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ОСАРУМВЕНСЕ ОСАБУОХИЕН-ИРАБОР

Влияние оттоков прямых иностранных инвестиций на экономический рост в национальной экономике

Специальность 5.2.5 «Мировая экономика»

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The Impact of Foreign Direct Investment Outflows on Economic
Growth in the National Economy

Specialty 5.2.5 - World Economy
Dissertation for the Degree of Candidate of Economic Sciences (PhD)

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**INTRODUCTION**

**Relevance of the research topic:** The world economy has been immersed in an accelerated process of internationalization and globalization since the advent of the 21st century[1]. This has intensified international linkages, increased competitions & market rivalry, enhanced foreign direct investment (FDI) & trade flows, fostered cross-border technology transfer, and deepened economic inter-dependence among countries. This shows that the magnitude, intensity, and the growth of the world economy may be measured by several key indicators, most especially international trade and FDI flows[2]. These variables have contributed to greater economic growth, improved productivity, and job creation in different parts of the globe. For this reason (s), government of countries and policymakers around the world continue to open-up their economies and create conditions to attract foreign investment in the hope of attracting economic growth and development. Correspondingly, the increasing integration and liberalization of the world economies due to trade and FDI activities, have gained much scientific attention leading to the increase in research related to multinational activities.

However, studies related to the positive relationship between FDI inflow and host country's economic growth are well-documented [Haar & Marinescu, 2014; Osabuohien-Irabor, 2022; etc.], but how outward FDI impacts economic growth for home country remain a major subject of extensive public policy debate with no unanimous result. Proponents of overseas investment flow have argued that outward FDI plays a significant impact in stimulating economic growth, facilitating technology transfer, and expanding the domestic economy into the global market [Knoerich, 2017]. Outward FDI may also create positive externalities in economic growth by creating jobs, providing financial resources, enhancing competitiveness, and boosting international trade, especially exports. This allows firm to penetrate new markets, get low-cost importation of goods from

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[1] Martínez, V., Bengoa, M., Sánchez-Robles, M. Foreign Direct Investment and Trade: Complements or Substitutes? Empirical Evidence for the European Union // Technology and Investment. – 2016. –Vol. 3. –pp. 105-112. http://dx.doi.org/10.4236/ti.2012.32013

[2] OECD (2010): Measuring Globalisation: OECD Economic Globalisation Indicators 2010. Paris: OECD Publishing.

affiliates abroad and transfer foreign technology to the home country, which increase the competitiveness of domestic firms and boost economic growth. On the contrary, opposing views from economic scholars have argued that outward FDI may substitute foreign for domestic production when firms move all or parts of their production abroad. This may lead to reduction in domestic investments, create unemployment, and limit industrial production which ultimately reduce home country economic growth [Huijie, 2018; Liu & Huang, 2005].

In view of the growing importance of outward FDI[3] which intertwined with the desire of many countries to encourage local firm to "go abroad", evidence shows that share of developed economies in global outward FDI flows rose from 52.3% in 2000 to 74.3% in 2021 [OECD, 2022]. Specifically, available data shows that developed Europe is the largest source of global FDI outflows (32.3%), closely followed by the developed economies in the Americas (28.9%). However, the United States remain the single country with major source of FDI outflows worldwide, peaking at US$434 billion in 2021, due to high levels of reinvestment earnings. This is closely followed by Germany, Japan, China, and the United Kingdom with more than US$100 billion outflows in 2021 [OECD, 2022]. After a strong rebound in 2021, global FDI fell by 12% in 2022 to US$1.3 trillion, mainly due to overlapping global crises - high food and energy prices, including soaring public debt. Figures 1 shows the global trend of outward FDI covering the period 1970 - 2022.

Economic growth effect of outward FDI has recently been reinforced by different views and developments related to endogenous factors such as improvements in technology, knowledge and productivity which stimulate growth. The central theoretical assertion put forward by the neoclassical and the New Growth Theory (NGT) indicate that FDI may lead to economic growth via capital accumulation, technology, and human capital development. Whilst the growth effect shows short term under the neoclassical theory due to the diminishing returns of physical capital and technology viewed as

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[3]The terms "outward FDI", "OFDI", "overseas investment", and "cross-border investment" has been used interchangeably in this dissertation.

exogenous variable [Solow, 1956], the NGT model [Romer, 1986; 1990] indicates that the growth effect is long term due to the non-diminishing return of human capital and technological progress which sustain economic growth. This implies that outward FDI spillover may cause transfer of technologies and competitions between multinational companies (MNCs) and local firms to bring about economy growth accrue not only to the overseas investing firms, but also to the local manufacturing firms, thus benefiting the economy as a whole. This clearly suggests that overseas investment expansion may have significant impact on domestic production which affect home country economic growth.
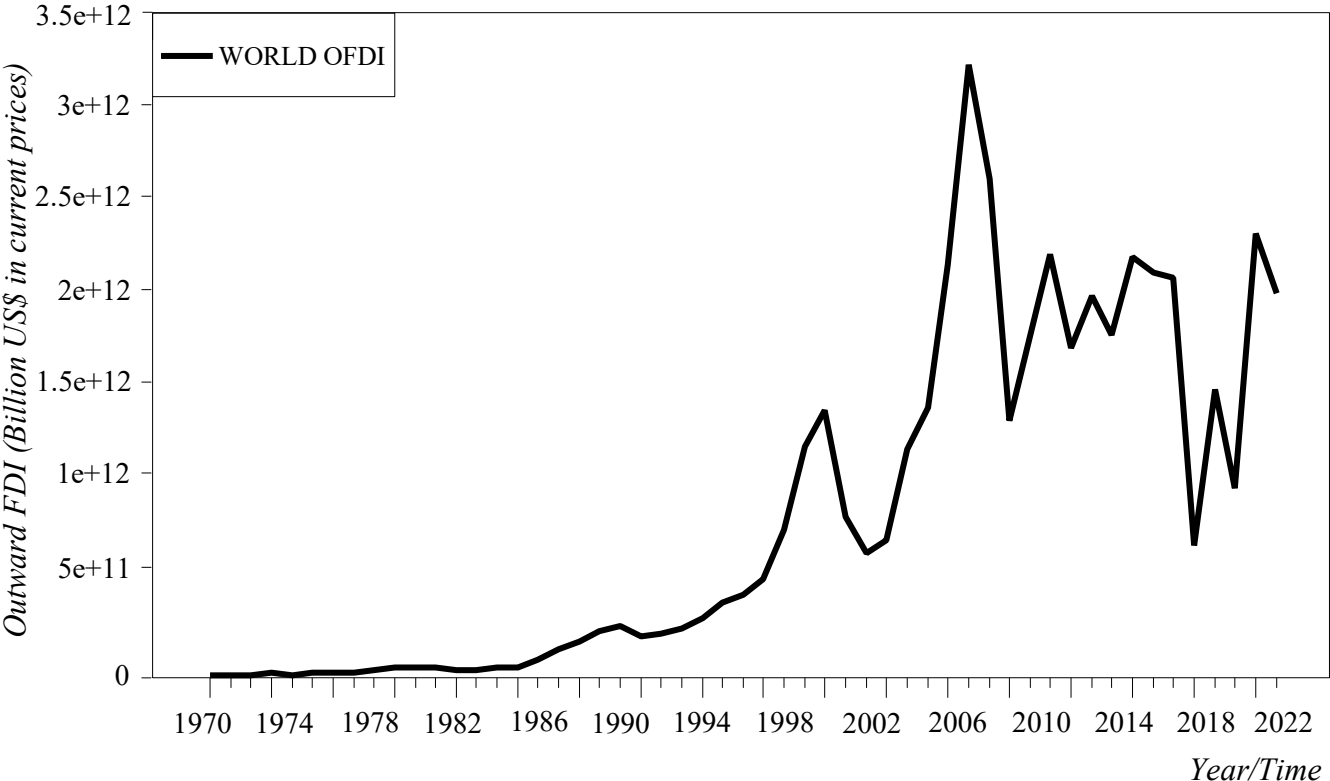


*Figure 1 – Trend in Global Outward Foreign Direct Investment Flow (1970 - 2022)*

Numerous empirical studies have showed that outward FDI may cause significant direct and indirect positive externalities for home country. On this account, many countries show to engage in subsidizing foreign activities of home country MNCs in order to boost economic growth. For this reason, the empirical studies on outward FDI-growth nexus have continued to increase, but most documented literatures are on single country specific analysis. [Ciesielska & Kołtuniak, 2017; Chena & Zulkifli, 2012; Ali et al., 2018; Amin et

al., 2020]. Therefore, understanding the growth effects of outward FDI in cross country analysis, particularly across income economy growth based on the world bank income classifications, would provide deep insight relevant to investing firms, local enterprises, and government agents of home country. However, Figure 2 shows the global correlation of average growth per capita and outward FDI in current price, computed between 1970 and 2022. The plot shows that home country global outward FDI ranged between a minimum close to US$50.0 billion and a maximum above US$3.0 trillion. At the same time, the average annual GDP growth per capita hovers slightly in the negative boundary with about 5% maximum growth. This shows that most global growth in relation to outward FDI are mainly set in the positive boundary. Overall, the correlation between annual average GDP per capita growth and outward FDI shows a positive contemporaneous relationship.
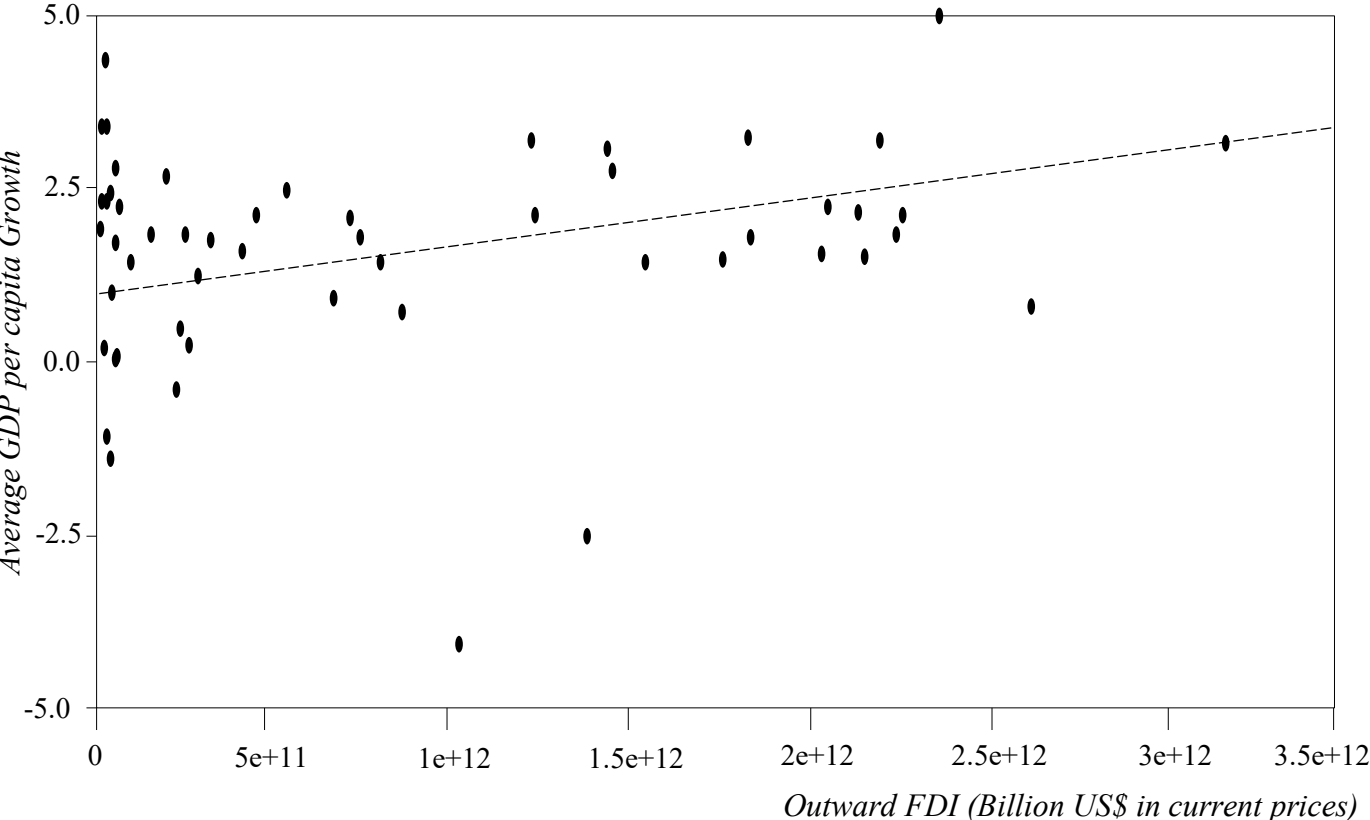


*Figure 2 – Outward Foreign Direct Investment and GDP growth per capita (1970 - 2022)*

In addition to intensifying international linkages and boosting economic growth, studies have shown that international trade may help countries expand domestic economy/markets to the global market by allowing access to goods and services that may otherwise be unavailable or more expensive in other countries, thus contributing immensely to the rapid growth and development of the world economy. However, compared to outward FDI, international trade has been an engine of growth for a much longer period, underpinned by better trade practices and regulations which has lifted more than 1 billion people out of poverty since 1990[4]. This implies that the rise in trade creates better jobs, reduces poverty, and increases economic opportunity due to technological development and concerted efforts by government to initial policy decision to reduce trade barriers. However, most countries have shared in this prosperity, particularly developing countries where national incomes have risen dramatically. Thus, countries that open their economies experience faster growth and more poverty reduction, therefore, outward-oriented countries tend to consistently grow faster than ones that are inward-looking. Figure 3 shows the correlation between world trade (merchandise) and average GDP per capita for home country for the period 1970-2022. The correlation trend line indicates positive relationship with most average GDP growth in the positive boundary. Nevertheless, whilst several international trade that occurred in the earlier period resulted approximately US$1.0 million, very few periods of trade reached above US$50.0 million.

International trade and investment are often thought of as two sides of the same coin that are inter-related, but with complex relationship that has evolved over time. However, outward FDI and international trade relationship considered by firms as complementary or substitutive means of serving foreign markets remain ambiguous. Hence, empirical evidence in this regard is not straightforward. Whilst several studies suggest a complementarity (positive) relationship between trade and outward FDI with evidence in both developed and developing countries, other studies report a substitutionary (negative) relationship. Firms may combine trade with investment to organize the supply of inputs,

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[4] World Bank, 2022, Trade, https://www.worldbank.org/en/topic/trade/overview

to expand in new markets, to access knowledge, and to provide services to consumers, and the effects of these relationship can bring about some possible causal effects. For instance, trade may cause outward FDI, with exports serving as the first stage in an internationalization process. Trade can also cause overseas investment expansion, as long as natural resources are imported. Conversely, outward FDI may cause trade (imports) in case of backward vertical integration and/or relocation abroad of labor-intensive activities from a capital-intensive country. More so, declining competitiveness (lack of competitiveness) may also cause a relocation of domestic firms abroad when the national disadvantage becomes too large. Outward FDI can further cause trade (exports) owing to enhanced competitiveness on foreign markets and reduces export if the opposite applies. Thus, restrictions and distortions to cross-border trade and investment may cause negative effects, magnifying costs in the domestic and global economy. However, Figure 4 shows that the values of global outward FDI and trade are closely related, and the relationship indicates strong positive trend line.
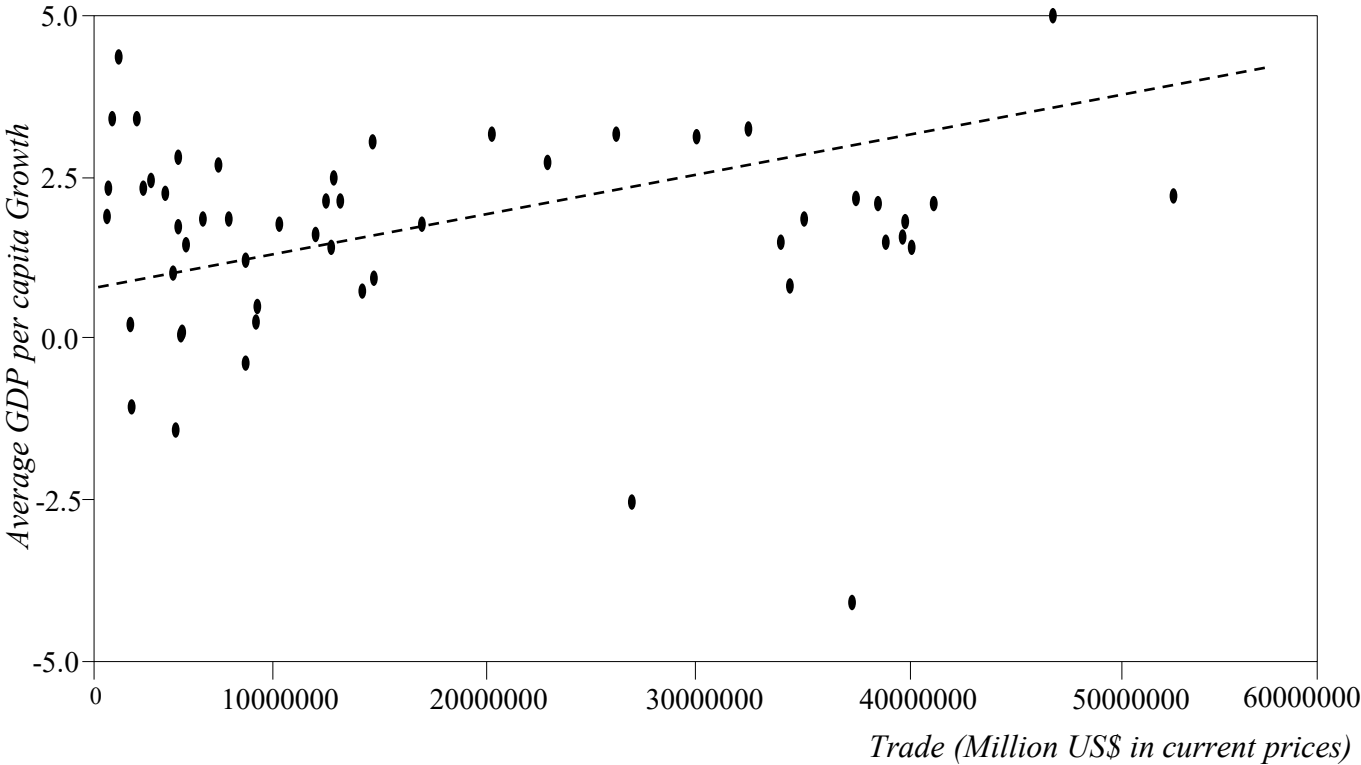


*Figure 3 – International Trade and GDP growth per capita (1970 - 2022)*
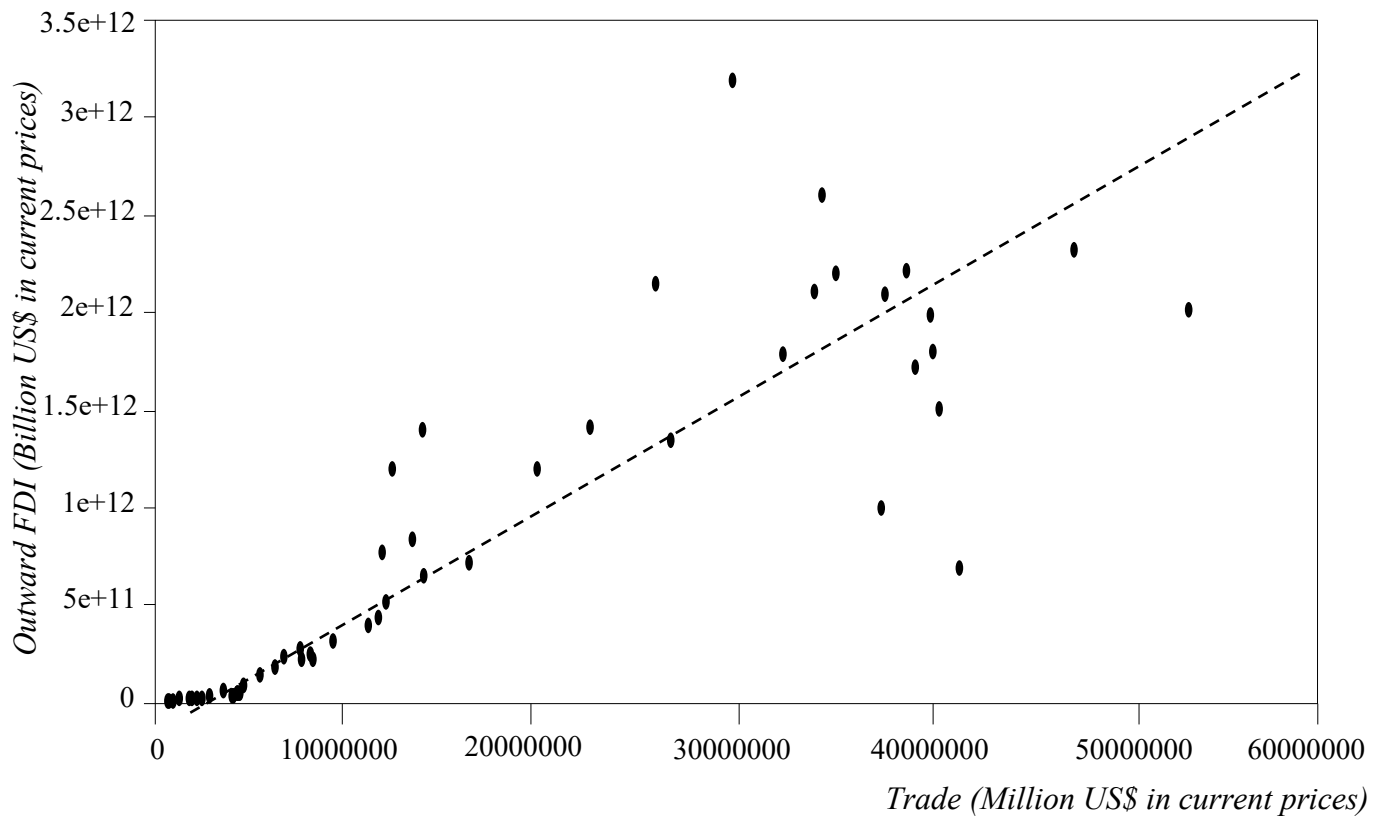
*Figure 4 – International Trade and Outward Foreign Direct Investment (1970 - 2022)*

Although studies indicate that the growth effect of outward FDI is ambiguous, but evidence shows that the contribution of relevant domestic characteristics may facilitate overseas investment expansion toward enhancing economic growth. This suggests that the growth effect of outward FDI and trade may vary significantly due to home country specifics and background characteristics. Therefore, growth-enhancing effects of outward FDI may be conditioned on the home country environment. Thus, it is plausible that outward FDI spillovers for economic growth may not occur if there are institutional deficiencies or obstacles in the absorptive capacity of domestic enterprises [Knoerich, 2017]. Thus, it is widely acknowledged that outward FDI internationalization is not only driven by firms or industry specific conditions [Porter, 1990] or business specific differences (Barney, 1991), but also by the quality of institution which act as background

condition that determine firm's interactions and strategies with the institutional environment [Cuervo-Cazurra & Ramamurti, 2017; etc.].

Whilst numerous studies have empirically examined the growth effects of institutions, research on outward FDI induced economic growth facilitated by home country institutions remain unexplored. Existing studies show that institutional measures promote economic growth in strongly democratic economies and may fail to boost growth in weakly democratic countries [Iqbal & Daly, 2014]. Thus, institutional quality is likely to affect the absorptive capacity of the home country economy to facilitate economic growth. Therefore, a positive outward FDI-growth nexus may require a functioning institutional framework. This implies that home country institutions, such as Voice and Accountability (VA), Political Stability and Absence of Violence (PS), Government Effectiveness (GE), Regulatory Quality (RQ), Rule of Law (RL), and Control of Corruption (CC) may indirectly influence the volumes, spillover effects of overseas investment and more importantly acts as a crucial characteristic that influence or hinders the spillovers effect that enhanced growth.

Therefore, the absence of well-functioning institutions in home country may limit overseas investment and the potential positive externalities. Thus, better quality institutions influence not only the outflow of foreign investment but also facilitate the effects of such investment on the indigenous firms and the economies as a whole. Against this backdrop, this dissertation examines the impact of outward FDI on growth across income countries via home country institutions, thus empirically demonstrating a differential effect among low-, middle- and high-income countries. Figure 5 presents six average institutional components for 208 countries. Observations in plots (a) and (e) shows that VA and GE institutions in most countries are in the negative boundary. Whilst negative values of VA institution were observed between 2003-2004, average GE declined to negative values after 2003. However, the average institutional components for RQ, PS, RL, and CC have similar plots of decreasing positive trend which wandered into the

negative boundary and began increasing thereafter. However, all plots (a) – (f) maintained positive effects between 1996-2003.
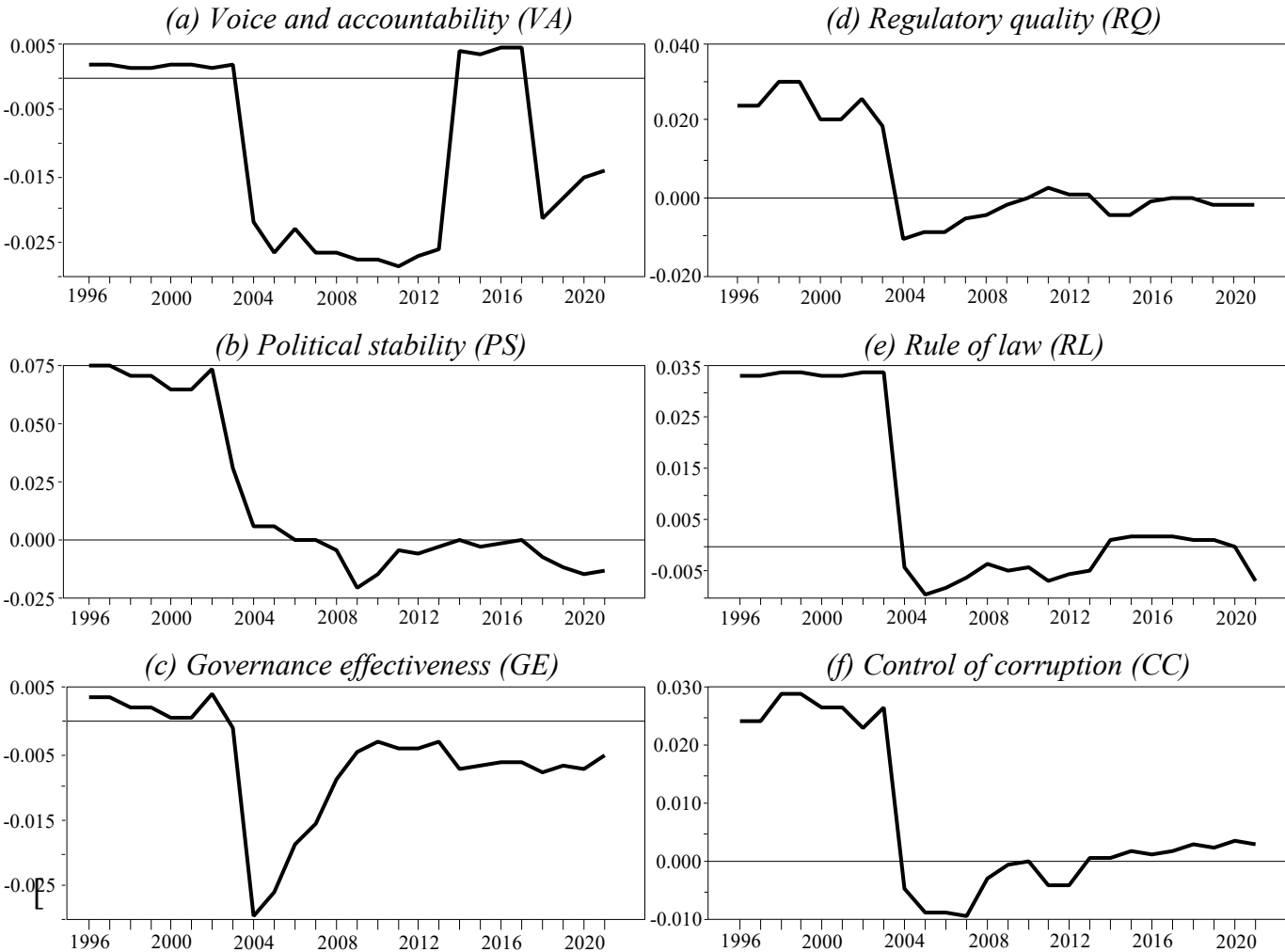


*Figure 5 – Average institutional components (1996-2021)*

However, as MNCs overseas production continue to expand [UNCTAD, 2019; WIR, 2019], the estimated values for sales and value added for foreign affiliates also continue to increase by about 3% and 8% respectively in 2018 (see Table 1). Whilst the total sales for foreign affiliates show to be more than 110 million, the employment of foreign affiliates reached about 76 million, at an annual growth rate of about 3% (Table 1). The fast growth shown in value added compared to sales values, indicates that MNCs foreign affiliates extract increasing value from their operations. This is in line with the recent trend in international production toward intangible and digital activities [WIR,

2017], an indication that intangible play an important role in the significant growth of foreign assets over the past decades. Compared to inward FDI, the rate of return on outward FDI for home country appears to be increasing after experiencing a decline in 2015 [Table 1]. Regarding income generated from FDI by countries, available data shows that inward FDI for host countries appears to generate more income than outward FDI from home countries [Table 1, WIR, 2019]. However, irrespective of the income generated for both host and home countries, FDI flow continue to facilitate the growth of country's GDP and increase the value of fixed capital formation. Table 1 shows global FDI rate of returns, income, sales, and value added for home countries and foreign affiliates.

*Table 1 – FDI indicators and international production for selected years*

| Items | Value at current prices (Billions of dollars) | | | | | |
|---|---|---|---|---|---|---|
| | *1990* | *2006-2007* | *2015* | *2016* | *2017* | *2018* |
| FDI Inflow | 205 | 1414 | 2034 | 1919 | 1497 | 1297 |
| FDI Outflow | 244 | 1451 | 1683 | 1550 | 1425 | 1014 |
| FDI Inward stock | 2196 | 14475 | 26313 | 28243 | 32624 | 32272 |
| FDI Outward stock | 2255 | 15182 | 26260 | 27621 | 32383 | 30975 |
| Income on inward FDI | 82 | 1028 | 1513 | 1553 | 1691 | 1799 |
| Rate of return on inward FDI | 5.3 | 8.6 | 6.9 | 6.8 | 6.8 | 6.8 |
| Income on outward FDI | 128 | 1102 | 1476 | 1478 | 1661 | 1792 |
| Rate of return on outward FDI | 8.0 | 9.6 | 6.3 | 6.1 | 6.3 | 6.4 |
| Net cross-border M&As | 98 | 729 | 735 | 887 | 694 | 816 |
| | | | | | | |
| Sales of foreign affiliates | 7136 | 24621 | 26019 | 25649 | 26580 | 27247 |
| Value added (prod.) of foreign affiliates | 1335 | 5325 | 6002 | 5919 | 6711 | 7257 |
| Total assets of foreign affiliates | 6202 | 50747 | 91261 | 95540 | 104915 | 110468 |
| Employment by foreign affiliates | 28558 | 59011 | 69533 | 70470 | 73571 | 75897 |
| Memorandum | | | | | | |
| GDP | 23439 | 52366 | 74664 | 75709 | 80118 | 84713 |
| Gross fixed capital formation | 5820 | 12472 | 18731 | 18781 | 20039 | 21378 |
| Royalties and license fee receipts | 31 | 174 | 321 | 325 | 355 | 370 |

Note:
1. *Worldwide sales, gross product, total assets, exports, and employment of foreign affiliates of MNE based on data from 165 countries for income on inward FDI and 144 countries for income on outward FDI in 2018.*
2. *Source: UNCTAD 2019; WIR (2019)*

Howbeit, the growth effect of outward FDI and trade for home country have not been extensively discussed as most studies have either employed developed or developing

countries as evidence-based research. Studies suggest that findings based on "developed" and "developing" countries group of classification may be too general, as core economic growth indicators such as Gross Domestic Product (GDP), Gross National Income (GNI), etc., shows wide range of disparities among the classified countries. Compared to "developed" and "developing" cross-countries analysis, empirical analysis based on income economies classification which has not been comprehensively discussed, may help reveal how outward FDI spillovers and international trade relates with high-, medium and low-growing economies as well as their interdependence and integration into the global economy. Thus, adequate knowledge of the world bank income economies categorization, will provide background information to investors and home country's governments on the potential benefits and drawbacks associated with overseas investment expansion to countries with similar income groups, in order to make an informed decision. More so, world economy analysis is more flexible, far-reaching, and reliable using the income economies categorization, compared to the two-way analysis of "developing" and "developed" economies. Furthermore, the use of world income economies classification analysis allows for a more holistic approach to understanding economic trends across a wide range of countries, and the empirical findings can also be related to the different citizen's wage earn.

The World Bank introduced the per capita income thresholds which examines the relationship between measures of well-being and GNI per capita for different income economies group such as, low-income (LICs), lower-middle (LMICs), upper-middle (UMICs), and high income (HICs). Based on 2019 purchasing power parity (PPP) dollars, a country is LICs if its gross national income (GNI) per capita is below US$1,026; LMICs between US$1,026 and US$3,995; UMICs between US$3,995 and US$12,375; and HICs above US$12,375. Therefore, to comprehensively examine the impact of outward FDI spillover on home economic growth across different economies [both developing and developed], the use of the world bank country income classification which considers core economic indicators such as GDP and GNI as the criteria for country's classification,

appears appropriate. This justifies the choice of income economies clusters-based research of this study, as findings will provide a thorough grasp of the world economy for both policymakers and MNCs.

However, the pattern of FDI have changed dramatically. Majority of work on FDI has been concerned with either industry studies [Kenh & Wei, 2023; Fillat & Woerz, 2011; Cheong Tang & Wong, 2011, Mencinger, 2008] or with host nation "pull" factors to address macroeconomic conditions in host countries [Walsh & Yu, 2010; Satomi et al., 2007; Babajide & Lawal, 2016)]. Similarly, the market characteristics also predict the level of outward FDI flow in home country, implying the existence of other relevant factors that propel firm's decision to invest abroad. However, some home country national characteristics that may "push" investment overseas have been noted in few studies [Amin et al., 2020; Ciesielska & Kołtuniak, 2017; Ali et al., 2018; Herzer, 2010; Chena & Zulkifli, 2012], but have received little or poor empirical attention. The levels of national institutional development may determine the basic trend of home country overseas investment expansion and international trade. Thus, higher level of institutional development in home country may encourage MNCs firms with the necessary sophistication needed to enter competitive market and the spillover boost local firm and enhance the economy [Osabuohien-Irabor & Drapkin, 2023; Luo & Tung, 2018].

Accordingly, absence or low levels of institutional development may discourage firm's overseas investment expansion which have adverse effect on the local economy. Thus, MNCs may find it difficult in achieving internationalization motive in the presence of weak institution. This is because, home country with weak institutional framework may not have the capacity to facilitates MNCs activities and absorb the spillover effect beneficial to both home country and local firms. Therefore, given the different levels of economic development across the globe, there is the need for a thorough investigation in order to determine the robustness of home country's institutions as a determinant of the growth effect of outward FDI and international trade across income economies categories. Nevertheless, increased in domestic conflict and uncertainty may threatens MNCs

investment and existence, as increase in country risk may bring about a reduction in overseas investment expansion and international trade activities especially exports, and in severe cases MNCs may relocate abroad, a phenomenon referred to as escapism FDI.

According to Cuervo-Cazurra & Ramamurti [2014]; Kottaridi et al. [2019]; Doh et al. [2017] to overcome competitive disadvantages due to home country instability and institutional void, firms may strategize exiting home country partially through outward FDI. A country's economy may suffer both in the short and long-term due to risk effect on investment and trade. Home country investment and international trade could face severe domestic risk and uncertainty irrespective of the levels of institutional development. Therefore, understanding the impact and implications of risk on domestic investment and international trade will provide country's government and MNCs the necessary insight to taking appropriate decision as well as adopting a proactive measure on risk management. This justifies this research. Unfortunately, academic research on escape FDI is still at the infancy stage, as the few available papers in existence merely focused on institutional void [Barnard & Luiz, 2018], corporate taxation [Kattaridi et al., 2019], and regulatory quality [Enderwick, 2017] in a host country perspective. This study pioneer new strand of study by introducing home country composite and components risk as a new escaping FDI determinant to examine outward FDI flow. To this end, the overall goal of this dissertation is to examine the growth effect of outward FDI and international trade influenced by home country's institution in the presence of composite risk.

The dissertation builds on the theoretical framework of Arrow, Romer & Lucas' New Growth Theory; Mundell, Markusen & Helpmann's complementarity and substitutive theory as well as North's institutional theory to examine the growth effects of outward FDI and trade using the world bank income economies group-based research. Thus, how outward FDI and international trade impact the world economy via the prism of home country institutions is empirically evaluated using income economies group. The comprehensive comparative analysis of the different income economies group used in this study will help both MNCs and home country governments to make an informed future

decisions regarding overseas investment, international trade, institutions, and economic growth in different income economies. This study also clarifies the interplay between home country outward FDI and international trade in relation to complementarity and substitutive effects. The major contribution of this work is far-reaching and cut across theoretical, methodology, and empirical.

**The degree of development of the research topic:** The fundamental works on the reason companies may expand in the world economy are associated with the research of world-renowned scholars such as Dunning, J.H., Buckley P.J., Casson, M. C., Caves, R. E., Driffield, N., Egger, P., Pfaffermayr, M., Globerman, S., Herzer, D., Hymer, S. H., Kindleberger, C. P., Markusen J. R., Helpman, E., Knoerich, J., Lipsey, R. E., Blomström, M., Lichtenberg, F., McDermott, M., Panibratov A., Volgina N., Smirnov E., Gonchar K. etc. These authors pioneered and provided the theoretical framework that underpins the overseas investment phenomenon, which has expanded into different strands of studies. The works of these renowned scholars gave "birth" to numerous theoretical foundations related to multinational research activities.

So far, significant contributions to the strand of study devoted to the understanding of the relationship between economic growth and FDI influenced by institutions, were made by B.H Skander, A. Ullah, S. Sabir, T. Baiashvili, O.G. Aziz, A. Hayat, N. Bouchoucha, C. Jude, G. Levieuge, M. Alguacil, as well as V. Polterovich, S. Afontsev, Yu. Simachev. These earlier studies examined whether institutions play a significant role in strengthening FDI inflow-growth relationship of host countries using different empirical techniques and evidence. This clearly indicates that the common feature of all earlier studies in this strand of study, is that they merely examined the effects of institutional factor in the relationship between FDI inflow and economic growth in the host country. Their findings show that the host countries institutions contribute positively and significantly to FDI inflows in surging economic growth. Although literature on FDI inflow, institutions, and economic growth in host countries continue to burgeon, but the role of home country's institution in outward FDI-induced economic growth remains

unexplored. Outward FDI spillover effects may contribute positively or negatively to source country economic growth, when company move stages of their production to foreign country. However, the relevance of home country institutions in facilitating these effects is very crucial and worth investigating.

