i}\right) \qquad [9]$$

$$\widetilde{Z}_{tN,T}{}_{1} = \sum_{i=1}^{N}\left(\sum_{t=1}^{T}\hat{e}_{i,t}^{2}{}_{1}\right)^{1/2}\sum_{t=1}^{T}\left(\hat{e}_{i,t}{}_{1}\Delta\hat{e}_{i,t}\hat{\lambda}_{i}\right) \qquad [10]$$

These statistics calculate the group mean of the individual conventional time series. The asymptotic distribution of each of those five statistics can be described in the form below:

$$\frac{X_{N,T}\mu\sqrt{N}}{\sqrt{v}} \Rightarrow N(0,1) \qquad [11]$$

Where XN, T is the similar form of the test statistics, while μ and v are the mean and variance of every test individually. They are given in table 2 in Pedroni (1999). Based on the alternative hypothesis, panel V statistics diverges to positive infinity. Consequently, it is a one side test were big positive values reject the null of no cointegration. The rest of the statistics diverge to negative infinity, which implies that negative values reject null.

3.4.3 Granger Causality Test

The Pedroni's panel cointegration approach only tests for the existence of the long-run association among the variables. In other words, it tests for the presence or otherwise of the long-run equilibrium among the variables. One of its short coming is that it does not provide the causal relationship among the variables after being cointegrated. To find the causal direction among variable we used the Error correction term (ECM).

One of the basic condition to be fulfilled before using the technique (ECM) is that all the variable must be integrated at the same order in first difference I(1) via unit root test. It is used to examine the long-run association between variables along with the existence and the causal direction between them.

We used the below model to estimate the bi-variate ECM for each nation.

$$\Delta FDI_{it} = \alpha_{0} + \sum \alpha_{1i} \Delta FDI_{it-1} + \sum \alpha_{2i} \Delta X_{it-1} + \varphi ECT_{it-1} + u_{1it} \qquad [12]$$

$$(i=1\ldots n_1) \qquad\qquad (i=1\ldots n_{2)}$$

$$\Delta X_{it} = b_{0} + \sum b_{1i} \Delta X_{it-1} + \sum b_{2i} \Delta FDI_{it-1} + \varphi ECT_{it-1} + u_{2it} \qquad [13]$$

$$(i=1\ldots n_1) \qquad\qquad (i=1\ldots n_{2)}$$

Where Δ is the difference operator for each series, FDI_{it} is the Net FDI, X_{it} is the determinants of FDI inflows in the model, ECT_{it-1} is the error correction term obtained from the long- run co integrating association, v_{1t} and v_{2t} are the white noise error terms t denotes the years while n1, n2 are the lag orders of α's and b's individually.

The VECM results identify short-run as well as long-run Granger causality. Additionally, the estimated coefficients of the lag error correction term indicate the long-run causal relationship between FDI inflows and its determinants. Moreover, it illustrates the FDI and its determinants are adjusting towards their long-run equilibrium association. In other words, known as the speed of adjustment of the variables towards the long-run equilibrium.

More so, if the estimated φ turns to be statistically significant in equation [11], but if otherwise in equation [12] we conclude that the determinants of FDI inflows granger cause FDI inflows and if the reverse is the case we conclude that FDI inflows granger cause its determinants. But it φ is statistically significant in all the two equations then we conclude that there is bi-directional relationship.

3.4.4 FMOLS Estimation Approach

This study proposed to adopt the Fully Modified Ordinary Least Squares (FMOLS) for the motive of getting efficient and unbiased estimate co-efficient as was done by Hassan, Abu Bakar and Abdullah (2014) where they adopted the procedure based on christopoulos and Tsionas (2004) for having asymptotically and efficient consistent estimates. The problems of correlation and non-exogeneity are solved by using FMOLS. Given that OLS may yield bias result owing to the fact that regressors in the case of I (1) are determined exogenously.

We shall commence with the OLS through integrated system.

$$y_{it} = \alpha_i + x'_{it}\beta + e_{it} \qquad\qquad [14]$$

$$x_{it} = x_{i,t-1} + \varepsilon_{it}$$

Where $\xi_{it} = [e_{it}, \varepsilon'_{it}]$ is the stationary with covariance matrix Ω_i. The estimator β will be consistent when the error process $\omega_{it} + [e_{it}, \varepsilon'_{it}]'$ satisfies the assumption of cointegration between y_{it} and x_{it}.

The distribution of OLS estimator is limited due to some nuisance parameters. To address this considering the Phillips and Hansen (1990) the semi-parametric adjustment should be made to eradicates the second bias brought about by nature of the regressors being endogenous. The same principle is used in panel data that pave way for the heterogeneity dynamic in the short run as well as fixed effects by (Pedroni, 1996,2000). Therefore, Pedroni's FMOLS estimator is design as follows:

$$\hat{\beta}_{FM} = \left(\sum_{i=1}^{N} \hat{\Omega}_{22i}^{-2} \sum_{t=1}^{T} (x_{it} - \hat{x}_t)^2 \right)^1 \sum_{i=1}^{N} \hat{\Omega}_{11i}^{-1} \hat{\Omega}_{22i}^{-1} \left(\sum_{t=1}^{T} (x_{it} - \bar{x}_t) e_{it}^* - T\hat{\gamma}_i \right) \qquad [15]$$

$$\hat{e}_{it}^* = e_{it} - \hat{\Omega}_{22i}^{-1} \hat{\Omega}_{21i}, \qquad \hat{\gamma}_i = \hat{\Gamma}_{21i} + \hat{\Omega}_{21i}^0 - \hat{\Omega}_{22i}^{-1} \hat{\Omega}_{21i} \left(\hat{\Gamma}_{22i} + \hat{\Omega}_{22i}^0 \right)$$

Where, the covariance matrix could be decomposed as $\Omega_i = \Omega_i^0 + \Gamma_i + \Gamma_i$ where Ω_i^0 assumed contemporaneous covariance matrix, and Γ_i represent a weighted sum of Autocovariances. Moreover, $\hat{\Omega}_i^0$ is the appropriate estimator of Ω_i^0.

This study employed the panel group FMOLS test derived through Pedroni (1996, 2000). One of the critical advantages of panel group estimators pave way for higher flexibility in the existence of hetrogeinity among the cointegrating factor vectors if the data is pooled. Take note that the test statistics are design to test the null hypothesis $H_0 : \beta_i = \beta_0$ for all i against the alternate hypothesis $H_A : \beta_i = \beta_A \neq \beta_0$ thus, the value of β_i are not constrained to be the same under the alternate hypothesis. Additionally, benefit of panel group estimates is the ability to have more valuable interpretation should there be heterogeneous

cointegrating vectors. In a nut shell, the point estimates could be cointegrating vectors (pedroni, 2001).

3.5 Data

This study used secondary data and due to the multiple number of Sub-Saharan Africa countries couple with the lack of availability of relevant data or missing values of some important variables of some countries the study considers six countries namely: Cote d'voire, Ghana, Nigeria, Sudan, South Africa, and Democratic Republic of Congo. Annual time series of the data was considered from 1980-2011.

Moreover, this study employed a panel data for the analysis. The annual data inflows of FDI which is Dependent variable and trade openness (OPN), exchange rate (REER) in Sub-Saharan Africa are all measured in US dollars while human capital development (HCD) is measured by secondary school enrollment ratio, Infrastructural facilities (INFR) is measured by telephone and mobile subscribers per 100 people and market size (MKTS) measured by GDP per capita. The data was sourced from united nation conference on trade and development (UNCTAD), World Bank, African Development Indicators (WB, ADI), International Monetary Fund (IMF) and World Bank Development Indicators (WDI).

3.6 Sample of the Study

Considering the nature of the cross-section (i….. N) couple with the time series of the Data, this study selected six Sub-Sahara Africa countries Namely; Ghana, Nigeria, South Africa, Democratic republic of Congo, cote d'Ivoire and Sudan the rationale behind selecting them

is based on their ability to be among the top ten recipients of FDI in the region (UNCTAD,2012), they share similar products (primary commodities) as main stay of their economy and are part of low income countries. These are the inspiring factors for selecting them and the availability of data contribute more.