Another important strand of study that have shaped the understanding of economic growth and international trade relationship was laid down by Blonigen, B. A., Mundell, R. A., Buckley P.J., Casson, M. C., Mitze, T. A., Brainard, L., Markusen J. R., Helpman, E., Kadochnikov S., Fedyunina A., Volchkova N., Izotov D., etc. According to their findings, foreign direct investment and international trade remain the main driving forces behind economic integration, which exert a considerable impact in enhancing economic growth and development for both home and host countries. This dynamic increase or decrease in FDI and trade have led to the surge in the numbers of studies examining whether the relationship is complementary or substitutive, as the impact plays a significant role on economic growth for home countries. For instance, pioneer research on the substitution relationship between FDI and international trade is devoted to the study of Mundell, R., which relies on the general Heckscher–Ohlin model to demonstrate that capital movements are influenced by trade barriers. The study further argued that import tariffs decrease exports and influence FDI flows. However, studies on the substitution relationship related to the proximity-concentration tradeoff approach, suggest that FDI will be considered as an alternative to export when the fixed costs of setting up a new subsidiary are lower than trade cost, was developed by Brainard, L and Markusen, J.R. More so, the critical assessment of multinational firm growth using the internalization theory was developed by Buckley, P., and Casson, M. Firm can overcome market imperfections such as tariff and non-tariff barriers, through the internalization of economic activities. However, an empirical assessment of the impact of exports on the economic growth of Russian regions taking into account the allocation of intensive and extensive export growth is devoted to the works of Fedyunina A. Nevertheless, the comprehensive analysis on the dynamic interplay between international trade and outward FDI based on

the world bank country's income classification such as high income (HICs), upper-middle (UMICs), lower-middle (LMICs), and low-income (LICs) is yet to be explored.

However, the most influential framework to MNCs expansion abroad is Dunning eclectic paradigm or OLI paradigm, which provides a strategy for company expansion through FDI. In OLI model, (O) means Ownership advantage – Indicates that firms must possess net ownership advantages over firms from other countries in serving a particular national market; Location advantage (L) - shows that the location must be more beneficial for the firm to use these net ownership advantages itself rather than sell or lease them; Internalization advantage (I) - These net ownership advantages must more profitably be exploited when used with factor inputs outside the home country and in the host country. The model shows that a company may choose to expand abroad if it possesses the three advantages simultaneously. In order word, these three conditions were needed to justify outward FDI expansion, and therefore the existence of the MNC. Nevertheless, the theory only account for advanced and developed economies which are natural resource-driven but failed to consider the developing economies. Thus, the few studies examining outward FDI and growth mainly focused on industrial economies such as United States, Japan, Australia, and EU countries where findings shows that the impact of overseas expansion is small but positive for home country.

Recently, academic discussion on the conceptualization of foreign direct investment escapism was introduced to international economics and business research, and the fundamental works on this concept are authored by Tallman, S.B. Kottaridi, C., Giakoulas, D., Manolopoulos, D., Kobrak, C., Oesterle, M.J., and Röber, B. Enderwick, P., Witt, M.A., Lewin, A.Y., Cuervo-Cazurra, A., Narula, R., Kuznetsov A., Daniltsev A. Firms investing in an economy are not only motivated by the "pull" factors such as abundant talents or large markets of the host country, but also by "push" factors such as home country's weak institutions which may cause firm to exit (escape) an economy. Firms moving to foreign country to seek advantages by evading harsh and poor economic conditions can be referred to as FDI escapism. Nevertheless, prior to this dissertation

research, this strand of study primarily focused on either institutional failure; institutional misalignment; regulatory void and taxation as possible escape determinant which may give rise to escape FDI. However, these variables may not be the only "push" factors that influences domestic firms to initiate strategy decision to escape or exit an economy. Just like investment decisions, firm exiting decision must be assessed from the perspectives of its economic, social, political, and cultural environments. Given that investors are generally averse to systematic risks that are mainly external and out of their control, home country's political, economic, and financial risks can be a push factor that may influence investors' decision to relocate investment across the border. Thus, this study examines the FDI escapism phenomenon in global perspective using home country risks. The study is based on firm utilizing outward FDI as a strategic means to exit a competitive disadvantage economy owing to their political, financial, and economic instability.

Notwithstanding the large amount of scientific literature that have been devoted to the analysis of outward FDI, international trade, institutions, and economic growth nexus in the world economy, there are still numerous unresolved research problems/ideas that can lead to potential new research findings, which this dissertation has identified and aim to cover some of the research gaps. For instance, most empirical studies on FDI-economic growth relationship are rooted in either the neoclassical or the NGT that mainly focus on technology and knowledge spillover to developing countries. However, this dissertation seeks to expand the NGT, by examining the presence/absence of endogenous growth within group of countries categorized according to the world bank income groups. Whilst the impact and pattern of economic growth effects of outward FDI for home country across income economies group remain unexplored, the role of home country institutions in outward FDI-induced economic growth across the different income economies group, worth investigating. More so, the dynamic interplay between international trade and outward FDI based on the world bank country income classification is yet to be examined. Therefore, there is the need for a comprehensive comparative analysis across the different income economies group, in order to ascertain the pattern of the interrelationship in the

context of "complementarity effects" or "substitutability effects". Furthermore, this dissertation introduces "home country risk" as a new escape determinant to examine the composite and components risks (economic, financial, and political risk) likely to "push" MNCs to initiate escaping (exiting) strategies from an economy. Regarding the methodology adopted, the study extends the long-run CS-ARDL technique proposed by Chudik & Pesaran [2015] to simultaneously evaluate the mediating factors [using home country's institutions] and the growth effects of outward FDI, which remain an original contribution of this dissertation that complement existing bodies of literature. These several novelties will serve as a major input and reference study in world economy research, given that each category of income economies group integrate to the world economy.

**The purpose of the dissertation research:** is the expansion of the theoretical and methodological foundations for the analysis of economic growth of the national economy as a result of the outflow of foreign direct investment abroad, as well as conducting an empirical assessment and developing recommendations for countries with different levels of development. Thus, the study attempts to examine the contributions of outward FDI on economic growth considering the role of institutions, international trade, and home country risk for countries with different levels of development. To achieve this goal, solving the following *dissertation research tasks* is required.

1. Introduce/discuss the concept of reverse spillover effect for home country economic growth effect of outward FDI given the background characteristic such as institutions that promotes the macroeconomic variables.

2. To propose a method for obtaining unbiased estimates of the effects of economic growth associated with FDI outflows, with the indirect role of institutions in the country of origin of investments.

3. To provide an empirical assessment of the impact of outward FDI on economic growth, taking into account the heterogeneous level of development of countries in the global economy.

**3.1** To assess the short-term and long-term impact of FDI outflows on economic growth in groups of countries differing in their level of development.

**3.2** To examine the role of home country institutions in the context of the impact of outward foreign direct investment on economic growth.

**3.3** To study the dynamic interaction between outward FDI and international trade and determine the role of international trade in assessing the impact of outward FDI on economic growth.

**3.4** To determine the impact of country risks on outward flows of foreign direct investment.

**The object of the study** are outward flows of foreign direct investment in the global economy.

**The subject of the study** is the economic growth driven by outward flows of foreign direct investment, with institutions, international trade, and home-country risks playing a significant role.

**1.4. Methodological base and Methods:** The study is based on theoretical concepts of expansion of multinational companies, such as Dunning's eclectic theory, internalization theory, internationalization theory. Understanding the causes and types of outward investment is based on theories of horizontal and vertical FDI developed within the framework of monopolistic competition modeling. The study uses macroeconomic models of endogenous growth to analyze the impact of foreign direct investment on economic growth, taking into account various factors. The empirical analysis is based on the use of parametric statistical analysis methods, and the mediating terms are integrated into existing long-run econometric models, such as the cross-sectional autoregressive distributed lag method (CS-ARDL). Other methods used include the system generalized method of moments (SYS-GMM), fixed effects (FE), pooled least squares and difference generalized method of moments (D-GMM), which were used to measure spillovers effects from outward FDI in groups of countries with different levels of development. The

conclusions of the dissertation are based on the evaluation of the CS-ARDL and SYS-GMM methods due to their robustness to problems of regression analysis such as endogeneity, heteroscedasticity, autocorrelation, cross-sectional dependence, etc.

**1.5 The empirical base of the research is being formed:** The main source of statistical data used in the analysis of this dissertation is from the open databases of "World Development Indicators (WDI)[5]" of the World Bank, the "United Nations Conference on Trade and Development (UNCTAD)[6]", and the "United Nation Development Programme (UNDP)[7]". Other open database explored in this dissertation include data from "International Country Risk Guild (ICRG)" from political risk service. In addition, previous findings from theoretical and empirical analysis in the impact of home country outward FDI on economic growth relationship are also considered.

**Scientific novelty of the research** consists of developing a concept, substantiating a methodology and empirically assessing the impact of outward FDI on economic growth in the national economy. The essence of the proposed concept is that outgoing flows of foreign direct investment have a positive impact on economic growth in the national economy through the mechanism of reverse spillover effects with a significant role of the level of development of institutions, the involvement of the national economy in international trade, as well as the level of risks in the home country.

**The main provisions for defense:** In this dissertation, the following are the main provision for defense.

**1.** The concept of the influence of outward FDI on economic growth in the country of origin has been developed. Unlike existing approaches, the influence of outgoing flows of foreign direct investment on economic growth is revealed through the mechanism of reverse spillover effects. The significant role of the development of institutions, volumes of international trade and the level of risks in the country of origin has been substantiated, which allows identifying additional aspects of the influence of

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[5] See, https://databank.worldbank.org/source/world-development-indicators
[6] See, https://unctadstat.unctad.org/EN/
[7] See, https://hdr.undp.org/data-center

outward FDI on economic growth (items 4, 8 of the specialty passport 5.2.5).

**2.**    A methodological approach is proposed that allows revealing the mediating role of the development of institutions in the national economy in the context of the impact of outward FDI on economic growth.(clause 8 of the specialty passport 5.2.5).

**3.**    Testing of the developed methodology showed that the impact of outward FDI on economic growth in the national economy varies in countries with different levels of development, and also depends on factors such as the development of institutions, the volume of international trade and the level of country risks.

**3.1.**    The heterogeneous short-term and long-term impact of FDI outflows on the economy in groups of countries differing in income levels was revealed (items 4, 8 of the specialty passport 5.2.5).

**3.2.**    Based on the proposed concept, it is shown that the institutions of the country of origin serve as a mediating factor that enhances the impact of FDI outflow on economic growth in groups of countries with high and middle income levels (items 4, 8 of the passport of specialty 5.2.5).

**3.3.**    Growing international trade promotes the growth of outward FDI in high- and middle-income countries, thereby stimulating economic growth (items 8 of the specialty passport 5.2.5).

**3.4.**    Home country risks constrain domestic companies' direct investment abroad (clause 8 of the specialty passport 5.2.5).

**Theoretical significance of this study:** The aim of this dissertation is to deepen the knowledge about the impact of outward foreign direct investment, institutions, international trade and risks on the economic growth of home country. The study expands the understanding of the relationship between outward FDI and international trade as the main factors of globalization. Moreso, the substitution of direct and spillover effects of outward FDI on economic growth is given. As a result of direct effects, outward FDI flows can lead to a decrease in the growth rate of the home country's economy due to the fact that national production is transferred abroad. At the same time, as a result of the spillover

effects, outward FDI can support national production, which leads to an acceleration of economic growth. Within the framework of the proposed concept, it is substantiated that the development of the institutional environment contributes to the growth of national companies, enhancing the effect of reverse spillover effects from outward FDI. In addition, it is shown that significant factors influencing outward FDI are international trade and the level of risks in the country of origin.

**The practical significance of the study:** The results of the dissertation research can be used by federal executive bodies in developing directions of industrial, trade and investment policy, as well as various industrial development programs. The findings contained in this study can be used at developmental departments of large companies in developing strategies for foreign economic expansion. The articles published within the framework of this dissertation research can serve as a starting point for further research aimed at understanding the relationship between foreign direct investment, economic growth, international trade and institutional development in the modern economy. The theoretical, methodological and empirical results obtained can be used in the educational process when teaching the disciplines "International Trade", "Foreign Direct Investment", "Global Value Chains" at the advanced level in the bachelor's and master's degrees.

**The degree of reliability of research results conducted by the applicant for a scientific degree:** The research is provided with the following:

1. The reliability of the results of the empirical analysis is confirmed by reliable sources of the data used, provided on an open basis by authoritative international organizations such as the World Bank, the United Nations Conference on Trade and Development, and the International Country Risk Guide.

2. In the empirical analysis of the relationships between outward FDI, economic growth, international trade and institutional development, the author proceeds from the heterogeneity effects and relationships that differ for countries with different levels of development. For this purpose, using a sample of more than 200 countries, a study is conducted for groups of countries with different levels

of per capita income, based on World Bank classification. Thus, the analyzed relationships are studied for four groups of countries: with high income, upper-middle income, lower-middle income and low income.

3. The author applied the latest econometric methods of parametric analysis to obtain unbiased estimates used to achieve the goals and objectives of the study. The stability and unbiasedness of the obtained results are achieved by using various methods of panel data analysis, such as the method of least squares with fixed effects, differential generalized method of moments, system generalized method of moments, and techniques for including cross-autoregressive distributed lags. The interpretation of the conclusions is made on the basis of the obtained SYS-GMM and CS-ARDL estimates due to their robustness to econometric problems such as endogeneity, heteroscedasticity, heterogeneity, and cross-dependence.

**Approbation of the research results:** The main provisions of the dissertation - theoretical and empirical findings were published and discussed at a number of international scientific conferences such as Proceedings of the 15th Economics & Finance Conference, IISES, Prague, held on 21-22 June, 2021; Proceedings of the 15th International Days of Statistics and Economics, Prague, held on 9-11 September, 2021; CBUIC ISE Conference (Economics and Business), November 14th, 2022, Prague. The results have also been published in relevant scholarly and peer review journals index in Web of Sciences and Scopus as well as journal recommended by Ministry of Education and Science of the Russian Federation of the Higher Attestation Commission. These published papers include (1) Osabuohien-Irabor, O. and Drapkin, I.M. Global outward foreign direct investment and economic growth across income groups: the mediating effect of home country institutions // Sage Open. – 2023b. (2) Osabuohien-Irabor, O. and Drapkin, I.M. Toward achieving zero-emissions in European Union countries: The contributions of trade and overseas direct investment in consumption-based carbon emissions // America Institute of Mathematical Sciences (AIMS). Environmental

Science. (–2023. –Vol. 10. – No. 1. – pp. 129-156). (3) Osabuohien-Irabor, O., and Drapkin, I.M. FDI Escapism: the effect of home country risks on outbound investment in the global economy // Quantitative Finance and Economics. (– 2022a. – Vol. 6. – No. 1. – pp. 113-137). (4) Osabuohien-Irabor, O., and Drapkin, I. M. The Effects of Outward Foreign Direct Investment and Institutional Quality on Economic Growth // Proceedings of CBU in Economics and Business. (–2022d. –Vol. 3. – pp. 50-56). (5) Osabuohien-Irabor, O. Foreign direct investment inflow: The drivers and motivations in MENA Region // Economic Journal of Emerging Markets. (–2022. – Vol. 14. – No. 1. – pp. 1-14). (6) Osabuohien-Irabor, O., Drapkin, I.M. FDI outflows and international trade nexus: Empirical evidence from country income groups // R-Economy. (–2022c. –Vol. 8. – No. 4. –pp. 340-236). (7) Osabuohien-Irabor, O. and Drapkin, I.M. The Impact of Technological Innovation on Energy Consumption in OECD Economies: The Role of Outward Foreign Direct Investment and International Trade Openness // International Journal of Energy Economics and Policy. (–2022b. –Vol. 12. – No. 4. –pp. 317-333). (8) Osabuohien-Irabor, O. and Drapkin I. M. Outward FDI and International Trade: The Study of Causal Effects // 15th Econ. & Finance Conference, IISES, (Prague. –2021.) (9) Osabuohien-Irabor, O., and Drapkin, I.M. The spillover effects of outward FDI on environmental sustainability in developing countries: exploring the channels of home country institutions and human capital // Environment, Development and Sustainability. Springer Nature. – 2023c. (10) Osabuohien-Irabor, O., and Drapkin, I.M. Outward FDI and Home Country Export Spillover Effects // Proceedings of the 15th International Days of Statistics and Economics, September, – 2021 – pp. 9-11.

**Publications:** During the period of the research and writing of the dissertation, the author published 10 scientific research papers on the topic of outward FDI, the development of institutions, international trade and their relationship with economic growth, supplementing existing scientific knowledge. Scientific papers were published in peer-reviewed scientific journals indexed in Web of Sciences, Scopus (including the first and second quartiles), which are also included in the list of journals recommended by the

Higher Attestation Commission of the Ministry of Education and Science of the Russian Federation for the publication of research results of dissertations for the degree of candidate of economic sciences.

**The scope and structure of the dissertation:** The dissertation consists of an introduction, a conclusion and three main chapters, which include theoretical, methodological and empirical parts. The dissertation also includes a bibliography and appendices. The main content of the work is presented on 262 pages of typewritten text, including 19 figures, 30 tables and 11 appendices. The list of references includes 280 works by Russian and foreign authors.

# CHAPTER 1. THEORETICAL ASPECTS OF STUDYING OUTWARD FORIGN DIRECT INVESTMENT

In this section, the theoretical contributions of outward FDI on economic growth considering institutions, international trade, and home country risk are discussed. The section starts with the discussion of FDI in the world economy as well as the classification of the historical expansion of FDI. For clarity purposes, outward FDI is interchangeably used with overseas direct investment and FDI outflow. However, the dissertation highlighted the different forms of outward FDI based on motive, flow, and entry mode. The possible channels through which outward FDI affect the global economy are also discussed. The dissertation contains three essays and the links of the theoretical contribution of outward FDI in relation to trade, institution, and economic growth are clearly provided in diagrams and graphs. In addition, some of the home country outward FDI determinants in the global economy are listed and discussed. Finally, to understand the heterogenous nature of outward FDI expansion in order to meet the challenges of global competition, this dissertation adopted integrated approach of different MNCs theories to examine home country levels of economic development.the theories of multinational companies' expansion are discussed[8].

## 1.1. Foreign direct investment in the World Economy

Foreign direct investment indicates the cross-border investment made by a resident in one country in an enterprise in another country with the aim of establishing a lasting interest and control in the investee country [OECD, 2009]. It can also be described as "investment into the business of a country by a company in another country". Scientific study regarding FDI has continue to grow since the 18th century, however certain information has been standardized in the last two-three decades. In most cases, cross-border investment involves oversea production by either expanding operations of existing

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[8] Buckley, P. J. A critical view of theories of the multinational enterprise, in P. J. Buckley and M. Casson (eds.) // The Economic Theory of Multinational Enterprise. London. The Macmillan Press. –1985, – pp. 1-19.
Barba, G. and Venables, A. J. Multinational firms in the world economy // Princeton University Press, Princeton. – 2004.

business in that country or by buying a company in the targeted country. Most of these investments are subsidiaries of multinational corporations (MNCs), and the investors are the parent organizations of these firms[9]. Thus, FDI flows mainly indicates the expansion of international activities of MNCs. Some of the reasons for the investment are as follows; to take advantage of cheaper wages and special investment privileges (e.g., tax exemptions) offered by the recipient country. FDI could be described as one of the most outstanding features of the global economy which is considered as an essential catalyst for achieving economic growth. However, the International Monetary Fund (IMF) explains FDI as an investment that seeks long-term interest in enterprises operating in a different economy to the investor's economy.

However, investors are usually faced with two options when investing in a foreign country; They either make a portfolio investment and not acquiring a significant role in the company which is often correlated with a short-term profit or choose an investment with the objective of acquiring a lasting interest in a firm or country located oversea. The latter is often referred to as foreign direct investment or FDI for short, involving long-term investments and factors in a company or country. According to Zreik et. al. [2022], the lasting interest is considered 10% equity, which indicates that if cross-border investment is at least 10% of the equity share capital, the investment would be considered FDI; but if below 10%, it simply indicates a portfolio Investment[10]. However, the trend of global outward FDI is changing, and the flows from developing and transition countries appear to have risen suddenly, with 82 percent growth rate reaching US$ 351 billion in 2008 [UNCTAD, 2015].

The worldwide flows of FDI began to increase since 1970s, and the chronological incremental order shows that in the early period of 1984, the total flow of direct investment abroad from the industrial economies stood at US$ 49.5 billion, thereafter, increased

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[9] A multinational will form a subsidiary to produce goods and services that cannot be produced in its home country

[10] Foreign Portfolio Investment (FPI) is ownership of a financial asset or stock with the expectation that it will earn a return or grow in value over time, or both. represents investments of foreign entities in the purchase of securities issued by government institutions, e.g., bonds, treasury bills, etc. On the other hand, it refers to the securities issued by corporations, but without the right of the investor in participating in the control of the business subject to securities issuers.

steadily and peaked in 1990 at US$ 222 billion [Graham, 1995]. This surge has largely become a manifestation of the much discussed "globalization" of investment that has taken place in the past 20 years, due to exchange of ideas, resources, and culture giving rise to economic growth. Thus, FDI has been expanding all over the world since early 1980s. Though the annual flow of FDI was reduced during the 1990s, but the value somehow remained high. For instance, US$ 178 billion was recorded in 1991, and in 1992 US$ 162 billion was recorded, and US$ 175 billion in 1993 [Graham, 1995].

However, between 2005 and 2010, global outward FDI measured on annual basis, grew to a record level in 2007, but stood at US$ 882 billion in 2005, then increased to US$ 1.41 trillion in 2006. In 2007, the value of global outward FDI rose to a record level of US$ 2.17 trillion and decrease slightly by US$ 1.91 trillion in 2008, whilst in 2009 and 2010, the values were US$ 1.17 trillion and US$ 1.32 trillion respectively [UNCTAD, 2011]. This indicates that the values of global FDI declined substantially during the global financial and economic crisis of 2008 and 2009. Similarly, the annual value of global cross-border M&A net purchases for all sectors and industries between 2005 - 2010 also shows to have increased before the global financial crisis (GFC) and reduced substantially after the GFC, for instance; US$ 462 billion in 2005, US$ 625 billion in 2006, US$ 1 trillion in 2007, US$ 707 billion in 2008, US$ 250 billion in 2009, and US$ 339 billion in 2010 [UNCTAD, 2011]. According to UNCTAD, 2020, global OFDI declined by 38.4 per cent from US$ 1601 billion in 2017 to reached US$ 966 billion in 2018 and rose by 33 per cent to US$ 1314 billion in 2019. Compared to 2019, these flows declined by 49 per cent in 2020 due to economic crisis caused by COVID-19 global pandemic [UNCTAD, 2021].

World ▓ 12670
Developed economies ▓ 8397
Europe ▓ 3908
Developing economies ▓ 3817
Asia ▓ 3200
North America ▓ 2870
East and South-East Asia ▓ 2826
Latin America & Caribbean ▓ 493,1
Transition economies ▓ 456
West Asia ▓ 289
Africa ▓ 120
South Asia ▓ 85
Weak and small economies ▓ 89,4
Oceania 5,8
LDCs ▓ 54
LLDCs 27,5
SIDS 7,8
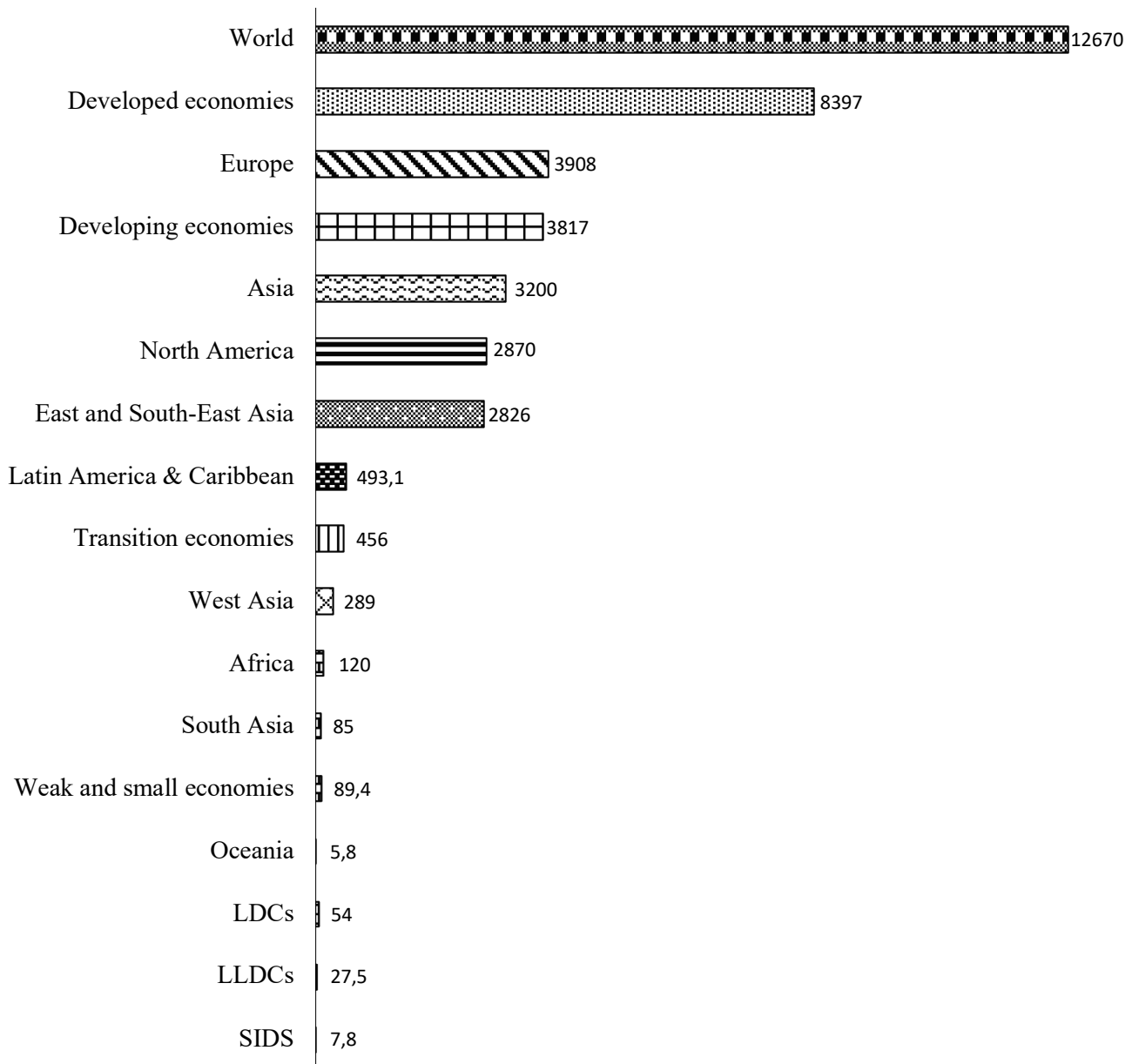
*Figure 6 – Aggregate outward FDI by region from 2011 to 2019 (Billion)*

Regarding the views flowing above, to what extent are the increase and decrease in outward FDI linked to other crucial economic determinants across the different income economies classification? Appendix J illustrates the bar chart of outward FDI flow for the different economies group respectively. The graph indicates that HICs mostly engages in outward FDI compared to the other income groups. However, Figure 6 shows the trend of outward FDI flows by region, where global outward FDI flow reached a cumulative value of US\$ 12670 billion between 2011- 2019. However, due to large volume of investment

from MNCs in developed countries, the value of FDI outflow from developed economies appears to be far larger by US$ 8397 compared to outward FDI from developing economies which stood at US$3817 for the period 2011-2019. Similarly, MNCs activities from Europe reached US$ 3906 billion for the same period. Whilst East and South-East Asia recorded US$ 2826 billion, South Asia outward FDI stood at US$ 85 billion out of the total value of US$ 3200 billion recorded for Asia (see Figure 6). Overseas investment activities from transition economies, Africa, West Asia, and other land lock (LDCS & LLDCS) economies remain small, but FDI outflow from Oceanic and small independent developing state (SIDS) are quite smaller. This shows that developed and advanced economies are the major sources of the global outward FDI.

Furthermore, the internationalization of MNCs have shown two trajectories, via the expansion of developed and developing economies. Whilst firms that invest in emerging marketss are mainly driven by resource- and market-seeking motives, investments in developed markets show knowledge-seeking motive such as in the tech industry. Collated data reveals that the top 100 MNCs internationalization activities remained relatively stable with the ratios of foreign over total assets, sales and employment increasing slightly (see Table 2). This may be due to the positive impact of the three mega-mergers of Amazon and Intel (both from the United States) and Broadcom (Singapore) which confirms the observed trend over the past few years [WIR, 2019]. In addition, the sales activities of most MNCs worldwide may have increased significantly and revenue boosted, due to high commodity, re-investment, and high energy prices. This is evidently shown in foreign and domestic sales, especially companies in oil and gas, automotive sector, tech industry (semiconductor), pharmaceuticals industries, commodity trading and utilities [see, Table 2; UNCTAD, 2017, 2019; WIR, 2023].

Unfortunately, the Chinese MNCs are still dealing with pandemic measures and supply chain disruptions in 2022, and continued geopolitical tensions, their overseas activity was relatively limited. Asian MNEs, including Tencent (China), Hon Hai (Hong Kong, China), Huawei (China), Samsung (Republic of Korea) and Sony (Japan), also

reduced their foreign assets relative to domestic assets. Nevertheless, MNCs in other industries did not experience significant shifts in their internationalization rates. As a result, the average transnationality index did not change in 2022 [WIR, 2023].

*Table 2 – Internationalization statistics of the 100 largest non-financial MNCs worldwide and from developing and transition economies (Billions of dollars)*

| Variables | Worldwide | | | | | Developing & Transition | | |
|---|---|---|---|---|---|---|---|---|
| | 2020 | 2021 | 2020-2021 % change | 2022 | 2021-2022 % change | 2020 | 2021 | % change |
| **Assets (Billion US$)** | | | | | | | | |
| Foreign | 9765 | 10428 | 6.8 | 10065 | -3.5 | 2644 | 2927 | 10.7 |
| Domestic | 8489 | 8829 | 4.0 | 9139 | 3.5 | 6009 | 7142 | 18.9 |
| Total | 18254 | 19256 | 5.5 | 19204 | -0.3 | 8653 | 10069 | 16.4 |
| Foreign as % of total | 53 | 54 | | 52 | | 31 | 29 | |
| | | | | | | | | |
| **Sales (Billion US$)** | | | | | | | | |
| Foreign | 5203 | 6681 | 28.4 | 7413 | 11.0 | 1817 | 2288 | 25.9 |
| Domestic | 3999 | 4943 | 23.6 | 5552 | 12.3 | 3079 | 4243 | 37.8 |
| Total | 9203 | 11624 | 26.3 | 12965 | 11.5 | 4897 | 6531 | 33.4 |
| Foreign as % of total | 57 | 57 | | 57 | | 37 | 35 | |
| | | | | | | | | |
| **Employment (Thous)** | | | | | | | | |
| Foreign | 9261 | 9051 | -2.3 | 9167 | 1.3 | 4107 | 4053 | -1.3 |
| Domestic | 10132 | 11053 | 9.1 | 10833 | -2.0 | 9112 | 9548 | 4.8 |
| Total | 19393 | 20103 | 3.7 | 20000 | -0.5 | 13219 | 13601 | 2.9 |
| Foreign as % of total | 48 | 45 | | 46 | 0.0 | 31 | 30 | |

Note:
1. *Worldwide sales, gross product, total assets, exports, and employment of foreign affiliates are estimated by extrapolating the worldwide data of foreign affiliates of MNE based on data from 165 countries for income on inward FDI and 144 countries for income on outward FDI, representing more than 90 per cent of global inward and outward stocks.*
2. *Source: UNCTAD 2023; WIR [2023]*

Recently, outward FDI flow in the developed countries was affected by the 2008-09 financial crises and economic downturn but the values rose in developing countries. Generally, the level of flow of outward FDI from emerging economies (developing and transition countries) was much lower than the advanced countries, but the plots show strengthening and catching up (see Annexes F, G and J). Between 2003-2007, outward FDI flows from developed countries grew by 40 percent, with the European Union and

United States being the major investors. Figure 7 indicates that between 2005 to 2018, MNCs from developed countries reduced their overseas investment expansion to US$558 billion by 40%. Thus, their share in global outward FDI reduced to 55%, which remains the lowest value so far recorded. This decline indicates a less reflection of real investment intentions than the impact of the large-scale repatriations of accumulated foreign earnings by United States MNCs, which resulted in negative outflows [WIR, 2019]. However, in 2007, outward FDI flow from developed economies reached a record value of US$1800 billion with 77 per cent share of global value (Figure 7).
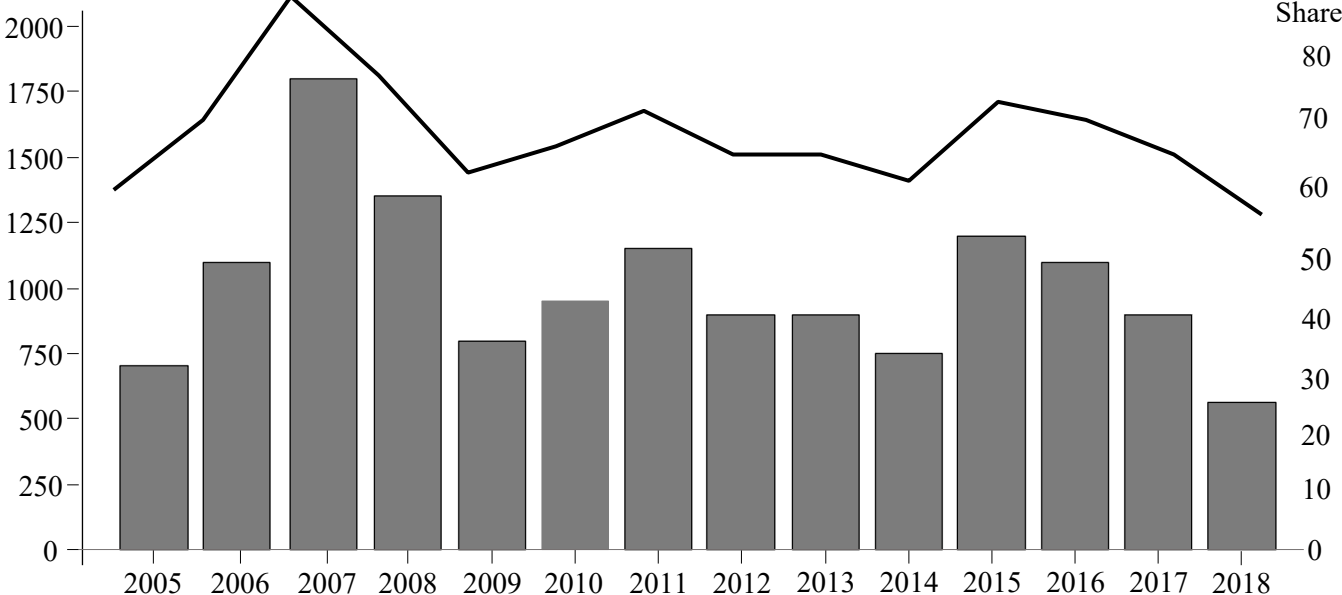


*Figure 7 – FDI outflow in Developed economies, and their share in world outward FDI flow, 2005−2018 (Billions of dollars and per cent)*

The global economic growth measured by GDP continues to increase except the post crisis low of 2.2 per cent in 2016 (Table 3). In the same vein, growth in developed countries have shown moderate improvement, thanks to the rise in business confidence and the easing in fiscal policy in the United States, as well as cyclical momentum in Japan and the Europe. The transition economies also show growth improvement, evidently shown in 2017 and 2018. For gross fixed capital investment, the emerging and developing economies have picked up strongly since 2017, ditto, the advanced economies (see Table

3). For instance, the world economy expanded by 4.3% and thereafter 4.7% in 2017 and 2018 respectively, compared to 1.9% dip in 2016. Similar growth rate of GFCF was observed in advanced, emerging and developing economies. This suggests more buoyant economic activities that boost world trade. Nevertheless, the likelihood of an increase in global FDI maybe tempered by a series of risk factors: the global pandemic (covid-19), trade tensions, geopolitical risks, and concerns toward shift in protectionist policies could have a negative impact on FDI.

*Table 3 – Real growth rates of GDP and gross fixed capital formation (GFCF) 2015-2018*

| Variables | Region | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| GDP growth rate | World economy | 2.5 | 2.2 | 2.7 | 2.9 |
| | Developed economies | 2.1 | 1.5 | 1.7 | 1.8 |
| | Developing economies | 3.8 | 3.6 | 4.4 | 4.7 |
| | Transition economies | -2.8 | -0.2 | 1.4 | 2.0 |
| GFCF growth rate | World economy | 2.8 | 1.9 | 4.3 | 4.7 |
| | Advanced economies | 2.6 | 1.5 | 2.8 | 3.5 |
| | Emerging and developing econ. | 3.0 | 2.2 | 5.4 | 5.4 |

Note:
1. IMF's classifications of advanced, emerging and developing economies are not the same as the United Nations' classifications of developed and developing economies.
2. Source: UNCTAD, based on United Nations (2017) for GDP and IMF (2017) for GFCF.
3. GDP = gross domestic product, GFCF = gross fixed capital formation

*Foreign direct investment Spillovers on the Home Economy*

The activities MNCs have shown to have significant impact on both home and host countries' economy. However, firm may invest abroad in order to access advanced technologies and managerial skills in foreign countries [Dunning & Narula 1995]. Thus, knowledge captured through outward FDI flow to host countries are transferred to home country. These spillovers may leak out to other competing firms and generate positive intra industry externalities through labor mobility and other competitive forces, which can

bring about competitiveness that boost economic growth for home country. Therefore, outward FDI may create positive externalities via backward and forward spillovers on home country firms[11]. For this reason, government of different countries (developed and developing economies) adopts investment policies that attract the activities of MNCs with the believe that it will benefit the economy [Giuliani & Macchi, 2014]. However, unlike the voluminous host country studies, research on the spillover effects of outward FDI for home country are scanty. This shows that handful studies have examined the impact of MNCs activities abroad on their home country economy. Figure 8 shows the basic illustration of home-country effects of outward FDI. It illustrates way outward FDI may have significant impact on home country economic growth. This depict the country where the investing MNCs is headquartered and from which the investment originates.

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[11] Tang, J. and Altshuler, R. The spillover effects of outward foreign direct investment on home countries: evidence from the United States // Oxford University Centre for Business Taxation. – 2015. – No. 1503. http://hdl.handle.net/10419/123824

Border

*Home country

*Host country

Economic benefits:
Growth & Development

Outward FDI

Heaquarter

Subsidiary

*Financial returns (Income, savings)
*Tangible returns   (Upgrading)
*Intangible returns (Inputs)
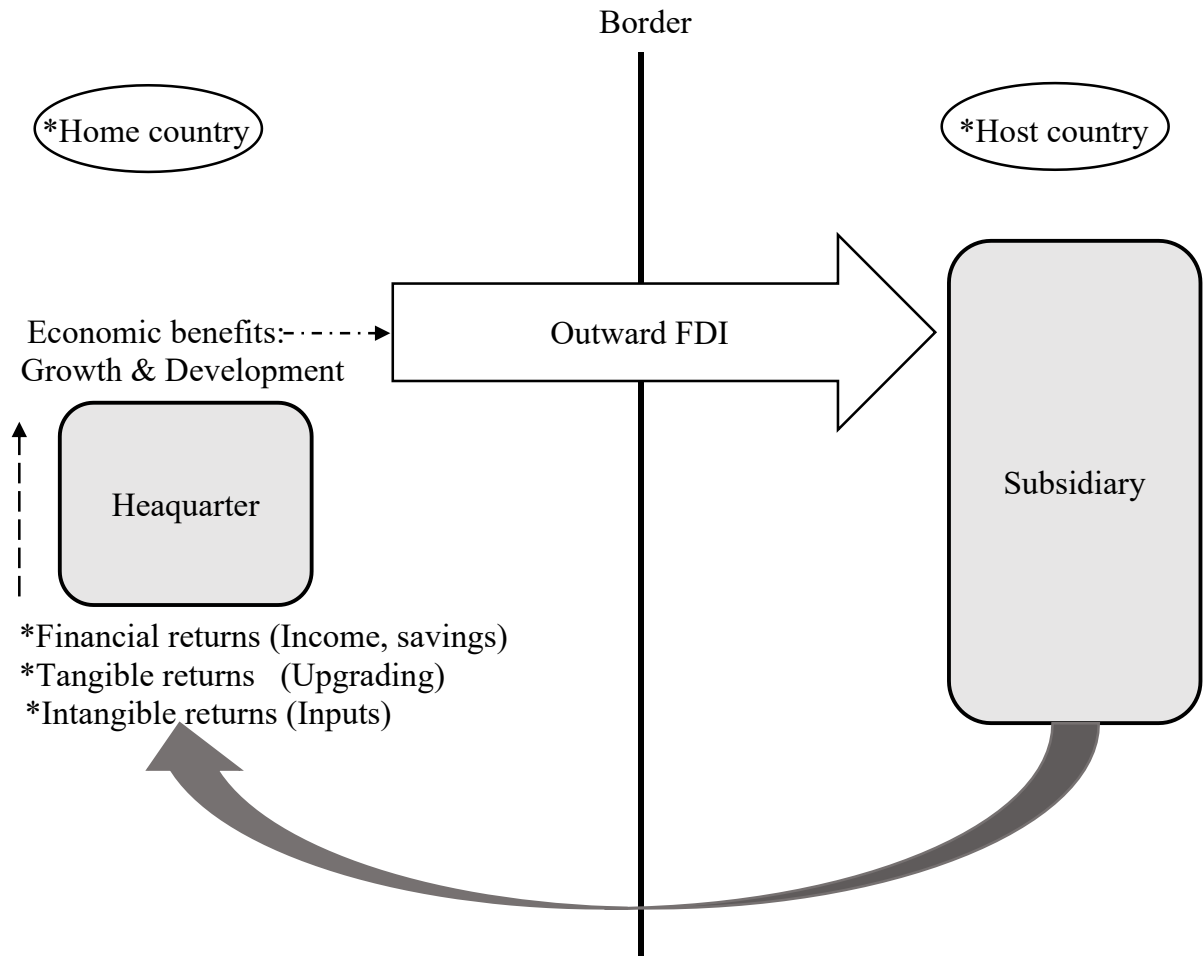
*Figure 8 – Shows the channels and the spillover effects of outward FDI*

Most available studies on FDI outflow focuses on the impact of MNCs expansion abroad via domestic employment and capital investment, but the likelihood that MNCs expansion may bring about positive spillovers to other domestic firms not related to MNC has been largely ignored[12]. This is because the effects of outward FDI on home economies remain a subject of debate and for most part, policy makers tend to focus their attention on the negative impacts connected with MNCs expansion abroad[13]. However, some crucial studies on outward spillover effects shows that Vahter & Masso [2007] applied Estonia enterprise-level data in examining productivity spillover between home and host countries,

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[12] Osabuohien-Irabor, O. and Drapkin, I.M. Global outward foreign direct investment and economic growth across income groups: the mediating effect of home country institutions // Sage Open. – 2023

[13] Tang, J. and Altshuler, R. The spillover effects of outward foreign direct investment on home countries: evidence from the United States // Oxford University Centre for Bus. Taxation. – 2015. – No. 1503. http://hdl.handle.net/10419/123824

and their findings indicate that the productivity of parent firms which establish affiliates abroad is positively correlated with outward FDI activities. Nonetheless, no evidence of sector-wide spillovers is found for other Estonia pure national firms. Using the industry level data, Driffield et al. [2009] find positive spillovers effects of outward FDI on home country productivity, but the empirical analysis did not distinguish between domestic and foreign-owned firms. Castellani & Zanfei [2006] examined the outward FDI spillovers in Italy and their results show that outward FDI has a crucial external effect that facilitates the expansion of domestic multinationals, both on employment and the productivity of other domestic firms in Italy. Outward FDI shows to be beneficial to investing firms, raises capital, boosts tax revenues, and increase employment opportunities abroad. However, the benefit of these indirect effect due to spillover effects could potentially be larger than any benefit or cost to home country's domestic subsidiaries of MNCs[14]. This is evident in the cancellation of UK and Japan's home country taxation of foreign active earnings abroad of domestic MNCs, which shows that outward FDI generates both direct and indirect benefits. In the light of the foregoing, Lipsey [2002], posit that if direct investment abroad generates significant direct and indirect positive externalities at home, then a case may exist for subsidizing the foreign activities of home country MNCs.

*Classification of Foreign direct investment*

Conceptually, outward FDI is based on three parameters; motive, flow, and entry mode [Zreik et.al., 2022; Osabuohien-Irabor, 2022; etc.]. However, outward FDI motive may be grouped into four major category – resource seeking outward FDI, market seeking outward FDI, efficiency seeking outward FDI, and strategy asset seeking outward FDI. These motives vary depending on the company and their specific conditions. Regarding FDI flows, studies have shown that FDI are classified into two types, this includes, FDI inflows and FDI outflows[15] also known as outward FDI. However, outward FDI choice to enter international market are determined in different forms such as, greenfield investment

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(an investing firm builds a new foreign affiliates), merger & acquisition or brownfield FDI (an investing firm acquires an existing local firm), joint venture (a form of strategic alliance where a local company and a foreign entrant creates a local business and agree to share joint ownership and control), and licensing (an international licensing agreement that allows foreign firms, either exclusively or non-exclusively to manufacture a proprietor's products for a fixed term in a specific market). These four entry modes are quite distinct from each other, with their unique advantages and disadvantages. All forms of FDI classification based on motive, flow, and entry are shown in Figure 9.
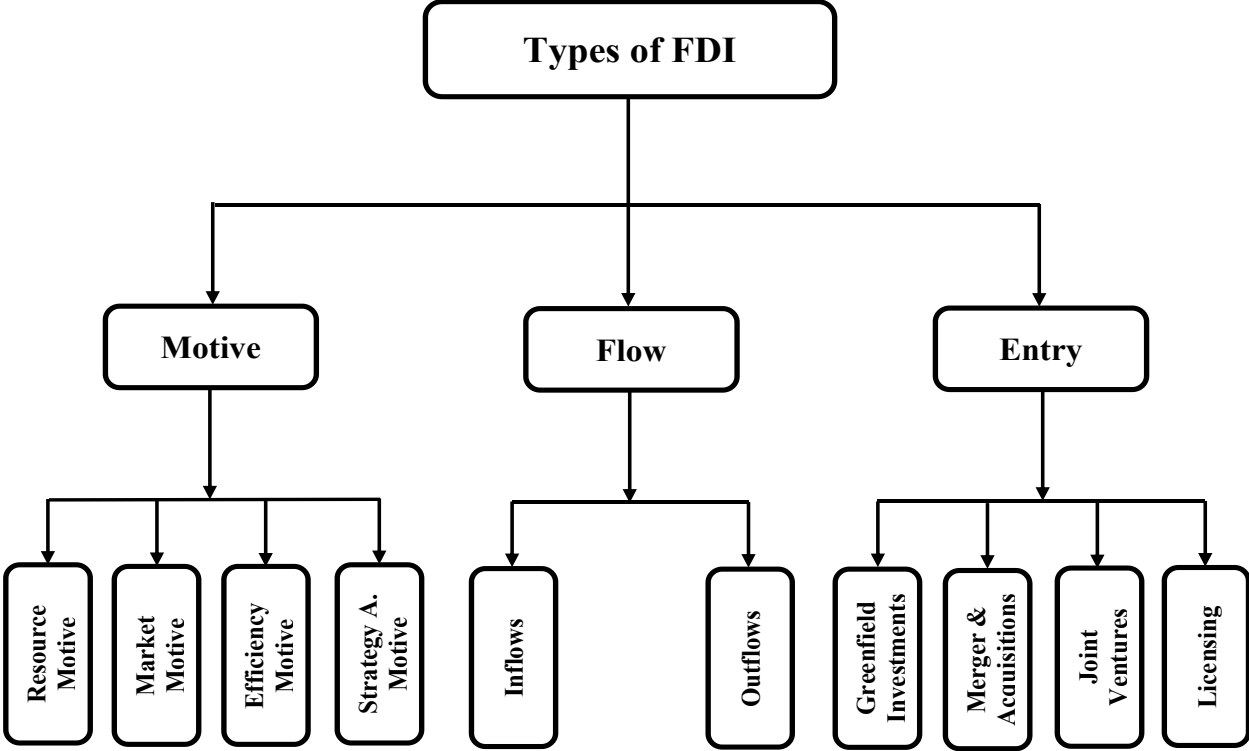
Figure 9 – Types of Outward Foreign Direct Investment

*Motivations for international expansion*

*(a) Resource seeking outward FDI:* Natural resources are often extracted by foreign multinationals that bring in capital and knowledge which can bring about positive spill-over effects to both resource and non-resource sectors of the host and home economies. Firms in sectors such as natural gas, mining, oil, metals, etc., are much interested in host

countries with natural resources. During the 19th century, firms from North America and Europe with rapidly industrializing economies, pushed to expand outward FDI in related industries with natural resources all around the world.[16] Firms employ outward FDI to seek for such great opportunity to explore these resources. This is in line with Dunning [1993] view, that acquiring natural resources motivate firms to make investment in other countries. To secure these resources, most governments and firms have subscribed to substantial outward FDI in different locations globally. For instance, locations such as Africa, Australia, Middle East, Latin America, Asia, Canada, and Russia remains key areas most firm seek natural resources. Outward FDI seeking natural resources from all parts of the world shows to be targeting developing economies which continue to increase. However, acquisition of natural resource from advanced economies by emerging economies recently gain attention, as most of them have made efforts to establish relations with the host countries in order to facilitate easy access to natural resources.

*(b) Market seeking outward FDI:* Firms are always in search of foreign markets to expand their consumer base and attain economies of scale. Thus, market seeking explains the major reasons why emerging economies undertake outward FDI in advanced economies [Buckley et al., 2007]. Investing in such economies help to avoid import barriers and improve firm's strategic positioning. This means that firms are motivated to invest in foreign markets with greater economic growth potentials in order to maximize returns and enjoy economies of scale. Hence, host country's size and economic growth matters when considering outward FDI. According to Buckley et al. [2007], market seeking outward FDI is considered an offensive strategy firms seek new market via horizontal expansion or to secure existing market position by establishing economic relationship. However, market seeking outward FDI may be defensive when a foreign country levies on restrictions, such as import quotas or better service provisions, tariff, and differentiation by establishing a foreign unit close to its local customers[17]. Most countries are more

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[16] Kindleberger, C.P. American Business Abroad. Yale University Press, New Haven, –1969
[17] Kamal, A. Muhammad, Ullah Assad, Zheng Jiajia, Zheng Bowen, and Xia Huizhu. Natural resource or market seeking

integrated with the rest of the world due to economic liberalization policy which has created a strong competitive environment for firms in the home market. For this reason, firms seek foreign markets using outward FDI due to the diminishing investment returns in home markets. Market-seeking outward FDI aims to reduce transport costs, transfer prices, non-tariff barriers, etc. Market-seeking outward FDI firms may help stabilize exchange rate fluctuations and reduce uncertainty.

*(c) Efficiency seeking outward FDI:* Efficiency-seeking outward FDI is a key managerial objective that benefits foreign firms through internal and external economies of scale, hence firms that "go global" always seek for means to inculcate it in their operations. Efficiency-seeking approach of outward FDI has been explained in terms of differences in cost connected with the home and host markets business dealings[18]. Thus, locations with low cost of labor should receive more FDI [Sethi et.al., 2003]. Low labor cost in developing countries serves as a motive for advanced economies to invest in developing economies [Ross, 2015]. However, due to labor conditions and labor quality, emerging economies are still motivated to invest in advanced economies [De Mello, 1997]. Similarly, firms having comparative advantage in economies of scale with an objective to acquire cheap factors of production also undertake efficiency seeking outward FDI [Dunning, 2001]. Countries with low GDP per capita may be a good location for low labor cost rather than purchasing power of consumers. Higher cost of production is one of the key challenges to firms, therefore firms seek to produce at a location where production costs are relatively low [Zreik et.al., 2022]. According to Dunning [1977], human capital in the form of education is one of the key determinants for the influx of FDI, thus, Okafor et.al. [2017] study view human capital in the form of skilled workers (educated workforce) as great advantage to firms seeking efficiency in their investment adventures in developing countries.

motive of China's FDI in asia? New evidence at income and sub-regional level // Economic Research Ekonomska Istraživanja – 2019. – Vol. 32. – No. 1, 3869-3894, https://doi.org/10.1080/1331677X.2019.1674679

[18] Osabuohien-Irabor, O. Foreign direct investment inflow: The drivers and motivations in MENA Region // Economic Journal of Emerging Markets. –2022. – Vol. 14. – No. 1. – pp. 1-14

*(d) Strategic asset seeking outward FDI:* Strategic asset seeking has also been a significant motive for firms to engage in outward FDI in different countries [Dunning, 1998]. According to Li & Cantwell, [2018], the focus of firms under strategic motive remains on skills and technology, thus strategic assets such as managerial skills, advanced technology, superior brands, geopolitical region, resource etc. are necessary for firms to compete globally. Holtbrugge & Kreppel [2012] shows that strategic asset, especially technology, managerial skills, and brands are significant drivers of outward FDI from BRICS countries to advanced economies. However, these views are also not different from Kuemmerle [1997] that strategic asset seeking FDI aims to create new firm specific advantage (FSA) via acquiring technology and knowhow available in foreign countries, but not in the MNC's home country (this can be referred to as FSA exploration). Strategic asset seeking outward FDI can also expand MNC's knowledge base and serve as opportunities for firms to broaden new business generation [Li et al., 2016] which in turn helps the MNCs to grow and increase its domestic employment. Therefore, firms initiating strategic asset seeking using outward FDI in foreign countries, bring out positive effects on firms' domestic employment levels.

*Table 4 – FDI flows by region from 2017- 2019 (Billions of dollars and per cent)*

| Regions/Economy | FDI Inflows | | | FDI Outflows | | |
|---|---|---|---|---|---|---|
| | 2017 | 2018 | 2019 | 2017 | 2018 | 2019 |
| World Economy | 1700 | 1495 | 1540 | 1601 | 986 | 1314 |
| Developed economies | 950 | 761 | 800 | 1095 | 534 | 917 |
| Europe | 570 | 364 | 429 | 539 | 419 | 475 |
| North America | 304 | 297 | 297 | 379 | -41 | 202 |
| Developing economies | 701 | 699 | 685 | 467 | 415 | 373 |
| Africa | 42 | 51 | 45 | 12 | 08 | 05 |
| Asia | 502 | 499 | 474 | 417 | 407 | 328 |
| East & South-East Asia | 422 | 416 | 389 | 367 | 345 | 280 |
| South Asia | 52 | 52 | 57 | 11 | 12 | 12 |
| West Asia | 28 | 30 | 28 | 39 | 50 | 36 |
| Latin America & Caribbean | 156 | 149 | 164 | 38 | 0.1 | 42 |
| Oceania | 01 | 01 | 01 | 0.1 | -0.3 | -1 |
| Transition economies | 50 | 35 | 55 | 38 | 38 | 24 |
| Weak and small economies | 40 | 39 | 39 | 06 | 02 | 0.4 |
| LDC | 21 | 22 | 21 | 02 | 01 | -1 |
| LLDCS | 26 | 22 | 22 | 04 | 01 | 0.5 |
| SIDS | 04 | 04 | 04 | 0.3 | 0.3 | 0.1 |

Note:
1. LDCs – Least Developed Countries
2. LLDCs – Land Lock Developing Countries
3. SIDS – Small Island Developing States
Source: UNCTAD (2020); WIR (2020); FDI/MNE database (www.unctad.org/fdistatistics).

*Outward FDI by flow:* There are two categories of FDI by flows, and this include FDI inflows and outflows. FDI inflow indicates the value of inward direct investment made by non-resident investors in the reporting country which include intra-company loans, reinvested earnings, repayment of loans and net repatriation of capital [Barauskaite, 2012]. However, FDI outflows (also known as outward FDI) are the value of outward direct investment or direct investment abroad made by the residents of the reporting country to an external country, and this include reinvested earnings and intra-company loans as well as the net receipt from the repatriation of capital and repayment of loans [Barauskaite, 2012]. There is growing evidence that outward FDI flow can boost a country's investment

competitiveness, crucial for long-term, and sustainable economic growth.[19] However, the spillover effects of outward FDI have numerous benefits for the economy in the form of exchange rate stability, technology advancement, and infrastructure development.[20] Thus, countries rely on outward FDI as a channel to upgrade production processes, facilitates new development and a catch-up strategy to acquire knowledge and technology, augment managerial skills, boost competitiveness, and access distribution networks. Table 4 shows the global flows of FDI (outflow and inflow) as well as the investment flows in different regions.

*Outward FDI by entry mode:* The mode outward FDI enters international market matters. These different models such as greenfield investment, M&A, joint ventures, and licensing approaches help firms enter the global market [Raff et al., 2009]. Studies shows that firm's profitability and feasibility are majorly linked to the decision to enter the global market. Thus, outward FDI may be used to create new economic foundations by launching a project with new operational facilities and infrastructure development which are mostly controlled in host countries. This newly created economic foundation using outward FDI is referred to greenfield investment[21]. Developing countries have focused on greenfield projects using outward FDI rather than expansion of existing projects. According to Harrison [2001] the collaboration between two firms on the basis of equal equity to formulate a single legal entity is referred to as a 'merger'. Merger & Acquisitions[22] is another mode of entry into host economy through investing in established companies by either merging where specific percentage of equity is acquired or by acquisition where the international firm (as foreign investor) holds a major share. However, 'acquisition' is a kind of merger where one company acquires a 100 percent controlling interest in another

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[19] Alfaro, L. and Chauvin, J. Chapter 10: Foreign Direct Investment, Finance, and Economic Development. – 2017. https://doi.org/10.1142/9789811200595_0011

[20] Javorcik, B. S.  Does Foreign Direct Investment Increase the Productivity of Domestic Firms? In Search of Spillovers hrough Backward Linkages // American Economic Review. –2004. –Vol. 94. –No. 3. – pp. 605-627. https://doi:10.1257/0002828041464605

[21] A green-field (also "greenfield") investment is a type of foreign direct investment (FDI) in which a parent company creates a subsidiary in a different country, building its operations from the ground up

[22] Malik, F., Anuar, M.A., and Khan, S. Mergers and Acquisitions: A Conceptual Review // International Journal of Accounting and Financial Reporting. –2014. –Vol. 1. – No. 1. – pp. 520. DOI:10.5296/ijafr.v4i2.6623

company to expand its business portfolio. Thus, MNCs build and expand their effective portfolio by merging with and acquiring other business entities [Zreik et.al., 2022].

Nevertheless, high level risk and uncertainty due to differences in culture, norms, and beliefs may be associated with international merger and acquisitions (M&A). Foreign enterprise such as MNCs may utilize host country's firm strategic importance to target, penetrate and expand their market base. This type of collaborative effort between domestic and foreign firm is known as Joint venture for business entry [Jiang et.al., 2018], and serve to expand domestic company economies of scale. An international licensing agreement allows foreign firms (either exclusively or non-exclusively) to manufacture a proprietor's products for a fixed term in a specific market. Numerous benefits are generated via the licensing agreements[23] to obtained technology, managerial expertise, trademarks, patent rights, etc. However, all four modes of entry of outward FDI (Greenfield investment, M&A, Joint venture, and Licensing) are interdependent [Raff et.al., 2009].

*The Determinants of Outward Foreign Direct Investment*

Outward FDI determinants answer the question on why firms go abroad and what factors shape such decisions[24,25]. This has been the focus of most FDI studies which seeks to tests empirically the determinants of FDI among countries or group of countries. Macroeconomic performance variables such as inflation rate, interest rate, GDP, GDP growth, GDP per capita, unemployment, exports and imports are sets of variables that may determine the flow of FDI. These domestic factors can affect the diversification and intensity of firm's internationalization efforts in an economy. Market size represented by GDP and GDP per capita are most commonly used proxy for economic pull that attracts FDI flows between two countries [Osabuohien-Irabor, 2022]. However, numerous studies have showed that FDI motivation is strongly influenced by market size of partner

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[23] A licensing agreement is a contract that allows one party (the licensee) to use and/or earn revenue from the property of the owner (the licensor). It is a contract between a licensor and licensee in which the licensee gains access to the licensor's intellectual property

[24] Dunning, J. H. The determinants of international production // Oxford Economic Papers. –1973. –Vol. 25. – pp. 289-335.

[25] Agarwal, J. P. Determinants of foreign direct investment: A survey // Weltwirtschaftliches Archiv. – 1980. –Vol. 116. – pp. 739-773.

countries, thus FDI flows tend to move towards countries with larger economies. For instance, Chiappini & Viaud [2021] study showed that the Japanese outward FDI flow are driven by the domestic currency rate, market size, trade openness, corruption, financial stability and industry characteristics. Al-Shammari & Behbehani [2017] examines home country macroeconomic determinants of Kuwait's outward FDI using country level time series data over the period 1976-2011. Their findings show that the main macroeconomic determinants of Kuwait's OFDI are inward FDI, interest rate, and public expenditure. These outward FDI determinants show similar trend in Norway's outward FDI determinants. Other studies that have examined the determinants of outward FDI include Sukanya & Suresh [2021] – India; Das [2013] – Developing country; Tolentino [2010] – China and India; Kim & Rhe [2009] – South Korea; Kueh et al. [2008] – Malaysia; Kyrkilis & Pantelidis [2003] – EU and Non-EU.

Studies have documented the role of institutional environment in creating firm's internationalization strategy [Cuervo-Cazurra & Genc, 2008; Cuervo-Cazurra et al., 2018]. North [1990] defined Institutions as the rules of the game in a society or, more formally, "……the humanly devised constraints that shape human interaction". He differentiates between informal (conventions and codes of behavior) and formal constraints (rules that human beings devise). Formal institutions can be categorized as weak "if they fail to ensure effective markets or even undermine markets" but strong "if they support the voluntary exchange underpinning an effective market mechanism" [North, 1990]. Nuruzzaman et al. [2020] study revealed that strong domestic institutions support firm's internationalization strategy compared to weak institutions. However, some studies have also revealed that institutional escapism may occur when the weak formal institution drives firms in the home country economy to initiate an escape strategy via outward internationalization. In the same vein, some studies have also documented MNCs willingness-to-escape phenomenon from different regions, e.g., In China [Li et al. 2018; etc.], South Africa [Barnard & Luiz, 2018]; and Latin America [Cuervo-Cazurra, 2016]. Conversely, many firms have leveraged on the home or host country institutions to brings

about competitive advantage due to robust domestic institutional framework [Cuervo-Cazurra & Narula, 2015; and Cuervo-Cazurra & Genc, 2008].

Howbeit, multinational firms constantly interact with both its home and host country environments, hence the appropriate factors responsible for creating conductive environments for the continuous flow of overseas investment are carefully examined. This provides detail information including useful guidance on outward FDI determinants in order for domestic investors to make critical foreign investment decisions. Some of the major outward FDI determinants used by most empirical studies include market size, exchange rate, labor costs, inflation, openness, interest rate, political risks, corruption, technology, etc. Figure 10 illustrates some of the potential determinants of outward FDI.

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┌──────────────┐     ┌──────────────┐     ┌──────────────┐
│ Market size  │     │  Labor cost  │     │Exchange rate │
└──────────────┘     └──────────────┘     └──────────────┘
                              │
┌──────────────┐     ┌──────────────────┐     ┌──────────────┐
│Infrastructure│ →   │   Outward FDI    │   ← │Political risks│
└──────────────┘     └──────────────────┘     └──────────────┘

┌──────────────┐     ┌──────────────┐     ┌──────────────────┐
│Trade openness│     │  Inflation   │     │Natural resources │
└──────────────┘     └──────────────┘     └──────────────────┘
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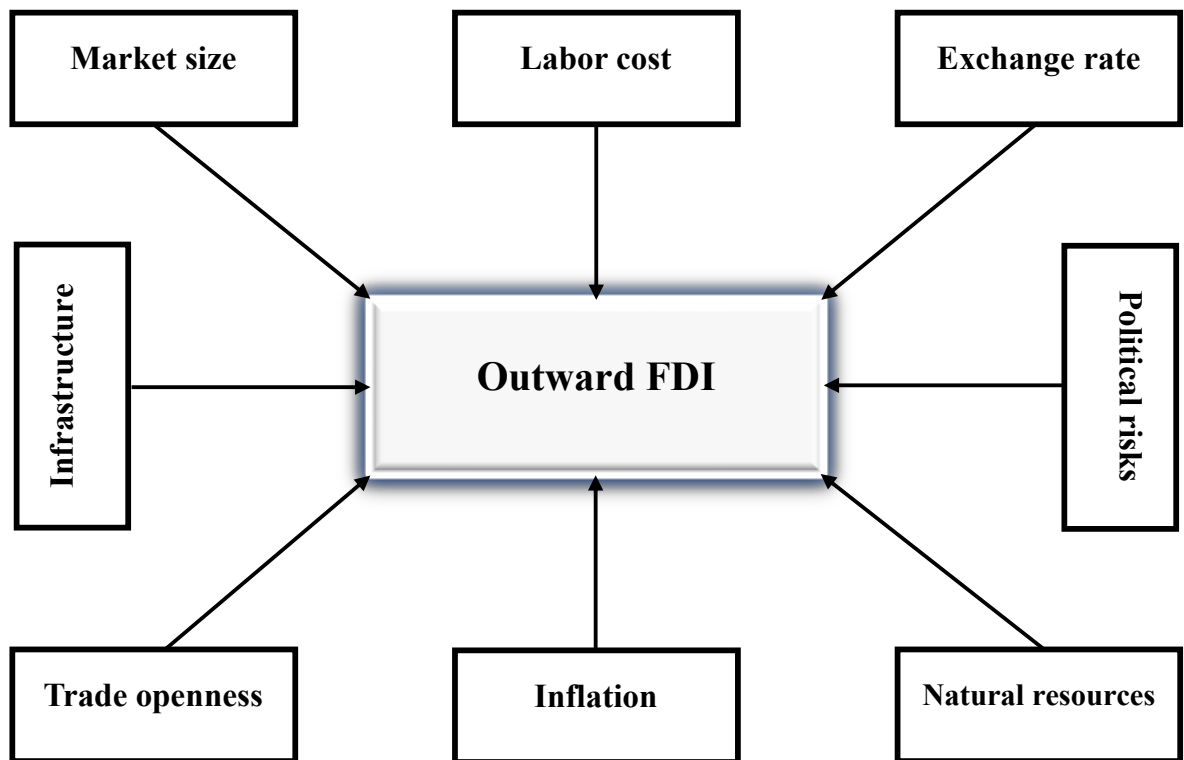
*Figure 10 – Potential determinants of outward foreign direct investment for home countries MNCs*

*Market size:* Market size is one of the major factors into why multinational would choose to invest in another country[26]. To determine the significance of market size, country GDP is often used as a proxy to show the economic relevance of the size of the market. According to Bevan & Estrin [2004], the differences in market size of home and host countries is a significant explanation for FDI flows from developed countries. They opined that home country market size determine the product and production capacity which are likely to affect FDI flow, therefore, market size of home country act as a surrogate for product demand and production capacity. This view is also shared by Egger & Pfaffermayr [2004] who suggested that market size may serve as measure of capital abundance, thus countries with abundance of capital may engage more in outward FDI activities compare to countries with poor capital abundance. However, Kimino et al. [2007] paper followed this line of thought and posit that larger market size with greater amount of capital reserve and intangible assets such as marketing experience and technologies have greater capacity to conduct production abroad. Larger amount of firm seeks to expand production activities into global market (Pan, 2003), hence large home country firms could easily raise capital for foreign investment compare smaller domestic firm.

*Labor cost:* Cost of labor forms considerable part of production costs which is very important when making investment location decision. Many previous studies have showed that labor cost in host country is negatively linked to FDI flow from developed to developing countries. For instance, Janicki & Wunnava [2004] shows that nations with relatively low labor cost are more attractive for foreign investors, as they tend to relocate production to places where cheap human capitals (lower wages level) are available, especially labor-intensive production for firms. Hatzius [2000] finds that high cost of labor in home country may facilitate the flow of outward FDI to host country with low labor costs. This is in line with Dunning's paradigm which suggests that most firms engage in FDI outflow due to cost-reduction purpose. In contrary, if MNCs seek professionals and

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26 OECD. Measuring International Investment by Multinational Enterprises. Implementation of the OECD's Benchmark. Definition of Foreign Direct Investment, 4th edition. ─2015. https://www.oecd.org/corporate/FDI-BMD4-brochure.pdf

quality human capital to drive high productivity, they may not be interested in cheap and low-cost labor. Low wage labor might indicate lack of productivity [Wang & Swain, 1997]. However, the presence of new technological advances may create firm and economic expansion that require overseas investment.

*Exchange rate:* Outward FDI may be influenced by weaker or higher exchange rates in home country [Aliber, 1970]. However, results from existing studies show that exchange rate uncertainty and FDI flows relationship are mixed. For instance, Cushman [1985] investigate the effects of exchange rate uncertainty on FDI flow and found that devaluation of home country currency supports FDI inflow in order to lower capital cost, which in turn may be offset by different costs of other inputs. According to Benassy-Quere et al. [2001] appreciation of home country currency brings about a reduced capital cost which encourages MNCs to invests easily and cheaply abroad. Appreciation of home country currency increases MNCs capital and numbers of investment in country with weaker currency. Similarly, Itagaki [1981] supports this view and posit that foreign affiliate profit will appreciate when home currency depreciates, thus some MNCs tend to invest abroad when exchange rate fluctuation is high and favorable to home country. Studies show that international investing firms tend to strengthen its production capability and flexibility by transferring production to countries where costs of inputs are cheap due to reduced value of host currency [Sung & Lapan, 2000]. This view simply implies that exchange rate volatility stimulates FDI flow.

*Inflation rate:* MNCs are able to shift investment between home and host countries to minimize the negative effects of changes in the macroeconomic environment. These changes in inflation rates of domestic or foreign country are most likely to alter the net returns and optimal investment decisions of the MNE. There is scanty research on inflation and FDI flow, especially outward FDI flow. High inflation may bring about price volatility and reduce expected return on investment and indicates host government failures in examining proper expansionary macroeconomic policies. Similarly, high rates of inflation

could adversely affect home country's domestic investment as increase in prices of input used for production could be a disincentive for investment. In order words, rises in inflation, if temporary, are not likely to have much impact on FDI flows, but prolonged periods of rising inflation will result in a decrease of FDI flows due to the impacts high levels of inflation. Therefore, uncertainty in home country economic environment and high inflation are likely to facilitates investors loss[27]. Thus, investor may strategize exiting the economy via FDI escaping in the form of investment relocation. This shows that outward FDI in the form of escaping FDI can be as a result of high inflation in home country, therefore, inflation could be home country-related push factor for investment.

*Infrastructure development:* Effective infrastructure system in home country needs to be in place to facilitate movement of input and output from source countries to production point and thereafter to various transportation points [Kinuthia, 2012]. Therefore, home and host country infrastructure are a crucial cost factor that greatly impact FDI flow. However, against previous results on FDI flow and infrastructure relationship, Nnadozie & Osili [2004] suggests no robust evidence to support quality of infrastructure in host country as FDI determinant flowing from United States to Africa. For MNCs to operate successfully regardless of FDI type (outward and inward FDI), availability of soft and hard infrastructure is necessary [Kinoshita & Campos, 2003]. The search for determinant of outward FDI has generated mixed effect of infrastructure as a determinant of FDI. More so, the nature and motive of FDI flow may be measured by different factors. For instance, investing in a more expensive transport infrastructure can bring about the solution to reducing traffic which in-turn facilitates outward FDI flow. The Chinese experiment is a good example of country increasingly spending on transport infrastructure to boost the domestic economy with cross border investment in many neighboring countries. The high-speed intercity railways have been playing a pivotal role in boosting the local economy.

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HSR (high-speed rail) network effectively merges cities providing favorable conditions for the exchange of commerce, trade and investment. The high-speed railway has become a more important asset to national economic and social development. On this account, Khadaroo & Seetanah [2008] argue that good road network brings about the reduction of transport cost and an increase in accessibility to adjoining cities and countries for intra and cross border investment and trade related activities. Thus, the public infrastructure helps to maximize profit and reduce the cost of doing business for multinational corporations. Therefore, the infrastructure helps the businesses in the reduction of costs through the facilitation of the production process. In the absence of public infrastructure, the MNCs may incur additional costs and results in reluctance in investments [Erenburg, 1993].

It therefore seems reasonable to assume that a sufficiently developed financial system also plays a crucial role with regards to outward FDI-driven reverse knowledge transfer. There are several arguments why the state of the financial system matters for outward FDI. First, a well-functioning financial system is able to mobilize private savings ([Hermes & Lensink 2003], which in turn increases the amounts of resources available to finance outward FDI projects. Second, a sound financial system is an important and mostly neutral arbitration to evaluate and decide which outward investments are promising and which are doomed to fail. Financial institutions may adopt an important screening and monitoring function of overseas investment projects.

*Political risk:* is broadly defined as the probability of disruption of the operations of companies by political forces and events that may occur in home or host countries as well as the changes in the international environment. It could be viewed as the probability of occurrence of political events that may influence expected profitability of investment activities or the interference with business operations by home country governmental agent [Kobrin, 1979]. This could alter investors investment decisions in order to reduce risks and save investment disruption. According to Benacek et al. [2000], political risks may have power on the distribution of investment across countries, region and global based on investment location decisions. However, the extent to which political risks

influence FDI flows rests primarily on the attitude towards risk and the political characteristics of home country [Kimino et al., 2007]. Furthermore, Tallman [1988] indicates that a poor investment climate with higher political risks of the home country would encourage outward FDI to the relatively stable countries. Thus, political risk could act as a "push" determinant for domestic firms to exit home country economy temporary [Osabuohien-Irabor & Drapkin, 2022a]

*Trade openness:* FDI flow is considered export oriented which may be complemented by imports to enhanced trade volume, thus, trade openness appears as a major determinant of FDI flow [Vijayakumar et. al., 2010]. Whilst imports from foreign affiliate located in host country may be used to supply home country parent company, exports may be used to furnish affiliates in the host country. The relevance of trade and FDI flows relationships with respect to internalization has been discussed severally [Bevan & Estrin, 2004]. However, high volumes of international trade may be an indication of high economic integration between the connected countries. Similarly, economy trade openness can narrow the income variations between the rich and poor countries by knowledge and technology diffusion, which help facilitates greater national productivity and economy.

This shows that MNCs' investments tend to flow to trade partner markets with which they are familiar and perhaps with cultural closeness. High volumes of trade might be a sign of a high economic integration between the countries [Zheng, 2009]. Imports from the subsidiaries located in the host country may be used to supply the parent company in the home country while exports may be used to supply subsidiaries in the host country. The impact of a home or host country's involvement in free trade agreements, customs unions, and supra-national economic structures has been emphasized by literature on trade and FDI, since transaction costs between foreign production and exports is affected by such a move [Bevan & Estrin, 2004]. Based on literature survey, greater bilateral trade will attract FDI flows to the host country.

*Natural resources:* Numerous studies have showed that availability of natural resources remains the major pull factor for resource-seeking outward FDI into emerging economies, especially in Sub-Sahara Africa (SSA) where common perception indicates that FDI flow is largely driven by resources [Asiedu, 2002]. This view is similar to Okafor et.al [2017] study on US' outward FDI flow to twenty SSA countries[28] with the conclusion that the presence of natural resources is the key factor for positive influence on FDI flows. As suggested by Dunning [1977 and 1993], total natural resources rent as a percentage of GDP and the availability (proven reserves) of crude oil and gas were mainly used to measure resource-seeking motives for FDI inflows to countries, thus acting as a pull factor for outward FDI. As such, huge rent generated from natural resources is seen by resource-seeking FDI as an indication of the abundance and low cost of national resources in the host country's total exports as a measure of natural resources availability.

## 1.2. Effects of FDI outflows on the home country economy

*Theoretical and empirical contribution of OFDI on home country trade*

The key effect of FDI flows is its impact on trade, where the standard trade theory asserts that the relationship is substitute rather than complement. Historically, developed economies are the major sources of global outward FDI flows, and one of the major concerns as well as argument among policymakers and academic scholar is whether FDI-trade relationship is substitute or complement. This debate has led to many scholarly research papers, particularly after the work of Mundell [1957]. In his seminal work, Mundell [1957] used the Heckscher-Ohlin equilibrium approach to examine the relationship between FDI-export and opined that capita flow between countries may give rise to movement of goods between countries involve, i.e., FDI may substitute trade (export). Other theories of FDI in early literatures applies the OLI paradigm which views oversea production and trade (exports) as two alternative modes to compete in

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[28] Angola, Botswana, Cameroun, Cote d'Ivoire, DR Congo, Ethiopia, Gabon, Ghana, Kenya, Lesotho, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Congo, Senegal, South Africa, Tanzania, Zambia

international markets [Dunning, 1980].

Historically, developed economies are the major sources of global outward FDI, hence most of the literature on outward FDI are mostly from developed countries, and only recently developing countries gained prominence. However, outward FDI and international trade are traditionally viewed as key drive of economic integration and globalization. This has led to the emergence of large volumes of studies in different sub-strand of literatures, especially from developed and developing economies with the aim to examine whether the relationship has complementarity and substitution effects [Osabuohien-Irabor & Drapkin, 2022]. Most empirical studies of outward FDI-trade in developing economies mainly comes from Brazil, India and China, where findings showed complementarity effects [Knoerich, 2017]. In recent time, outward FDI and trade relationship from developing economies have increased faster than those from developed countries [Herzer, 2011]. However, the developed economies which has both horizontal and vertical FDI potential, enjoys market growth (horizontal FDI) which in turn stimulates home country production (vertical FDI). Thus, numerous studies found either complementarity or substitutive effects, or both. For sectoral level analysis, the relationship between FDI and trade has also been examined. For instance, study shows that the impact of Italian outward FDI stocks on trade (exports) suggests not to support a substitutionary relationship [Ferragina & Colacurcio, 2015]. Other strand of study has also focused on the transition economies [Mankovska & Dean, 2018].

Large portion of empirical literature on outward FDI focuses on the determinants, motive of MNEs, as well as drivers of outward FDI from both developed and developing countries [Li et al., 2020; Ibrahim et al., 2019; Wang & Shao, 2016; etc.]. Whilst some of these studies focused on developed economies [Godwin & Cook, 2018; etc.], other literatures examined outward FDI flows in developing countries [Li et al., 2020; Ibrahim et al., 2019]. Few empirical studies have examined this nexus via; country levels [Anderson et al., 2019; Albulescu & Goyeau, 2019] and industry level [Borghesi et al., 2020]. So far, not too few empirical studies have examined the relationship between

outward FDI and exports [Li et al., 2020; Li, 2019; Bhasin & Paul, 2016], compares to handful studies on outward FDI and imports relationship [Wu & Chen, 2021]. However, Wu & Chen [2021] study employed the SYS-GMM estimator to investigate the impact of the Chinese outward FDI flows on trade (imports) intensity. Their results revealed positive significant impacts which indicates complementary effects. However, Fan & Wang [2020] empirical research also showed that home country's imports may promote the flow of investment abroad. The central focus of these studies is to examine whether the relationships are complementary or substitutive.

Regarding international trade and FDI relationship in different income economies group, to the best of our knowledge, there is scarcity of literature in this direction, as only few literatures concerning FDI inflow-trade relationship in developing economies exist. According to Haque et al. [2022], increase in FDI inflow remain a significant determinant in the development of high-income, middle-income, and low-income countries. Specifically, trade and real growth rate were revealed to increase investors' confidence in increasing FDI inflow in higher-income economies over the study period 2000-2001 [Haque et al., 2022b]. However, study on outward FDI and trade relationship in different income groups remain unexplored. Thus, this study pioneers a new strand of literature that examines the dynamic interplay between outward FDI, and international trade based on the world bank country income groups to ascertain whether the pattern of the interrelationship is complementarity or substitutive for the period 1998-2019.