3.7 Justification of Variables

3.7.1 Foreign Direct Investment

FDI refers to the sum of capital that is invested by the international investors in an economy. The net FDI inflows represent the investment made in the country which is expressed in billion US $ (Jadhav, 2012).

3.7.2 Trade Openness

Trade Openness (OPN) is generally described as the sum of aggregate import and export of both goods and services to investing party generally in a year owing to the non-availability of time series data for openness this measure is usually considered in most of the empirical studies. It is measured by adding import and export of both goods and services as a ratio to growth domestic product (GDP). The level at which an economy is opened to trade with the rest of the world is measured by openness. Thus, a positive significant coefficient means high level of openness to draw inflows of FDI.

Moreover, the more opened an economy is the more likely for MNCs to have interest in trade with an economy. On contrary, a negative coefficient means that an economy imposes trade restrictions which could frustrate inflows of FDI.

Evidence from the investigation of Habib and Zurawicki (2002), Anyanwu (2006), Al-Sadiq (2009), Porters (2010), Alemu (2013) and Quazi et al. (2014) found a positive association with FDI inflows. Conversely, the study of Ho (2004) and Hassan, Abu Bakar and Abdullah (2014) found negative effect of openness on FDI inflows while Azam and Lukman (2010) and Vijayakumar et al. (2010) found the statistical insignificant effect of the variable on FDI inflows. It is anticipated upon to have a positive sign with the FDI inflows.

3.7.3 Market Size

The measurement of market size refers to the general volume of a given market. It has been argued that inflows of FDI in the host nation are subjected to the domestic market where GDP per capita is generally considered as the measure. Thus, the demand in the domestic market plays a significant role in drawing more FDI streams where securing and serving the domestic market are the primary goals of MNCs and invariably implies additional business to domestic firms and MNCs.

Market size is measured by GDP per capita. Numerous empirical studies, for example, Wei (2000), Quazi (2007,2014), Al-Sadiq (2009), Porters (2010), Freckleton, Wright and Craigwell (2013), Bellos and Subasat (2011), Baxamusa and Jalal (2014) and Subasat and Bellos (2013) employed market size of the home nation in their studies and found a positive relationship between market size and FDI inflows. Conflicting with the investigations of Mauro (1995), Tanzi (1998), Habib and Zurawicki (2002), Anyanwu (2006), Dreher and Gassebner (2011), Ali, Chaudhri, Ali, Tasneem, & Ali (2013) that found a negative relationship between market size and FDI inflows. While Dinda, (2014) found that the

variable is insignificant for attracting FDI inflows. In this way, it is required to have a positive sign with the inflows of FDI.

3.7.4 Infrastructure

The provision of available infrastructure in a country could be one of the most significant factors that determine the Inflows of FDI to aimed nations. However, provision of infrastructure like good roads, electricity, telecommunication, railways, and sea port could draw more FDI inflows into a host country. The availability of such infrastructural facilities in the targeted countries would lead to the increase in productivity thereby encourage more FDI. Telephone lines and mobile subscribers are used to measure infrastructure. Meanwhile empirical studies such as Asiedu (2002), Anyanwu (2011), Alemu (2013), Mathur and Singh (2013) and Quazi (2014) discovered the association of infrastructure to be positive. Contrary to the studies of Bellos and Subasat (2011) and Quazi et al. (2014) established negative relationship among the infrastructure and FDI inflows. It is anticipated to have a positive sign with the FDI inflows.

3.7.5 Human Capital Development

Generally, many empirical studies used education as the proxy of human capital development as in the studies of (Mankiw, Romer, David and Weil, 1992). Furthermore, the enrollment rate especially secondary is usually used as human capital development proxy (Hassen & Anis, 2012) while Agrawal, Gaurav and Khan, (2011) considered Human Development Index as its proxy. Ali, Chaudhri, andTasneem (2013), Akpan, Isihak, and Asongu (2014) established significant and positive relationship between the human capital development and the inflows of FDI.

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3.7.6 Exchange Rate

Exchange rate is one of the macroeconomic stability that is used to attracts FDI inflows in developing nations when the currency of the host nations depreciate will unambiguously increase the inflows of FDI from the international firms because it reduces the user cost of capital which in turn increases the expected profitability of the international investors (Erdal & Tatoglu 2002; Liargovas and Skandalis 2012).

Therefore, the expected sign is negative. The positive and statistical significant effect of exchange rate on FDI is established in the studies of Nasser and Gomez (2009) and Kinda (2010). Conversely, the studies Kyereboah-Coleman and Agyire-Tettey (2008), Ramiraz (2006) and (Jeon and Rhee, 2008) found negative statistical effect. while the studies of Brahmasrene and Jiranyakul (2001); Ajayi (2006); Naud and Krugell (2007) and Dinda, (2014) found statistical insignificant effect of exchange rate on FDI inflows.
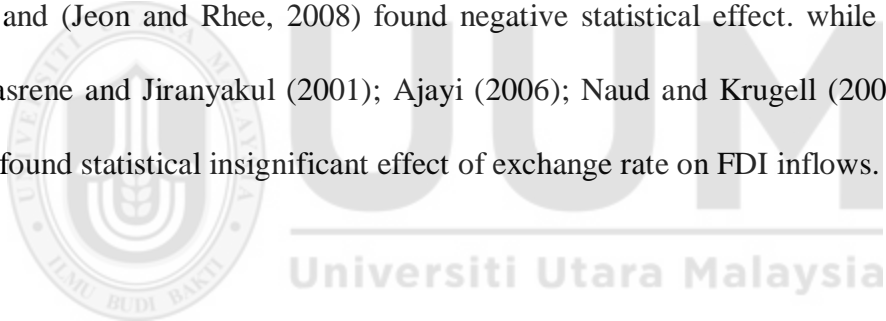
CHAPTER FOUR

EMPIRICAL RESULTS

4.1 Introduction

This chapter aims at presentation and discussion of the empirical results, starting from confirming the order of integration via unit root test then followed by cointegration test to confirm the presence of long run association among the variables then followed by the causality test while the last step is the estimation of coefficient of the long run association along with the determination of their values using FMOLS approach and Eviews statistical package.

4.2 Descriptive Statistics

The table 4.1 shows the summary of the descriptive statistics that reports the mean, standard deviation, minimum and maximum of individual variables used for the analysis of this study.

Table 4.1
The Result of Descriptive Statistics

Variables	Mean	Standard Deviation	Minimum	Maximum
FDI	1.099555	0.027988	1.024868	1.142644
OPN	9.231647	1.160865	6.758907	11.50210
MKTS	6.739391	0.967066	4.577594	8.687801
HCD	4.394207	0.228265	3.868153	4.765011
INFR	0.019238	1.528268	-5.156954	2.549196
REER	0.998690	0.929790	-2.609941	0.929790

The value of individual standard deviation of each variable when taking its square is compared with their individual mean to explain how the variable spreads. The Infrastructural Facilities (INFR) has the highest value of standard deviation (1.528268) while Foreign Direct Investment has the lowest value of Standard deviation (0.027988). the minimum and maximum illustrate the minimum and the maximum values of each of the variables.

4.3 Panel Unit Root Test

The panel unit root test results are shown in the table 4.2. The IPS panel unit root test statistics are calculated for individual variables in the table, the results indicate that all the values of the six variables are non-stationary at level I (0) in constant and constant plus trend while all the results of the variables values are stationary at first difference I (1) in constant and constant plus trend. The Schwarz Bayesian Criterion is used to determine the Lag levels and The Null hypothesis for all series is rejected at 5% level of significance. Therefore, considering the results we can conclude that the series are integrated at order one and has valid statistical evidence to employ panel cointegration approach and test for the presence of long-run association among the variables.