*Theoretical and empirical contribution of home country institutions on OFDI*

Several empirical studies have shed light on the role of institutions in facilitating outward FDI flow. Empirical results found that the strength of informal institutions related to intellectual property (IP) enforcement positively moderates the effect of formal legal aspects of IP law on FDI flows [Papageorgiadis et al., 2020]. A U-shaped[29] relationship is

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[29] The relationship is first decreasing and then increasing, it is called a U-shape. But if vice versa, it called inverted shape. It means the relationships is not monotonic (non-monotonic)

found between cultural distance and the efficiency of China's outward FDI in the study that examines the impact of cultural distance (CD) and institutional distance (ID) on the efficiency of China's outward FDI flow for a panel of 43 countries for the period 2003-2016 [Zheng et al., 2020]. However, the Chinese outward FDI is invested in countries with abundant of natural resources and relatively poor institutional quality, but the exchange rate variability has dampening effect on outward FDI [Li & Rengifo, 2018]. Tang & Buckley [2022] investigate how emerging market multinationals (EMNEs) choose FDI and determine the scale of FDI in host countries. Their findings show that FDI location choice varies among EMNEs with different levels of intangible assets, but the FDI scale does not. Notwithstanding the impact of institutional environment of host country on outward FDI, investment abroad flow remains positive and significant [Zhou et al., 2010]. Mishra & Daly [2007] study explores the quality of institutions in the OECD and Asian countries on oversea investment stocks for source countries using International Country Risk Guide governance indicators, for the period 1991 to 2001. Results showed that quality institutions in the host countries have an overall positive and significant effect on source countries' outward FDI.

Recently, strand on literature which focuses on the relationship between FDI flow, institutional quality, and economic growth have gained attention [see, Soh et al. [2021]; Baiashvili & Gattini [2020]; Aziz [2020]; Hayat [2019)]; Alguacil et al. [2011]]. These papers focused on inward FDI internationalization of host country and employ different empirical techniques. For instance, Hayat [2019] study showed that FDI inflow slow down economic growth in high-income countries due to the indirect impact of institutional quality, but in low-and-middle income countries, FDI-led growth was experienced. Baiashvili & Gattini [2020] paper found that the nexus between income level and the magnitude of FDI-growth is inverted U-shaped, which get larger moving from low to middle-income countries. However, the results from Soh et al. [2021] paper found a threshold effect for logistic performance and FDI relationship mediated by institutional quality for Asia countries. Similarly, study revealed that FDI impact on economic growth

is significant only when institutional quality is above a certain threshold. Nevertheless, empirical studies that examines the role of institutional quality in outward FDI-induced growth remain unexplored, particularly at different income groups, as existing literature focuses on examining "FDI inflow" in host countries. Consequently, this study addresses these gaps using the CS-ARDL and CCEMG techniques robust to cross-sectional dependence, endogeneity, as well as heterogeneity to examine the short and long-run dynamics. Oversea direct investment may complement or substitutes domestic production when firms move parts of the production to foreign country, and their competitive position are improved, and growth increases[30,31].

*Theoretical and empirical contribution of OFDI on home country economic growth*

In theory, outward FDI generates both positive and negative impacts on home countries by creating either substitutive or complementary effects. Substitutive effect is created when new outward FDI brings negative externalities at home and creates complementary effects which enhances competitive positions and generates higher output. This led to two groups of economics scholars to put forward different economic views regarding the impacts of outward FDI on home country economic growth. One of the groups argue that outward FDI can be a substitute for domestic investment, for instance, due to diminished domestic investment opportunities, domestic production relocated abroad. This indicates that an increase in outward FDI by home country MNCs may lead to a decrease in home economy. Specifically, the substitutive effect of outward FDI refers to the negative impact on home production by reducing domestic investment after MNCs overseas investment. Outward FDI could also be a substitute for domestic investment because it can influence MNCs capital costs. The decision to undertake outward FDI projects would raise investment costs for subsequent domestic investment ventures. This shows the efficiency

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[30] Voica, M.C., Panait, M., Hysa, E., Cela, A., and Manta, O. Foreign Direct Investment and Trade – Between Complementarities and Substitution. Evidence from European Union Countries. J. Risk Financial Manag. –2021, –Vol. 14. – No. 559. https://doi.org/10.3390/jrfm14110559

[31] Bhasin, N., and Paul, J. Exports and outward FDI: are they complements or substitutes? Evidence from Asia // Multinational Business Review. – 2016. –Vol. 24. – No. 1. –pp. 62-78

seeking outward FDI that finds cost-effective location to replace the local production. This type of overseas investment creates negative effects such as a reduction of domestic labor force, the loss of business and global market share of local suppliers, the loss of opportunity to learn and grow through the relationship with a parent company, with ultimate negative effect on the domestic economy.

However, the other study group opined that outward FDI creates complementary effects on home country exports, production and technology transfer. The complementary effects are created when there is an economic structural change at home economy. Thus, Kokko [2006] posits that the MNCs with higher internationalization are more likely to take an international division of labor, which would be more closely linked to the comparative advantages of both home and host countries. However, outward FDI is complementary to domestic production (e.g., foreign affiliates in the host country use home country inputs to produce outputs). This shows that an increase in outward FDI activities by home country MNCs facilitate higher domestic output which has overall positive effects on home country economic growth.

The holistic views of these two groups shows that there is a potential causal linkage running from outward FDI to home country economic growth and vice versa. That is, higher economic growth in home country may also facilitate outward FDI flow. However, a low economic growth in home country could lead to low level of economic development, and vice versa. This is in line with the investment development path model (Dunning, 1981, 1986), where domestic firms would have established ownership advantages before the decision to expand their operations abroad. Thus, the dynamic impact of outward FDI and home country economic growth relationship may run in either direction.

The positive effects of outward FDI are not only accrue to the overseas investing firms, but also to domestic manufacturing firms, thus the entire economy benefit [Blomström & Kokko, 1998]. Empirical studies on outward FDI-growth nexus have continued to increase, but most documented literatures are on single country specific analysis. For instance, Ciesielska & Kołtuniak [2017] investigate economic growth and

outward FDI within the Polish national economy, and results indicate that the unidirectional growth-led internationalization is consistent with the Investment Development Path paradigm concept. Positive long-run and bi-directional Granger-causality was detected in the relationship between outward FDI and economic growth of Malaysia, but results revealed nonexistence of causality in the short-run for the period 1980-2010 [Chen & Zulkifli, 2012]. Amin et al. [2020] investigates the long-run and short-run asymmetric impacts of outward FDI-led growth in Romania covering the period 1990-2019. They found that increase or decrease in outward FDI have positive and significant impact on economic growth.

The effects of outward FDI on home country economic growth both in the long-run and short-run showed that growth responds positively but differently to the increase and decrease in outward FDI [Ali et al., 2018]. FDI flow to Japan, the United States and United Kingdom from eight East Asian economies using both aggregate and disaggregate level for the period 1981-2010 indicates no evidence to support the idea that outward FDI is growth-enhancing using aggregate data [Kazemia et al., 2018]. According to Dasgupta [2017] who examined the potential impact of outward FDI on domestic investment, revealed that causality direction between outward FDI and growth become important theoretically and relevant practically due to the inherent growth and developmental implications of outward FDI for both the home countries and the rest of the world. However, Dunning (1988) shows that a country's outward FDI is linked to the structure of its factor endowments and markets; economic development; economic and political system as well as the nature and extent of market failure in the transaction of intermediate products across national boundaries. Evidence also shows that increase in efficiency is associated with the structure of production chain for MNCs on vertical FDI. This suggests that by way of vertical outward FDI, firms are able to enhance their competitive position, and raise domestic output in the long run.

Nonetheless, studies that have examined FDI-economic growth nexus in cross country analysis include, Campos & Kinoshita [2002] which found that FDI has a positive

effect on economic growth in twenty-five Central and Eastern European countries including former Soviet Union transition economies between 1990-1998. Examining group of OECD countries, De Mello [1999] revealed that FDI is growth enhancing only for countries where domestic and foreign capital complements. However, Moudatsou [2003] assess the growth effects of FDI in European Union (EU) countries for the period 1980-1996 and found that growth determinants vary across EU members. Using both the horizontal and vertical FDI theorem, Herzer [2010] showed that outward FDI is positively linked with economic growth in a cross-country regression of 50 countries, and the causality test for USA indicates that increase in outward FDI flow is both a cause and a consequence of increased domestic output.

Empirically, huge body of existing studies have also examined the relationship between inward FDI and economic growth in the host countries [see, Gherghina et al., 2019; Rehman, 2016; Li & Liu, 2005; Akinlo, 2004; Borensztein et al., 1998]. For instance, Gherghina et al., 2019 examined the impact of inward FDI, economic growth and institutional quality for 11 Central and Eastern European countries[32] for the period 2003-2016 using panel regression analysis. They found non-linear relationship between inward FDI and GDP per capita. The impact of inward FDI and economic growth for Romania was examined by Andrei [2012]. His results showed that the relationship between both variables is insignificant. Notwithstanding the many empirical analyses regarding outward FDI and economic growth effects, the discussion remains far from being over. This is because most studies examining the effects of outward FDI on a home country economic growth usually investigate the direct impact related to both variables, whilst studies on the indirect impact are scarce. However, the impact across the different income groups have not been properly discussed.

Furthermore, a rise in country's instability can lead to relocation of investment to foreign country known as FDI escapism which can further create a net movement of fund

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[32] 11 Central and Eastern European countries, namely Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia

out of the economy [Kottaridi et al., 2019]. Therefore, if country risk impact FDI negatively, potential investment flow abroad might become escapist FDI [Osabuohien-Irabor & Drapkin, 2022]. Studies have showed that home country risk can either encourage or discourage the flow of outward FDI, which numerous empirical studies reported as either positive or negative [Osabutey & Okoro, 2015]. However, there is the need to determine which components of home country risk 'pushes' firms to initiate the FDI escapism phenomenon in global market.

*Conceptual framework linking the growth effects of outward foreign direct investment with the different transmission channels (mechanism)*

To better understand the links between outward FDI and competitiveness economies, it is necessary to consider the institutional framework that facilitate outward FDI and trade toward enhancing home country economy. Home country institutions through the channels of control of corruption (CC), voice and accountability (VA), rule of law (RL), political stability (PS), government effectiveness (GE), and regulatory quality (RQ) facilitates FDI and international trade toward boosting economic growth. However, Figure 11 shows the conceptualization link of this dissertation illustrating that outward FDI may affect home country economy growth via the direct and indirect channels. Whilst the direct channel impact economic growth through increase or decrease in outward FDI, the indirect channel indicates that outward FDI may help stimulate economic growth via home country institutions. Therefore, strong institutional development may facilitate outward FDI reverse spillover effects to promote home country assessing technology beneficial to domestic enterprises via the channels of "competitive effects"[33] and "demonstration effects"[34]. Thus, technical progress is realized. Technology spillovers bring about production upgrade, technology change, better management experience in investment,

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[33] Melitz, M.J. Competitive effects of trade: theory and measurement // Rev World Econ. – 2017. –Vol. 154. – No. 1. – pp. 1-13. https://doi.org/10.1007/s10290-017-0303-3

[34] Barry, F., Görg, H., and Strobl, E. Foreign Direct Investment, Agglomerations, and Demonstration Effects: Empirical Investigation // Review of World Economics. – 2003. –Vol. 139. – No. 4. – pp. 583-600. https://www.jstor.org/stable/40440978

human resource training, as well as technologies absorption and advancement for home country. This increases home country economic growth. Whilst investment involves the production of goods and services, international trade concerns itself with the delivery of economic goods. Thus, their interdependencies may help firm to organize supply of inputs, expand into new markets, access knowledge, and provide services to consumers. Therefore, the dynamic relationship between trade and outward FDI may enhance domestic growth via complimentary effects due to backward vertical integration facilitated by home country institution to improve economic growth or negate economic growth through the substitutive effects. This shows that outward FDI may induced international trade to bring about an enhanced competitiveness on foreign market due to exporting activities of home countries. In addition to the positive externalities of outward FDI through reverse spillover effects, MNCs internationalization motive via outward FDI flow may be affected by home country components risk such as political, economic, and financial risks leading to domestic enterprise exiting the economy, a phenomenon known as FDI escapism - a partial escape strategy adopted by domestic firms to address either economic, political, or financial challenges in their home country. Whilst increase in country risk can lead to political instability, economics risk may bring about higher inflation and recession. Nevertheless, financial risk includes currency fluctuation, expropriation, government default in bond and financial commitment. Therefore, due to the relevance of outward FDI spillover effects, MNCs and government's agents are much interested in factors that may facilitate or impede outward FDI flow toward improving economic growth. To this end, Figure 11 clearly demonstrate the dissertation's conceptualization links on home country's institutions, international trade, and outward FDI in relation to economic growth.
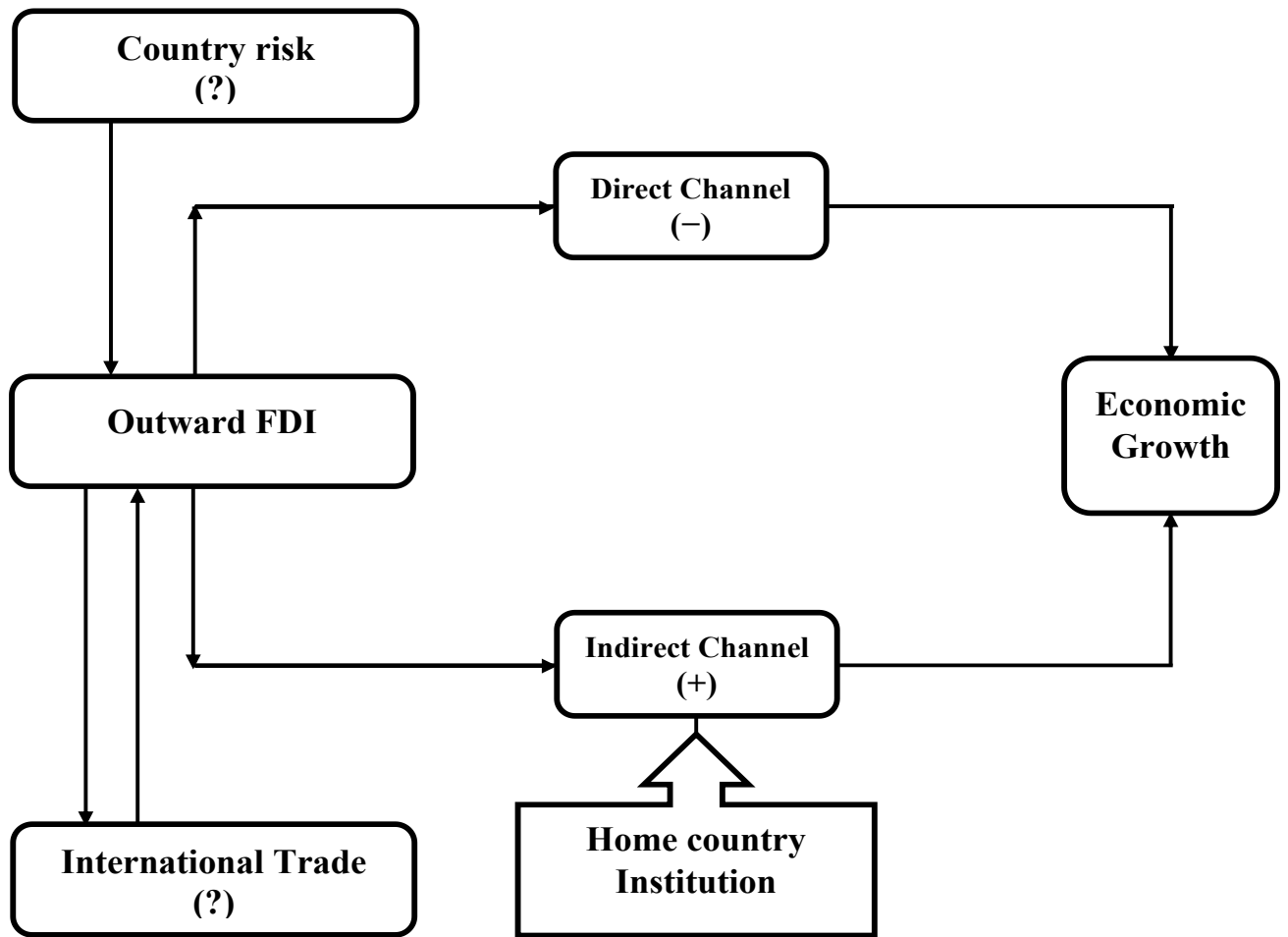
*Figure 11 – The conceptual framework of this dissertation showing the links between outward FDI, institutions, trade, and economic growth*

The mechanism of impact of outward FDI on economic growth shown in Figure 11 is generally decomposed into two main aspects, namely: (1) the direct channel and (2) the indirect (spillover) channel. Whilst the former operate through the direct effect on the economy or production process, the latter may result from an indirect effect driven by market mechanism (Scitovsky, 1954). In Figure 11, the direct impact is shown by the arrow flowing directly from outward FDI to economic growth with potential causal linkages. Thus, the direct causal relationship between outward FDI and home country economic growth is further explained using the CS-ARDL model shown in equation (3), where the $\beta_2 Y_{i,t-1}$ and $\delta_{3j}^i \Delta Y_{i,t-j}$ terms is the direct effect of outward FDI on economic growth ($\Delta S_{i,t}$) from both the short-run and long-run respectively. Conceptually, increase

in outward FDI flow from home country may increase or decrease economic growth. Thus, whilst some studies may have reported positive impact of outward FDI on economic growth (Knoerich, 2017; Lee, 2010), others postulated a negative relationship between the two variables (Stevens & Lipsey, 1992; Goh & Wong, 2014). Nevertheless, the negative direct effect of outward FDI on economic growth stems from the fact that outward FDI may bring about loss of investment, create unemployment, and bring about loss revenue to home country.

Similarly, the transmission channel for the indirect impact (spillover effects) presented in figure 11 shows that outward FDI may impact economic growth via home country institutions. This indicate that outward FDI spillover may indirectly affect local firms and domestic economy via four main transmission channels namely: competition; linkages, skills, and imitation (Demena & Bergeijk, 2019). In the theoretical model developed by Koizumi & Kopecky (1997); Findlay (1978) and Das (1987), spillover are determined by the foreign share alone – i.e demonstration determined or contagion-spillover. For wang & Blomstrom (1992), spillovers are assumed to emerged endogenously from technological competition between foreign and local firms – competition determined spillover. In this study, the different spillovers effects are combined to form a single effect (Demena & Murshed, 2018). The spillover effects generated by outward FDI is assumed to depend on the levels and absorption of home country institutions which is conditional on different institutional factors, such as Voice and Accountability (VA), Political Stability and Absence of Violence (PS), Government Effectiveness (GE), Regulatory Quality (RQ), Rule of Law (RL), and Control of Corruption (CC) using the World Governance Indicators (Kaufman et al., 2009). It broadly explains how the new institutional theory canvased by North (1990) and Scott (1987) advances MNCs internationalization and internalization activities in explaining home country's economic growth. Figure 11 shows the indirect channels between outward FDI and economic growth via home country institutions, explained using the CS-ARDL model. From equation (3), the $\beta_4 (ISQ_{i,t} \times Y_{i,t})$ and $\delta_{5j}^i \Delta (ISQ_{i,t} \times Y_{i,t})$ is the indirect medium of

outward FDI via home country institutional factor both from the short-run and long-run respectively on economic growth ($\Delta S_{i,t}$). Where $ISQ_{i,t}$ is the institutional factors, $Y_{i,t}$ represents outward FDI. To this end, this study investigate how institutional theory supports the new growth theory as driver of economic growth via overseas investment expansion at different levels of economic development.

While the New Institutional Economics is not a unified theory, it does provide a foundation for the theoretical argument that 'institutions matter' for either encouraging or discouraging outward FDI. However, one of the most representative perspectives of macro-institutional approach is the one developed by North (1990), which focuses on investigating the role of institutions in economic growth of nations. North (1990) defines institutions 'as the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction'. The author distinguishes between formal institutions, such as rules that human being devise, and informal constraints, such as conventions and codes of behavior. The theory further asserts that, by establishing and administering 'the rules of the game', home country institutions play an important role in moderating the behavior of domestic firms in their overseas investment expansions (Meyer & Nguyen, 2005). However, from economic perspective, it can be argued that the new institutional theory (North, 1990; Scott, 1987) is predicated on the notion that economic growth is promoted in countries where institutions allow markets to operate freely. This perspective has stimulated scholars of international economic and business to study the growth effects of outward FDI from middle income economies, in order to understand the complex relationships between the dynamics of home market economy, its institutions and the internationalization of local companies through outward FDI.

To this end, the dissertation's theoretical framework linkages with the mechanism of transmission shows that: (1) the direct impact examines the extent to which home (source) countries national companies' internationalization activities constrain or drives economic growth given the degree of their internalization to exploit host market imperfections which may help them to create competitive advantages for domestic market

across the different income categories. (2) For the indirect transmission channel, the dissertation critically investigates how home country internationalization activities triggered by their aspiration to internalize imperfect markets across national borders to improve economic growth mediated by institutional theory which provide a foundation for the theoretical argument that 'institutions matter' for either encouraging or discouraging outward FDI. This significantly influence the absorptive capacity of home country at different levels of economic development. However, the rise of MNCs from developing and poor countries poses an important challenge for the theories of MNCs such as internalization theory. This has paved way for new FDI theory. Therefore, the dissertation's integrated theory is complemented by macroeconomic New Growth Theory (NGT) argues that MNCs through outward FDI drives economic growth and play a significant role in the globalization of world economies via investment, technology and knowledge capital.

## 1.3. Theories of Multinational Companies Expansion

The term "multinational corporation" has been used since the history of colonialization, but explained by different scholars as, multinational enterprise (MNE) "international corporation", "transnational corporation (TNC)", "global corporation", "transnational enterprise (TNE)" (corporation), "denationalized corporation", "supranational" or "Cosmo corporation", stateless corporation etc. According to Dunning [1973]; Buckley & Casson [1979]; etc., MNCs assets acquisition are usually via; portfolio investment characterized by securities acquisition, and foreign direct investment through the construction of new production facilities known as "greenfield FDI" or the acquisition of existing companies abroad (other countries). Thus, the relevance of MNCs as a major player in the world economy cannot be overemphasized. This has as increased and attracted much attention in international economics and business research.

However, many economics scholars have tried to explain MNCs in different perspective. Some suggests MNCs are diverse organizations that share similar features

and operate in at least two countries [Caves, 1996]. Other explanation of MNCs include Vernon [1966] which opined that MNCs are firms with parent company that command other affiliated cluster of corporations in different nationalities, have access to both human and financial resources, and sensitive to elements of common strategy. According to Dunning [1977], MNCs are incorporated companies that engages in active production abroad. Based on MNCs orientation and interests, Dunning [1988] describe the MNCs phenomenon as the combination of two major factors – uneven geographical distribution of factors endowments and market failure orientation. Whilst the former seeks to explain MNCs expansionist view, the latter describes the orientation of some MNCs that they can successfully exploit their large assets if it is transfer across national boundaries within the organization, instead of selling them outrightly to foreign based corporations. MNCs exist in different forms which range from small companies that invest in foreign countries to large group of companies that owns and manages other subsidiaries in numbers of countries abroad. The activities of these MNCs have created a loose boundary among countries. However, these firms differ from one another in many dimensions which includes, activities undertaken (production and non-production entity), and the relationship that exist among them.

Most studies involving MNCs began in the early 1960s, the period which FDI experienced enormous growth, which attracted many researchers, particularly economists. However, this period was not the first moment FDI had received tremendous growth. Baldwin & Martin [1999] described the two waves of globalization in FDI flows, the first wave was characterized by North to South FDI in primary sectors, including railroads, between the period 1820-1914. The second wave involving FDI, particularly among developed nations with focus on manufacturing, services, and outsourcing, started in early 1960s to this day. However, what was the cause of FDI remarkable growth in the past and recently, and what are its consequences? These are some of the issues surrounding MNCs activities. Other fundamental questions include (i) What usually motivates MNCs investment in foreign countries? (ii) What are the necessary conditions required to do so?

(iii) What are the reasons why MNCs engages in different forms of investment (equity and contractual) in foreign countries. In attempt to explain many of these fundamental questions, various theories regarding MNCs have been developed by economics scholars. This has led to avalanche of research literatures which have tried to evaluate these theories comprehensively from the earliest stages to the recent developments. Some of these literatures include Barba & Venables [2004], Lipsey [2002], Markusen [1995], Graham [1992], and Agarwal (1980), etc. Kojima [1978], Kuşluvan [1998] studies classified these theories into macro economic perspective which relies on international economics and trade point of view to explain MNCs, and micro economic perspective based on firm and industrial organization theories of MNCs. In this dissertation, these two parts have been put into two sections A and B.

## A. Macro-Economic Perspective: FDI as International Capital Flows

Mundell [1957] and MacDougall [1960] studies are the two early contributions which suggested FDI as a proxy for capital (i.e., a production factor) moving across countries. Hymer [1976] seminal paper argues that the capital flow theory indicates the movement of capital (financial) between countries with respect to dissimilar interest rates in different countries. This view was an extension of the theory of investment responses to the differences in expected rates of return on capital, which suggest that FDI moves from countries with abundance capital (low returns) to countries with scare capital (high returns). Mundell [1957] study focuses on the effects of factor movements with emphasis on Heckscher-Ohlin model − a two-sector, two countries and two factors (2×2×2) H–O model. This theory explains the bilateral trade relationship between two countries that differs in the amounts of two factors of production they are endowed. Whilst one of the countries has more labor than capital, the other country has relatively more capital than labor. These two different factors are then used in the production of two different goods − one of the goods from country which requires relatively more labor to be produced, the other goods are produced from country which requires relatively more capital. As an

alternative to the Ricardian model[35], the H–O model essence is to seek a comparative advantage which eliminate the labor theory of value, full employment and the incorporation of price mechanism in international trade. The Heckscher-Ohlin framework is in line with numerous developed countries empirical evidence which send and receive FDI inflows simultaneously. Samuelson (1949) initiated the mathematical assumptions for the 2x2x2 model specification, Mundell [1957] study deals with the factor movements, whilst MacDougall [1960] paper focuses on capital inflow into one-sector economy. The idea is that FDI inflow will lower capital rent and increase labor productivity in host economy.

These explanations and theories on FDI seem not to be convincing, due to the fact that bulk of FDI flows mostly begin from capital abundant developed economies [Markusen 2002; Barba & Venables, 2004, etc.]. Besides, study have shown that handful numbers of developing economies receive FDI flow, for example, while the Chinese economies receive almost one-quarter of the total, few Asia and Latin America economies attracts almost the rest. For Africa, FDI inflow are negligible [Barba & Venables, 2004]. This indicates that FDI as capital flow does not go to high return economy locations, i.e., developing economies with low capital endowments. In addition to capital as a factor of production, Feenstra & Hanson [1996] introduced the skilled and unskilled labor as another variant of Heckscher-Ohlin model. Their study treats FDI as capital flow from MNCs headquarter in developed countries as North to open subsidiaries in developing countries as south. Wages for skilled labor will increase both in the South and in the North, while unskilled wages lose in both areas. These theories are based on assumption of perfect competition in domestic product markets and factor.

*Location Theory of International Investment*

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[35] The Ricardian model of international trade attempts to explain the difference in comparative advantage on the basis of technological difference across the nations.

One of the motivations of FDI outflows is to locate abundant of natural or created resources, such as oil and gas, infrastructure, conducive business environment, human resources, institution, etc. Dunning [1993] posits that location abundant of a particular resource can be of interest to MNCs whose activities rely on the use of these resources. Thus, choice location of MNCs is influence by the firm incentive. Firm's motivation could be resources-seeking, market-seeking, efficiency-seeking, as well as strategic asset seeking. Popescu [2012] paper agreed with the earlier study of Weber [1990] that two main elements decide the location of production: "the production" and "the transport cost". According to Kusluvan [1998], FDI theories on location for international investment was first derived from theories that defines domestic production. Dunning [1973] paper showed that there are two types of location theories: the supply-oriented location theory and the demand-oriented location theory. Whilst the former argues that production occurs where factor costs for production as well as distribution are lowest, the latter hypothesize that the location of a firm depend on the location of its market and competitors. Buckley [1985] further advanced these two theories in his paper, that the combination of them will lead to four factors such as, cheap labor, raw materials, protected and untapped markets, as well as cost of transportation can be an incentive for MNCs investment.

*MNCs as Supplement to International Trade*

Except mercantilism and absolute trade theories, all other economics trade theories such as comparative advantage, neo-classical and neo-factor trade theories suggest that countries should engage in the production and exportation of goods it can produce at lower cost (more efficient). Kojima [1978] attempts to explain the relationship between MNCs and trade theories. He opined that for market factors to be more competitive, internationally efficient as well as improve production processes in countries with endowed resources, requires the presence of FDI. However, the presence of MNCs can bring about improvement of production and export if convey as a package of capital, managerial skills, and technology from a comparative disadvantage industry in investing

home countries, compares to host country. This can contribute immensely to the host country productivities and comparative advantages. Kojima's paper further explained three FDI motivation for MNCs, which includes resource-oriented, labor-oriented and market-oriented. Resource-oriented MNCs seeks to increase and secure host country's import commodities produced at higher cost by home country. For labor-oriented MNCs, the motive is nearness to location where there are cheap labor, while the motive of market-orientation is trade-oriented and efficient use of resources. FDI motivation can also be referred to as labor-oriented if a country's import substitution translates (due to growth) to export orientation. Market-seeking oligopolistic MNCs is another type of MNCs substitute for international trade which is not fully beneficial to the host country.

*The Aliber Theory*

The Aliber [1970]; [1971] theory also referred to as the capital market theory or the currency area theory is one of the earliest theories which explains FDI based on the strength of currency. Aliber theory suggests that the rate of change of economic growth of a country leads to changes in the currency rates (exchange rate) capable of impacting financing, sourcing, as well as the marketing decisions and practices of individual firms. Furthermore, the theory shows that MNCs emerge due to capital market imperfections. Aliber theory is rooted with regards to the differences in the strength of the currencies in home (source) and host country. Nayak & Choudhury [2014] paper corroborate Alibar theory and posit that FDI motivation arises when there are differences between the home and host countries' currencies. This suggests that countries with weaker currencies are more attracted to FDI compared to countries with stronger currencies. Similarly, in contract to strong currencies countries, countries having weaker currencies usually takes better advantage of market capitalization rate differences. More so, Aliber theory also explained that home countries' MNCs in hard currencies area can borrow with lower interest rate than domestic firms, due to the fact that portfolio investors ignore home

country MNCs foreign aspect. This leads to borrowing advantage for the home countries firms since they can get cheaper funds for their subsidiaries and affiliates when compared to what local firms would access. The results from Aliber's Hypothesis are found to be in line with FDI in United States, Canada, and the United Kingdom. Notable studies which support Aliber [1970] theory include De Mello [1997], etc.

*Government Imposed Distortions*

Calvet [1981], Ragazzi [1973] etc., papers shows that tariffs, non-tariff barriers and trade barriers can motivate MNCs influx to a particular country or location. For most study, MNCs concept are thought to be a response to protected market. Caves [1981] empirical study suggests a correlation between high tariff in protecting their industry and MNCs sales in that industry. Besides, numerous economics scholars considered "Price and profit regulation" as well as "Levy of taxes" as part of government disruption affecting firms' decision to operate in foreign countries. This assumption still does not explain MNCs existence, as it never discussed about the origin of their ability as well as the desirability to do so. It only explains how firms rationalized their operations in foreign countries and overcome trade barriers.

*B. Micro Economic Perspective: Business Administration Perspective*

Kuşluvan [1998] paper clearly outline two different micro economic versions in business administration perspectives; These include, (a) MNCs due to firm's growth [Kindleberger, 1969], which are further classified in two ways; via reinvesting the internally generated finance, and firms expand due to market growth. Whilst the former does not take into account MNCs that are financed in host country, the latter simply shows that MNCs could be used as export or licensing base in foreign market, even if there are market growth. This shows that market growth does not translate to setting up MNCs in abroad. (b) Business administration perspective according to Sullivan & Bauerschmidt [1990] indicates that manager's gradual accumulation of knowledge for foreign markets, brings reduction of

psychic distance. The second version fails to explain the factors leading to that decision i.e., the internalization of the decision making.

*Hymer-Kindleberger Theory*

Hymer [1960] laid the foundation for international production based on market imperfection. His work was in the area of industrial production, and his interest was organization production rather than the flow of trade. Unfortunately, his research work was largely disregarded, until the publication of Kindleberger [1969] paper which extend Hymer's work. According to Kindleberger [1969], MNCs advantages could be enjoyed and useful where market imperfection exists. These advantages could act as an incentive to motivate MNCs to engage in FDI abroad. He described these advantages as; superior technology, managerial expertise, patents etc. Firms could be encouraged or motivated for investment in foreign country in order to earn monopoly profits. Although, Kindleberger [1969] clearly outlined the various forms of advantages enjoyed by MNCs over the host, but his work failed to indicate which advantage MNCs should concentrate on. In addition, MNCs can exploit its monopolistic advantages in foreign country only when the laid down policies of the host country allows it. For this reason, the host country will not be willing to grant free entry of foreign firms into their country due to national interest.

*Eclectic (OLI) Paradigm as a General Theory of MNCs*

Dunning's (OLI) eclectic paradigm [Dunning. 1976, 1977, 1981a, 1988, 1993a, 2000, 2001; Dunning & Lundan, 2009], known as the ― Ownership (O), Location (L), and Internalization‖ (I) model, has been the most influential framework for empirical investigation of determinants of FDI [Narula, 2006; Cleeve, 2007; Stoian & Filippaios, 2008; Buckley & Hashai, 2008; Stefanović, 2008; Piteil & Teece, 2010]. It explores different connections and interactions between IB/IE perspectives in a single framework [Hymer, 1960/1976; Buckley & Casson, 1976], providing wayS of looking at the phenomenon of MNCs and their activities [Eden, 2003]. In other words, the paradigm

draws upon, and synthesizes the industrial organization theories [Hymer, 1960; Kindelberge, 1969; Caves, 1974], Internalization Theory [Buckley & Casson, 1976; Hennart, 1991; Dunning & Rugman, 1985; Teece, 1981; Buckley, 1989], and the industrial location [Dunning, 1988]. Scholars and students of International economic and business have used the holistic framework to identify and evaluate the significance of factors influencing both the initial act of foreign production by enterprises and the growth of such production [Dunning, 1988]. The engagement of MNCs in international activities, also known as outward FDI, is determined by (a) ownership advantages, (b) location advantages, and (c) internalization advantages [Dunning, 1988]. For Hertenstein et al. [2017], the OLI paradigm is the most tested traditional FDI theory, and according to Benyei [2016], the eclectic paradigm is the most widely acknowledged theory of FDI that researchers use in determining the necessary and essential conditions for MNCs to engage in FDI. Eclectic paradigm has been use by economic scholars to address the critical components of ownership advantages, location advantages, and internalization advantages which provide a unified framework to explain the pattern of FDI flows [Coetzee, et al., 2020; Jaiblai & Shenai, 2019; Strange, 2018].

Ownership advantage is firm's unique and sustainable ownership of specific advantages. It is one of the three components of the OLI paradigm necessary for the FDI in home country. According to Saleh et al. [2017], ownership advantages include two sets of advantages, asset advantages and transactional cost advantages. Whilst Asset advantages mainly incorporate patented technology, trademarks, and instruments, transactional advantages refer to strength in coordinating and taking advantage of operating a network of geographically dispersed assets [Saleh et al., 2017]. However, Lo [2015] empirically examined the effects of resource-based and transactional cost advantages on MNCs ownership strategies. He identified the two perspectives; resource-based and transactional advantages explain MNCs' existence and become the major theoretical foundations of FDI strategies. MNCs use ownership advantages from home country to maintain competitive advantages in a host country, enhancing FDI flows and

profitability. MNCs consider two major entry mode strategies in determining FDI: joint venture (JV) and a wholly owned subsidiary [Al-Habash et al., 2017]. Each business strategy is consistent with different degrees of possession, describing the authority over business operations, maintaining competitive advantages, strategic decision making, and resource commitments promoting FDI flows and growth [Al-Habash et al., 2017]. Possession of or access to income-generating assets enable MNCs to attain ownership advantages, including leadership skills, control of the business, manufacturing process, and profit [Al-Habash et al., 2017; Saleh et al., 2017], and determine whether home country investing in a host country is advantageous [Bezuidenhout & Kleynhans, 2018]. However, the presence of legal restrictions on ownership can limit leaders' ability to capitalize on the firm's capability through transaction costs [Schellenberg et al., 2016]. Williamson & Wan [2017] assessed the concept of ownership advantages in the light of successful Chinese MNCs and explored how firms build these advantages. They found that MNCs build ownership advantages through an innovative way to leverage locational advantages and achieve profitability.

Locational advantage explains which activities of firm are best undertaken in particular countries based on the comparative costs and benefits in different locations [Dunning, 1993]. Building on existing literature on the combination of location and international trade theory [e.g., Buckley and Casson, 1976], Dunning [1977, 1988] expands this idea, placing it in the eclectic paradigm. The location-specific advantages are relevant initially to showing that geographical location matters to economic outcomes. Thus, locational advantage plays a significant role in determining which country MNCs will invest [Benyei, 2016; Gupta & Singh, 2017]. It's the extent to which companies are interested in creating, accessing or utilizing their ownership advantages in a foreign location. Its relate to factors, such as access to the product market, favorable tax treatments, lower production and transportation costs, and favorable competitive conditions, which become an incentive for MNCs to invest in a host country [Pathan, 2017; Saleh et al., 2017]. Location advantages reflect the gains of comparative advantages

through acquiring resources and market position in a host country. Locational factors embody the quality of investment policies, utilizing market motives, such as seeking adjacent regional product markets and production costs, promoting FDI flows. Saleh et al. [2017] conducted a case study using an eclectic paradigm to assess MNCs' motivation for FDI, and identified four categories of locational advantages important motivations of FDI: asset-seeking, market seeking, efficiency-seeking, and resource-seeking. In diversifying FDI into different geographic locations, MNCs prefer neighboring countries as they become closer in terms of culture, economy, and politics [Schellenberg et al., 2016]. Locational advantages influence the entry-mode decision of MNCs, FDI flows, and business profitability through efficient resource utilization and cost of production. FDI theories based on location further separate the concept into vertical and horizontal FDI. According to Zsuzsanna [2016], horizontal FDI occurs when firms make the same products in different countries as a subsidiary supply the local market. Unlike horizontal FDI, firms engage in a vertical form of FDI mainly to secure the supply chain and save production costs. MNCs engage in vertical FDI to take advantage of the differences in factor costs among countries, to lower production costs and maximize efficiency [Kucera & Principi, 2017]. Similarly, Kinda [2013] analyzed the drivers of vertical and horizontal FDI diversification to the manufacturing and services sectors of 30 SSA countries using empirical data. He concluded that horizontal FDI finance and human capital significantly impacts FDI flows and is less affected by infrastructure and institutional constraints than vertical FDI. According to Zsuzsanna [2016], attaining production efficiency, firms locate the different production stages in other host countries to maximize efficiency by utilizing the differences in relative factor endowments, government policies, or regulations. However, some economic scholars have also argued that locational advantages are considered country specific because groups of countries share specific institutional characteristics that distinguish them from others as well as the impact of FDI flows [Carney et al., 2019].

Internalization advantage is one of the three necessary conditions within the eclectic

model for FDI to occur [Dunning, 1988]. It's the extent to which companies perceive it usefulness of ownership advantages rather than sell them to other foreign firms. Maintaining costs and transactions within subsidiaries rather than external markets which allow firms to secure internationalization advantages [Gupta & Singh, 2017]. Firms balance the trade-off between the uncertainty/risk and the benefits obtained by investing in host country. Internationalization advantages help researchers explain why it is more beneficial to exploit ownership and location advantages internally by setting up a subsidiary in a host country rather than licensing other firms in the host country to manufacture products [Rasciute & Downward, 2017]. Gaur et al. [2019] examined the internalization advantages and subsidiary performance on 6,170 subsidiaries in 63 countries belonging to 292 MNCs from Korea during 1995-2013. They found that setting up a subsidiary in a foreign market enables MNCs to exploit firms' internalization advantages, including technology, production know-how, and brand, affecting the performance of subsidiary firms dependent on host country institutional development affecting FDI flows. Internalization advantages influence how MNCs choose to operate in a host country. The involvement of firms in host countries' production activities marks the identification and value of the specific ownership, location, and internalization (OLI model) parameters influencing individual MNCs initial production decisions [Aziz & Mishra, 2015; Dunning, 1988]. The OLI model offers a holistic framework to identify and evaluate the significance of variables influencing firms' initial act to engage in FDI.

Notwithstanding the eclectic paradigm popularity and usage, it has been criticized for it oversimplification of complex economic processes. Specifically, some scholars have argued that the framework mainly focuses on firm's advantages, and as such, it does not provide a detailed explanation of why firms choose specific locations. The OLI framework is also criticized for employing a generalized approach, oversimplifying international business challenges, and overlooking complexities other than the standard OLI factors. Thus, the paradigm assumes that the same set of factors will apply to all countries, which is not always true. Again, the OLI framework may also not be appropriate for analyzing

countries with the same income categories, as host countries may possess source country advantage, thus the location may become unappealing to potential firms.

*Internalization theory*

During the 1970s, most studies have focused on the role of MNCs as FDI-performing agents, and particularly on the reasons why these companies decided to extend their value-added activities outside their country of origin. Thus, internalization theory was considered the core theory of FDI, by focusing particularly on the firm as the unit of analysis. This approach has its origins in the contributions of Buckley & Casson [1976], Rugman [1981], and Hennart [1982].

The general model of the formation of MNCs shows various forces that act to induce the realization of FDI. Social and political changes, developments in technology and technique (R&D), and changes in demand patterns result in major forces for change. These are represented by the new international division of labor and changes in cost conditions. In this sense, decisions of internalization and location determine the pattern of FDI, because they determine the ownership of economic activity and its geographical configuration [Buckley, 1993]. Therefore, the decision on internalization and localization costs provides the foundation for a general theory of the existence of MNCs.

The theory of "internalization" has some peculiarities. Clearly, there are significant transactions between the activities of multinationals in different countries. The output generated by a subsidiary in one country can be considered the input required for the production of goods and services of a subsidiary that operates in another country. These transactions are used to create strong relationships between the subsidiaries of an MNC. Therefore, the very existence of MNCs can be seen as a facilitator of the flow of such transactions. It is important to mention that the management of these transactions must take place within the same firm, unless the profitability level is higher for developing and managing such transactions between different firms.

The choice of the form of internalization process depends on the interaction of specific locational factors involving the country of origin of the multinational company

and the recipient countries. The focus of internalization is considered a necessary counterpart, which is somehow inevitable, within the development of multinationals. Strategies oriented to eliminate or reduce the transaction costs encourage the development of multinationals, encouraging companies to enter foreign markets via FDI, as opposed to the export or contractual arrangement entry modes [Buckley, 1993], In this case, this is due to the fact that internationalization strategies of production through FDI are more efficient to reduce transaction costs than export or licenses, particularly in the case of larger markets. That is, the greater the size of the domestic market, the more efficient in terms of cost is the entry strategy in a given market via FDI than no-equity entry modes.

The orthodox theory of internalization stated that while transaction costs and market coordination through the exchange of intermediate products, information, technology, and marketing techniques exceed the costs generated by the internal hierarchy, it is more beneficial to the company to engage in FDI projects, instead of concluding a licensing-type agreement or any other contractual relationship mode with an external producer.

Buckley & Casson [1976] provided another explanation of FDI by putting emphasis on intermediate inputs and technology. They shifted the focus of the international investment theory from country-specific towards industry-level and firm-level determinants of FDI [Henisz, 2003]. Buckley and Casson analysed MNCs within a broad-based framework developed by Coase [1937]. Their theory came to be known as internalization theory as they stressed this fact with regard to the creation of MNCs. They articulated their theory based on three postulates: (a) Firms maximize profits in a market that is imperfect; (b) When markets in intermediate products are imperfect, there is an incentive to bypass them by creating internal markets. (c) Internalization of markets across the world leads to MNCs. Buckley and Casson who were the founders of internalization theory extended the original notion of this theory from Hymer by stating that, companies organize their own internal activities in order to gain specific advantages [Buckley & Casson 1976, 1985]

A firm that is engaged in research and development may develop a new technology

or process, or inputs. It may be difficult to transfer technology or sell the inputs to other unrelated firms because those other firms may find the transaction costs to be too high. Faced with this situation, a firm may choose to internalize by using backward and forward integration, i.e., the output of one subsidiary can be used as an input to the production of another, or technology developed by one subsidiary may be utilized in others. When internalization involves operations in different countries then it necessarily means FDI.

Buckley & Casson [1976] identified five types of market imperfections that result in internalization: (a) the co-ordination of resources requires a long-time lag: (b) the efficient exploitation of market power requires discriminatory pricing; (c) a bilateral monopoly produces unstable bargaining situations; (d) a buyer cannot correctly estimate the price of the goods on sale; and (e) government interventions in international markets creates an incentive for transfer pricing. Although Buckley and Casson acknowledged the risk of host government intervention, they did not consider the difference in the magnitude of this risk across various industries. E.g., industries such as power generation and telecommunications may face a greater risk of government intervention because societal considerations may require the balancing of private objectives with social objectives.

According to Rugman et al. [2011], internalization theory considers that the existence of MNCs is not caused by monopolistic advantages, but by their efficiency properties; that is, the capacity of the firm to reduce transaction costs when replacing an inefficient arm's-length transaction in the market by an internal transaction. This implies that firms seek profit maximization by internalizing their intermediate markets across national borders in the face of various market imperfections. This argument suggests that the internalization of intermediate product markets can be seen as the core of a theory to explain FDI and the existence of MNCs [Rugman et al., 2011]. Rugman et al. [2011] developed the concept of location-bound (LB) and nonlocation-bound (NLB) firm-specific advantages (FSAs) and show that each MNC commands an idiosyncratic set of FSAs, considered as the source of its competitive advantage relative to other firms. However, possessing such FSAs is not a sufficient condition for FDI. MNCs need to

transfer, deploy, and exploit their FSAs through the use of foreign subsidiaries that monitor, meter, and regulate the use of FSAs abroad [Rugman et al., 2011].

For Hennart [2001], MNCs arise to organize through employment contracts interdependencies between agents located in different countries. This means that MNCs, by replacing exogenous coordination systems, will coordinate their cross-border value-added activities through a balanced mix of hierarchical control, socialization, and internal prices [Rugman et al., 2011]. This process can be explained by transaction cost theory, according to which natural market imperfections generate nonpecuniary externalities, which can potentially be internalized by MNCs [Hennart, 2001]. MNCs will expand abroad when they can organize such interdependencies between agents located in different countries more efficiently than the markets. The management of such interdependencies implies the productive usage of different resources that are dispersed geographically around the world, and may involve some types of knowhow, some types of raw materials and components, and some types of marketing and distribution services [Hennart, 2001]. FDI will take place when firms internalize markets for all of these resources. It is important to mention that the final decision on international entry mode does not only depend on the MNE's FSAs.

According to Dunning [2000], there are three main criticisms of this approach. The first criticism states that this is an incomplete theory in the sense that it ignores other functions with which the company can act unless they are related to transaction costs. The second criticism of the orthodox theory of internalization points to the fact that it represents a static approach. Third, the increase in intercompany relations is in fact a result of internalization, but it does not, therefore, represent an ownership interest.

*The internationalization theory*

In the early 1970s intermediate forms of internationalization such as licensing were not considered interesting. Buckley & Casson [1976] expanded the choice to include licensing as a means of reaching customers abroad. But in their perspective the multinational firm

would usually prefer to 'internalize' transactions via direct equity investment rather than license its capability. Thus, the concept, firm internationalization, relates to the firm's international development over time [Lamb & Liesch, 2002]. The decision-making process regarding the internationalization of firms in basics evolves around the choice of market, timing and mode of entry. However, the literature on the internationalization process of firms can broadly be divided into two streams of theories; the economic approach theory and the behavioral approach to theory [Andersson et al., 1992]. Both research streams call attention to the fact that internationalization can be influenced by both external and internal variables [Seifert & Machado-da-Silva, 2007]

The economic approach has its base in mainstream economics and focuses on the company and its environment [Andersson, 2000]. The fundamental assumption of the economic approach is that firms are quasi rational in their choice of investments. The decision maker has access to perfect information, he is rational and will choose the optimal solution [Andersson, 2000; Buckley et al., 2007]. The approach focuses on two fundamental aspects of international production; the ownership of assets employed in production activities in different countries and the location pattern of such activities [Benito & Gripsrud, 1992]. According to this tradition, the choice of location for foreign investment is a deliberate decision, it is efficiency led and made with the primary goal of profitability [Buckley et al., 2007; Glückler, 2006], but it may be combined with secondary goals, such as asset seeking or protection [Buckley et al., 2007]. Economic theories predict that a company will choose the location for its investment that minimizes total cost. Labour cost differentials, transportation costs, the existence of tariff and non-tariff barriers, as well as government policy are generally held to be important determinants of location choice [Benito & Gripsrud, 1992].

When internationalizing, firms identify their specific competitive advantages and then look for those location-specific advantages of a market that provide the best production or sales conditions. Hence, markets are systematically screened, compared and assessed with respect to efficiency gains [Glückler, 2006]. Regarding entry modes

decisions, the emphasis is on minimizing cost and risk. Theories following the economic approach have tended to advocate a gradual move from low-cost, low-risk strategies, such as exporting, to higher-cost, higher-risk strategies, such as wholly owned production subsidiaries [Jones, 1999].

The behavioral approach of internationalization, also called the process approach, has its base in organizational theory. It replaces the economic man with the behavioral man; therefore the approach is regarded as behaviorally oriented [Andersen, 1993, 2000]. Theories and models following the behavioral approach treat individual learning and top managers as important aspects in understanding a firm's international behavior [Andersson, 2000]. In the behavioral approach the focus is on the impact of international experience on the pace and direction of subsequent internationalization. An important theme in this approach is the role of organizational knowledge in the internationalization process [Clercq et al., 2005]. The internationalization is viewed as a sequence of steps by which companies acquire experience and knowledge about external markets through the gradual commitment of resources and learning by doing [Seifert & Machado-da-Silva, 2007]. The emphasis is on the decision-maker's, or the decision-making unit's, knowledge of foreign markets, and the perceptions, opinions, beliefs and attitudes born out of this knowledge, or lack of it [Erramilli & Rao, 1990].

*Institutional Theory & Foundation*

Institutional theory is traditionally concerned with how various organizations and groups secure their positions and legitimacy by conforming to the rules and norms of the institutional environment [Scott, 2007]. Thus, institution is broadly referred to the formal rule sets [North, 1990], *ex ante* agreements [Bonchek & Shepsle, 1996], and taken for-granted assumptions (Meyer & Rowan) that organizations and individuals are expected to follow. These are derived from rules such as regulatory structures, governmental agencies, laws, courts, professions, and scripts and other societal and cultural practices that exert conformance pressures [DiMaggio & Powell, 1991]. These institutions create expectations

that determine appropriate actions for organizations and also form the logic by which laws, rules, and taken-for-granted behavioural expectations appear natural and abiding [Zucker, 1977]. Therefore, institution define what is appropriate in an objective sense, thus render other actions unacceptable or even beyond consideration [DiMaggio & Powell, 1991].

Institutional theory is thus concerned with regulatory, social, and cultural influences that promote survival and legitimacy of an organization rather than focusing solely on efficiency-seeking behavior [Roy, 1997]. These institutional forces are identified in multiple works from sociology [DiMaggio & Powell, 1991] and organizational theory [Meyer & Rowan, 1991] to political science [Bonchek & Shepsle, 1996], and economics [North, 1990]. These are collected and summarized by Scott [2007] in his well-known formulation of three categories of institutional forces. The regulative pillar derives most directly from studies in economies and thus represents a rational actor model of behavior, based on sanctions and conformity. Institutions guide behavior by means of the rules of the game, monitoring, and enforcement [North, 1990]. These regulative components stem primarily from governmental legislation and industrial agreements and standards. These rules provide guidelines for new entrepreneurial organizations and can lead to organizations complying with laws and also individual compliance with laws or may require a reaction if there is a lack of law or regulation in the entrepreneurial firm's region.

The second institutional pillar is the normative one, which represents models of organizational and individual behaviour based on obligatory dimensions of social, professional, and organizational interaction. Institutions guide behaviour by defining what is appropriate or expected in various social and commercial situations. Normative systems are typically composed of values (*what* is preferred or considered proper) and norms (*how* things are to be done, consistent with those values) that further establish consciously followed ground rules to which people conform [Scott, 2007]. Normative institutions therefore exert influence because of a social obligation to comply, rooted in social necessity or what an organization or individual should be doing [March & Olsen, 1989]. Some societies have norms that facilitate and promote entrepreneurship and its financing

while some other societies discourage it by making it difficult (though not illegal), often unknowingly [Baumol et al., 2009; Soto, 2000].

Finally, the cognitive pillar summarized by Scott [2007] and derived heavily from the recent cognitive turn in social science [DiMaggio & Powell, 1991] represents models of individual behaviour based on subjectively and (often gradually) constructed rules and meanings that limit appropriate beliefs and actions. The cognitive pillar may operate more at the individual level in terms of culture and language [Carroll, 1964; Scott], and other taken-for-grantedness and preconscious behaviour that people barely think about [DiMaggio & Powell; Meyer & Rowan, 1991]. This pillar is increasingly important to entrepreneurship research in terms of how societies accept entrepreneurs, inculcate values, and even create a cultural milieu whereby entrepreneurship is accepted and encouraged [Bosma, Acs, Autio, Coduras, & Levie, 2009; Harrison, 2008; Li, 2009].

According to the institution-based view, a firm's internationalization is facilitated or constrained by a multitude of institutional forces including elements that both promote and hinder the upgrading of existing resources and capabilities. Some specific regulatory policies introduced by home country governments will encourage firms to engage in overseas expansion if they are supportive and straightforward [Buckley et al., 2007] particularly when the home country government becomes a powerful ally to MNEs [Luo et al., 2010]. On the other hand, the institution escapism view suggests that poor institutional and environmental factors in the home country, such as regional protectionism, quota allocations, high tax rates, corruption, regulatory uncertainty, insufficient protection of intellectual property rights and governmental interference, may also push the firm to move abroad in pursuit of more efficient institutions [Luo et al., 2010; Yamakawa, Peng, & Deeds, 2008]. This form of internationalization is driven more by the pursuit of an exit strategy from the home environment rather than a conventional entry strategy into foreign markets [Boisot & Meyer, 2008]. In a similar vein, Ghemawat [2003] suggests that firms internationalize to arbitrage international differences including institutional gaps. Therefore, predictions rooted in the institution-based view suggest that

a firm's internationalization strategy is shaped by the institutional framework of the home country of the firm [Cheng & Yu, 2008; Peng et al., 2008].

*Product Cycle Theory*

The major studies on product cycle model which indicates the role of MNCs with regards to linkages among technology, international production, and trade are Hirsch [1967], Vernon [1966], and Wells [1972]. The bone of contention amongst these scholars was that changes in comparative advantages of countries are caused by the technological development which generate changes in products' factors intensity. Linder [1961] study discussed the role of demand and argued that domestic demand can serve as motivation for innovations, while similarity for international demand can facilitate exports. Vernon [1966] paper asserts that international investment of firm can be explained by technological innovations in consumer and industrial goods, i.e., the development as well as the production of new products. This can happen if, according to Buckley [1985], (i) Production and marketing of products undergo expected changes (ii) there are restricted information available on technology (iii) Economies of scale are prevalent and production process also changes overtime (iv) Products can be standardized at various level of income, and tastes are different according to income earned. Vernon categorized the life of a products into three different stages, via (i) the new product, (ii) the maturing product and (iii) the standardized product. The new product emerges or enters the market after corrections is done to the feedback received from the market. This feedback usually take place in large market with high per capital income, and in firms with high cost of labor. For the second stage, increase in product demand through commitment to attain economics, give rise to a certain degree of standardization – this is the maturing product stage. At a certain point, the less developed countries will provide competitive advantage particularly in the area of labor cost. This stage drives the product to achieve standardization. Further version of product cycle theory on MNCs investment with regards to oligopolistic behaviour of firms, was documented in Vernon [1971, 1979] papers. The

cycle includes, (i) innovation-based oligopoly (ii) mature oligopoly and (iii) senescent oligopoly.

*Krugman's model of economic – Geography: The core-periphery structure*

The Krugman [1991] core–periphery model has become to the new economic geography the 2×2×2 model is in international trade, and the basic feature that makes this model is quite different from those developed in new trade theory. This indicates that the two-region core-perphery model, has become the basis of a paradigm that seeks to integrate urban economics, regional science, and international trade in a single theoretical framework and, more generally, to rectify the omission of space from mainstream economics. The spatial economy: cities, regions and international trade by Fujita, Krugman, and Venables known as FKV encompasses various developments of the core–periphery model that poses the two basic questions – "When is a spatial concentration of economic activities sustainable?" and "When is a symmetric equilibrium, without spatial concentration, unstable?" How footloose workers distribute themselves across space determines the interregional distribution of economic activities and the intensity of spatial inequality. The theory shows that the global pattern of production is symmetric with no spatial inequality when workers are evenly distributed.

When footloose workers move to a new region, they bring with them both their consumption and production capabilities. Thus, their movements affect the size of labor and product markets both in the origin and destination regions. These effects have the nature of pecuniary externalities because migrating workers do not take them into consideration in their decisions. Thus, the effects of migration are best studied within a general equilibrium framework, where one can capture both the interactions between spatially separated markets (product & labor), and the dual role of individual-as-worker and -as-consumer. Krugman [1991b] great accomplishment was to integrate all these effects within a single framework and to precisely determine the conditions under which the cumulative process predicted by Myrdal occurs. Krugman also shown that the value

of transport costs is the key-determining factor in determining the specific conditions for agglomeration.

All footloose workers will concentrate in a single *core* region if the transport costs are sufficiently low, whereas the *peripheral* region supplies only the standardized good. In this manner, firms are able to exploit increasing returns by selling more goods in the larger market without losing much business in the smaller market. Emphatically, the coreperiphery structure is the results of the involuntary decisions made by a large number of economic agents whilst pursuing their own interests. Nevertheless, the interregional shipments of goods will be discouraged if transport costs are sufficiently high, Thus, the economy displays a symmetric regional pattern of production in which firms focus on local markets. Therefore, whilst the core-periphery model allows the possibility of convergence or divergence between regions, the neoclassical model would predict convergence only based on constant returns and perfect competition in the two sectors. Accordingly, and beyond reasonable doubt Krugman [1991b] works present a synthesis of the polarization and standard neo-classical theories.

*International trade with heterogenous firms*
*Melitz model*

Melitz [2003] developed a dynamic industry model with heterogenous firms to analyze the intra-industry effects of international trade. The model shows how exposure to trade will induce only the more productive firms to enter the export market, and at the same time, forces the least productive firm to exit. For exporters, Melitz's model suggests that firms with higher productivity have greater sales. In what later referred to as HMY-Helpman, Melitz and Yeaple [2004] introduced horizontal FDI into Melitz's model and focus on firms' choice between trade (exports) and horizontal FDI. They found that the least productive firms serve only the domestic market, that more productive firms export relatively, and that the most productive firms engage in FDI. In HMY model, the more within-industry dispersion of firm productivity, the lower the ratio of exports to FDI sales

for all sector level. However, this conventional wisdom has been questioned in an influential paper by Arkolakis et al [2012]. Several papers in the theoretical literature that have study various forms of heterogeneity in economic geography models include Tabuchi & Thisse [2002]; Combes, Duraton & Gobillon [2004]; etc.

*Production Expansion of FDI theories*

Existing literatures on MNCs shows that two different theories have been advanced in terms of the patterns of FDI. Based on reasons why firms go multinational, the theory of MNCs is split into two parts – (a) to serve a foreign market and (b) to get lower cost inputs. This distinction is used to differentiate between two main types of FDI: the horizontal and vertical. Caves [1971] pioneered and distinguished the terms Horizontal, Vertical, and conglomerate FDI.

*Horizontal FDI:* Horizontal FDI occurs when a company initiates similar business or operation in another country as it operates in its home country. That is, horizontal FDI refers to the foreign manufacturing of products and services roughly similar to those the firm produces in its home market. For instance, McDonald's opening restaurant in China. Toyota assembles motor cars in UK, U.S., Russia, etc. The horizontal type of FDI involves expanding the production of the same products that are produced in the investor's home country into the host country [Caves, 1971]. In this case it involves spatial expansion of production, as it may or may not involve developing and upgrading the existing production infrastructure. The essence is to avoid trade barrier, gain better access to the local economy or draw on the technical expertise by locating near other established firms. This type of FDI is called "horizontal" because the multinational duplicates the same activities in different countries. Horizontal FDI arises because it is too costly to serve the foreign market by exports due to transportation costs or trade barriers.

Brainard [1997] opined that to serve foreign market, firm can either export or set up a local subsidiary through horizontal FDI. Based on a simple model of two-country, single-factor, multi-sector, he verified the influencing factors of horizontal FDI from different

perspectives such as – trade cost, economies of scale, and national resource endowment. Whilst the trade cost is consistent with the proximity-concentration trade-off (between achieving proximity to customers and concentrating production to achieve scale economies), the economies of scale is analyzed from two perspectives – (a) the smaller the scale-incremental effect of the product (that is, the lower the fixed costs of product production, sales, R&D, and advertising), the more profitable it is for an enterprise to carry out FDI. (b) the greater the economies of scale of a company, the more quickly the establishment of a factory overseas will reduce the average cost of the company, and it will also prompt the company to embrace the same strategy. For national resource endowment, it is clear that since the types of products in horizontal FDI are the same, the smaller the difference in endowments between countries means the smaller the difference in the cost of producing the same product, so there will be more FDI behaviors, thus resulting in the promotion of the so-called "North-North Trade." However, Markusen & Venables [1998, 2000] extended Brainard [1997] to the case of two factors, and the results were consistent. The more similar the endowments of the two countries, the higher the GDP, the higher the probability of FDI.

*Vertical FDI:* Vertical FDI occurs when MNCs acquires an operation abroad that either acts as supplier or distribution to the parent companies. According to Caves [1971], the vertical form of FDI involves operating abroad in order to promote production inputs or outputs. For instance, a British manufacturing firm may acquire an interest in a foreign company that supplies it with the needed raw material. However, Moosa [2002] also observes that vertical FDI could be in the form - US car dealers started to build their own relationship networks in the Japan market in order to facilitate the access of their products into the Japanese markets, which was at that time dominated by Japanese cars dealers. In vertical FDI firm in industrialized countries may lower costs by relocating their production process to low-wage countries. Vertical FDI is further classified into backward and forward FDI. Backward FDI is when the source country exploits raw materials from the host country, whereas the forward FDI is when the source country establishes distribution

outlets for its products in the host country. Conglomerate FDI is a combination of both horizontal and vertical FDI. Vertical FDI has two sub-categories which includes forward and backward vertical FDI. Forward FDI is made to set up distribution outlets in the host country (abroad) with the intension to be closer to the consumers and to supply company's finished product to the markets or third country (for example, Toyota buying a car distributorship in America). However, the backward vertical FDI is made to process raw materials or necessary inputs from the host country (abroad) to the home country for final production (for example, Toyota getting majority stake in a tyre manufacturer or a rubber plantation).

Helpman [1984] carried out pioneering work on vertical FDI. Based on the H-O (Heckscher–Ohlin) framework, the study divides product production into two phases: headquarters (home country) and output. The headquarters service is characterized by technology-intensive, and the output phase is labor-intensive. Due to differences in endowments between countries, according to the traditional theory of comparative advantage, there will be work specialization within the industry of multinational companies, that is, vertical FDI. Moreover, the greater the difference in endowment among countries, the more the vertical FDI. Yeaple [2003] further studied industry characteristics. Taking the United States as an example, FDI in labor-intensive industries will flow more to under developing countries than to Europe, while capital-intensive industries will be the opposite. However, investments in two entirely different businesses based in completely different industries, it is known as conglomerate FDI. Thus, conglomerate FDI is a combination of both horizontal and vertical FDI. This is uncommon, as it requires overcoming two barriers to entry: entering a foreign country and entering a new industry or market. An example of this would be if Virgin Group, which is based in the United Kingdom, acquired a clothing line in France.

*Conglomerate FDI:* When investments are made in two completely different companies of entirely different industries, the transaction is known as conglomerate FDI. Therefore, a conglomerate FDI indicates when a corporation or individual invests in a business

outside of their own country that is unrelated to their present company. As such, the FDI is not linked directly to the investors business. For instance, the US retailer Walmart may invest in TATA motors, the Indian automobile manufacturer.
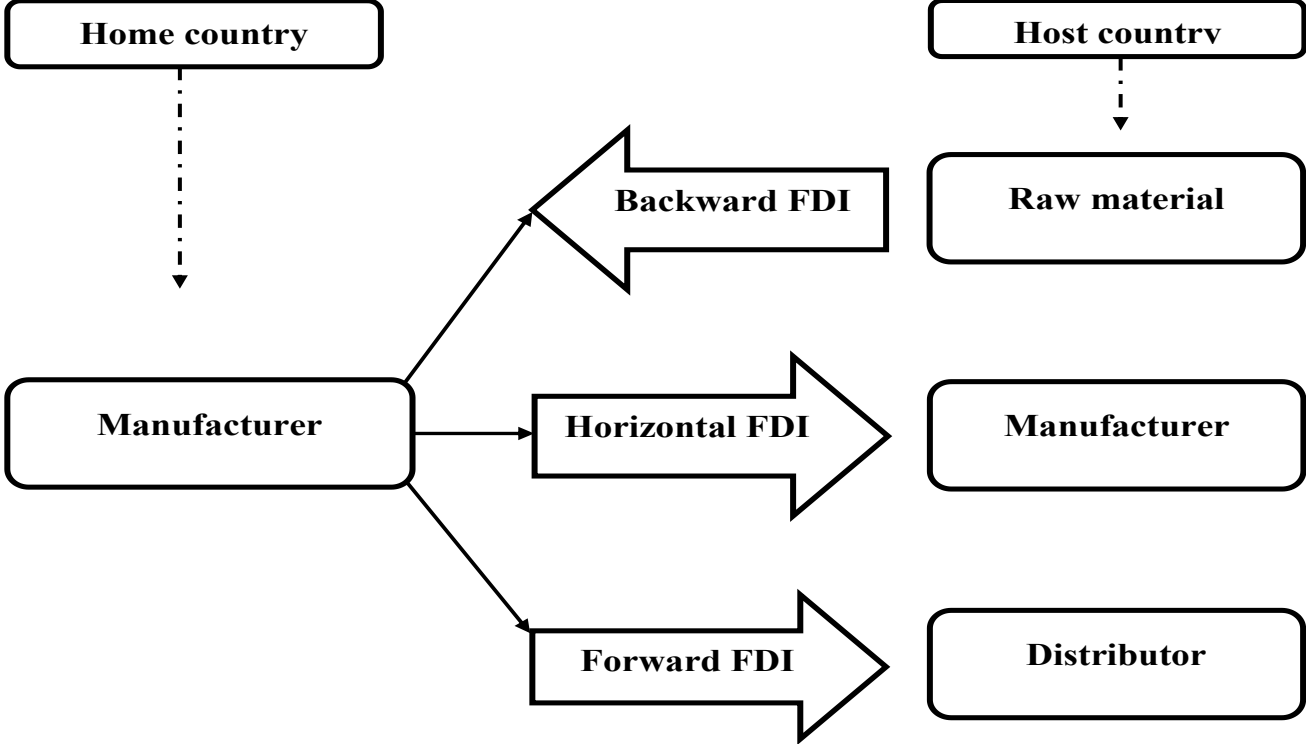


*Figure 12 – Horizontal and vertical FDI linkages for home and host countries*

*Platform FDI:* Platform FDI refers to the expansion of business to a foreign country where everything manufactured there is exported to the third country. That is, it simply involves those operations undertaken by investing firms in the host country for the purposes of exporting products to country other than the host country itself. This type of FDI is sometimes referred to as export-platform (EP) which is well documented by [Hanson et al., 2001; etc.]. The US investment in Mexico for the purpose of access to the North American Free Trade Agreement (NAFTA) market is an example of this type of FDI. Another example is the French perfume brand Chanel set up a manufacturing plant in the USA and export products to other countries in America, Asia, and other parts of Europe.

Studies on export-platform are scanty due to the fact that most of our theoretical understanding is derived from two-country models. However, the diagram shown in Figure 12, illustrates the horizontal and vertical FDI linkages for home and host countries.

*Direct and spillover effects channels of outward foreign direct investment*

The theoretical framework of outward FDI shows that both the substitutive and complementary effects need channel for creation. Thus, outward FDI create own effects which has a direct impact on productivity in the parent company and in-turn affect home country's economy. However, some economic scholars have put forward two economic views regarding the possible linkages of the impact of outward FDI on home country economic growth. One view argues that if outward FDI is a substitute for domestic investment, an increase in outward FDI by home country multinational firms may cause a decrease in output at home economy [Stevens & Lipsey, 1992], that is, domestic production relocated abroad due to diminished domestic investment opportunities. On the other hand, if outward FDI is complementary to domestic production, an increase in outward FDI activities by home country multinationals promote higher domestic output [Desai et al., 2005]. This shows that foreign affiliates use home inputs to produce outputs in the host country.

However, the direct impact of outward FDI on economic growth also have a potential reverse causal linkage that runs from home country economic growth to outward FDI. For instance, higher economic growth in the home country may also encourage overseas investment flow, as shown by the investment development path model [Dunning, 1981, 1986], a steady high economic growth in home economy could facilitates higher level of economic development, which can aid domestic firms to establish ownership advantages toward overseas investment expansion. Thus, conceptually, the direct causal relationship between outward FDI and home country economic growth may run from either direction.

However, majority of the studies on foreign direct investment have focused on the

central role of spillover effects in facilitating economic development. This indicates that there is the possibility that outward FDI may generate positive spillovers to other domestic firms not related to the MNCs, where the indirect benefits could potentially be larger than any benefit or cost to own country domestic subsidiaries of MNCs. A review of prior FDI spillover literature reveals that a small number of studies examine the importance of outward FDI in sourcing technology which affects the productivity of home country. This shows that firm may invest abroad in attempt to access advanced technology and managerial skills in foreign countries [Dunning & Narula, 1995]. However, increase in outward FDI can also bring positive change in the economic growth of home country via high spillover effects of technology and knowledge to local firms [Amin et al., 2020]. The few notable exceptions addressing this subject are limited to the context of advanced countries such as United States, Japan, and EU countries both at the national or industry level. For instance, the study inconsistent findings suggest that the impact of outward FDI is small but positive for the source country [Knoerich, 2017]. Using time series and cross-country data for United States, Herzer [2010] study provides empirical evidence that indicate outward FDI stimulates economic growth and output in the home economies. Driffield et al. [2009] find positive spillovers of outward FDI on home country productivity, but the data is at the industry level and the authors do not distinguish between domestic-owned and foreign-owned firms in the analysis.

However, theoretically, direct transmission of knowledge takes place in vertical FDI, whereas indirect transmission of knowledge happens through the movement of labors and exports. According to Blomstrom & Kokko [1998], the assessment of home country spillovers shows to be a very difficult task, since the benefit does not occur automatically but depends on many parameters, especially, on what activities the MNCs retain at home and how firms are internationalized. On this account, Fosfuri & Motta [1999] develop a model in which firms may use foreign affiliates to acquire location-specific knowledge. The knowledge captured through FDI are transferred to home country which may eventually leak out to other competing firms and generate positive intra-industry spillovers

through competitive forces and labor mobility. Hamida [2017] examines the spillovers effects from foreign R&D investment and hypothesizes that the benefit of outward R&D spillovers occurs only when knowledge accumulated in foreign R&D centers is effectively transferred to MNCs' parent companies at home.

Nonetheless, outward FDI has spillover benefits of technology and knowledge, which is also known as reverse-spillovers [Xianfeng & Yan, 2013]. The concept of "reverse spillover" was coined and gained popularity after the discovery of its relevance in a study of FDI in the manufacturing sectors of the United Kingdom [Driffield & Love, 2005; Driffield & Love, 2003]. Like all other investors, firms from developing countries benefit from various kinds of reverse spillovers when they operate overseas.

*Channels (characteristics) of outward foreign direct investment spillovers*

Research on FDI spillovers has focused on several different features that determines host and home country's characteristics channels of technology diffusion. Numerous studies have explored the characteristics of these channels through which spillovers can occur. These four main channels include (i) demonstration and imitation, (ii) labour mobility, (iii) exports and trade (iv) competition.

*Demonstration and imitation effect of outward FDI:* In addition to technology spillover, domestic firms in the home country may benefit from demonstration effects if MNCs acquires advanced knowledge abroad, transfers it back to its headquarters and applies the new products or techniques in its production at home. Demonstration effects in the home economy enables technologically less advanced local firms to adopt and imitate the new products or processes. The introduction of new technologies, products, and procedures by the MNCs in its home market may encourage other home country firms to adopt them, given that the cost in acquiring basic technological knowledge and the uncertainty about their success has already been reduced significantly. However, demonstration effect in the literature on inward FDI spillovers, refers to a display of superior products and techniques by foreign MNCs and an imitation of these products and techniques by domestic firms in

the host economy, which often operate with no technology or on a lower technological level than foreign MNCs [Blomström & Kokko 1998].

Given that the demonstration effect is a frequently discussed knowledge transfer channel, it comes as a surprise that barely any empirical evidence can be found in the academic literature. Blomström & Kokko [1998] assume that one explanation for the lack of empirical evidence is that knowledge diffusion via demonstration effects often occurs unconsciously as firms usually do not document how and where they have first learnt about a new technology or product and how they have subsequently adopted it. Another reason for the weak empirical evidence is seen in the difficulty to disentangle the demonstration effect from the impact of an increased competition on imitation and adoption of new knowledge. Again, competition effect can also probably force home country firms to improve their own performance and to use existing technology more efficiently to be able to compete successfully with more productive home country MNCs and guarantee their survival in the market [Blomström & Kokko, 1998]. The closer the firms' products and market orientation, the greater the need to close potential technological gaps [Jenkins, 1990]. The easiest way to adopt the technologies and processes is to imitate what is demonstrated by advanced competitors.

Accordingly, spillovers via the demonstration effects could also be a consequence of the increased competitive pressure from more advanced market player [Jenkins, 1990]. Moreover, the interaction of home country MNCs and domestic firms could result in a virtuous circle as demonstration effects could be reinforced by the increased competition. Given that MNCs want to maintain their technological superiority at home, they might increase their knowledge-sourcing activities by investing abroad. This again increases the potential for demonstration spillovers and offers a further incentive for home country firms to assimilate their products and processes.

*Labor mobility:* Knowledge spillovers from the host economy or affiliate abroad to the MNC headquarters can furthermore occur through the channel of labor mobility. Labor mobility and human capital acquisition can boost the productivity of local firms in home

country. Similarly, domestic firms can also hire workers that were previously employed by a multinational company, that might have received some sort of training and are informed about many features of the multinational's production process. These workers can bring their wealth of knowledge and experience to the local firm which can be implemented, and in-turns improve their productivity. The analysis of labor flows as a source of knowledge spillovers dates back to the early work of Arrow [1962] which states, that "mobility of personnel among firms provides a way of spreading information" (Arrow 1962). Several models have study labor mobility as a channel of knowledge spillovers from a theoretical point of view, among others Fosfuri et al. [2001], Glass & Saggi [2002] and Kaufmann [1997]. Many academics stress that labor mobility is of particular importance for the transfer of tacit knowledge [Almeida & Kogut 1999, Song et al. 2003].

Nevertheless, market entry by MNCs however can also have a negative impact on domestic firms through this channel; for example, if MNCs offer higher wages and attract the best workers. In this case, domestic firms can have a hard time finding and keeping good personnel. Fosfuri, Motta and Rønde [2001] and Görg and Strobl [2005] study this channel more thoroughly and provide empirical results. Teece [1977] finds that human capital acquisition and imitation are particularly important for horizontal spillovers.

*Export and trade:* Evidence shows that MNCs can serve as export catalysts and pave the way for local firms that try to become exporters [Aitken et al., 1997; Görg & Greenaway, 2004]. Thus, domestic firms do not only benefit from the infrastructure and networks created by MNCs, but they also learn how to successfully enter a foreign market. Export spillover are seen as positive externalities arising from the presence of MNCs, which clearly shows the implication of productivity links theory and exporting behavior or performance. This theory indicates that the improvement in domestic firms' export performance is the result of export spillovers from home country's MNCs. The accumulation of evidence from available firm level data indicates a substantial difference in the productivity of exporters and non-exporters. For example, in developed countries, Bernard et al. [1995] and Bernard & Jensen [1999] documented that exporters in US

manufacturing are larger, more productive, more capital intensive, pay higher wages, and employ more skilled workers.

Two theories were put forward to explain this phenomenon. The first, which is commonly referred to as the 'self-selection' Hypothesis, argues that only the most productive firms are able to survive in the highly competitive export markets. This Hypothesis is based on the presumption that there are additional costs involved in participating in export markets. These costs, which usually involve high fixed costs, include transport costs and expenses related to establishing distributional channels, as well as production costs in adapting products for foreign tastes [Bernard & Jensen 1999]. The alternative explanation argues that there is a learning effect from participating in exporting activities which will result in productivity improvement. One example is that exporters are often argued to be able to gain access to technical expertise, including product designs and methods, from their foreign buyers. This explanation is often termed 'learning-by-exporting' Hypothesis. Each of these theories applies to different states of the exporting status of a firm. The self-selection Hypothesis applies for a firm that is not yet exporting but is about to, and the learning-by-exporting Hypothesis applies when a firm has become an exporter. Thus, the theories explain that productive firms self-select themselves to become exporters, and once there, these exporters learn and become even more productive than before they entered export markets.

In respect of the self-selection Hypothesis, Bernard & Jensen [1999] found that exporters in US manufacturing are more efficient, larger and grow faster several years before they become exporters. Meanwhile, Hallward-Driemeier et al. [2002] observed a substantial productivity difference between domestic firms that were established as exporters and domestic firms that were not. This indicates that firms participating in export markets make a conscious decision to operate differently from ones that focus on the domestic market. Supporting this interpretation, they show that domestic exporters indeed bear a resemblance to foreign exporters. In particular, they are more capital intensive and use more equipment of recent vintage than domestic non-exporters. It is worth noting here

an implication of the presumed additional costs required for a firm to engage in exporting activities, which is persistency in export participation. Once a firm decides to service export markets in a period of time, it tends to stay as an exporter in the next period.

*Competition:* However, the last channel of outward FDI spillover listed in this subheading comes through the competition effect. The entry of MNCs may lead to increase competition initially, but after that, it creates pressure for domestic firms to become more productive. Thus, competitive effects from MNCs forces domestic firms to produce more efficiently [Markusen & Venables, 1999]. Given that higher productivity is needed to survive in export markets, the competition effect from MNCs may encourage domestic firms to join and perform well in export markets. Domestic firms can boost their productivity by using technology and resources more efficiently or by incorporating more advanced technologies in their production process [Crespo & Fontoura, 2007]. A higher level of competition however can be detrimental for the productivity of domestic firms if their market share drops due to the MNCs entry. This indicates that outward FDI is an important means to increase a country's investment competitiveness which is crucial for long-term sustainable growth. However, the importance and effects of increased competition between MNCs and local firm have been studied by many authors, such as Aitken & Harrison [1999].