Table 4.2
Results of Panel Unit Root Test – Im, Pesaran and Shin (IPS)

Variable	Level		First Order Difference	
	Constant	**Constant+ Trend**	**Constant**	**Constant+ Trend**
FDI	5.841	2.649	-11.537***	-7.967***
OPN	9.408	6.028	-2.858**	-5.212***
MKTS	4.221	3.090	-8.211***	-10.003***
HCD	2.532	2.869	-5.195***	-7.475***
INFR	0.878	0.582	-9.646***	-8.894***
EXC	3.874	0.614	-7.307***	-6.458***

Note: - (***),(**) and (*) indicates significant at 1%,5% and 10% level respectively

4.4 The Pedroni Panel Cointegration Test

The next stage is the Panel cointegration test which Pedroni's (1999, 2001,2004) panel cointegration test approach is employed to test for the presence of cointegration among the variables after having all the variables integrated at I (1) in the above unit root test. The cointegration test are done on constant and constant plus trend while the summary of the tests is shown in the table 4.3.

The results of the tests are categorized into two, the first is based on the constant level where five out of the seven are statistically significant and therefore reject the null hypothesis of no cointegration at one percent for panel *t*- statistic (non-parametric), panel *t*- statistic (adf), group *t* -statistic (non-parametric) and group *t*- statistic (adf) while panel *p*- statistic at ten percent. The result of panel cointegration test in the model with constant indicates that the independent variables have long-run association among them in six Sub-Saharan African countries in relation to the Dependent variable FDI. Similarly, the results of the panel cointegration test using the model with constant plus trend indicates that four out of seven reject the null hypothesis of no cointegration at one percent level of significance in

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panel *t*-statistic (non-parametric), panel t-statistic (*adf)*: (parametric), group *t*-statistic: (non-parametric) and group *t*-statistic (*adf)*: (parametric). Thus, the results show that the independent variables have long-run association among them in relation to dependent variable FDI in six Sub-Saharan Africa.

Moreover, the combined cointegration test results from the two models i.e constant and constant plus trend models, gives the statistical evidence that favor the cointegration also Pedroni (1999) emphasized that panel non-parametric (*t*-statistic) along with the parametric (*adf*-statistic) serve as the more efficient in constant plus trend. Based on that, agreed the presence of long-run association among the variables in Six Sub-Saharan African countries.

Table 4.3
Results of Pedroni Panel Cointegration Test

Test	Constant	Constant Plus Trend
Panel *v* - Statistic	0.237	-0.289
Panel *p* – Statistic	-1.465*	0.0226
Panel *t* – Statistic: (non-parametric)	-8.734***	-13.161***
Panel *t*- Statistic (*adf*): (parametric)	-8.294***	-9.553***
Group *p* – Statistic	-0.212	0.886
Group *t* – Statistic: (non-parametric)	-6.559***	-8.031***
Group *t*-Statistic (*adf*): (parametric)	-4.225***	-6.605***

Note: All statistics are from Pedroni's procedure (1999) where the adjusted values can be compared to the N (0,1) distribution. The Pedroni (2004) statistics are one-sided tests with a critical value of -1.64 (k<-1.64 implies rejection of the null), except the v – statistic that has a critical value of 1.64 (k>1.64 suggests rejection of the null). (***),(**) and (*) indicates significant at 1%,5% and 10% level respectively

4.5 Granger Causality Test

Table 4.4 illustrate the granger causality results, the results show the bi-directional causality between OPN and FDI (OPN↔FDI) meaning that there is causality running from trade openness to FDI and vice vasa in other words each granger cause another and similar case occur between   REER and FDI (REER↔FDI) while MKTS, HCD and INFR do not granger cause FDI. The INFR, REER and MKTS granger cause HCD. Additionally, INFR, OPN and REER granger cause MKTS. Finally, OPN granger cause REER in other words they have Uni-directional causality that runs between them.

Table 4.4
Granger Long-Run Causality

Null Hypothesis:	Obs	F-Statistic	Prob.
OPN does not Granger Cause FDI	133	5.584	0.00***
FDI does not Granger Cause OPN		5.593	0.00***
REER does not Granger Cause FDI	93	5.002	0.00***
FDI does not Granger Cause REER		3.23	0.04**
INFR does not Granger Cause HCD	114	3.855	0.02**
HCD does not Granger Cause INFR		9.8E-0	0.999
MKTS does not Granger Cause HCD	115	2.439	0.09*
HCD does not Granger Cause MKTS		1.499	0.228
REER does not Granger Cause HCD	67	7.549	0.00***
HCD does not Granger Cause REER		1.488	0.234
MKTS does not Granger Cause INFR	179	0.127	0.881
INFR does not Granger Cause MKTS		9.143	0.00***
REER does not Granger Cause INFR	112	0.031	0.969
INFR does not Granger Cause REER		25.256	1.E-09
OPN does not Granger Cause MKTS	180	2.711	0.06*
MKTS does not Granger Cause OPN		0.511	0.601

Table 4.4 (Continued)

REER does not Granger Cause MKTS	112	6.703	0.00***
MKTS does not Granger Cause REER		12.741	1.E-05
REER does not Granger Cause OPN	112	2.212	0.115
OPN does not Granger Cause REER		9.479	0.00***

Note: - (***), (**) and (*) indicates significant at 1%,5% and 10% level respectively

4.6 FMOLS Estimates for the Model

The outcome of the cointegration test using Pedroni (1999, 2001,2004) confirmed the existence of the long run association between the dependent variable and independent variables of the model, that is FDI inflows to cote d'Ivoire, Democratic Republic of Congo, Ghana, Nigeria, South Africa and Sudan and the independent variables (OPN, MKTS, HCD, INFR and REER). After satisfying the Pedroni cointegration test then we have statistical evidence to use the FMOLS approach for the estimation of coefficients of individual country and the results are depicted in table 4.5.1
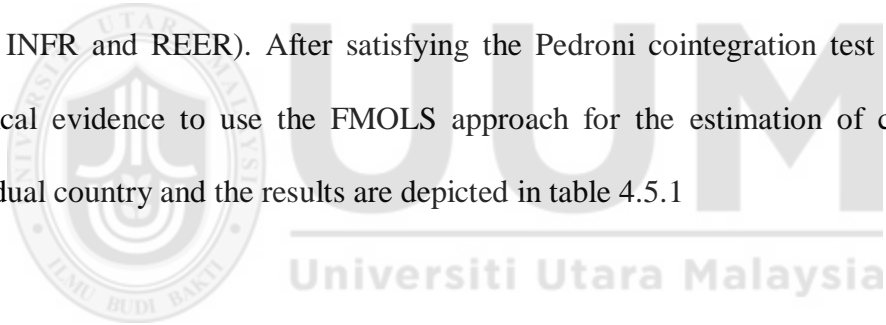
Table 4.5.1
FMOLS Regression Results for an Individual Country

FDI inflows to	Variables				
	OPN	**MKTS**	**HCD**	**INFR**	**REER**
Cote d'Ivoire	-0.026**	0.113***	-0.155***	0.026***	0.431***
	(-2.101)	(4.903)	(-4.091)	(3.030)	(6.422)
Dem Rep of Congo	0.006	5.10E	0.219**	-0.015	0.002
	(0.251)	(0.559)	(3.292)	(-0.262)	(1.345)
Ghana	0.316**	-7.82E	0.079	0.003	0.400
	(7.839)	(-2.717)	(1.055)	(-0.043)	(0.187)
Nigeria	0.006	-0.005	-0.059**	0.023**	0.006
	(0.759)	(-0.589)	(-2.612)	(2.445)	(0.392)
South Africa	-0.054*	0.085**	0.020	-0.055*	0.099***
	(-2.055)	(2.862)	(0.704)	(1.901)	(4.416)
Sudan	0.316	0.058*	-0.068*	0.016***	-0.051***
	(-1.701)	(2.579)	(-2.298)	(10.925)	(-6.295)

Note: - The null hypothesis for the *t*- ratio is $H_0 : \beta_i = 0$; Figures in parentheses are t- statistics;(***), (**) and (*) indicate the 1%,5% and 10% levels of significance respectively, that shows the rejection of null hypothesis.