Whilst horizontal spillover are spillovers from MNCs to local firms that operate in the same industry, vertical spillovers are spillovers from MNCs to firms active in industries that are linked with the industry of the multinational through the supply chain. Thus, the inter-industry (vertical spillovers) can be classified in backward spillovers, from the multinational to its upstream suppliers, and forward spillovers from the multinational to its downstream customers. Although vertical spillovers have only recently been included in empirical work, research suggests they are more likely to occur than horizontal spillovers [Javorcik, 2004]. However, Figure 13 illustrates the supply chain spillover from the raw material to finish goods.
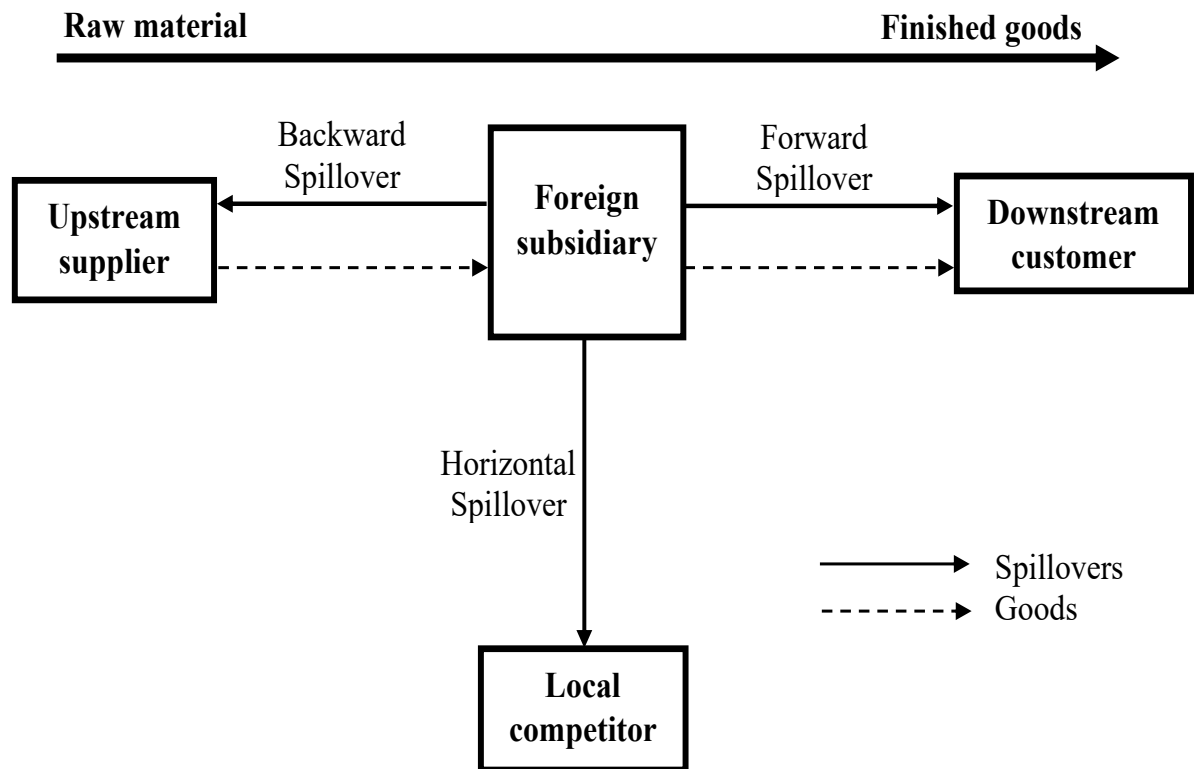
*Figure 13: Forward, Backward and Horizontal spillovers in the supply chain.*

*The New Growth Theory (NGT)*

The new growth theory also called the "Endogenous Growth Theory" emerged out of the critique of Robert Solow's [1956] neoclassical growth model and its deficiency in explaining long-term economic growth. The studies of Arrow [1962], Romer [1986, 1990], & Lucas [1988] and Grossman & Helpman [1991] are considered as the major pioneering works on the NGT. However, the common ground of the NGT model is to determine technological progress and knowledge spillover, in order to ascertain "endogenously" the long-run rate of economic growth within the models, which is in contrast to the neoclassical models where technological progress as the main determinant is expressed exogenously. The NGT treats a number of growth-inducing factors as endogenous variables which generates and connects to the flows of knowledge. Thus, the models assume that technological progress (including knowledge transfer and innovation) is the principal driving force of economic growth. Therefore, these models place emphasis

on human capital accumulation and externalities on economic growth.

The NGT theory challenges the neoclassical model in many important ways. Solow [1956] and other neoclassical scholars largely didn't try to explain what caused technology to improve over time. Implying that technology "just happened" led to an emphasis on capital accumulation and labor force improvement as sources of growth. As Romer says: "We now know that the classical suggestion that we can grow rich by accumulating more and more pieces of physical capital like fork lifts is simply wrong" (Romer 1986). The underlying reason is that any kind of physical capital is ultimately subject to diminishing returns; economies cannot grow simply by adding more and more of the same kind of capital. The NGT theory revived an old tradition of thinking about the effects of increasing returns. At least through the early days of the 20th century, economists were quite comfortable talking about increasing returns as both an actual and a theoretical possibility [Buchanan & Yoon 1994]. Recent economic developments have underscored the relevance of increasing returns in the world of business.

This shows that the NGT has introduced two major concepts: First, technological change is no longer treated as a product of non-market forces but modeled endogenously due to deliberate actions taken by profit maximizing economic agents who respond to market incentives. Second, endogenous growth proponents broadened the concept of capital by including knowledge capital. Unlike physical capital in the Solow's [1956] neoclassical growth model, the accumulation of knowledge capital is not subject to diminishing returns. The NGT models treat technology and knowledge as economic goods in an attempt to understand the determinants of long-term growth based on learning-by-doing or investment in human capital and new technologies. Contrary to the standard neoclassical models, Arrow's [1962] study posit that there are invention costs in the creation of technology, and there are adoption costs associated with human capital required to use technology. Adoption costs have a direct component in the form of investment outlays for schooling, on-the-job training, as well as an indirect component, in the form of foregone output. Endogenous growth models can be distinguished according

to whether they emphasize invention costs or adoption costs. In NGT models, the increasing returns to knowledge is the basis of long-term economic growth.

In view of the foregoing, the relationship between FDI and economic growth which has been widely studied and disputed based on economic growth is dependent on two main theories: the neoclassical theory and the NGT. Under the NGT, FDI is expected to increase growth through technological progress and capital formation; however, FDI is expected to have the effect on a home country through the transfer of knowledge or management practices [Forte & Moura, 2013]. However, if long-run growth is taken as a function of technological progress, outward FDI spillover can increase the rate of economic growth in home country's economy through physical capital, technology transfer, human capital and other spill-over effects [Mahembe & Odhiambo, 2014], contributing not only to the growth and success of local firms, but also as one of the most significant growth-inducing effects of FDI [Liu, 2008]. A number of studies support a link between outward FDI and economic growth, highlighting the importance of FDI for technology transfer and its superiority over domestic investments for inducing growth [Al Nasser, 2010; Hansen & Rand, 2006; Borensztein et al., 1998]. In NGT, FDI contribute to enhance economic growth through transfer technology [Borensztein et al., 1998]. Abramowitz [1986] shows that it is the technological gap and its subsequent narrowing that will provide the "productivity leap" needed to experience economic catch up. It is this process of narrowing the technological gap that presents the backdrop for the discussion of the interplay between FDI and absorptive capacities both at the macro/national level and micro/firm level.

Similarly, outward FDI generates technological diffusion from the developed world to the home country which in turn enhances the efficiency of domestic investment [Li et al., 2016]. Firms investing abroad secure access to cheaper raw materials, to produce final goods at lower production costs and in greater volume, and thus increase their competitiveness in both domestic and foreign markets ([e.g., Desai et al., 2005; Herzer, 2008]. However, Knoerich [2017] argues that returns from outward FDI promote economic growth if they help mitigate certain developmental problems of

source country, such as technology constraint or resources shortages. But the empirical evidences on the home country's economic growth effects of outward FDI has been lacking for developing countries.

However, the linkage between outward FDI and home country economic growth is to a certain extent reflects the current pattern of outward FDI activity of countries worldwide. Whereas many developed countries are net sources of FDI, outward FDI from developing countries, on average is still low and very heterogeneous. Whilst many developed countries have accelerated their investments abroad to improve domestic growth, bulk of countries at lower levels of development, still have little or no outward FDI flow, given their low capacities and fragile economic structures. Therefore, to what extent is the growth effect of outward FDI applicable to countries, especially developing countries given their level of technological innovation, knowledge capital as well as other home country characteristics? This is the main goal of this dissertation. But first, there is the need to cluster countries based on their levels of economic development using the world bank income classifications which relies on GDP and GNI per capita growth as basis for classifications. This will help indicate how outward FDI activity changes with the economic growth of countries within the same level of economic development.

*Findings*

The theoretical section of this dissertation discusses the main theories and conceptualizations that explains overseas investment expansion to the benefit of home country's economy. One of the central themes of these theories is to provide possible explanation why most national companies move abroad. Based on existing theory such as the Buckley & Casson's internalization theory; Benito & Gripsrud's internationalization theory; North's institutional theory and Arrow, Romer, & Lucas' New Growth Theory, this dissertation examines the growth effects of outward FDI spillover and international trade mediated by home country's institutions and reached several crucial conclusions.

First, the traditional eclectic OLI paradigm developed by John Dunning was likely the most comprehensive theoretical stance for justifying MNCs decisions to engage in FDI. However, the recent emergence of MNCs from middle- and low-income economies showed the flaws in the traditional eclectic OLI paradigm. Critical reflection of the OLI paradigm shows that the approach may have become obsolete and not able to capture recent development of MNCs internationalization activities. For instance, host countries in the same income economies categorization may already have tangible and/or intangible assets ownership advantages such as advanced technology, quality brands, advanced marketing experience, advanced production system, and managerial know-how, which source country possesses. Thus, ownership advantage as well as location and internalization of the OLI paradigm falls short in providing a vivid explanation to such investments within similar economies. The approach is too general considering specificity of countries and economy. Thus, the application of the eclectic paradigm theory in our study to examine firm's expansion from one economy (source) to another (host) with similar characteristics or factors such as HICs or UMICs may not be feasible.

Second, recent advancement in FDI theory, especially Arrow, Romer, & Lucas' New Growth Theory, shows that in addition to asset exploitation, firms from less advanced countries, especially middle and low-income economies may also be motivated mainly by seeking natural resources, foreign markets and technology while making cross border investment. This shows MNCs overseas investment expansion stimulates economic growth in source country in two ways. (i) outward FDI generates technological diffusion from the developed world to the home country which in turn enhances the efficiency of domestic investment. (ii) MNCs investing abroad secure access to cheaper raw materials, to produce final goods at lower production costs and high volume, which increase their competitiveness in both domestic and foreign markets.

Third, based on the views of Mundell, Markusen and Markusen & Venables as well as Helpman and Helpman & Krugman, the relationship between outward FDI and international trade can be seen from both the substitutive and complementary perspectives

respectively. MNCs expansion abroad may bring about greater competitiveness in foreign markets which in-turn boost domestic firm and enhance domestic economic growth – a complementary relationship. Nevertheless, outward FDI can be seen as substituting for international trade as exports are replaced by local sales on foreign markets, particularly in the form of finished goods. This could be detrimental to the investing country's domestic industry.

Fourth, based on North's institutional theory framework, a firm's home country level of institutional development could play a significant role both in their internalization and internationalization strategies. Whilst favorable home country policies may motivate firms to invest abroad, countries with poor institutional systems may have a reduced overseas investment expansion due to high transaction costs amongst other reasons. However, government of countries from middle- and low-income economies must provide the necessary support to upgrade their institutions in order to effectively and efficiently drive policy implementation that motivate firms to invest in overseas markets. Therefore, the institutional theory in a way provides some explanation to outward FDI in different levels of economic development.

# CHAPTER 2. METHODOLOGY AND DATA FOR EMPIRICAL ANALYSIS OF OUTWARD FOREIGN DIRECT INVESTMENT ON ECONOMIC GROWTH

Whilst the previous chapter discusses the theoretical framework, this chapter describes the empirical methods, econometric specifications, hypotheses, as well as the data set used in the analysis of this dissertation. Besides utilizing the panel data forms of data analysis, the study clearly defined the various dataset applied as well as their sources of data collection. Graphical illustration to buttress the nature of dataset collected were also highlighted in this chapter. Regarding the study's econometric specifications, expanded empirical technique robust to the different econometric problems is utilized. In addition, some of the numerous econometric problems affecting economic models are extensively discussed. However, in line with the motivations and objectives of this dissertation, hypotheses are setup which are used in investigating the relationship between outward FDI and economic growth across income economies cluster.

## 2.1 Sources of Data collection/ Database Description

To achieve the objectives of this dissertation, different datasets were used to analyse the relationship between outward FDI and key home country economic determinants such as international trade, economic growth, and institutions etc. The dataset extracted from different data sources such as the United Nations Conference on Trade and Development (UNCTAD); the World Bank (WB); the International Country Risk Guide (ICRG); and the Worldwide Governance Indicators (WGI) are applied to the selected quantitative methods. The World Development Indicators is a compilation of relevant, high-quality, and internationally comparable statistics on global development. The database contains 1,400 time series indicators for 217 economies and more than 40 country groups, with rich data that date-back more than 50 years.

Similarly, the Worldwide Governance Indicators (WGI) set-up by the World Bank, measures six governance indicators for 215 countries from 1996 onwards. The indicators are, Voice and Accountability (VA), Political Stability and Absence of Violence (PS), Government Effectiveness (GE), Regulatory Quality (RQ), Rule of Law (RL), and Control

of Corruption (CC). The WGI reflects the quality of institutions that is assumed to have an impact on the business environment in countries. However, the values of the WGI indexes for countries ranges from -2.5 (weak governance performance) to 2.5 (strong governance performance).

The International Country Risk Guide (ICRG) is an open-source databased firm (political risks groups (PRS)) which rates 22 variables in three different subcategories of risk such as political, financial, and economic risks. A separate index is created for each of the subcategories. The *Political Risk index* is based on 100 points and explains annually the twelve components risks, and the rating provide means of assessing countries' political stability by allocating risk points to certain group of factors, termed political risks components. The ratings show that both the *Financial* and *Economic Risk* components share 50 points each. The total points from the three indexes are sub-divided by two to produce the weights for the composite country risk score. The composite scores, ranging from zero to 100, are then broken into categories ranging from Very Low Risk (80 to 100 points) to Very High Risk (zero to 49.9 points).

*Experimenting Panel Dataset*

A longitudinal or panel data set is one where there are repeated observations on the same units: countries, individuals, firms, or any set of entities that remain stable through time. With N units and T time periods, the total number of observations can be calculated as N×T. The primary difference between panel data and time series models, is that panel data models allow for heterogeneity across groups and introduce individual-specific effects. The data collected are put in a panel data sets which combines cross-sectional and time-series data and makes it possible to study a number of units over a period of time. According to Hsiao, [2007], panel data analysis deals with common problems in empirical studies that occur when only time-series or cross-sectional data is used, such as handling the effects of omitted variables and generating better individual predictions by pooling the data rather than predicting every single observation. Panel data analysis have become

particularly prominent for studies on causal inference based on observational data [Imai & Kim 2016]. One of the key reasons for this popularity is that changes within units over time can be exploited to eliminate unobserved time-invariant heterogeneity, which reduces the risk of confounding [Wooldridge, 2010]. Panel dataset applied in this dissertation were collated from different countries to form global data as well as dataset based on the world bank income economies classification as shown in Appendices B and C.

*Econometric Issues and Problems in Model Estimation*

Econometric modeling is described as the interaction of economic theory, observed data, and statistical methods. It quantifies relationships on the basis of observed data. Thus, the foundation of the relationships is in mathematical terms which leads to econometric or statistical models. Historically, econometric analysis started with macro data and later [around 1970s] micro-econometric analysis describing individuals, households, and firms began. However, for economic relationship to hold, several assumptions (Gauss-Markov assumption) must be satisfied. But the inability to satisfy this assumption might lead to error in the analysis of economics models. Thus, the non-conformity in these assumptions during model selection to estimation period can lead to numerous econometric problems that can bring about spurious regression that give rise to misleading results. Therefore, examining and detecting these potential problems before, during and after economic analysis is crucial. However, some of the most frequent problems associated with econometric models include − autocorrelation, cross-section dependence, endogeneity, heterogeneity, multicollinearity, heteroscedasticity, etc. Thus, this section of this dissertation is to explain potential econometric problems link to different model assumptions used in estimating outward FDI and economic growth relationship across different income groups. However, numerous empirical studies have shown that endogeneity problem is one of the major complications in econometrics modeling. Some of these assumptions can be more challenging in applications than for others. However, endogeneity can occur due to

measurement error, simultaneity, autoregression with autocorrelated errors, and omitted variables.

*Endogeneity*

In econometrics, endogeneity broadly refers to situations in which an explanatory variable is correlated with the error term. The classical linear regression model consists of five (5) key assumptions [Kennedy, 1998], and the violations of these assumptions cause severe econometric problems which can lead to estimation biased. These assumptions includes (1) the expected value of the error term is equal to zero, (2) the dependent variable (Y) can be measured as a linear function of a set of independent variables (a vector X) and an unobservable random error term ($\varepsilon$), (3) the values of independent variable are fixed in repeated samples, (4) the numbers of observations should be greater than the number of independent variables and there are no exact linear relationships between independent variables, (5) the error term must have the same variance along the sample and is supposed to be uncorrelated within the sample. Violation of these assumptions can lead to inconsistencies and misleading coefficients. If an estimated coefficient is inconsistent, it becomes purely and simply uninterpretable. The coefficient may appear to adequately reflect the hypothesized relationship, but in the presence of endogeneity it will be inconsistent and will not reflect the true population parameter.

However, Borensztein et al. [1998] model was one of the first to introduce FDI as a main determinant of economic growth, but the model fails to account for endogeneity of the investment. One of the major problems with assessing FDI effects on growth is endogeneity. In other words, there are endogeneity issues associated in examining the links between FDI and economic growth. Positive impact of FDI on economic growth may lead to an enlarged market size, which can further attract FDI flow to the domestic market, thus countries with brighter growth prospects are more likely to attract FDI flow which can generate positive bias, leading to overestimation of the positive effects of FDI on growth. This shows that if FDI and growth relationship is truly bi-directional, then

regression analyses that fails to take into account the issue of endogeneity will be biased, meaning, FDI might be correlated with the error term, which can give rise to erroneous estimated coefficient and standard error [Gujarati, 2009]. Therefore, given the interdependency between these two variables, there is the need for endogeneity test scrutiny to unravel the presence or absence of endogeneity. Unfortunately, many existing studies neglects this necessity, thus their results fall short of standard estimations. Knowledge of endogeneity of FDI and economic growth in empirical studies helps to select the appropriate econometric methods for economics analysis. However, when assessing economic growth effect of FDI, numerous approaches exist in solving problems associated with endogeneity. This includes the use of simultaneous equation system of estimation [Bende-Nabende & Ford, 1998], two-stage least-square (2SLS) system [Dizon & Cruz, 2020], GMM techniques [Abdullah & Chowdhury, 2020; Osabuohien-Irabor & Drapkin, 2022, 2023, etc.], instrumental variable (IV) method [Borensztein et al., 1998] etc. The use of exogenous determinants of FDI in the form of instruments which is not related to growth is required.

*Cross-country heterogeneity*

Dynamic panel analysis is a common approach employed in international economics and business studies, and other areas of social sciences. It provides economic researchers with different observations on each individual unit considered in a given sample. However, heterogeneity refers to the differences across the units being studied. It can also be explained as the variation across individual units of observation. Nevertheless, one major problem that arise in panel data analysis, is the possibility that other crucial variables in a model are omitted. If these important variables or observations are unavailable, then, we have what is known as unobserved heterogeneity. However, numerous existing studies on FDI-growth relationship uses cross country regression with the assumption that panel data model are homogeneous. Unfortunately, this assumption is wrong, hence, the heterogeneity nature of FDI-growth relationship become difficult to capture, leading to

misleading results. This supports Morrissey et al. [2007] view that since countries are heterogeneous with many factors that promote and constrain FDI across countries, it is not surprising that it is difficult to explain cross-country variations in growth. Therefore, to obtain an unbiased parameter estimates in econometric analysis, it is necessary to confirm the presence or absence of heterogeneity in the analytical model.

*Cross sectional dependence*

The issue of cross-sectional dependence means the transmission of shocks from one variable to others. In other words, all countries in the sample are affected by globalization and have common economic characteristics. Numerous studies that have employed panel data framework indicated that the panel data sets are likely to exhibit substantial cross-sectional dependence, which may arise due to the presence of common shocks and unobserved components that become part of the error term ultimately. The impact of cross-sectional dependence in estimation naturally depends on a variety of factors, such as the magnitude of the correlations across cross-sections, common factors and the nature of cross-sectional dependence itself. Assuming that cross-sectional dependence is caused by the presence of common factors, which are unobserved (and as a result, the effect of these components is felt through the disturbance term) but they are uncorrelated with the included regressors. The impact of cross-sectional dependence in dynamic panel estimators is comparatively more severe. In particular, Phillips and Sul [2003] show that if there is sufficient cross-sectional dependence in the data and this is ignored in estimation (as it is commonly done by practitioners), the decrease in estimation efficiency can become so large. Thus, there is clearly the need for testing for cross-sectional dependence in cases where N is large, and T is small as in the case of the study's panel datasets.

Panel data can be subject to cross-sectional dependence, whereby all units in the same cross-section are correlated with each other. This is usually linked to the effect of some unobserved common factors, common to all units and affecting each of them, although possibly in different ways. This indicates a situation where a shock coming from

a horizontal section affects other horizontal sections as well. It refers to the dependence between units, provinces, regions, and countries. Cross-sectional dependent can lead to bias in tests results (also called contemporaneous correlation). FDI remains one of the most important impacts and causes of globalization. For this reason, it is highly expected that FDI flow from one developed/developing economy will influence the FDI of other developed/developing economies when there are large number of cross-country (N) and relatively smaller number of years (T) due to the effect of globalization and technology advancement. In addition, FDI outflows or institutional quality of one developed country may also influence FDI outflows or institutional quality of other developed countries due to the rising wave of globalization, regional policies, and technology advancement. Thus, the possibility of cross-sectional dependence in experimenting panel cannot be ruled out in the era of globalization and technology advancement, particularly when developed countries collaborate for economic prosperity, regional cooperation, and development. Common correlation bias is bound to arise due to spillover effects, omission of common factors, and intragroup interactions within similar socioeconomic networks [Pesaran and Tosetti, 2011]. Accordingly, the possibility of cross-sectional dependency (CD) due to globalization of FDI is highly expected in panel analysis.

*Heteroskedasticity*

The concept of heteroscedasticity is used to describe the case where the errors variance of the model is not the same for all observations, which is against the basic assumption in modeling where the variances are homogeneous, and the errors of the model are identically distributed. Thus, heteroscedasticity is the opposite of homoscedasticity where the variance of the error produce varies across units. When a model suffers from heteroscedasticity, the estimated standard errors will be biased. Thus, there is the need to calculate robust standard errors to correct the presence of heteroskedasticity. To check if data is homoscedastic, meaning constant variance across all units, the Breusch-Pagan test or White test for heteroskedasticity is performed. These tests reject the null Hypothesis

that the data is heteroskedastic. However, if the variance of the coefficients is not constant over time, the coefficients will not be efficient, and neither will the standard errors. Therefore, to mitigate heteroskedasticity in empirical model the use of robust standard errors is advisable [Baltagi, 2005].

*Reverse causality and Simultaneity Bias*

Reverse causation also known as reverse causality, is a phenomenon that explains the relationship between two variables differently than what is been expected. For instance, instead of P causing Q, as is the case for traditional situation (causation), Q causes P. In essence, the simultaneous (or bidirectional) causal effects between two economic factors is often created by reverse-causality. Reverse causality is extremely important in studies where economic growth and policy related factors such as decisions to innovate and diversify products or services [Sims, 1980]. Other studies have also described the reverse causality as the "cart-before-the-horse bias" to emphasize the unexpected nature of the correlation. Another econometric issue similar to reverse causality is the simultaneity bias. Although they have the same definition, but the two terms are not the same. In reverse causality problem, only P causes a behavioral change in Q, however, this is different in the case of simultaneity which occur when the variables on both side of the model impact each other at the same time. For instance, P causes a change in Q, and Q causes a change in P at the same time (simultaneously). This is different in reverse causality that only move from left to right (P to Q). Simultaneity bias occur when variables are jointly determined.

Ignoring the reverse causal effects in an empirical analysis that involved such factors often leads to biased and inconsistent results. Numerous studies have examined empirically, the possibility of the existence of a (reverse) causal effect of FDI on economic growth. However, various indicators of economic growth have been found to have reverse effects on investment [Crihfield & Panggabean, 1995; Fernald, 1999; etc.]. In this context, it is possible that increased FDI may have a bidirectional cause–effect relationship with economic growth. For these reasons, pre-estimation analysis of empirical model is

necessary in order to avoid bias and inconsistencies of results. However, the simultaneity bias problem is almost similar to the reverse causality problem in the relationship between FDI and real GDP. For instance, FDI flows are likely to increase as economic growth expands. Conversely, increase in FDI outflow increases economic growth via direct and indirect spillover effect. Without accounting for such simultaneity bias the impact of FDI on growth will be over-estimated and the results misleading.

*Multicollinearity*

Multicollinearity is a statistical phenomenon in which two or more predictor variables in a multiple regression model are highly correlated, meaning that one can be linearly predicted from the others with a non-trivial degree of accuracy. This shows that collinearity (or multicollinearity) is the undesirable situation where the correlations among the independent variables are strong. In this situation the coefficient estimates of the multiple regression may change erratically in response to small changes in the model or data. However, multicollinearity does not reduce the predictive power or reliability of the model as a whole, but only affects calculations regarding individual predictors. Numerous causes can bring about multicollinearity problems during empirical estimation. This includes improper use of dummy variables (e.g. failure to exclude one category), the inclusion of a variable that is computed from other variables in the equation, the inclusion of the same or almost the same variable twice in the same equation, as well as wrong selection of a dependent variable. Unfortunately, the consequences of multicollinearity are numerous. Its increases the standard error of the estimated coefficients. This increasement may cause the coefficients of some independent variables not to be significantly different from 0, whereas without multicollinearity and with lower standard errors, these same coefficients might have been found to be significant. Thus, multicollinearity makes some variables statistically insignificant while they should be otherwise significant.

**2.2. Hypotheses and empirical framework examining outward FDI, economic Growth, and home country institutional nexus in the World economy.**

The traditional eclectic OLI paradigm developed by John Dunning [1979, 1988b, 1993] is likely the most comprehensive theoretical stance for justifying MNCs decisions to engage in FDI. According to Dunning, three conditions have to be simultaneously fulfilled for outward FDI to occur. These three conditions are: Ownership-specific Advantages (O), Location-specific Factors (L) and Internalization Advantages (I) [Dunning, 1979, Dunning, 1981b, Dunning, 1988a, Moosa, 2002, Hosseini, 2005]. The OLI paradigm provides the most comprehensive explanation for overseas investment expansion from source countries. The ownership advantage may provide a corporation with control over resources, technology, or financial capital which allow firms to compete with other firms regardless of whether they are foreign.

However, Location advantage is related to the host country rather than the firm itself and defined by several key factors, such as access to large domestic markets, abundant natural resources, a skilled and educated labor force, low labor costs, robust institutions, political stability, and favorable tax rates. Lastly, Internalization advantages determine firm's decision between export or investment options, based on how beneficial it is to the firm to utilize its own Ownership advantages, while benefiting from Location advantages in order to take FDI decisions in a specific country, rather than exporting its goods or services to that country. Thus, outward FDI is as a result of ownership, location and internalization advantages.

Unfortunately, Dunning' eclectic paradigm framework may not adequately capture overseas investment expansion within income economies groups at different levels of economic development. For instance, examining firm expansion from one economy (source) to another (host) with similar characteristics or factors such as HICs or UMICs may not be feasible. Thus, companies in these income economies categorization as host may already have tangible and/or intangible assets ownership advantages such as advanced technology, quality brands, advanced marketing experience, advanced production system, and managerial know-how, which source country possesses.

Likewise, MNCs investment from/to other income groups such as LMICs or LICs

also face similar situation of homogenous characteristics from same income groups. Hence, ownership advantage of the OLI falls short in providing a vivid explanation to such investments within similar economies. However, some other markets/countries within income groups might be motivated to acquire strategic assets in other similar economies which they lack. To this end, ownership advantage of the OLI fails to provide a vivid explanation to investments within income economies group with homogenous characteristics.

In addition, considering same high/low cost of labour, manufacturing cost, and transaction costs for firms within all income economies groups, the locational and internalization advantages may not also provide adequate and comprehensive explanation for the outward FDI within groups of income economies.These traditional theories regard FDI as an activity to exploit competitive assets [Knoerich, 2017; Dunning, 2001], which underscore the idea that MNCs are economically strong and dominant when conducting investment in the host country. However, the emergence of investment expansion of MNCs from middle and low-income economies have showed that the traditional theories have flaws which makes it fully unable to explain the occurrence of cross border investment. This view was further confirmed by Hongbin [2006], that the Eclectic Paradigm is an important theory for explaining outward FDI from developed countries, perhaps reason why outward FDI from developed countries constitutes the greatest proportion of global outward FDI.

However, recent advancement in FDI theory posits that, in addition to asset exploitation, firms also conduct overseas investment in order to seek or enhance existence assets [UNCTAD, 2006; Wesson, 1999]. For instance, the emergence of MNCs from advanced less advanced economies may supports long-term economic growth and development, given that firms from different economies are motivated mainly by the natural resources, foreign markets and technology seeking while making cross border investment decisions. Arrow [1962], Romer [1986, 1990] & Lucas [1988] and Grossman & Helpman [1991] studies pioneered major work on FDI and economic growth now

referred to as the New Growth theory which considered outward FDI as a major drive of economic development and play a dominant role in the globalization of world economies via investment, capital as well as the transfer of knowledge & technology at the long run.

This indicates that outward FDI stimulates economic growth in the source country in two ways. Firstly, outward FDI generates technological diffusion from the developed world to the home country which in turn enhances the efficiency of domestic investment [Li et al., 2016]. Secondly, firms investing abroad secure access to cheaper raw materials, to produce final goods at lower production costs and high volume, which increase their competitiveness in both domestic and foreign markets [Herzer, 2008; Desai, et al.,2005]. As a result, the whole domestic economy benefits through forward and backward production linkages with MNCs. This new development gave given rise to many economic theories.

Empirically, large body of literature has been devoted to examining the linkages between inward FDI and economic growth in the host countries [Li et al., 2016; Fu, 2008]. But the research on the relationship between outward FDI and economic growth is relatively scarce and focused mainly on advanced countries such as EU countries, Japan, and United States, etc. [Hsu et al., 2015]. These studies suggest that the impact of outward FDI is small but positive for the source country [Knoerich, 2017; Herzer, 2008]. For instance, using cross country and time series data for United States, Herzer [2008, 2010] showed empirical evidence that indicates that outward FDI stimulates economic growth and output in the home economies. Sunesen, et.al [2010] conclude that outward FDI improves competitiveness and productivity of domestic firms in 12 EU countries. Moreover, Hijzen, et al. [2011] report positive effects of outward FDI on employment and export growth in France. Tan, et al. [2016] utilized panel data of 8 ASEAN countries and their results showed complementary effects of both the inward FDI and outward FDI on domestic investment.

Nevertheless, some studies which show that outward FDI has negative impact on the source country's economic activities through decreasing domestic investment [Al-

Sadiq, 2013; Goh & Wong, 2014; Ali & Wang, 2018]. For instance, Al-Sadiq [2013] and Goh & Wong [2014] noted that outward FDI involves reallocation of funds from domestic to overseas investment and thus entails substitution between domestic investment and outward FDI. Nonetheless, empirical analysis by Hsu et al. [2015]; Herzer [2008]; Weng Yang, & Tu [2010] suggests that it is not necessary that a substitution between outward FDI and domestic investment also decelerates economic growth, rather outward FDI can stimulate economic growth through improving total factor productivity (TFP) and reducing cost of production by combining production with foreign affiliates.

Unfortunately, most studies only focus on examining outward FDI spillovers related to developed economy without considering the spillover effect from other economies given that government and national companies from these countries are interested and started engaging in overseas investment expansion in order to improve the economy. Curiously, the grow effects of outward FDI in advanced country may be different from that of developing economies, ditto small economies. Thus, the spillover effects of overseas investment expansion for home country may vary due to the heterogenous nature of outward FDI with different levels of economic development.

To this end, understanding how economic growth effect of outward FDI relates with different levels of economic development will provide policy makers and potential investors quality insight that will help in formulating more efficient strategies and policies that motivate more domestic firm to "go abroad" as well as integrate national economy to the global economy which in-turn increases economic growth. This justifies our study examining the growth effect of outward FDI spillover at different levels of economic development using world bank income groups. The growth effect of outward FDI spillover is compared based on Arrow, Romer, & Lucas' NGT, at different levels of economic development and whether overseas investment spillover increases or decreases economic growth across the different income groups, hence we formulate Hypothesis (H1a).

*Hypothesis (H1a): The impact of outward FDI spillover positively impact home country economic growth across all income groups such as LICs, LMICs, UMICs, and HICs*

However, other empirical analysis related to the study of outward FDI spillover and economic growth relationship have also been documented. For instance, Ciesielska & Kołtuniak [2017] examines the cross-correlations and time stability of the causality direction between outward FDI spillover and the home country's economic growth of the Polish national economy. The results of the wavelet analyses and Granger causality tests revealed that in the long-term impact of outward FDI growth permanently precedes the home country's economic growth. Kumar & Singhal [2022] examines the relationship between outward foreign FDI and economic growth of India and their finding suggests the existence of positive short- and long-run bi-variate relationship between outward FDI and economic growth of India. Ali et al. [2018] study examines the Chinese asymmetric effects of outward FDI motive on economic growth both in the long run and short run. Their results showed that economic growth in China responds positively to the increase and decrease in outward FDI.

Similarly, Osabuohien-Irabor & Drapkin [2022d] examined whether institutional quality promotes outward FDI spillover toward economic growth for 141 home countries. The results show that the joint impact of outward FDI and institutional quality is positive and boosts home country's economic growth. Liu et al. [2022] examines the impact for China's outward FDI activities both in the long and short-run term on 138 countries in China's Belt and Road Initiative (BRI). The results show that the China's outward FDI motive is statistically sensitive to the variables of economy. Ameer & Xu [2017] investigates the spillover effects of outward FDI and inward FDI in improving economic growth in developing economies. Findings reveal positive and significant impact of FDI outflows and inflows on economic growth in the long run among developing economies. Tahir et al. [2020] inspected the importance of Pakistan outward FDI on the economic growth from 1976 to 2018. The results reveal the positive impact of transmittals, assistance, debt and foreign inflows on economic growth. However, profit repatriation re-assigns financial savings overseas resulting in fewer resources available to finance

domestic investment and promote economic growth [Hendriks, 2020].

Amin et al. [2020] investigates the long-run and short-run asymmetric impacts of outward FDI on the economic growth in Romania covering the period 1990–2019. The results indicate that outward FDI have a positive and significant impact on Romania's economic growth, with a greater effect arising from the increase in outward FDI. Wong [2010], explore the causality relationship between outward FDI spillover for home country and the economic growth using Malaysia as a case. Their main findings indicate that to promote the motivation of outward FDI-led growth, home government should support local firms to compete adequately in order to forged alliance with Malaysian multinationals, and to facilitate home sourcing for outward FDI activities.

Notwithstanding the huge empirical studies that have examined outward FDI and economic growth relationship, evident suggests that no existing studies have investigated how the growth effect of outward FDI relates with different levels of economic development using income group as illustrated in Hypothesis (H1a). Table 5 shows summary of related studies examining outward FDI and economic growth relationship.

*Table 5 – Summary of empirical results assessing the relationship between outward FDI spillovers and economic growth.*

| Author | Data | Methods | Main results |
|---|---|---|---|
| *Kumar & Singhal [2022]* | *India, 1990– 2019* | *Non-linear ARDL* | *Findings show positive short- and long-run bi-variate relationship between outward FDI and economic growth* |
| *Osabuohien-Irabor & Drapkin [2022d]* | *141 countries, 2003-2019* | *Pooled OLS, fixed effect, differenced and system (GMM)* | *Outward FDI spillovers and institutional quality is positive and boosts home country's economic growth* |
| *Liu et al. [2022]* | *138 countries, (BRI) 2007 - 2019* | *Panel granger causality, variance decomposition, and forecast analysis* | *China's outward FDI motive is sensitive to the economy, energy, logistics, and politics in BRI countries.* |

| | | | |
|---|---|---|---|
| Amin et al. [2020] | Romania, 1990–2019. | NARDL | Increase and decrease in outward FDI have positive and significant impact on Romania's economic growth. |
| Kazemi et al. [2018] | 11 countries, 1981-2010 | Mean Group (MG) and Pooled Mean Group (PMG) | Locational decision for outward FDI is critically important, as not all destinations bring positive benefits for source countries. |
| Ali et al. [2018] | China, 1982−2015 | Non-linear ARDL | Economic growth in China responds positively to increase and decrease in outward FDI. |
| Ameer & Xu [2017] | Developing economies, 2005-2014 | OLS and GMM. | Positive and significant impact of FDI outflows and inflows on economic growth |
| Ciesielska & Kołtuniak [2017] | Poland, Q1 2004 to Q4 2015 | Wavelet analyses and Granger causality tests | Outward FDI growth permanently precedes the home country's economic growth in the long term. |
| Tan et al. [2016] | ASEAN–8 countries | Pool Mean Group | Outward FDI spillover have positive long-run impact on gross domestic investment. |
| Herzer [2011] | 43 countries, 1981 - 2008 | Panel cointegration techniques | Confirms positive long run relationship between outward FDI motive and domestic output. |
| Herzer [2010] | United States and other 50 countries, 1980-2000 | Regression analysis | Outward FDI plays positive role in stimulating economic growth of the home country. |
| Wong [2010] | Malaysia, 1999 - 2008. | Regression model. | Outward FDI does not Granger-cause growth and vice versa. |
| Lee [2010] | Japan, 1977 - 2006 | multivariate Granger causality tests. | Growth Granger-cause outward FDI in short-run, but bi-directional causality in the long-run. |
| Driffield & Chiang [2009] | Taiwan and China, 1995–2005 | Panel regression | Positive impact of outward FDI on labor productivity |
| Hong et al., [2019] | Japanese MNEs in 59 countries, 1996 - 2010, | 3SLS regressions | Outbound FDI motivated by market seeking, natural resource seeking, strategic asset seeking tends to serve as a "strategic complement" that enhances domestic growth by MNEs |

| Tahir et al. [2020] | Pakistan 1976 – 2018 | ARDL model | Outward FDI impact positively on economic growth |

*Author's compilation*


The Shift in academic writing towards the role of institutions began in the early 1990s and 2000s. According to Dunning & Lundan [2008], institutional perspective has both macroeconomic and microeconomic foundations, which set the "rules of the game" both within society and the organization [North, 1990]. Institutions may not only impose constraints on the actions of the firms; they might even affect managers' perceptions, and possibly influence managerial behavior towards strategies an MNCs might pursue [Dunning & Lundan, 2008].

Institutional theory is widely used in research on outward FDI from middle and low-income countries [Dacin et al., 2002]. Firms' strategies are shaped by their home institutional environment, such as government [Scott, 2001]. As MNCs from middle and low-income economies are typically subject to institutional constraints such as state interference [Deng 2013], institutional theory helps in explaining the role of government in the internationalization of firms of middle and low-income [Li & Ding 2013]. The process of internationalization of firms from countries such as China suggests that international business theory needs to take into account domestic institutional factors [Child & Rodrigues 2005]. The role of the Chinese Government in promoting outward FDI essentially reflects institutional entrepreneurship [Deng, 2013]. Resource dependence theory may also help understanding the role of the government [Hillman et al., 2009).