The results of the table 4.5.1 shows that the estimated coefficient of Trade openness as well as the sign in Ghana are right and statistically significant at five percent level, showing a positive effect on FDI inflows and that one unit increase in trade intensity ratio leads to as much as 0.316% FDI inflows. On contrary, sign and estimated coefficient is negative and statistically significant at five percent level in Cote d'Ivoire indicating one unit increase in trade intensity caused 0.026% decrease in FDI inflows. The same case in South Africa, estimated coefficient is statistical significant at ten percent level indicating negative effect

on FDI inflows. It shows that one unit increase in trade intensity ratio leads to as much as -0.054% decrease in FDI inflows in the country. This could be because of policies inconsistent brought about by the political instability of these countries

Similarly, the estimated coefficient of the market size in South Africa is statistically significant at five percent. One unit increase in MKTS leads to as much as 0.085% inflows of FDI while it is statistically significant at ten percent in Sudan that shows one unit increase in MKTS leads to 0.058% inflows of FDI while in other countries the coefficients are not statistically significant. The result is in line of the theories of FDI and it shows that the market size of these countries attracts more inflows of FDI.

However, the estimated coefficient of HCD in Democratic Republic of Congo is positive and statistically significant at five percent level indicating that one unit increase in HCD leads as much as USD 0.219 inflows of FDI while in contrast the estimated coefficient is negative and statistically significant at five percent level in Nigeria. One unit increase in HCD leads to the 0.059% decrease in FDI inflows to Nigeria. Also, negative, and statistically significant at ten percent in Sudan indicating decrease in FDI inflows by 0.068% due to one unit increase in HCD.

Furthermore, the estimated coefficient of INFR in Sudan is positive and statistical significant at one percent level. One unit increase in INFR leads to USD 0.016 increase in FDI inflows and in Nigeria is positive and statistically significant at five percent. It shows that one unit increase in INFR leads to as much as USD 0.023 increase in FDI inflows

while in contrast, it has negative and statistical significant at ten percent in South Africa indicating decrease in FDI inflows to USD 0.055.

Lastly, the value of the estimated coefficient of REER is positive and statistically significant at one percent in South Africa. An increase in REER leads to as much as USD 0.099 inflows of FDI while in contrast it is negative and statistically significant in Sudan at one percent level. One unit increase in REER leads to USD 0.051 decrease in FDI inflows.

Moreover, the result for group FMOLS coefficient estimation for the combined countries: Cote d'Ivoire, Democratic Republic of Congo, Ghana, Nigeria, South Africa, and Sudan is shown in table 4.5.2.

Table 4.5.2
Group Panel FMOLS Regression Results on FDI inflows

Variables	OPN	MKTS	HCD	INFR	REER
Group	0.037***	-0.029***	-0.003	0.006***	0.003
	(10.666)	(-6.963)	(-0.359)	(2.804)	(0.936)

Note: - The null hypothesis for the *t*- ratio is H0: βi =0; Figures in parentheses are t- statistics;(***), (**) and (*) indicate the 1%,5% and 10% levels of significance respectively

The result of the group panel FMOLS in table 4.5.24 shows that the estimated coefficient of OPN in the group is positive and statistically significant at one percent level. It shows that one unit increase in trade intensity ratio leads to 0.037% increase inflows of FDI to these countries. This result is consistent with the finding of Habib and Zurawicki (2002),

Anyanwu (2006), Al-Sadiq (2009), Porters (2010), Alemu (2013) and Quazi et al. (2014) that found a positive association with FDI inflows.

Moreover, the same is the case in the estimated coefficient of INFR, it is positive and statistically significance at one percent level where one unit increase in information technology (INFR) leads to as much as 0.006% increase in FDI inflows to these countries. This result corresponds to the findings of Asiedu (2002), Anyanwu (2011), Alemu (2013), Mathur and Singh (2013) and Quazi (2014) that discovered the positive association with FDI inflows. The rationale behind having positive significant value has to do with the role played by information technology in attracting the inflows of FDI

The outcomes of the estimated coefficient of MKTS is negative and statistically significant at one percent level. portraying a one unit increase in MKTS account for the 0.029% decrease in FDI inflows in these countries. Which corresponds to the finding of Mauro (1995), Tanzi (1998), Habib and Zurawicki (2002), Anyanwu (2006), Dreher and Gassebner (2011) that found a negative relationship between market size and FDI inflows.

Lastly, the estimated coefficient of HCD -0.003 (-0.359) which is negative but statistically insignificant and conclude that it has no effect on FDI inflows to these countries. This result is consistent with the findings of Noorbakhsh et al. (2001) that found the estimated coefficient statistically insignificant. While the estimated coefficient of real effective exchange rate REER is also positive and statistically insignificant 0.003(0.936). Hence REER does not have effect on FDI inflows to these countriesthis result corresponds to the findings from the studies of Brahmasrene and Jiranyakul (2001); Ajayi (2006); Naud and

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Krugell (2007) and Dinda, (2014) that found statistical insignificant effect of exchange rate on FDI inflows.

4.7 Conclusion

The study used the data from 1980-2011 and the FMOLS is used for the estimation of the model. However, for the study to use FMOLS certain conditions must be fulfil among which is the panel unit root and cointegration test. After checking for these tests and fully satisfied then the causality and FMOLS were used. The outcomes of the analysis of These results proved that the marginal effect of trade openness, real effective exchange rate (REER) and infrastructural facilities (INFR) on FDI inflows is positive and statistically significant to these countries as shown in table 4.5. It also established that there is long-run association between FDI inflows and the independent variables. Additionally, the results confirmed that the FDI inflows depend on the trade openness, infrastructural facilities, and market size while the real effective exchange rate and human capital development have no effect on the FDI inflows to these countries

CHAPTER FIVE

DISCUSSION AND CONCLUSION

5.1 Introduction

This chapter focus specifically on the major findings along with the discussion on the policy implications of these findings to policy makers, investors, and other stakeholders of these countries on how they can use the outcomes of this study. Additionally, the chapter comprises the limitations of the study along with the suggestion for future study and the conclusion.

5.2 Major Findings of the Study

This dissertation examines the factors affecting the inflows of FDI in Sub-Saharan Africa: evidence from six among the top ten FDI recipient countries from 1980-2011. Specifically, this study contributes to the existing literature in many ways. The main among which is the provision of inputs on the behavior of FDI inflows to top FDI recipient countries in Sub-Saharan Africa which was not fully captured by the previous studies. The study employed appropriate econometric approach for the estimation of the model of the study i.e cointegration approach and causality that determine the direction of causality amongst the variable in the long-run.

Trade openness has positive and statistically significant effect on FDI inflows to these countries. The results confirmed that there is statistical evidence that trade openness

contributes towards the FDI inflows to these countries which is consistent with the findings of Habib and Zurawicki (2002), Anyanwu (2006), Al-Sadiq (2009), Porters (2010), Alemu (2013) and Quazi et al. (2014) that found a positive association with FDI inflows. Moreover, has strong statistical causal effect from OPN to FDI and the reverse causality from FDI to OPN. The rationale behind having positive co-efficient values has to do with the policy of privatization employed by these countries where foreign investors were given access to establish their affiliates through merger and acquisitions.

Moreover, the same is the case in the estimated coefficient of INFR, it is positive and statistically. The confirmed that INFR has positive marginal effect on FDI and this result corresponds to the findings of Asiedu (2002), Anyanwu (2011), Alemu (2013), Mathur and Singh (2013) and Quazi (2014) that discovered the positive association with FDI inflows. The positive value of infrastructural co-efficient has to do with the understanding of the importance of this variable in attracting more inflows of FDI by the policy makers and they have been trying to improve the quality of their infrastructure.

The estimated coefficient of MKTS is negative and statistically significant. It shows that MKTS has negative marginal effect on FDI and this corresponds to the finding of Mauro (1995), Tanzi (1998), Habib and Zurawicki (2002), Anyanwu (2006), Dreher and Gassebner (2011) that found a negative relationship between market size and FDI inflows. The negative value of market size variable deviate from the theory but the possible reason this happened could be attributed to the increase in social vices such kidnapping, robbery, corruption and the violence. These are common in the countries with a considerable market size thereby decrease the inflows of FDI to these countries.

Lastly, the estimated coefficient of HCD is statistically insignificant corresponding to the findings of Noorbakhsh et al. (2001) and REER is also statistically insignificant that corresponds to the findings of Brahmasrene and Jiranyakul (2001); Ajayi (2006); Naud and Krugell (2007) and Dinda, (2014). Indicating that both do not have marginal effect on FDI inflows in these countries.

5.3 Policy Implications

The results of the study suggest that Cote d'Ivoire, Democratic Republic of Congo, Ghana, Nigeria, South Africa, and Sudan as Sub-Saharan Africa should focus specifically on undertaking policies that can facilitate the volume of FDI inflows to them. The study discovered that the trade openness and infrastructural facilities are the important determinants of the FDI inflows to these countries. But their effect is very low considering their co-efficient for openness is 0.04% meaning that it has only 4% effect on FDI. Therefore, these countries should design policies that will encourage the ease to doing business through provision of incentives that can motivate foreign investors to invest in the region.

Moreover, the situation remains the same as infrastructural facilities (information technology command only 0.006% FDI inflows which is very negligible hence the quality of information technology should be improved through making policies that are geared towards encouraging public and private partnership which will make their environment more conducive for the inflows of FDI from different part of the world. If this is achieved,

it will supplement their low domestic investment and consequently help to address some of their macroeconomics problems.

Conversely, the market size coefficient is negative but statistically significant indicating that their market size influences the inflows of FDI but negatively hence they should focus on how to influence the inflows of FDI through making policies on encouraging non-market-seeking such as resource-seeking, efficiency seeking and strategic seeking FDIs.

5.4 Limitations of the Study

Firstly, the study ought to have included many countries especially all the top ten recipient countries as well as all the least ten FDI recipient countries but due the non-availability of data. The study considered only six among the top ten FDI recipient countries.

Secondly, GMM methodology ought to have been used but the fundamental conditions are not fulfilled among which is the number of cross-sections is very low (N<T) when tried using EViews satisfied the first stage but failed to run for the second stage of the GMM. Also, when using Stata12 the results was spurious as all the Lags values are insignificant which make the model unfit for the study.

Thirdly, there are variables that are supposed to be included in the model such as the political activity which is usually measured by government effectiveness index (GEI) and the corruption measured by control of corruption (COC) but could not include them in the model due to lack of the data. Also, this study ought to have used the infrastructure

measurement such as port index or logistic index against the one used i.e telephone line and mobile subscribers per 100 people.

5.5 Suggestions for Future Research

I would like to give my suggestions for future research should there be need for that, first the future study ought to extend the sample by capturing the least FDI recipient countries so as to make a basis for comparison of the behavior of FDI inflows between the top recipient and the least recipient countries. Also, the political activity and corruption should be among the determinant variables in the model and lastly, the GMM approach should be employed for the estimation of the model.

5.6 Conclusion

The study succeeded in examining the determinants of trade openness on FDI in sub-Saharan Africa using Cote d'Ivoire, Democratic Republic of Congo, Ghana, Nigeria, South Africa and Sudan as a sample and they are selected base on their ability of being among the top ten FDI recipient country in the region. However, the study wanted to use a larger sample but due to the lack of data of some important variables limits to the only six top FDI recipient Sub-Saharan African countries.

The Fully Modified Ordinary Least Squares was used (FMOLS) and the findings of the study can help a long way in providing important solutions of how to motivate the inflows of FDI in the region through employing relevant measures by the policy makers and other stake holders.

REFERENCES

Acemoglu, D., Johnson, S., & Robinson, J. A. (2012). The colonial origins of comparative development: An empirical investigation: Reply. *The American Economic Review*, *102*(6), 3077-3110.

Agrawal, G. & Khan, M. A. (2011). Impact of FDI on GDP: A comparative study of China and India. *International Journal of Business and Management*, *6*(10), 71–79.

Ajayi, S. Ibi. (2006). The Determinants of Foreign Direct Investment in Africa: A Survey of the Evidence. *Foreign Direct Investment in Sub-Saharan Africa: Origins, Targets, Impact, and Potential, Edited by Ajayi, S. Ibi. African Economic Research Consortium: Nairobi.*

Akpan, U. S., Isihak, S. R., & Asongu, S. A. (2014). Determinants of foreign direct investment in fast-growing economies: a study of BRICS and MINT. *African Governance and Development Institute WP/14/002.*

Al Nasser, O. M., & Gomez, X. G. (2009). Do well-functioning financial systems affect the FDI flows to Latin America. *International Research Journal of Finance and Economics*, *29*, 60-75.

Aleksandra, Riedl (2010), Location factors of FDI and the growing services economy, *The Economics of Transition*, *18*(4), 741-761

Alemu, A. M. (2012). Effects of corruption on FDI inflow in Asian economies. *Seoul Journal of Economics*, *25*(4), 387 – 412.

Alemu, A. M. (2013). The effect of corruption on FDI inflow: Empirical evidence from Asian economies. *Global Conference on Business and Finance Proceedings*, *8*(1), 280–289.

Ali, H., Chaudhri, S. I., Ali, H., Tasneem, A., & Ali, H. (2013). Human Capital as Determinant of Foreign Direct Investment (FDI) in Pakistan. *Middle-East Journal of Scientific Research*, *17*(7), 877-884.

Al-Sadiq, A. (2009). The effects of corruption on FDI Inflows. *Cato Journal*, *29*(2), 267 – 294.

Amoro, G., Mingaine, L., & Shen, Y. (2013). Effects of Chinese Investment (FDI) and Service Trade on Economic Community of West Africa States (ECOWAS) Economic growth. *Editorial Board*,

Anyanwu, J. C. (2006). Promoting of investment in Africa. *African Development Review*, *18*(4), 42–72.

Anyanwu, J. C. (2011). *Determinants of foreign direct investment inflows to Africa, 1980-2007*. African Development Bank Group.

Anyanwu, J. C., & Yameogo, N. D. (2015). What Drives Foreign Direct Investments into West Africa? An Empirical Investigation. *African Development Review*, *27*(3), 199-215.

Asiedu, E. (2002). On the determinants of foreign direct investment to developing countries: is Africa different? *World development*, *30*(1), 107-119.

Asiedu, E. (2006). Foreign direct investment in Africa: The role of natural resources, market size, government policy, institutions, and political instability. *The World Economy*, *29*(1), 63-77.

Azam M, Lukman L (2010) Determinants of foreign direct investment in India, Indonesia, and Pakistan: a quantitative approach. J Manag Sci 4(1):31–43

Babatunde, A. (2011). Trade openness, infrastructure, FDI and growth in sub-Saharan African countries. *Journal of management policy and practice*,*12*(7), 27.

Bailey, D., & Driffield, N. (2002). Hymer and uneven development revisited: foreign direct investment and regional inequalities. *Contributions to Political Economy*, *21*(1), 55-68.

Bain, J. S., (1956), Barriers to New Competition, their character, and consequences in manufacturing industries (No. HB771 B23). Cambridge: Harvard University Press.

Barro, R. J., Mankiw, N. G., & Sala-i-Martin, X. (1992). *Capital mobility in neoclassical models of growth* (No. w4206). National Bureau of Economic Research.

Basu B, Yao J (2009) Foreign direct investment and skill formation in China. Int Econ J 23(2):163–179

Baxamusa, M., & Jalal, A. (2014). The effects of corruption on capital structure: When does it matter? *The Journal of Developing Areas*, *48*(1), 315–335

Bellos S.K., (2010). *Institutional, economic, and regional determinants of foreign direct investments in the Balkan, Central European and ex-Soviet transition economies* Unpublished manuscript, University of Bath.