Cuervo-Cazurra et al. [2018] state that home country conditions which re-emerged in the early 2000s as an important topic in MNCs gained more significance on the world stage, including their weak market-supporting institutions. The impact of institution in different economies varies depending on the background characteristics, thus, Cuervo-Cazurra & Ramamurti, [2017] stated that developing economies have less stable political

systems, poorer enforcement of regulations, lower levels of institutional development and higher prevalence of corruption.

A defining feature of Middle and low-income countries is their lower level of economic development, evidenced by less sophisticated innovation systems, weak infrastructure and capital markets [Cuervo-Cazurra & Ramamurti, 2017]. MNCs tend to be based in countries characterised by low to middle incomes and weak institutional environments [Madhok & Keyhani, 2012] and institutional voids, where market-facilitating institutions are either absent or function ineffectively [Enderwick, 2016].

Compared to high income countries, middle and low-income countries are characterized by institutional voids that are symbolized by unsophisticated customers, underdeveloped markets for capital and labor, and weak infrastructure. They are plagued by the absence or underdevelopment of institutions that enable effective markets, which includes government mechanisms that protect property rights, prevent corruption and ensure the rule of law and ensure supportive infrastructure [Marano, Tashman & Kostova, 2017]. This leads to important negative consequences for firms in Middle and low-income countries. Their environments do not enable them to create and develop sufficiently high-quality competencies to compete effectively with their foreign counterparts [Kale & Singh, 2017]. These include high-quality technical and highly skilled labor competencies.

Based on the institutional theory framework that supports the argument that 'institutions matter' by either encouraging or discouraging FDI, we examine the conditions under which the growth effect of outward FDI spillovers is likely to occur given the roles of institutions at different levels of economic development. For instance, whilst outward FDI spillover may support technologies and innovations that improve home countries economic growth, institutional development may help facilitate the absorption of these new technologies to creates positive externalities and expand the economy. Thus, we investigate the background characteristics of home country such as home country institutions which may play a significant role in facilitating or inhibiting the growth effect of outward FDI. This justifies Hypothesis (H1b) formulation which examines whether

institutional development of source country plays any significant role toward firm internationalization activities that induced economic growth across different income economies category.

*Hypothesis (H1b): Home country institutional development positively impact outward FDI spillover toward economic growth across all income groups such as LICs, LMICs, UMICs, and HICs*

However, several other studies have shed light on the role of home country institutions in facilitating outward FDI using different empirical approach. For instance, Buitrago & Camargo [2020], applied 30 indicators in 48 emerging economies for the period 2007–2017 to explore the linkages between outward FDI and home country institution. The finding shows that government measures of transparency positively and significantly affect outward FDI stocks. In addition, the findings also show that institutional environment creates two streams of outward FDI - leverage and escapism. Klimek [2015] explore the impact of quality of institutions on the outward FDI in 125 countries covering the period 2005-2011. Finding shows that quality does play a crucial role, particularly in political stability and governance quality. Thus, better institutional quality may reduce undesirable outward FDI flow. Chiappini [2014] study shows that confidence societal rules, control of corruption, government effectiveness, political stability and private sector policies are crucial factors driving FDI. Kaushal [2022)] explores Indian outward FDI determinants in 26 developed and 81 developing countries between 2008-2018 using PPML methodology. Finding indicates that the institutional environment shows positive association between Indian outward FDI and governance quality of the host country.

Other studies such as Tang & Buckley [2022] investigate the relationship between institutional distance and outward FDI in 3,297 emerging multinational companies between 2004 and 2019. Their findings show that EMNE's likelihood of investing in the positive direction decreases with the increase in home–host institutional distance but increases investment with increasing institutional distance. Sun et al. [2015] investigates

the effects of institutional open access, firm-level attributes, and industry-level attributes on firm's internationalization between 2001 and 2005 using two-stage estimation strategy. The study finds that greater institution open access in a particular region of a home country – in the areas of legal environment openness and financial market openness - leads to greater outward internationalization of local firms headquartered in that region. Globerman & Shapiro [2002] applied ad hoc econometric model to examine inward and outward FDI on a large sample of countries for the second half of the 1990s. Their results show that both the outward and inward FDI flows are affected by the same factors. For instance, institutional governance has a significant positive impact on both types of FDI.

More so, Ouechtati [2020] empirically examine the relationship between institutional shocks and FDI motive. Their findings show that institutional shocks have negative impact on FDI motive. However, the effect is higher for FDI inflow motivation compared to FDI outflow. In addition, the instability of legal structure and property rights as well as access to sound money negate the impact of institutional shocks on net FDI. Using the gravity approach and the Poisson pseudo maximum likelihood technique, Drapkin et al. [2022] found positive impact of institutional development on FDI outflows for institutionally developed countries, and no evidence for crowding out investment in the countries with weak institutions.

In addition to better institutions in the host countries having overall positive and significant effect on source countries outward FDI stocks, the strength and impartiality of the legal system, popular observance of law, strength and quality of bureaucracy and government stability in host countries' shows to have direct effect on source countries outward FDI stocks [Mishra & Daly, 2007]. However, Muhammad & Khan [2022] investigates the interactive impact of institutional quality and natural resources of OECD countries on outward FDI of G7 countries. Their finding indicates that institutional quality of OECD countries affects outward FDI of G7 countries. However, the outward FDI of G7 countries in OECD countries were found to be receptive to institutional quality and natural resources. However, institutional improvement encourages outward FDI in the

short-run but impedes more outward FDI in the long-run for Asian developing countries [Behera et al., 2020]. Hassan [2015] examines the impact of host country economic institutions on firms' location decisions in the European Union (EU) and found that corruption-free country with lower tax burden and friendly business regulations positively influence outward FDI location choice strategies of CEEC multinationals. The effects of economic institutions show to be more profound on location activities in advanced economies of the EU than in other CEEC.

In the same vein, Estrin et al. [2016] used sample of 153 state owned and privately owned listed firms from 40 different countries to examine how home country institutions exert normative, regulatory, and governance-related controls affect internationalization levels of listed SOEs and POEs. Their findings confirm that, when home country institutions enable effective control, the internationalization strategies of listed SOEs and POEs converge. Recently, empirical findings showed that when entering countries with better institutional profile than China, the host country institutions negatively affect the exit of Chinese foreign subsidiaries and home country institutions have positive moderating effect. But entering countries with worse institutional profile than China, the host country institutions positively affect the exit of Chinese foreign subsidiaries and home country institutions have no moderating effect. [Qi & sop, 2020].

Despite the high volume of empirical literature regarding institution and outward FDI toward improve, none of these studies have examined the impact analysis of outward FDI and economic growth facilitated by home countries institutions at different levels of economic development based on income economic classification as illustrated in Hypothesis (H1b). Table 6 shows summary of previous analysis between outward FDI motive and institutional development.

*Table 6 – Summary of empirical results assessing the effect of OFDI and institutions.*

| Author | Data | Methods | Main results |
|---|---|---|---|
| Ouechtati [2020] | 90 developing | panel vector | Institutional shocks have a |

| | countries between 2000-2016 | autoregression model (PVAR) | negative impact on outward FDI motive |
|---|---|---|---|
| *Drapkin et al. [2022]* | *102 home and 67 host countries, 2001 - 2016* | *gravity approach* | *Found positive influence of institutional development on outward FDI flows for developed countries* |
| *Aleksynska, & Havrylchyk,[2011]* | *60 developing and 22 developed economies between 1996 and 2007* | *Gravity method* | *When countries from the South invest in countries with better institutions, institutional distance can be viewed as a driving force. This is likely due to the "asset-seeking" nature of FDI, as emerging investors acquire new technologies, brands, and intellectual property, which are more likely to be found in good institutional environment.* |
| *Mishra & Daly [2007].* | *OECD and Asian countries, 1991-2001* | *IV regression* | *Better institutions in host countries have an overall positive and significant effect on home countries outward FDI stocks.* |
| *Tang & Buckley [2022]* | *Four major emerging markets (Brazil, Russia, India, and China) countries between 2004 and 2019* | *Two-stage analysis* | *Extends the theoretical arguments of internalization theory by explaining why EMNEs choose an FDI location with seemingly higher costs than another location.* |
| *Muhammad & Khan [2022]* | *36 OECD and G7 countries from 2009 to 2017* | *System GMM* | *Institutional quality of countries in OECD group affects outward FDI of G7 countries.* |
| *Behera et al. [2020]* | *Asian developing countries, 2002-2016* | *Pooled Mean Group (PMG), cointegration test, and Granger causality test* | *The findings show that improvement in institutions encourages OFDI in the short-run but impedes more OFDI in the long-run.* |

| | | | |
|---|---|---|---|
| | | | of Dumitrescu and Hurlin (2012) | |
| *Hassan [2015]* | *CEE Countries, 1995 - 2010* | *Panel regression* | *Corruption-free country with a lower tax burden positively influence outward FDI location choice strategies of CEEC multinationals.* |
| *Estrin et al. [2016]* | *40 different countries, 1991- 2001* | *propensity-score matching, probit regression* | *Study shows that when home country institutions drive effective control, then the internationalization strategies of firms converge.* |
| *Qi & sop [2020]* | *121 countries, 2007 - 2017* | *Logit Regression* | *The results indicate that it negatively affects Chinese foreign subsidiaries' exit when entering countries with better institutional profile than China* |
| *Buitrago & Camargo [2020]* | *48 emerging economies in the period 2007–2017* | *Factor analysis* | *Findings imply that the institutional environment creates two streams of OFDI: leverage and escapism.* |
| *Chiappini [2014]* | *30 host countries covering the period 2005-2011* | *Heckman's two-step sample selection correction* | *Japanese overseas investments expansion motives are driven by host market size, yen real exchange rate, macroeconomic stability, resource endowment, and policy variables.* |
| *Klimek [2015]* | *125 economies across seven regions, 1996 - 2011* | *OLS panel regression* | *Better institutional conditions may reduce undesirable outflows of capital, and the quality of those institutions may impact FDI effectiveness in host countries.* |
| *Kaushal [2022]* | *26 developed and 81 developing countries from 2008–2018* | *Poisson-Pseudo Maximum Likelihood (PPML)* | *Institutional environment demonstrates positive association between Indian's OFDI motives and the robust governance quality of the host country* |
| *Globerman & Shapiro [2002]* | *114 countries, while only 98* | *OLS regression* | *Finding clearly indicate that governance infrastructure is* |

| | countries recorded FDI outflows from 1995-1997 | | an important determinant of both FDI inflows and outflows. However, for most countries, both inflows and outflows respond positively to good governance. |
|---|---|---|---|
| *Sun et al. [2015]* | *31 regions (provinces) of China between 2001 and 2005 provides* | *multilevel analysis* | *Greater institutional open access in a particular region of home country leads to greater outward internationalization of local firms headquartered in that region.* |

*Author's compilation*


*Econometric approach & Model specifications*

Following the construction of economic models by Romer [1987, 1990]; Levine & Renelt [1992]; etc., which suggests that GDP is a function of other independent variables, this study examines the impact of outward FDI (Y) on economic growth (S) given the quality of home country institutions and other crucial economic variables across different income growth. Thus, we begin with the simple growth model shown in equation (1), then examine the existence of cross-sectional dependence, heterogeneity, and endogeneity in the model.

$$S_{it} = \beta_0 + \beta_1(X_{i,t}) + \beta_2(Y_{i,t}) + \beta_3(Z_{i,t}) + \beta_3(ISQ_{i,t} \times Y_{i,t}) + \varepsilon_t \qquad (1)$$

Where
S = growth, X = gross capita formation, Y = outward FDI, Z = Trade openness, and
ISQ = components of institutions such as VA, PS, GE, RQ, RL, and CC, with coefficients $\beta_1 - \beta_4$ to be estimated. The $\varepsilon_{it}$ represent the error term.


Over the last two decades several econometric methods has been employed in examining economic determinants, and the use of panel data in empirical analysis has become widespread, partly due to the availability of large international macroeconomic

databases such as the World bank Development Indicators, the Penn World Tables, IMF's International Financial Statistics, etc. However, the development of the first generation of panel time series estimators such as Mean Group OLS [Pesaran & Smith, 1995], Pooled Mean Group [Pesaran et al., 1999], Panel Fully Modified OLS [Pedroni, 2000], and Panel Dynamic OLS [Pedroni, 2001] allows heterogeneity in the slope coefficients between panel units. Nevertheless, empirical studies have shown that these various estimators are inconsistent in the presence of cross-sectional dependence as unobserved common shocks or factor among countries in panel may lead to correlation between the residuals and the regressors [36, 37]. The standard panel data approach assume that no dependency exists between cross-section units and that the slope coefficients are homogenous, thus, no spillover effect occurs among the cross countries. [Chudik & Pesaran, 2013]. However, estimators that do not take into consideration cross sectional dependence may be reporting false results. In the same vein, the estimated coefficients may differ across cross-section units, therefore, the existence of cross-sectional dependence and slope homogeneity needs to be investigated. In reality, cross-sectional dependency may arise due to common shock arising from; financial integration, economic integration of countries, trade, political, social shocks, and other unobserved factors [Hsiao, 2003, Pesaran & Tosetti, 2011]. Therefore, in panel data framework, it is necessary to consider cross-section dependency when selecting an appropriate model estimation technique.

Although numerous studies have showed that outward FDI plays an important role in integrating world economies, nevertheless, some evidence shows that FDI may also provide negative effects on economic growth. For instance, FDI diversify the capital structure of home country and provides other positive externalities such as knowledge diffusion and technology spillover [Markusen & Venables, 1999]. However, Schoors & Tol [2002] found negative effect in the impact of FDI on economic growth in the short run. Similarly, the short-run result of Dinh et al. [2019] shows that FDI hurts economic

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[36] Chudik, A., and Pesaran, M.H. Common correlated effects estimation of heterogeneous dynamic panel data models with weakly exogenous regressors, Journal of Econometrics. – 2015. – Vol. 188. – No. 2. – pp. 393-420

[37] Osabuohien-Irabor, O. and Drapkin, I.M. Global outward foreign direct investment and economic growth across income groups: the mediating effect of home country institutions // Sage Open. – 2023

growth. These studies show that FDI stimulates economic growth and help bring about positive spillover that improve home country economy in the long run, but with a negative impact in the short run. Whilst the positive effect of outward FDI (Y) on economic growth (S), shows, $\beta_2 = \dfrac{\delta S_{it}}{Y_{it}} > 0$, the negative effect of outward FDI on economic growth may lead to the depletion of the domestic economy, where $\beta_2 = \dfrac{\delta S_{it}}{Y_{it}} < 0$.

However, the role of institutions on FDI is of much importance, thus, the level of institutional quality that facilitates outward FDI flow for countries, is considered a crucial factor. Therefore, home country's institutional development maybe measured by the amount of FDI flow received, thus, the variations in economic performance across countries and regions may be associated with institutional variations. This show that the same level of FDI could induce different level of economic growth in different countries due to different levels of institutional quality. Consequently, countries with better institutions perform better, while countries with weaker institutions tend to perform poorly [Osabuohien-irabor & Drapkin, 2022d, Baiashvili & Gattini, 2020; Hayat, 2019]. Therefore, institutional quality alters FDI-growth relationship. Strong institutions such as efficient governance, rule of law and lack of corruption can speed up technology transfer to domestic firms and in-turn boost economic growth. Nevertheless, weak institutions such as lack of rule of law and property rights, presence of corruption, etc., may prevent domestic firms from gaining the benefits of positive externality due to FDI spillover. Empirically, studies have found institutional quality to be a strong determinant of FDI inflow [MacDonald, 2010; Busse & Hefeker 2007; Daude & Stein, 1997] and outward FDI [Osabuohien-irabor & Drapkin, 2022d; Drapkin et al., 2022; Mishra & Daly, 2007].

The study uses the six institutional variables (see Table 7) which may affect home country outward FDI directly or indirectly, and in-turn affect the absorptive capacity of the targeted countries. The data were selected from the world bank database - worldwide governance indicator from 1998-2019. The original World Bank data on institutional quality range between a maximum of 2.5 and minimum of -2.5 – moving from high to low

institutional quality. In this study, these variables were transformed to allow for both graphical clarity and empirical analysis. Figure 14 shows home country average institutional quality across income economies group over a period of time and within each income clusters. However, for brevity, the figure shows only four categories of indicators what decreases moving from high to low-income countries. Data graph on Figure 14, also shows the existence of institutional differences within each income economies group.
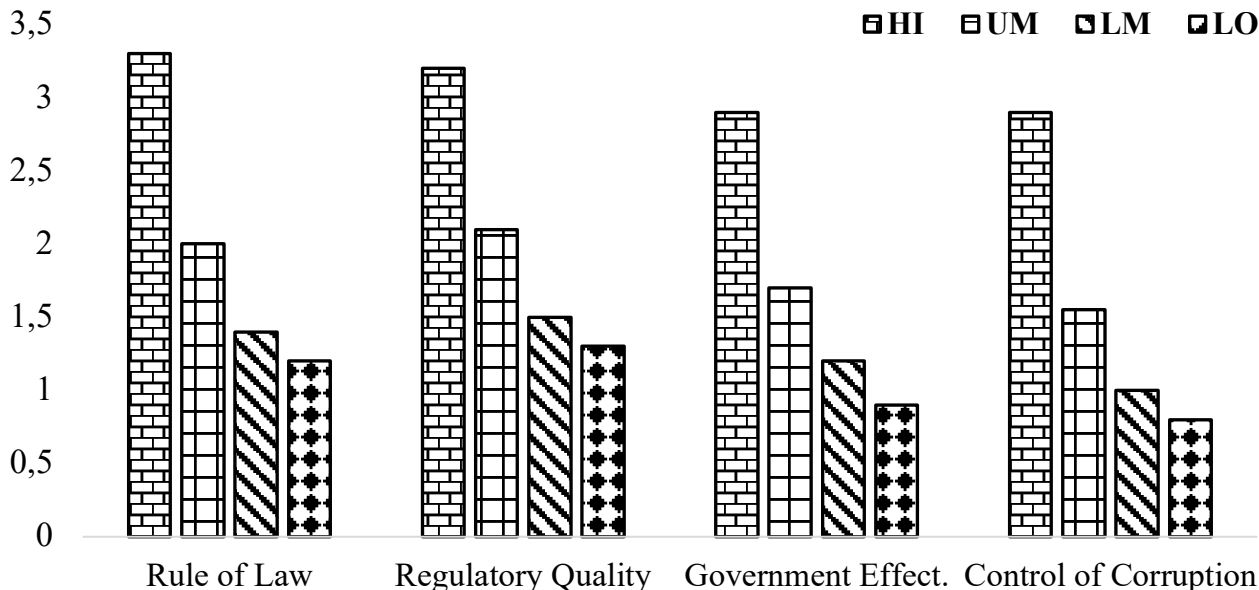


*Figure 14 – Institutional quality across country income groups*

Although the individual effect of institutions and FDI have shown to have positive or negative impact on economic growth, but the moderation (indirect) role of home country institutional quality on outward FDI-economic growth relationship need to be examined. But despite the increasing sophistication of estimation methods, most economics empirics never take into consideration cross-country heterogeneity and cross-section dependence in model. This has challenged the panel growth regression frameworks. To avoid bias and misleading results due to countries heterogeneity and cross-sectional dependence in panel, several panel data estimators robust to both cross-sectional dependence and slope heterogeneity have been proposed. To this end, the study adopts the cross-sectional autoregressive distributed lags (CS-ARDL) model proposed by

Chudik & Pesaran [2015], and for the first-time construct eight (8) different models to examine the interactions effects of institutional quality with outward FDI in order to determine the response of home country economic growth both in short-run and long run.

The study examines the joint impact of outward FDI and home country institutions in global panel data as well as the different world bank income classifications such as low income, low-middle income, upper-middle income, and high income. However, economic models of strategic interactions need produce a conditional Hypothesis indicating that the relationship between two or more variables depends on the value of some other variables [Brambor et al. 2006]. The cross-sectional autoregressive distributed lags (CS-ARDL) technique proposed by Chudik & Pesaran [2015] which captures the cross-sectional correlation associated with the traditional ARDL model is used to test Hypotheses (H1a) and (H1b), as shown in equation (2)

$$
\left.
\begin{aligned}
\Delta S_{i,t} &= \omega_i + \alpha_i(S_{i,t-1} - \beta_1 X_{i,t-1} - \beta_2 Y_{i,t-1} - \beta_3 Z_{i,t-1} + \alpha_i^{-1}\varsigma'_{ik}\overline{W}_{i,t}) + \sum_{j=0}^{p-1}\delta_{1j}^i\Delta S_{i,t-j} \\
&\quad + \sum_{j=0}^{q-1}\delta_{2j}^i\Delta X_{i,t-j} + \sum_{j=0}^{m-1}\delta_{3j}^i\Delta Y_{i,t-j} + \sum_{j=0}^{n-1}\delta_{4,j}^i\Delta Z_{i,t-j} + \sum_{1=0}^{PT}\dot{\psi}_{i,t}\Delta\overline{W}_{i,t-j} + \epsilon_{i,t}
\end{aligned}
\right\} \quad (2)
$$

This study builds up a conceptual framework through which different channels of home country institutional quality is expected to affect outward FDI-economic growth relationship by extending the CS-ARDL Model. However, Model I (equation 3) show the extended CS-ARDL general model used in estimating the short and long-runs effects[38] of outward FDI (Y), gross capital formation (X), trade openness (Z), on home country economic growth (S) with the effect of institutional quality ($ISQ_{i,t}$). The extended technique integrates the mediation term ($ISQ \times Y_{i,t}$) into the standard CS-ARDL model to evaluate the short-term and long-term effects. To this end, both the mediating factors (home country institutions) and the growth effects of outward FDI are simultaneously estimated. The advantage of this proposed technique is the simultaneous estimation of the

---

[38] The long run is a period of time in which all costs and factors of production are variable. In this case, firms are able to adjust all costs, whereas in the short run firms are only able to influence prices through adjustments made to production levels.

mediation terms and the growth effects of outward FDI, both in the short-term and long term. Thus, the institutional components interaction with outward FDI, such as $(VA_{i,t} \times Y_{i,t})$; $(PS_{i,t} \times Y)$; $(GE_{i,t} \times Y_{i,t})$; $(RQ_{i,t} \times Y_{i,t})$; $(RL_{i,t} \times Y_{i,t})$, and $(CC_{i,t} \times Y_{i,t})$ are sequentially introduced into the growth model and the estimates are evaluated for different VA, PS, GE, RQ, RL, and CC. These estimates are robust to cross-sectional dependence, heterogeneity, and endogeneity both in the short and long-run. Specifically, Model I (equation 3) examine the short-run and long-runs effects of outward FDI-induced growth mediated by home country institutions. Noticeably, the equation distinguishes the short- and long-term behaviors of the cross-sectional correlations, and simultaneously evaluates the integrated mediation terms $(ISQ_{i,t} \times Y_{i,t})$. Thus, the extended CS-ARDL model is given as,

Model-I

$$
\left.\begin{aligned}
\Delta S_{i,t} = {}& \omega_i + \alpha_i(S_{i,t-1} - \beta_1 X_{i,t-1} - \beta_2 Y_{i,t-1} - \beta_3 Z_{i,t-1} - \beta_4(ISQ_{i,t} \times Y_{i,t}) + \varsigma_{ik}\overline{W}_{i,t}) \\
& + \sum_{j=0}^{p-1} \delta_{1j}^i \Delta S_{i,t-j} + \sum_{j=0}^{q-1} \delta_{2j}^i \Delta X_{i,t-j} + \sum_{j=0}^{m-1} \delta_{3j}^i \Delta Y_{i,t-j} + \sum_{j=0}^{n-1} \delta_{4,j}^i \Delta Z_{i,t-j}) \\
& + \sum_{j=0}^{r-1} \delta_{5j}^i \Delta(ISQ_{i,t} \times Y_{i,t}) + \sum_{1=0}^{PT} \psi_{i,t} \Delta \overline{W}_{i,t-j} + \epsilon_{i,t}
\end{aligned}\right\} \quad (3)
$$

Where, $S_{i,t}$ indicates the economic growth as dependent variable for country $i$ at time $t$, gross capita formation (X); outward FDI (Y); trade openness (Z); Institutional quality (ISQ); the interaction term $(ISQ \times Y_{i,t})$; $\overline{W}_{i,t}$ is the cross-sectional average given as $(\bar{y}_t, \bar{x}_t)$ with $\varsigma'_{ik}$ as proxy for the unobserved factor in the long run, $\Delta \overline{W}_{i,t-j}$ is the lagged cross-sectional average given as $(\Delta \bar{y}_{t-j}, \Delta \bar{x}_{t-j})$ with $\dot{\psi}_{i,t}$ indicating the unobserved factor in the short run, $py$, $qx$ and $p$ are the optimal lag lengths that shows specific lag structure. $y_{i,t}$ and $x_{i,t}$ represents vectors of dependent and explanatory variables.

Whilst Model-I shown in equation (3) expresses the general extended model, Model-IA to IF (Appendix A, equation E1 to E6) clearly describes the effect of the different institutional components mediating in outward FDI induced growth. Model-IA

in equation (E1) captures the mediation effects of voice and accountability (VA) in the impact of outward FDI (Y) on home country economic growth. The goal is to evaluate VA induced outward FDI ($VA_{i,t} \times Y_{i,t}$) on economic growth. However, Model-IB in equation (E2) shows the combine effects of political stability (PS) and outward FDI (Y) ($PS_{i,t} \times Y_{i,t}$) toward enhancing home country economic growth. The effects are evaluated both in the short-run and long-run. Similarly, the indirect effects of outward FDI (Y) on economic growth via governance effectiveness (GE) as components of institutional quality is investigated in Model-IC, (see Appendix A, equation (E3). This implies that the joint variable of ($GE_{i,t} \times Y_{i,t}$) is integrated into the CS-ARDL model to examine the short and long run effects on economic growth. The indirect role of regulatory quality (RQ) on outward FDI induced growth is also examined. This is evaluated in Appendix A, Model-ID in equation (E4) which inserts the interaction term ($RQ_{i,t} \times Y_{i,t}$) into CS-ARDL model and the effects are captured. The mediating role of rule of law and control of corruption are also examined both at the short and long run using the mediation terms ($RL_{i,t} \times Y_{i,t}$) and ($CC_{i,t} \times Y_{i,t}$), see Models-IE and IF in equations (E5) and (E6)) respectively in Appendix A. The results will reveal whether control over corruption and governance in accordance with the law drives outward FDI-induced economic growth significantly.

The internal validity of the selected model needs to be consistent and unbiased, thus, controlling for economic factors such as gross fixed capital formation (X), and trade openness (Z) in the estimated model is crucial. To deal with the negative signs associated with institutional quality, the study uses log (3+institutional value) in the estimating model. The data is collected from 161 countries, split into world bank income economies classification such as HICs (51 countries), UMICs (47 countries), LMICs (41 countries) and LICs (22 countries) economies (see Appendix B). These countries and data were selected based on the availability of dataset for the period under study. Table 7 presents the variable data sources of the study.

*Table 7 – Definitions of variables and data sources*

| Code | Variables | Description | Exp sign | Source |
|------|-----------|-------------|----------|--------|
| S | GDP per capita | Measures a country's economic output per person (given as country's GDP/Population). | NA | W.B. (2020) |
| X | Gross capital formation | The acquisition of produced assets based on constant local as a % of GDP in natural log. | (+ / -) | W.B. (2020) |
| Y | Outward FDI flow | The natural logarithm of foreign direct investment net outflows as a % of GDP. | (+ / -) | W. B. (2020) |
| Z | Trade Openness | Trade openness for each country is calculated as (EXP+IMP)/GDP expressed in natural log | (+ / -) | W.B. (2020) |
| VA | Voice and accountability | Measures the extent to which citizens are able to participate in selecting their government. | (+) | W.B. (2020) |
| PS | Political stability | Measures the likelihood that country's government will be stabilized. | (+) | W.B. (2020) |
| GE | Government effectiveness | Measures the quality of public services, and its independence from political pressures. | (+) | W.B. (2020) |
| RQ | Regulatory quality | Measures the ability of government to provide sound policies & regulation promotes dev. | (+) | W.B. (2020) |
| RL | Rule of law | Measures the extent to which citizens have confidence and abide by the rules of society. | (+) | W.B. (2020) |
| CC | Control of corruption | Measures the extent to which public power is exercised for private gain. | (+) | W.B. (2020) |

The world bank introduced the per capita income thresholds which examines the relationship between measures of well-being and GNI per capita for different income groups. The four income groups (LICs, LMICs, UMICs, HICs) are classified using countries' gross domestic product (GDP) per capita. Based on the 2019 purchasing power parity (PPP)[39,40] of the dollars, a country can be referred to as LICs if its gross national income (GNI)[41] per capita is below $1,026; LMICs if GNI is between $1,026 and $3,995;

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[39] What is Purchasing Power Parity? Purchasing power parity (PPP) is a theory which states that exchange rates between currencies are in equilibrium when their purchasing power is the same in each of the two countries

[40] Coakley, J., Flood, R.P., Fuertes, A.M. and Taylor, M.P. Purchasing power parity and the theory of general relativity: the first tests // Journal of International Money and Finance. –2005. –Vol. 24. –No. 2. – pp 293-316. https://doi.org/10.1016/j.jimonfin.2004.12.008.

[41] Gross national income (GNI) is defined as gross domestic product, plus net receipts from abroad of compensation of employees, property income and net taxes less subsidies on production. Thus, $GNI = GDP + (EX_{FS} + IM_{FS})$ where $GNI$

UMICs between \$3,995 and \$12,375; and HICs above \$12,375. Figure 15 illustrates graphically, the linkage between outward FDI and economic growth in the past two decades. Precisely, the graphs show outward FDI-economic growth relationships at different income categories for the period 1998-2019. Plot (a) of Figure 15 shows the HICs group per capital GDP and outward FDI flow from 1998-2018. The values for both variables are high except in 2009 where countries GDP dropped significantly due to the global financial crisis of 2008-2009. However, outward FDI flow in HICs also appears to be affected by the financial crisis as the values decreases during the period. However, unlike the HICs, outward FDI in UMICs decreases significantly except during the period of the financial crisis (see plot (b)). Observation of plots (c) and (d) suggests that whilst the GDP per capita in LMICs seems not to be affected by the financial crisis, there is indication that the GDP per capita in LICs shows to be affected during the crisis period respectively. However, the volume of outward FDI in LMICS and LICs appears small compared to the values observed in HICs and UMICs. More graphical analysis revealing the relationship between outward FDI and economic growth across income economies cluster, is shown in the scatter plots presented in Appendix F

*GDP per capita and outward FDI flow (1998-2019)*

*(a) High Income (HICs)*



is gross national income, $GDP$ is gross domestic product, $EX_{FS}$ is the money flowing from foreign countries, and $IM_{FS}$ is the money flowing to foreign countries.

*(b) Upper-Middle Income (UMICs)*



*(c) Lower-Middle Income (LMICs)*

140

*(d) Low Income (LICs)*
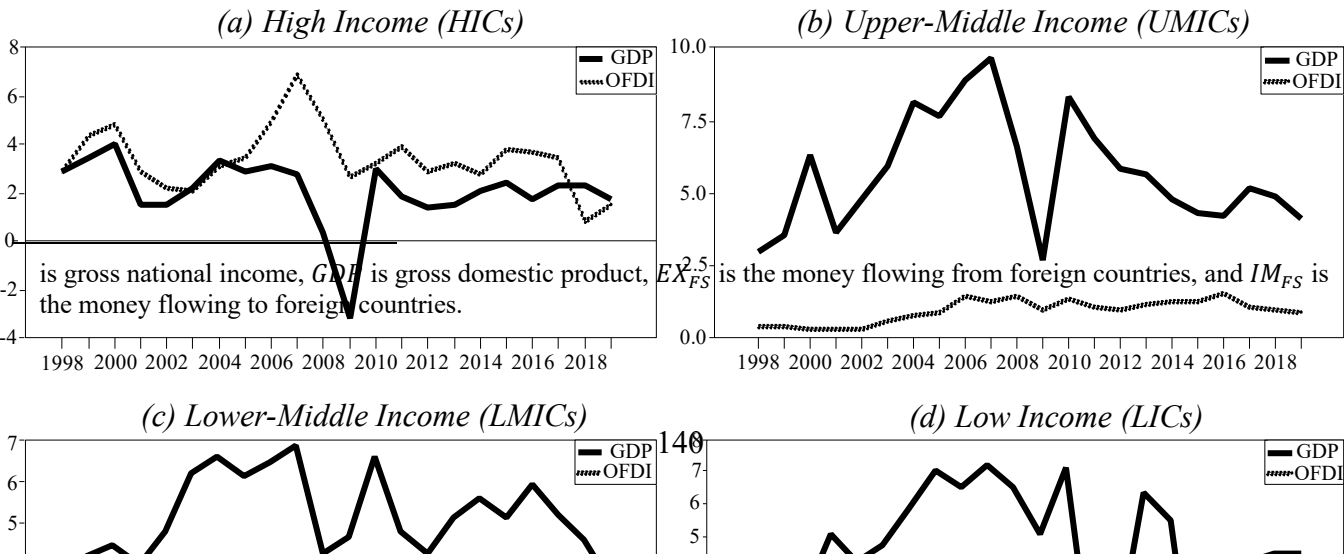
## 2.3. Hypotheses and empirical framework examining outward FDI and home country's international trade relationship in the world economy.

The debate on substitutive and complementarity relationship between investment and trade have led to many scholarly research papers, especially after the seminal work of Mundell [1957]. Mundell applied a theoretical model to demonstrate that international trade and capital flows are substitutes for each other. An increase in trade integration thus reduces the incentive for capital to flow. Similarly, Markusen [1984] and Markusen & Venables [1995] showed that horizontal FDI is market-seeking, where firms engage in overseas investment expansion to avoid international trade costs, leading to a substitutionary relationship with trade. This relates to the proximity- concentration models where firms could either choose to produce abroad using an affiliate or export directly to host countries. But if they choose the latter rather than the former, they are bound to provide transport costs and incur tariffs. Therefore, if cost of transport and tariffs are high, firms will most likely prefer oversea production of goods ahead of direct exportation to compete in foreign market, leading to FDI-trade (exports) substitutionary relationship [Brainard, 1997]. By contrast, Helpman [1984]; Helpman & Krugman [1985] argues that FDI from developing and industrial countries is more likely to vertically integrated and

design to take advantage of the differences in factor endowments between countries. Thus, a complementarity relationship.

Succinctly, outward FDI can been seen as substituting for international trade as exports are replaced by local sales on foreign markets, particularly in the form of finished goods. This could be detrimental to the investing country's domestic industry, hurting production and employment. On the other hand, outward FDI and international trade can be seen as complementary since investing abroad leads to greater competitiveness in foreign markets. In addition, outward FDI can lead to increase in home country international trade via forward and backward linkages in the production process. This will boost domestic investment and contribute to the growth of the economy through increased foreign exchange reserves.

From the point of view of policymakers, if outward FDI is undertaken abroad as a substitute for trade, then the effects would be twofold; first, it would divert domestic investment to channels other than the home country, and second, it would have a negative effect on balance-of-payments through reduced foreign exchange earnings. Similarly, the relationship between the two variables may be substitute if the outward FDI from low economy is directed to a developed country, as the motivation is to expand the market in host country and duplicate the operations of the home country. On the other hand, if outward FDI lead to increased home country international trade via forward and backward linkages in the production process, then such a complementary relationship will boost domestic investment and contribute to the growth of the economy through increased foreign exchange reserves.

Based on the arguments above, there is no consensus on whether outward FDI and trade have a complementary relationship in influencing economic growth. Hence, the rationale or justification to investigate the phenomenon in different levels of economic development using the income groups. Unfortunately, research examining outward FDI expansion and international trade relationship from source countries at different levels of economic development with respect to the concept of complementary or substitutability

remain unexplored. This justifies our study investigating home countries outward FDI and international trade relationship at different levels of economic development using the world bank income economies group such as HICs, UMICs, LMICs, and LICs. Based on the view of Markusen (1984) and Markusen & Venables (1995) as well as Helpman (1984) and Helpman & Krugman (1985), we formulate a testable Hypothesis which examines whether the dynamic interplay between outward FDI and international trade relationship across the different income economies clusters for the period 1998 - 2019 is complementary or substitutability. This study formulates the following Hypothesis.

*Hypothesis (H2a): The impact of international trade on outward FDI is positive and complementary at different levels of economic development such as LICs, LMICs, UMICs, and HICs*

*Hypothesis (H2b): The impact of outward FDI on international trade is positive and complementary at different levels of economic development such as LICs, LMICs, UMICs, and HICs*

Existing studies examining investment and trade relationship have documented different results. For instance, Bhasin & Kapoor [2021] investigates the relationship between outward FDI and BRICS home country's exports for the period 1993–2015 using panel data approach such as panel cointegration, VECM and causality tests. Their results reveal that outward FDI has negative and significant effects on home country exports, which suggests that outward FDI substitute exports in these countries.

Goyeau [2019] examine four CEE countries, namely the Czech Republic, Hungary, Poland, and the Slovak Republic, over the period 2000-2013. Their results suggest that outward FDI sustains commercial trade integration in all the four CEE countries[42] examined, thus, a complementarity effect between FDI (outward and inward FDI) and trade is documented. Kottaridi & Filippaios [2015] examines the relationship between FDI

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[42] The full list of countries includes Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Kosovo, Latvia, Lithuania, the Republic of North Macedonia, Moldova, Montenegro, Poland, Romania, Serbia, Slovakia, Slovenia and Ukraine.

and trade for Central and Eastern Europe (CEE) countries for the period 1992 to 2006[43]. They found complementary relationship between the variables. Whilst studies examining MNCs in ten major emerging countries in Asia were found supporting home country firms (Bhasin & Paul, 2016), the results for sectoral level analysis of the impact of Italian stocks outward FDI on trade (exports) suggests not to support a substitutionary relationship [Ferragina & Colacurcio, 2015]. Results revealed positive significant impacts which indicates complementary effects. Empirical research also showed that home country's imports, may promote the flow of investment abroad [Fan & Wang, 2020].

Wu & Chen [2021] investigate the impact of the Chinese outward FDI flows on trade intensity. Based on the theoretical framework and literatures regarding international trade and outward FDI relationship, potential feedback relationship between the two macroeconomic factors may lead to problem of reverse causality and simultaneity which occur when two variables affect each other simultaneously with a reciprocal feedback loop. Other problems such as endogeneity and heterogeneity due to cross country variation effects of trade and outward FDI may yield inconsistent and biased estimates These problems may be addressed using econometric models that accounts for these issues.

Osabuohien-Irabor & Drapkin [2022] investigates home country overseas investment expansion and international trade nexus in income classification (such as low-income (LICs), low-middle income (LMICs), upper-middle income (UMICs), and high-income (HICs)) groups in 161 countries. Their results show that outward FDI and trade nexus in LIC have negative impact indicating a substitutive effect.

Falk & Hake [2007] investigate the relationship between outward FDI and exports using panel data from seven European Union countries for the period 1973-2004. They found one way causality running from exports to outward FDI. Using the AMADEUS firm-level database[44] Falk & Wolfmayr [2008] examine the home market effects of outward FDI into the CEE region between the period 2000-2004. They found evidence for

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[43] Three-stage least squares (3SLS) refer to a method of estimation that combines system equation, sometimes known as seemingly unrelated regression (SUR), with two-stage least squares estimation.
[44] Amadeus - European Company Data.
https://www.eui.eu/Research/Library/ResearchGuides/Economics/Statistics/DataPortal/AmadeusBvD

the substitution of jobs between the parent companies in the EU15 and their affiliates in the CEEC and appears that FDI in the region is mainly driven by market access considerations.