Bellos, S., & Subasat, T. (2011). Corruption and foreign direct investment: A panel gravity model approach. *Bulletin of Economic Research*, *64*(4), 565–575.

Bellos, S., & Subasat, T. (2012). Governance and foreign direct investment: a panel gravity model approach. *International Review of Applied Economics*, *26*(3), 303–328.

Biglaiser, G., & DeRouen, K. (2006). Economic reforms and inflows of foreign direct investment in LatinAmerica. Latin American Research Review, 41(1), 51–75.

Blonigen, B. A., & Piger, J. (2014). Determinants of foreign direct investment. *Canadian Journal of Economics/Revue canadienne d'économique*, *47*(3), 775-812.

Bloningen, B. A. (2005). A review of the empirical literature on FDI determinants. NBER working papers

Brahmasrene, T., & Jiranyakul, K. (2001). Foreign Direct Investment in Thailand, What Factors Matter. *Proceedings of the Academy for International Business*, *1*(2), 13.

Buckley, P., & Casson, M. (1976). *The Future of the Multinational Enterprise.* London: Homes & Meier.

Canning, D., & Bennathan, E. (2000, November 30). The social rate of return on infrastructure investments. Working Paper Series, No 2930, World Bank Washington DC. The World Bank.

Chakrabarti, A. (2001). The determinants of foreign direct investment: Sensitivity analyses of cross-country regressions. KYKLOS, 54, 89–112.

Christopoulos, D. K., & Tsionas, E. G. (2004). Financial development and economic growth: evidence from panel unit root and cointegration tests. *Journal of development Economics*, *73*(1), 55-74.

Collier, P. & Hoeffler, A (2004), "Conflicts Chapter 3, Global Crises: Global Solutions" (Cambridge University Press)

Cuadros, A., Orts, V., & Alguacil, M. T. (2001). Re-examining the export-led growth hypothesis in Latin America: Foreign direct investment, trade, and output linkages in developing countries. *European Trades Study Group. University of Nottingham, [Online] Available: http://www. ets. org/ETS2000/Papers/Cuadros. pdf*.

DE Mello, L. R. (1997). Foreign direct investment in developing countries and growth: a selective survey. *Journal of Development Studies*, *34*(1), 1 – 34.

Demirhan, E., & Masca, M. (2008). Determinants of foreign direct investment flows to developing countries: a cross-sectional analysis. *Prague Economic Papers*, *4*,

Dhingra, N and Sidhu, H.S (2011), Determinants of Foreign Direct Investment Inflows to India, European Journal of Social Sciences, Vol. 25 (1).

Dinda, S. (2014). Natural Resources Determining FDI in Nigeria: An Empirical Investigation. *International Journal of Research in Business and Social Science*, *3*(1), 75.

Dreher, A., & Gassebner, M. (2011). Greasing the wheels? The impact of regulations and corruption on firm entry. *Public Choice*, *155*(3-4), 413–432.

Dunning, J. H. (1977). Trade, location of economic activity and the MNE: A search for an eclectic approach. In *The international allocation of economic activity* (pp. 395-418). Palgrave Macmillan UK.

Dunning, J. H. (1981), International Production and the Multinational Enterprise: market failure and market power considerations. Share Management Review, vol.22, no. 3.

Dunning, J. H. (1993). Multinational enterprises and the global economy. Wokingham: Addison-Wesley.

Dunning, J. H. (1998). Location and the multinational enterprise: a neglected factor? *Journal of international business studies*, *29*(1), 45-66.

Dunning, J. H. (2000). The eclectic paradigm as an envelope for economic and business theories of MNE activity. *International business review*, *9*(2), 163-190.

Dunning, J. H. (2001). The eclectic (OLI) paradigm of international production: past, present and future. *International journal of the economics of business*, *8*(2), 173-190.

Dupasquier, C., & Osakwe, P. N. (2005). Foreign direct investment in Africa:Performance, challenges, and responsibilities. *Journal of Asian Economics*, *17*(2),241-260.

Easterly, W., & Levine, R. (1997). Africa's growth tragedy: policies and ethnic divisions. *The Quarterly Journal of Economics*, 1203-1250.*Economy*, *29*(1), 63-77.

Eiteman, D. K., Stinehill, A. I., & Moffett, M. H. (2007). *Multinational Business Finance* (11th ed.). Boston: Pearson Addison Wesley.enterprise. Review of International Economics, 10(4), 694–707.Factor?", Journal of International Business Studies, Vol. 29, No. 1, pp. 45-66.for An Eclectic Approach", in B. Ohlin, P. Hesselborn and M. Wijkman, (editors),

Erdal, F., & Tatoglu, E. (2002). Locational determinants of foreign direct investment in an emerging market economy: evidence from Tukey.*Multinational business review*, *10*, 21-27.

Feenstra, R. C., & Hanson, G. H. (1997). Foreign direct investment and relative wages: Evidence from Mexico's maquiladoras. *Journal of international economics*, *42*(3), 371-393.

Fischer, S. (2003). Globalization and its challenges. *The American Economic Review*, *93*(2), 1-30.

Freckleton, M., Wright, A., & Craigwell, R. (2013). Economic growth, foreign direct investment and corruption in developed and developing countries. *Journal of Economic Studies*, *39*(6), 639–652

Gebrehiwot, A. (2016). *The impact of exchange rate volatility on export and FDI inflows: The case of Ethiopia* (Doctoral dissertation, Alliant International University).

Goldberg, L. S., & Klein, M. W. (1998). Foreign direct investment, trade and real exchange rate linkages in Southeast Asia and Latin America. In R. Glick (Ed.), Managing capital flows and exchange rates: Perspectives from the pacific basin (pp. 73–100). Cambridge: Cambridge University Press.

Goodspeed, T., Martinez-Vazquez, J., & Zhang, L. (2006). Are other government policies more important than taxation in attracting FDI? *Andrew Young School of Policy Studies Research Paper*, (06-28).

Groh, A. P., & Wich, M. (2012). Emerging economies' attraction of foreign direct investment. Emerging Markets Review, 13(2), 210-229.

Grosse, R., & Trevino, L. J. (1996). Foreign direct investment in the United States: An analysis by countryof origin. Journal of International Business Studies, 27(1), 139–155.

Grubaugh, S. G. (2013). Determinants of Inward Foreign Direct Investment: A Dynamic Panel Study. *International Journal of Economics and Finance*, 5(12), 104.

Habib, M., & Zurawicki, L. (2002). Corruption and foreign direct investment. *Journal of International Business Studies*, *33*(2), 291–307.

Hassan, S., Abu Bakar, N & Abdullah, H. (2014). Analysis of FDI Inflows into China from ASEAN-5 Countries: A Panel Cointegration Approach. *Journal of Economic Cooperation & Development*, *35*(3), 1.

Hassen, S. & Anis, O. (2012). Foreign direct investment (FDI) and economic growth: An approach in terms of cointegration for the case of Tunisia. *Journal of Applied Finance and Banking*, *2*(4), 193–207.

Hennart, J. (1982). *A theory of multinational enterprise.* University of Michigan press.

Henry, M., Kneller, R., & Milner, C. (2009). Trade, technology transfer and national efficiency in developing countries. *European Economic Review*,*53*(2), 237-254.

Hill CWL. (2011) International Business: Competing in the Global Marketplace, New York: McGraw-Hill/Irwin.

Ho CH (2004) Determinants of foreign direct investment in China: a sectoral analysis. In: Proceedings of the 16th Annual Conference of the Association for Chinese Economics Studies, School of Economics and Commerce, University of Western Australia, Australia.

Hossain, T., Peters, S., & Keep, W. (2012). Corruption and foreign direct investment: The moderating effect of bilateral tax treaties. *IJBIT*, *4*(3), 40–49.

http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx

Hymer, S. H. (1976), The International Operations of National Firms: A Study of direct foreign investment (vol. 14, pp. 139-155). Cambridge, MA: MIT press.

Jadhav, P. (2012). Determinants of Foreign Direct Investments in BRICS Economies: Analysis of Economic, Institutional and Political Factors. *Procedia-Social and Behavioral Sciences, 37*, 5-14.

Jadhav, P., & Katti, V. (2012). Institutional and Political Determinants of Foreign Direct Investment: Evidence from BRICS Economies. *Poverty & Public Policy, 4* (3), 49-57. *Journal of Developing Societies*, *20*(1-2), 89-106.Journal, Vol. 38, No. 2, pp. 341-363.

Jakobsen, T. G., De Soysa, I., & Jakobsen, J. (2013). Why do poor countries suffer costly conflict? Unpacking per capita income and the onset of civil war. *Conflict Management and Peace Science*, *30*(2), 140-160.

Jeon, B. N., & Rhee, S. S. (2008). The Determinants of Korea's Foreign Direct Investment from the United States, 1980–2001: An Empirical Investigation of Firm-level Data. *Contemporary Economic Policy*, *26*(1), 118-131.

Kandiero, T., Chitiga, M., Mabugu, M., & Chitiga-Mabugu, M. (2006). Trade openness and foreign direct investment in Africa. *South African Journal of Economic and Management Sciences*, *9*(3), 355-370.

Kar, S. (2013). Exploring the causal link between FDI and human capital development in India. *Decision*, *40*(1-2), 3-13.

Karimi, M. S., Yusop, Z., Hook, L. S., & Chin, L. (2013). Effect of human capital on foreign direct investment inflows. *Journal of Economic Research*,*18*(1), 79-101

Kaur, M., Yadav, S. S., & Gautam, V. (2013). Financial system development and foreign direct investment: A panel data study for BRIC countries. *Global Business Review*, *14*(4), 729-742.

Kheng, V., Sun, S., & Anwar, S. (2016). Foreign direct investment and human capital in developing countries: a panel data approach. *Economic Change and Restructuring*, 1-25.

Kim J, Park J (2013) Foreign direct investment and country-specific human capital. Econ Inq 51(1):198–210

Kinda, T. (2010). Investment climate and FDI in developing countries: firm-level evidence. *World development*, *38*(4), 498-513.

Kindlerberger, C. (1969). *American Business Abroad: Six Lectures on Direct Investment.* New Haven: Yale University Press.

Kok, R., & Acikgoz Ersoy, B. (2009). Analyses of FDI determinants in developing countries. *International Journal of Social Economics*, *36*(1/2), 105-123.

Kosteletou, L., & Liargovas, P. (2000). Foreign direct investment and real exchange rate interlinkages. Open Economies Review, 11(2), 135–148.

Kumar, N. (2002). Globalization and the quality of foreign direct investment. Oxford: Oxford Press.

Kyereboah-Coleman, A., & Agyire-Tettey, K. F. (2008). Effect of exchange-rate volatility on foreign direct investment in Sub-Saharan Africa: The case of Ghana. *The Journal of Risk Finance*, *9*(1), 52-70.

Kyereboah-Coleman, A., & Agyire-Tettey, K. F. (2008). Effect of exchange-rate volatility on foreign direct investment in Sub-Saharan Africa: The case of Ghana. *The Journal of Risk Finance*, *9*(1), 52-70.

Leibrecht, M. and Riedl, A. (2010), Taxes and infrastructure as determinants of Foreign Direct Investment in Central and Eastern European Countries revisited: New evidence from a spatially augmented gravity model, *Discussion Papers No 42, SFB International Tax Coordination,* University of Economics and Business, Vienna.

Leitao, N. C. (2010). Foreign Direct Investment: The Canadian experience. International Journal of Economics and Finance, 2(4): 82-88.

Liargovas, P. G., & Skandalis, K. S. (2012). Foreign direct investment and trade openness: The case of developing economies. *Social indicators research*, *106*(2), 323-331.

Lipsey, R. E. (2000). Inward FDI and economic growth in developing countries. *Transnational Corporations*, *9*(1), 67-96. London: George Allen and Unwin.

Mankiw, N. G., Romer, D. & Weil, D. N. (1992). A contribution to the empirics of economic growth. *The Quarterly Journal of Economics*, *107*(2), 407–437

Markusen, J. R., & Maskus, K. E. (2002). Discriminating among alternative theories of the multinational enterprise. *Review of international economics*,*10*(4), 694-707.

Mathur, A., & Singh, K. (2013). Foreign direct investment, corruption, and democracy. *Applied Economics*, *45*(12), 991 – 1002.

Mauro, P. (1995). Corruption and growth. *Quarterly Journal of Economics*, *110*(3), 681–712.

Michałowski, T. (2012). Foreign direct investment in Sub-Saharan Africa and its effects on economic growth of the region. *Prace i Materiały Instytutu Handlu Zagranicznego Uniwersytetu Gdańskiego*, (31, [1]), 687-701.

Mina, W. (2007). The location determinants of FDI in the GCC countries. *Journal of Multinational Financial Management*, *17*(4), 336-348.

Naudé, W. A., & Krugell, W. F. (2007). Investigating geography and institutions as determinants of foreign direct investment in Africa using panel data. *Applied economics*, *39*(10), 1223-1233.

Ng'ang'a, P. K. (2005). Determinants and effects of foreign direct investment in developing countries: Theoretical and empirical analysis. *Unpublished Ph. D Dissertation*.

Noorbakhsh F, Paloni A, Youssef A (2001) Human capital and FDI inflows to developing countries: new empirical evidence. World Dev 29(9):1593–1610

Nosseyamba Benjamin, O. (2012). Foreign direct investment in Sub-Saharan Africa. *African Journal of Economic and Sustainable Development*, *1*(1), 49-66.

Okurut, F. N., Narayana, N., & Chidozie, N. (2012). Determinants of Foreign Direct Investment in Economic Community of West African States. *International Journal of Economics & Business Studies*,*2*(1).

Olatunji, L. A. (2015). *Essays on foreign direct investment institutions output efficiency and economic growth in Sub-Saharan Africa countries (SSA)*(Doctoral dissertation, Middlesex University).

Onyeiwu, S., & Shrestha, H. (2004). Determinants of foreign direct investment in Africa.Panel Study. *International Journal of Economics & Finance*, *5*(12).

Pahlavani, M., Wilson, E., & Worthington, A. C. (2005). Trade-GDP nexus in Iran: An application of the autoregressive distributed lag (ARDL) model.

Pasaran, M. H., Im, K. S., & Shin, Y. (1995). *Testing for unit roots in heterogeneous panels* (No. 9526). Faculty of Economics, University of Cambridge.

Paul, R. K., & Maurice, O. (2015). International economics-theory and policy. Tenth Edition, PearsonVol.011, No.2 pp 194-200.

Pedroni, P. (1996). Fully modified OLS for heterogeneous cointegrated panels and the case of purchasing power parity. *Documento de Trabalho*.

Pedroni, P. (1999). Critical values for cointegration tests in heterogeneous panels with multiple regressors. *Oxford Bulletin of Economics and statistics*,*61*(s 1), 653-670.

Pedroni, P. (2000). Fully Modified OLS for heterogeneous cointegrated and dynamic panels.*Advances in Econometris*. 15, 93 – 130.

Pedroni, P. (2001). Purchasing power parity tests in cointegrated panels. *Review of Economics and Statistics*, *83*(4), 727-731.

Pedroni, P. (2004). Panel cointegration: asymptotic and finite sample properties of pooled time series tests with an application to the PPP hypothesis. *Econometric theory*, *20*(03), 597-625.

Phillips, P. C., & Hansen, B. E. (1990). Statistical inference in instrumental variables regression with I (1) processes. *The Review of Economic Studies*,*57*(1), 99-125.

Porters, S. P. and L. S. V. (2010). Corruption and foreign direct investment. *Franklin Business & Law Journal*, (4), 92 – 97.

Porters, S. P. and L. S. V. (2010). Corruption and foreign direct investment. *Franklin Business & Law Journal*, (4), 92 – 97.

Quazi, R. (2007). Economic freedom and foreign direct investment in East Asia. *Journal of the Asia Pacific Economy*, *12*(3), 329–344.

Quazi, R. M. (2014). Effects of corruption and regulatory environment on foreign direct investment: A Case of Africa. *Global Journal of Business Research*, *8*(4), 51–61.

Quazi, R., Vemuri, V., & Soliman, M. (2014). Impact of corruption on foreign direct investment in africa. *International Business Research*, *7*(4), 1–10.

Raff, H. (2004). Preferential trade agreements and tax competition for foreign direct investment. Journal ofPublic Economics, 88(12), 2745–2763.

Rogmans, T., & Ebbers, H. (2013). The determinants of foreign direct investment in the Middle East North Africa region. *International Journal of Emerging Markets, 8* (3), 240-257.

Sachs, J. D., & Warner, A. M. (1997). Sources of slow growth in African economies. *Journal of African economies*, *6*(3), 335-376.

Sala-i-Martin, X., & Pinkovskiy, M. (2010). *African poverty is falling... much faster than you think!* (No. w15775). National Bureau of Economic Research.

Sawkut, R., Boopen, S., Taruna, R. S., & Vinesh, S. (2007). Determinants of FDI: lessons from African economies

Seim, T. (2009). FDI and openness: Differences in response across countries line, Chr. Michelsen Institute.http://www.nek.lu.se/ryde/NordicEcont09/Papers/seim.pdf. Accessed 2 March 2010.

Seyoum, M., Wu, R., & Lin, J. (2014). Foreign Direct Investment and Trade Openness in Sub-Saharan Economies: A Panel Data Granger Causality Analysis. *South African Journal of Economics*, *82*(3), 402-421.

Shahmoradi, B., & Baghbanyan, M. (2011). Determinants of foreign direct investment in developing countries: A panel data analysis. *Asian Economic and Financial Review*, *1*(2), 49.

Shapiro, C. A. (2006). *Multinational Financial Management* (8th ed.). United States of America: Jonh Wiley & Sons, Inc.

Sichei, M. M., & Kinyondo, G. (2012). Determinants of foreign direct investment in Africa: A panel data analysis. *Global Journal of Management and Business Research*, *12*(18), 85 – 97.

Stensnes, K. (2006). Trade Openness and Economic Growth. Do Institutions Matter? *Norwegian Institute of International Affairs Paper*, (702).

Subasat, T., & Bellos, S. (2013). corruption and foreign direct investment in Latin America: A panel gravity model approach. *Journal of Management and Sustainability*, *3*(4), 151–156.

Sukar, A., Ahmed, S., & Hassan, S. (2007). The effects of foreign direct investment on economic growth: The case of Sub-Sahara Africa.*Southwestern Economic Review*, *34*(1).

Tanzi, V. (1998). Corruption Around the World. Retrieved from http://www.iuc-edu.eu/group/sem1_L2/BFC/reading/tanzi.pdf. *IMF Staff Paper*, *45*(4), 559–594.

Tolentino, P.E., 2010. Home country macroeconomic factors and outward FDI of China and India. J. Int. Manag. 16, 102–120

Trevino, L. J., Daniels, J. D., Arbelaez, H., & Upadhyaya, K. P. (2002). Market reform and foreign directinvestment in Latin America: Evidence from an error correction model. International Trade Journal,16(4), 367–392.

UNCTAD (2005) Investment. Report. United Nations. New York and Geneva, **2005**. **2005** Transnational Corporations and the Internationalization of R&D. STATISTICAL. ANNEX.

UNCTAD (2010a), World Investment Report 2010-Investing in a Low-Carbon Economy, United Nations Conference on Trade and Development: Geneva

UNCTAD (2010b), Regional Trends: Africa, *World Investment Report 2010-investing in a Low-Carbon Economy,* United Nations Conference on Trade, and Development: Geneva

UNCTAD, (2014). World Investment Report 2014: a Big Push for Private Investment in Sustainable Development. United Nations Conference on Trade and Development, New York and Geneva, p. 35

UNCTAD, G. (2012). World investment report: Towards a New Generation of Investment Policies. *Unite Nations. New York and Geneva*.

UNCTAD, G. (2012). World investment report: Towards a New Generation of Investment Policies. *Unite Nations. New York and Geneva*.

United Nations Conference on Trade and Development. (2006). *World investment report 2006: FDI from developing and transition economies: implications for development*. UN.356-369.

Vernon, R. (1966). International Investment and International Trade in the Product Cycle. *Quarterly Journal of Economics, 80*, 190-207.

Vijayakumar, N., Sridharan, P., & Rao, K. C. (2010). Determinants of FDI in BRICS Countries: A panel analysis. Int. Journal of Business Science and Applied Management, 5 (3), 1-13.

Wei, S.-J. (2000). How taxing is corruption on international investors? *Review of Economics and Statistics*, *82*(1), 1 – 11.

Yaoxing, Y. (2010). The relationship between foreign direct investment, trade openness and growth in Cote d'Ivoire. *International Journal of Business and Management*, *5*(7), 99.

Yong, T. A., & Tuck, C. T. (2009). The Determinants of Inward Foreign Direct Investment: The Case of Malaysia. *Monash University Business and Economics Discussion paper*, *22*(09).

Zaheer, S. (1995). Overcoming the liability of foreignness. *Academy of Management journal*, *38*(2), 341-363.

APPENDICES

Appendix A

Null Hypothesis:	Obs	F-Statistic	Prob.
HCD does not Granger Cause FDI	87	0.34527	0.7091
FDI does not Granger Cause HCD		1.04689	0.3557
INFR does not Granger Cause FDI	133	0.48778	0.6151
FDI does not Granger Cause INFR		0.81298	0.4458
MKTS does not Granger Cause FDI	133	0.23784	0.7887
FDI does not Granger Cause MKTS		1.92805	0.1496
OPN does not Granger Cause FDI	133	5.58373	0.0047
FDI does not Granger Cause OPN		5.59272	0.0047
REER does not Granger Cause FDI	93	5.00246	0.0088
FDI does not Granger Cause REER		3.22956	0.0443
INFR does not Granger Cause HCD	114	3.85477	0.0241
HCD does not Granger Cause INFR		9.8E-05	0.9999
MKTS does not Granger Cause HCD	115	2.43892	0.0920
HCD does not Granger Cause MKTS		1.49922	0.2278
OPN does not Granger Cause HCD	115	1.46947	0.2345
HCD does not Granger Cause OPN		0.85974	0.4261
REER does not Granger Cause HCD	67	7.54968	0.0012
HCD does not Granger Cause REER		1.48787	0.2338
MKTS does not Granger Cause INFR	179	0.12696	0.8808
INFR does not Granger Cause MKTS		9.14347	0.0002
OPN does not Granger Cause INFR	179	1.91338	0.1507
INFR does not Granger Cause OPN		0.74393	0.4767
REER does not Granger Cause INFR	112	0.03080	0.9697
INFR does not Granger Cause REER		25.2563	1.E-09
OPN does not Granger Cause MKTS	180	2.71107	0.0693
MKTS does not Granger Cause OPN		0.51115	0.6007
REER does not Granger Cause MKTS	112	6.70313	0.0018
MKTS does not Granger Cause REER		12.7409	1.E-05
REER does not Granger Cause OPN	112	2.21180	0.1145
OPN does not Granger Cause REER		9.47947	0.0002

Appendix B

FMOLS Group Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
HCD	-0.003382	0.009402	-0.359709	0.7204
INFR	0.006459	0.002304	2.803943	0.0069
MKTS	-0.028593	0.004106	-6.963363	0.0000
OPN	0.037144	0.003483	10.66567	0.0000
REER	0.003277	0.003502	0.935786	0.3533

R-squared	0.875331	Mean dependent var		1.099192
Adjusted R-squared	0.853460	S.D. dependent var		0.028603
S.E. of regression	0.010949	Sum squared resid		0.006833
Long-run variance	2.73E-05			