Egger [2001] study the determinants of and the relationships between bilateral economic activities in terms of both trade and FDI between the EU member states using panel regression fixed effects. Finding indicates that exports and stocks of outward FDI were found to be substitutes with respect to changes in the costs of transportation and complements with respect to most of the other determinants such as trade. Suh & Seo [2006] examines trade and outward FDI to determine whether the relationship is complementary or substitutes. They examined Korean outward FDI in the ASEAN-4, economies, and found that FDI stocks in ASEAN do not have discernable trade substituting effects on either Korea's exports or imports. However, using Granger causality technique, Voica et al. [2021] investigate whether the relationship between FDI and international trade is complementary or substitutive. They employed three groups of countries from the (EU) - Romania and Bulgaria, the Visegrád Group, and the Euro area, for the period of 2005 to 2019. Their results show that FDI impact on international trade of the host country depends on the type of investment and absorptive capacity of the receiver, the economic development of host and home countries.

Lim & Moon [2001] indicate that outward FDI had a higher effect on home country exports if the subsidiaries are located in less developed countries than in developed countries. In addition, findings are more pronounced if the subsidiaries are relatively new and when the industry is in a declining stage in the firm's home country. This research was examined using 179 sample in 16 countries: 8 Asia countries, 5 in EU, 2 in Latin America and 1 in CIS countries, estimated by OLS multiple regression. Table 8 presents summary of outward FDI and international trade relationship.

*Table 8 – Summary of empirical results assessing the effect of outward FDI and trade.*

| Author | Data | Methods | Main results |
|---|---|---|---|
| *Osabuohien-* | *161 countries* | *DFF-GMM* | *Show that outward FDI and trade* |

| | | | |
|---|---|---|---|
| *Irabor & Drapkin [2022]* | *using HICs, UMICs, LMICs and LICs for the period 1998-2019* | *and SYS-GMM techniques* | *nexus in LIC have negative impact indicating a substitutive effect* |
| *Egger [2001]* | *15 EU members. 1986-1996* | *panel regression, fixed effects* | *complementary relationship between FDI and exports* |
| *Suh & Seo [2006]* | *ASEAN-4, 1987-2002* | *Fixed effect panel data* | *FDI stocks in ASEAN countries do not have significant trade substituting effects on either Korea's imports or exports* |
| *Anderson et al. [2019]* | *206 countries, 1990–2011* | *structural dynamic model* | *removal of FDI raises exports of some countries and reduces that of other countries* |
| *Ferragina & Colacurcio [2015]* | *68 Italian host markets and 16 sectors during the 2001–2003 period* | *Gravity analysis* | *Results do not confirm a substitution relationship of firm performances in terms of exports with respect to productive takeovers and employment in affiliates abroad* |
| *Albulescu & Goyeau [2019]* | *CEE countries, 2000–2013* | *Fixed effects model, a random effects model, as well as to an instrumental variable estimator* | *outward FDI sustains the CEE countries' commercial integration, while inward FDI has no significant effect. In all the cases a complementarity effect between trade and FDI is documented, which is stronger for the CEE countries' historical trade partners* |
| *Voica et al. [2021]* | *EU, Visegrád Group and the Euro area 2005 - 2019* | *Granger causality* | *FDI impact on foreign trade depends on investment* |
| *Kottaridi and Filippaios [2015]* | *CEE countries from 1992 to 2006* | *IV instrumental and 3SLS techniques* | *Whilst result indicates a complementary relationship for manufacturing (secondary) and services (tertiary), its shows a substitution effects for agriculture (primary). For FDI, results show strong locational characteristics such as the large market size, the gradual improvement of the macro-* |

| | | | *environment and the quality of labour force as centripetal forces.* |
|---|---|---|---|
| *Wu & Chen [2021]* | *64 countries in the Belt and Road Initiative (BRI) for the period 2003–2015* | *SGMM and IV regression techniques* | *China's outward FDI has positive impact on import intensity and a negative impact on export intensity with BRI countries* |
| *Bhasin & Kapoor [2021]* | *Panel data for BRICS for time period 1993–2015* | *Panel cointegration, VECM and causality tests* | *Found that outward FDI has a negative and significant impact on BRICS home country's exports indicating that outward FDI is a substitute for exports in these countries. Whilst there was long-run causality running from exports to outward FDI, no long-run causality was found running from outward FDI to exports.* |
| *Bhasin & Paul [2016]* | *Ten major emerging countries from Asia over the period 1991-2012.* | *Panel vector auto regression, panel cointegration and causality tests.* | *Found evidence of long-run causality from exports to outward FDI. Furthermore, exports and outward FDI were found to be substitutes. There was no long-run causality from outward FDI to exports* |
| *Falk & Hake [2007]* | *Seven EU countries for the period 1973-2004.* | *Panel causality tests and SGMM techniques* | *Exports cause FDI but not vice versa.* |
| *Fan & Wang [2020]* | *China' s OFDI in 46 countries from 2003 to 2017* | *Panel regression* | *China's import from host country could facilitate its OFDI directly and this effect is more significant in countries with worse institution quality* |
| *Lim & Moon [2001]* | *8 Asia countries, 5 EU, 2 Latin America and 1 CIS countries* | *OLS, multiple regression* | *Found positive relationship between outward FDI and trade* |

*Author's compilation*

The dynamic feedback relationship between international trade and OFDI as well as the cross-country variation in investment and trade may lead to serious econometric problem such as simultaneity bias, serial correlation, reverse causality, endogeneity, heterogeneity, omitted variable bias, and bring about spurious regression with bias estimates. Therefore, to test Hypotheses H2a and H2b, this study examines outward FDI and trade relationship in different income categories using the two-step System Generalized Method of Moments techniques (SYS-GMM) developed by Arellano & Bover [1995] and Blundell & Bond [1998], and the Difference Generalized Method of Moments (DFF-GMM) estimator proposed by Arellano & Bond, [1991] which accounts for numerous econometric issues, (see, equation (4)). This brings new insights to extant literature. Except the Global Financial crisis dummy (GFC) variables, we estimate the trade and investment models in logarithmic forms. Equation 4, model-II shows the investment model which estimates outward FDI and international trade relationship across world bank income economies groups.

Model-II

$$
\left.\begin{aligned}
OFDI_{i,t} = \gamma OFDI_{i,t-1} + \delta TRD_{i,t} + \beta_1 GDP_{i,t} + \beta_2 INST_{i,t} + \beta_3 INFR_{i,t} + \beta_4 POP_{i,t} \\
+ \varphi_1 GFC_{2007} + \varphi_2 GFC_{2008} + \varepsilon_{i,t}
\end{aligned}\right\} (4)
$$

Where, $\varepsilon_{i,t} = \eta_i + u_i$; $i = 1, \dots, N$ and $t = 1, \dots, T$, $\gamma$, $\delta$, $\beta$ and $\varphi_i$ are parameters to be estimated. The subscript $i$ and $t$ denotes country and year respectively. $OFDI_{i,t-1}$ is the one-period lagged country's investment; $TRD_{i,t}$ indicates the international trade for countries measures in natural logarithm; $GDP_{i,t}$ is the gross domestic product per capita; $INST_{i,t}$ describes home countries institutions composite index; $INFR_{i,t}$ is the overall quality of infrastructure composite index; $POP_{i,t}$ represents the size of home country (total population) measured in natural logarithm; $GFC$ represents the global financial crisis dummy - 1 for year of crisis, 0 otherwise.

Alternating outward FDI and international trade in equation 4 (model-II) gives the trade model which also undergo the same estimation procedures as the investment model.

However, Figure 16 shows the dynamic estimation framework of the interplay between outward FDI and international trade holding GDP, INST, INFR and POP constant, i.e., the study controlled for these variables.
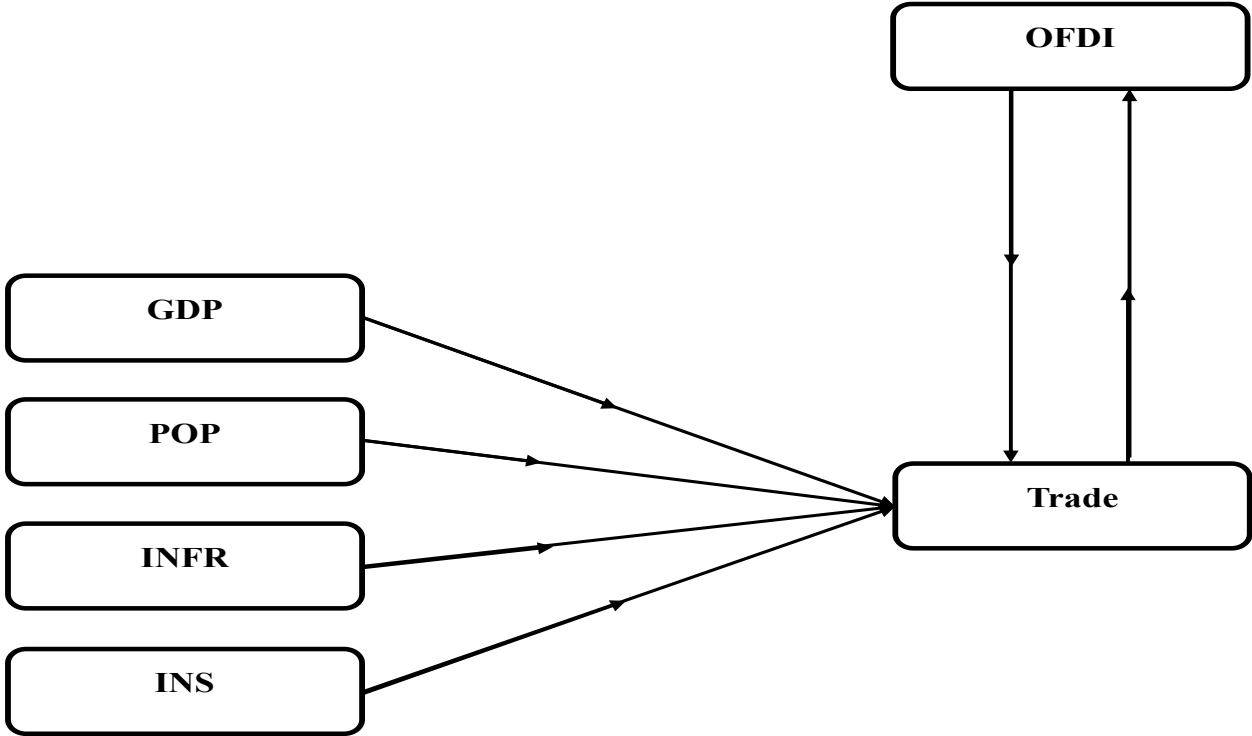


*Figure 16 – Theoretical framework of OFDI and trade in the presence of other variables.*

To examine outward FDI and trade relationship, this study uses the yearly panel dataset of 161 countries grouped according to the world bank country income classification which includes, the LICs (22 countries), LMICs (41 countries), UMICs (47 countries), and HICs (51 countries), over the period of 1998-2019 to determine whether outward FDI and international trade exhibit complementarity or substitution relationship. Whilst Figure 17 shows the plots series of outward FDI and international trade relationship across income groups, the study variables and data sources are presented in Appendix D. However, the correlation plots of this relationship across income economies group for the period 1998 - 2019 is shown in Appendix E. Country selection was based on the availability of dataset and the analysis of previous studies informed choice of variables, [Kamal et al., 2019; etc.]. The variables of interest are the outward FDI flows and

aggregated international trade which alternate as dependent and independent variables in the model, so as to capture the bidirectional causal effects in country's income clusters. However, the study controlled for certain factors that may affects the relationship between outward FDI and international trade, as failure to do so, might compromise the model internal validity, thus numerous economic factors such as GDP, INFR, and INST, were controlled for in the experimenting investment and trade models.
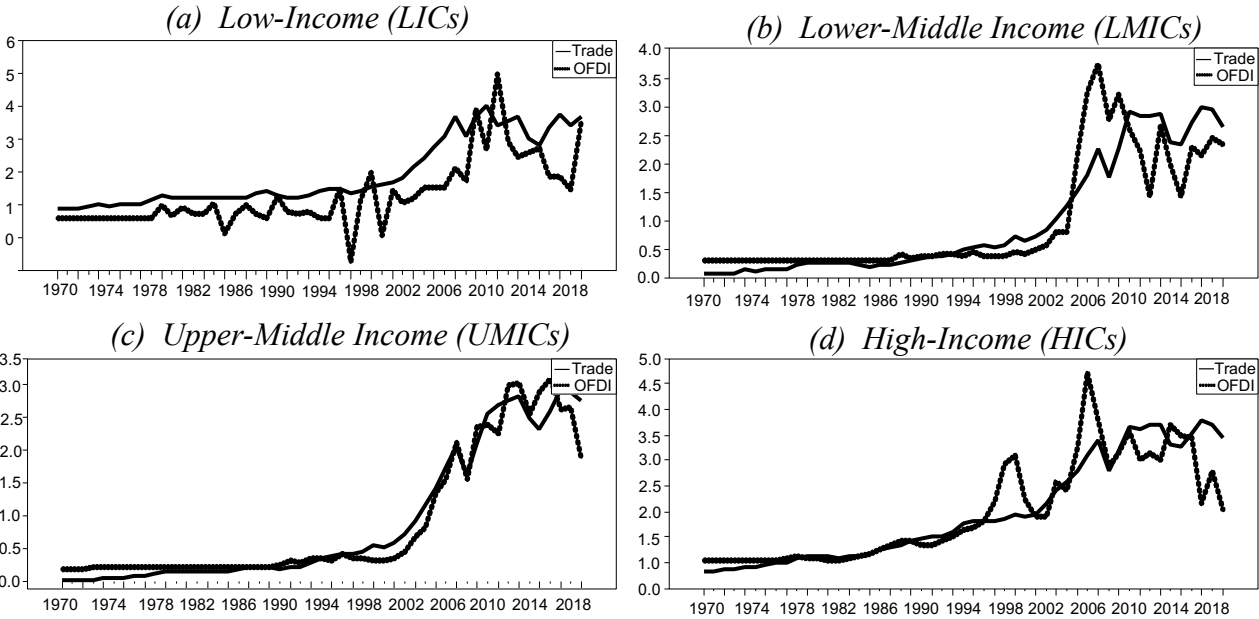


*Figure 17 – OFDI-Trade Nexus across Income economies (1970 - 2020)*

## 2.4 Hypotheses and methodological approach of assessing outward FDI flow as escaping response in the global economy.

The new approach to outward FDI is already suggested by investigated by the changing conditions in the world economy, which include rising flows of capital from less advanced economies. In the past, outward FDI originated in countries of top-quality institutional development, but recently, countries with very diversified institutional environments have joined the list of major foreign investors. Dunning's eclectic (OLI) paradigm [2001] framework provides a holistic approach to the study of MNCs' activities abroad by integrating ownership, location, and internalization advantages. The OLI framework combines the competitive advantages of firms (ownership advantages) and the

comparative advantage of nations (location advantages) to explain production and the subsequent growth of MNCs operations [Tolentino, 2001]. Although the theory has been highly criticized on the grounds of its generality, and hence its limited ability to identify the behaviors of specific enterprises, it continues to be the most influential paradigm that facilitates specific questions posed by theorists [Cantwell & Narula, 2001]. Dunning and Lundan [2008] extended the determinants of FDI in terms of locational components of the eclectic paradigm, including policy-induced effects generated by policy intervention and institutions. Consequently, they recognized the significant role of the institutional context on MNCs' decision-making processes. Majority of empirical papers that use the eclectic paradigm only address the location advantages, nevertheless, due to ownership data scarcity.

Motives for foreign investment include vertical integration, whereby the firm invests abroad to gain a competitive advantage over factors of production. Such advantages include land or labor (natural resource seeking or efficiency seeking). The motivation for horizontal investment is to service the host market (market seeking) while maintaining operations in its home market [Hernandez & Guillen, 2018]. In this instance, the firm will set up production facilities. The fourth classic motive for foreign investment is to obtain strategic assets, such as cutting-edge technology or well-established brands. Finally, firms internationalize not only to exploit their ownership advantages, but also to augment them [Dunning, 2001].

However, recent evidence shows that MNCs are not only motivated by further development, but also by political or security reasons in a country of origin. Difficult conditions in a home economy may actually force local firms to invest abroad, for instance countries such as Iraq, Syriah, Lebanon, etc., where inhospitable conditions and poor economic activities may push domestic companies to escape abroad [Goldstein, 2009]. Escape FDI occurs when MNCs go abroad either in search of advantages there or to avoid poor domestic conditions [Cuervo-Cazurra, Narula & Un, 2015]. Numerous research scholars have used the term "escape FDI" as a concept, since Lall in 1983 had argued that

FDI could be a "logical means of escape" for what he termed third world multinationals. Some of the scholarly work documented involving "escape FDI" include: Osabuohien-irabor & Drapkin [2022a]; Stal & Cuervo-Cazurra, [2011]; Khanna & Palepu [2010]; Child & Rodrigues [2005]; Liu, et al. [2005]; Kalotay [2004].

However, most studies that have examined "escape FDI" mainly focused on institutional environments, specifically underdeveloped institutions and institutional voids fueling escape-based internationalization. For instance, Luo & Tung [2007] argues that entrepreneurs from developing countries often seek "better legal protection overseas over their property rights and business activities than they face at home. Child & Rodrigues argue that institutional constraints such as legal uncertainties, obstruction of domestic acquisitions, and regional protectionism via license restrictions remain a problem, which successful firms appears to have found a way to accommodate or circumvent them. Barnard & Luiz [2018] concentrated on how underdeveloped institutions and market constraints are "pushing" firms to invest abroad, to escape their home country institutional and market conditions. Ramamurti & Hwee Ang [2018] argue that MNCs are more likely to invest in countries with stable institutions (proxy for developed markets. Other research work on institutional development "encouraging" MNCs relocation abroad include Narula & Kodiyat [2014]; Yamakawa et al. [2008]; etc.

In addition to institutional misalignment and void literature which have received great attention, new studies have also been documented. For instance, the role of corporate taxation as a locational advantage has been linked to the overall institutional quality of potential host countries [Kottaridi et al., 2019; Tanzi & Zee, 2000; Fox & Gurley, 2005; Bird, 2007] Thus, low corporate taxation rate of the host country was suggested to be strongly and positively related to outward FDI from firms originating in developed economies that face high taxation. According to Lundan [2006], corporate taxation and the tax treatment of foreign corporate income are likely to affect the wedge between the pre-tax and post-tax rates of return on FDI. However, Guillen & Garcia-Canal [2009] study concentrated on motives, identifying macroeconomic factors, and political volatility

as key drivers of external investment by MNCs, whereby the firm invests abroad to diversify its risk.

Although, some countries may have better institutions and economies, other specific domestic risk factors can precipitate management decision to initiate an exit strategy. Therefore, FDI escapism phenomenon are not only limited to the developed economies [Kottaridi et al., 2019]; developing economies [Barnard & Luiz, 2018], emerging economies [Witt & Lewin, 2007; Stoian & Mohr, 2016], but to firms in any market economy with internationalization drive. Thus, examining the FDI escapism phenomenon in global perspective will provide the different economies group useful information regarding global risk arisen from individual economies as it affects world economy integration. Global risk may decrease investment and trade transactions as well as reduce the growing interest in firm's internationalization activities.

Unfortunately, MNCs escape from home country economy via outward FDI due to domestic risks have not been explored. Given that investors are averse to risk, MNCs are most likely to relocate their investment abroad if political instability, harsh economic condition, and financial uncertainty persists in home country. Escaping investment may cause unemployment, loss of revenue to home country, and in some cases, there might be regional or global shock due to business linkages, leading to a setback in domestic economies and the integration to the global economy. Thus, understanding the economic and financial drawback associated with MNC relocation abroad due to domestic risks, will provide policymakers and government the necessary insight to avoid "investment isolated" countries. This justifies the study's rationale to critically investigate the effects of home country risks on firms' internationalization activities through outward FDI, and determine which components may likely "push" firms to initiate the "FDI escapism" as a response strategy. Our study contributes to a richer understanding of "escape FDI" concept, and in so doing, also document the role of the home country risk in internationalization. We formulated Hypothesis and argued that home country risks may have direct effect on outward FDI flow and likely to trigger escape FDI in home country.

Thus,

*Hypothesis (H3a): Home country risk increase outward FDI significantly leading to escaping investment.*

Our arguments are built on growing literature from different market economies, where firm utilized outward FDI as a strategic means to exit a competitive disadvantage economy owing to their political, financial, and economic instability. Investment increases when country's risk is low [Osabutey & Okoro, 2015], therefore we test whether firm's overseas investment flow from home country is firm's internationalization motive or escaping FDI [Barłożewski & Trąpczyński, 2021; Cuervo-Cazurra & Ramanurti, 2015]. Our study asserts that FDI escapism in home country may not only be due to institutional void and misalignment, but also by different components of home country risk such as political, economic, and financial risks.

*Table 9 – Summary of prior studies on outward FDI as MNCs escaping response.*

| Source | Mechanism driving escape | Evidence |
|--------|-------------------------|----------|
| *Gordon & Hines [2002]* | *Firms may relocate their domicile to avoid high home country taxes* | *Review of prior works on international taxation.* |
| *Narula [2002]* | *Lack of adoption of the national innovation system to the R&D requirements of firms may prompt outward FDI to countries with more suitable innovation system.* | *Interview survey of 35 Norwegian firms* |
| *Le & Zak [2006]* | *Capital flight in developing countries is driven by political instability, economic risk, and policy uncertainty; nonviolent demonstrations and constitutional changes* | *Panel regression using data from 45 developing countries* |
| *Schoppa [2006]* | *Outward FDI is in part an escape response to a burdensome home country* | *Qualitative analysis of aggregate time series data of outward FDI trends in* |

| | | |
|---|---|---|
| | *institutional environment.* | *Japan, review of escape response in conceptualized political science.* |
| *Witt & Lewin [2007]* | *Outward Foreign Direct Investment as Escape Response to Home Country Institutional Constraints.* | *Review of prior works on institutional constraints and misalignments.* |
| *Cuervo-Cazurra & Ramanurti [2015]* | *The desire to escape the home country's weak institutions and economic underdevelopment.* | *Measures that help strengthen the rule of law, improving the country's brand, weeding out unnecessary regulations, pursuing market-friendly policies, strengthening incentives for innovation, and protecting intellectual property rights.* |
| *Stoian & Mohr [2016]* | *Home country regulative voids and OFDI from emerging economies* | *Escapist investment is facilitated if firms possess certain competitive advantages that help them overcome the liability of foreignness when expanding abroad.* |
| *Barnard & Luiz [2018]* | *That escape FDI is a process with three cumulative phases viz stress, strain, and failure.* | *Limited escape FDI (strain) results from periods of societal instability and/or inadequate institutional reforms. Extensive escape FDI (failure) results from pervasive societal instability and/or fundamental changes in institutions.* |
| *Kottaridi et al. [2019]* | *Specific institutional failures, such as weak or incomplete regulations, along with high taxation* | *Provide evidence that once firms establish a subsidiary abroad, they acquire substantial knowledge about the host institutional environment, which translates into an advantage, providing an additional motive for further* |

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| | | expansion |
|---|---|---|
| *Osabuohien-irabor & Drapkin [2022a]* | *FDI Escapism: the effect of home country risks on outbound investment in the global economy* | *Home country risk on outward FDI motives for 127 countries for the period 2003–2016. A cross-country analysis.* |

*Author's compilation expanding Witt & Lewin [2007] summary.*

This study examines the effects of home country risk on firm's internationalization motive through outward FDI for 127 countries for the period 2003 - 2016. Based on theoretical perspective and previous studies discussed, this study test Hypothesis H3a which examines the effects of home country risk on outward FDI using the dynamic panel model by the SGMM estimator, proposed by Arellano & Bover [1995] and fully developed Blundell & Bond [1998]. List of countries included in the sample used in the estimation of country risks and outward FDI relationship in the global economy is shown in Appendix C. The SGMM technique is robust to endogeneity and heterogeneity issues, and account for the presence of heteroskedasticity of unknown form [Roodman, 2009]. More so, the SGMM estimator has better precision of estimated coefficients due to its capacity to accounts for weakly exogenous instruments, and greatly reduce the finites sample bias. For these reasons, this study adopts the SGMM estimator to explain FDI escapism from the prism of global country risk. Consequently, we specify the panel dynamic framework to estimate country's risks and outward FDI relationship to ascertain escapism or internationalization activities in the global economy, The general model shows,

Model-III

$$\left. \begin{aligned} OFDI_{i,t} = \gamma OFDI_{i,t-1} + \beta_i Country\ Risk_{i,t} + \varphi_1(\tau_X)_{i,t} + \varphi_2(\omega_Y)_{i,t} \\ + \varphi_3(\lambda_Z)_{i,t} + \mu_i + \xi_{it} \end{aligned} \right\} \quad (5)$$

Where $\varepsilon_{i,t} = \mu_i + \xi_i$ ; $\beta_i$ is the coefficient of home country risk variables; $\varphi_i$ indicates the coefficients of the interactions; $\varepsilon_{i,t}$ is the model error term; $u_i$ is the unobserved heterogeneity country-specific effect; $\xi_i$, is the Time specific effects; $OFDI_{i,t}$ indicates

outward FDI (O); Country risk (C) include political (P), economic (E), and financial (F) risks. The interaction $\tau_x$ indicates $(E) \times (P)$; $\omega_y$ represents indicates $(P) \times (F)$; and $\lambda_z$ is the interaction of indicates $(E) \times (F)$. The lagged regressor is added to the regression model due to OFDI persistence over time. Whilst the full model is shown in equation (5), Figure 18 describes the framework of the study.
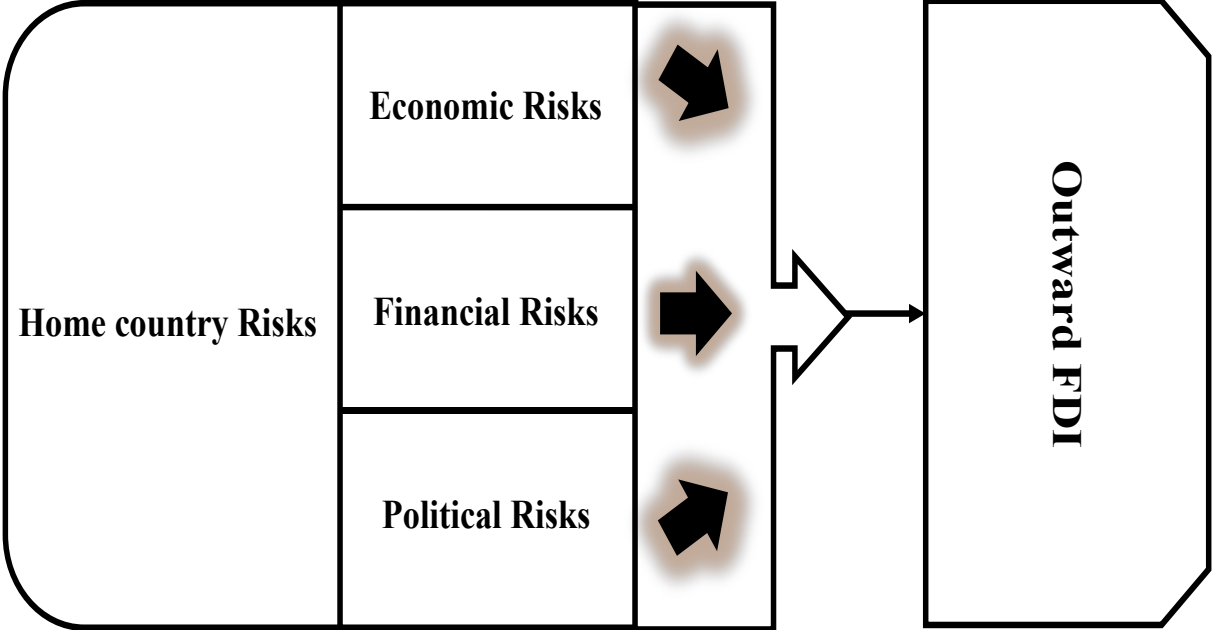


*Figure 18 – Theoretical framework of outward FDI and home country risk.*

However, the variables information (types of data, definition, and sources) related to the components of home country risk (economic, financial, and political risks) and outward FDI are briefly described in Table 10. The choice of country selections for analysis listed in Appendix C are based on availability of sample data. The statistics related to country risk and the individual components are obtained from PRS-ICRG (Political Risk Services-International Country Risk Guide), a registered risk evaluation firm based in Canada. For outward FDI statistics, the data are obtained from the United Nations Conference on Trade and Development (UNCTAD) database. PRS Group regularly update annual risk index for 140 countries. The variables for country risk components such as economic, financial, and political risk are shown in Appendix G, H, and I respectively.

*Findings*

This section discusses the methodology for estimating outward FDI-growth effect mediated by home country institutions. In order others, the techniques that evaluate the mechanism that influences the growth effect of outward FDI are highlighted. Thus, the study discusses the following key positions.

First, the study discusses the key problems that makes the modeling of outward FDI-growth relationship challenging, which have caused several limitations to the methodological advancement in this area of research. Thus, the pre-estimation analysis in this dissertation is adequately evaluated. In addition, overseas investment expansion may depend on the behavior of past investors or investment, the macroeconomic background and institutional framework prevailing across the countries. Therefore, several key relevance economic determinants and their interactions are critically examined when estimating outward FDI-growth nexus influenced by home country institutions. For instance, estimating the growth effect of outward FDI using the fixed-effects approach may solve econometric problem related to simultaneity bias, but unable to deal with the issue of reverse causality, heterogeneity, cross-sectional dependence, and many others.

*Table 10 – Definition of variables and data sources in the estimation of country risks and outward FDI in the global economy*

| Codes | Variables | Definitions | Sources |
|---|---|---|---|
| O | Outward FDI (O) | The natural logarithm of foreign direct investment net outflows as a per cent % of GDP | UNCTAD (2019) |
| C | Country risk (C) | Is an integrated level of economic, financial and political risks in the home country. Its is computed using $0.5\,(E + F + P)$ | ICRG (2017) |
| E | Economic risk (E) | It provides detail assessment of home country economic strength and weakness with an index range of values from 0 to 50. | ICRG (2017) |
| F | Financial risk (F) | It measures the home country's financial strength in carrying out its obligation and payment of debts. | ICRG (2017) |

| $P$ | Political risk (P) | *The overall aim is to assess the political stability of the home country by allocating risk points to pre-sets factors.* | *ICRG (2017)* |
|---|---|---|---|
| $\tau_x$ | E×P Risk | *An index value which assesses the combination of economic and political stability in the home country.* | *ICRG (2017)* |
| $\omega_y$ | P×F Risk | *This risk factor measures the combination of the home country political and financial risk.* | *ICRG (2017)* |
| $\lambda_z$ | E×F Risk | *It assesses the combine effects of economic and financial strength of the home country.* | *ICRG (2017)* |

*Sources:*
*1. https://unctadstat.unctad.org/EN/*
*2. International country risk guide (ICRG), https://dataverse.harvard.edu/dataset.xhtm*

Second, the approach applied in this study in estimating the growth effects of outward FDI considering the influence of home country characteristic such as institutions, both in the short and long run term, is an original contribution of this dissertation that add to literature. To this end, the study extends the CS-ARDL technique to simultaneously evaluate both the mediating factors (using home country institutions) and the growth effects of outward FDI across income economies group. In this case, the mediation factors such as the components of home country institutions are integrated into the CS-ARDL technique proposed by Chudik & Pesaran [2015], robust to cross sectional dependence, heterogeneity, and endogeneity problems in order to determine the growth effects. This remains one of the major advantages of the extended model. This shows that the spillover effects of outward FDI on economic growth may depend on several home country characteristics. In this study, we examine whether institutional quality and international trade limits the impact of this relationship (outward and economic growth) in countries grouped according to their world bank income classifications.

Third, the model's interaction term typically examines whether the relationship

between outward FDI and economic growth depend on the value of some other variables. For instance: An increase in outward FDI is associated with increase in economic growth given the condition of home country institutions, etc. Therefore, the interaction effect indicates the conditional leverage of home country's institutions requires to absorb the growth effects of outward FDI relationship. Hence, understanding outward FDI-growth effect in different income economies groups via the mechanism of home country's institutions is essential. However, quality of institutions is a broad term, thus this study focuses on the six individual institutional components such as political stability (PS), governance effectiveness (GE), regulatory quality (RQ), etc.

Four, the estimated integrated econometric models provide the short-run and long-run predictions regarding the growth effects of outward FDI spillover, and the extent to which these effects hold for different home country institution in different income groups is revealed. Thus, we examine the short-term or long-term effects of overseas investment expansion on economic growth considering home country institutional development.

## CHAPTER 3. EMPIRICAL STUDY OF OUTWARD FDI, ECONOMIC GROWTH, INTERNATIONAL TRADE, AND INSTITUTION RELATIONSHIP

Based on the data and methodologies described in previous sections, we test the above hypotheses to specifically examine the relationship between foreign direct investment outflows and economic growth in different income groups considering the role of home country institutions and international trade. More precisely, our empirical analyses, presented in the next three subheading, closely look at the impact of home country's outward FDI in three different perspectives ("home country economic growth", "home country's international trade" and "home country's risks") across different income economies group. With regards to unbiased and consistent estimates, our analyses take into consideration the possible effects of endogeneity, simultaneity, omitted variables bias,

cross-sectional dependence, Cross-country heterogeneity, heteroskedasticity, etc., by employing the proposed integrated CS-ARDL model which addresses these drawbacks. However, it is important to stress that the extended CS-ARDL long-run technique which captures the mediating effects, is an innovative contribution to this dissertation.

### 3.1. Outward Foreign Direct Investment and Economic Growth Nexus: the Mediating Effects of Home Country Institutions

This section analyzes the estimated results of the role of home country's institutions in the impact of outward FDI flow on economic growth across different income groups. We split our dataset according to the World bank income classification of high income, upper-middle, low-middle, and low-income countries. We controlled for gross capital formation (GF), human capital (HC), inflation (IF), government size (GS) and trade openness (TO) of home country. The selection of the control variables is based on previous empirical studies of Baiashvili & Gattini [2020]; Hayat [2019]; Alguacil et al. [2011] etc., and as part of our estimation strategy, eight different models were constructed to examine the impact of outward FDI flow on economic growth mediated by home country institution using the system GMM estimation technique. The pre- estimation and empirical results are presented in Tables 12-15 and Tables 16-19 respectively. These results are discussed according to income economies clusters.

*Pre-analysis of empirical data*

Table 11 describes the summary statistics for different income economies group. The mean values of outward FDI decreases from HICs to LICs countries which suggests that outward FDI-internationalization activities from home country is highest in HICs countries (1.917) and lowest (1.007) in LICs countries. The standard deviation (SD) of outward FDI is highest (0.986) in countries with LICs and suggests large amount of variability in the data points. However, the average values of gross capital formation for

different income groups show that; HICs is (3.039), UMICs (3.099), LMICs (3.096) and LICs (2.981) countries. Interestingly, the mean of the economic growth for the period under study shows to follow similar pattern of outward FDI. Economic growth is highest in HICs countries with an average value of 1.498, and lowest in low-income countries with an average value of 1.009. However, economic growth and outward FDI variables show to be monotonically increasing from HICs to LICs groups for the period 1998-2019. Growth rate shows to be most stable in HICs group with a standard deviation of 0.059 compared to other income economy groups. Regarding the trade openness variables, HICs countries show to have more trade openness policies compared to other income groups. Except low-income group, the average values of institutional indicators are positive in all income economies.

The study also investigates the existence of cross-country heterogeneity and cross-sectional dependence among variables across the different income groups using the slope homogeneity test by Pesaran & Yamagata [2008]. Empirical results reveal that the delta ($\tilde{\Delta}$ test) and delta adjusted ($\tilde{\Delta}_{adj}$ test) tests statistic rejects the null Hypothesis of homogeneity existence (no heterogeneity bias) in all income groups, which suggests that model I-VIII specification are heterogeneous and highly significant (see - Table 12 for HICs groups). The presence of individual slope heterogeneity may bias policy estimates obtained under OLS and FE framework. Thus, the use of standard econometric methods such as FE and OLS may generate inconsistence parameter estimates in panel data model. Further tests of CSD analysis viz the Breusch-Pagan Lagrange Multiplier (LM), Bias-corrected Lagrange Multiplier (LM), the Pesaran Scaled Lagrange Multiplier (LM) and the Pesaran Cross sectional Dependence (CD) tests, indicate that the null Hypothesis of no cross-sectional dependence is rejected among the variables in HICs cluster at significance level of 1%, 5% and 10% (see, Table 13). This shows the existence of CSD and heterogeneity among the selected variables. However, similar results were found in other income economies categories such as upper-middle, lower-middle, and low-income groups for the period 1998-2019.

*Table 11 – Summary statistics for world bank income economies cluster 1998-2019*

| Varia ble | High-Income | | | Upper-middle Income | | | Low-middle Income | | | Low-Income | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Obs. | Mean | SD | Obs. | Mean | SD | Obs | Mean | SD | Obs | Mean | SD |
| S | 1122 | 1.498 | 0.059 | 1034 | 1.315 | 0.124 | 902 | 1.177 | 0.067 | 484 | 1.009 | 0.148 |
| X | 1122 | 3.039 | 0.472 | 1034 | 3.099 | 0.304 | 902 | 3.096 | 0.549 | 484 | 2.981 | 0.398 |
| Y | 1122 | 1.917 | 0.827 | 1034 | 1.796 | 0.774 | 902 | 1.499 | 0.892 | 484 | 1.007 | 0.986 |
| Z | 1122 | 0.593 | 0.252 | 1034 | 0.534 | 0.230 | 902 | 0.533 | 0.239 | 484 | 0.498 | 0.198 |
| VA | 1122 | 0.994 | 0.507 | 1034 | 0.311 | 0.307 | 902 | 0.310 | 0.376 | 484 | -0.395 | 0.275 |
| PS | 1122 | 0.812 | 0.398 | 1034 | 0.257 | 0.347 | 902 | 0.174 | 0.327 | 484 | -0.098 | 0.193 |
| GE | 1122 | 1.203 | 0.569 | 1034 | 0.214 | 0.327 | 902 | 0.189 | 0.276 | 484 | -0.270 | 0.259 |
| RQ | 1122 | 1.185 | 0.507 | 1034 | 0.261 | 0.326 | 902 | 0.256 | 0.464 | 484 | -0.190 | 0.523 |
| RL | 1122 | 1.146 | 0.593 | 1034 | 0.192 | 0.331 | 902 | 0.120 | 0.238 | 484 | -0.105 | 0.583 |
| CC | 1122 | 1.172 | 0.723 | 1034 | 0.190 | 0.342 | 902 | 0.142 | 0.581 | 484 | -0.167 | 0.668 |

Note:
1. Author's calculations
2. S, X, Y, and Z indicates Growth, Gross fixed capital formation, outward FDI and trade openness respectively
3. Data sources: World Bank database: https://data.worldbank.org/

*Table 12 – Pesaran-Yamagata homogeneity test for high-income (1998-2019)*

| Parameters | Model-I | | Model-II | | Model-III | | Model-IV | |
|---|---|---|---|---|---|---|---|---|
| | Statistic | p-value | Statistic | p-value | Statistic | p-value | Statistic | p-value |
| $\tilde{\Delta}$ test | 4.81*** | 0.007 | 1.012*** | 0.000 | 5.013*** | 0.001 | 3.672*** | 0.000 |
| $\tilde{\Delta}_{adj}$ test | 6.03*** | 0.004 | 3.641*** | 0.000 | 7.281*** | 0.000 | 4.541*** | 0.003 |
| | Model-V | | Model-VI | | Model-VII | | Model-VIII | |
| | Statistic | p-value | Statistic | p-value | Statistic | p-value | Statistic | p-value |
| $\tilde{\Delta}$ test | 1.65*** | 0.004 | 0.854*** | 0.000 | 2.56*** | 0.000 | 1.16*** | 0.000 |
| $\tilde{\Delta}_{adj}$ test | 3.95*** | 0.000 | 2.936*** | 0.000 | 5.84*** | 0.000 | 3.35*** | 0.000 |

Note:
1. Author's calculations
2. Significance: * $p<0.1$; ** $p<0.05$; ***$p<0.01$
3. H0: slope coefficients are homogenous

*Table 13 – Cross sectional dependence test for high-income countries (1998-2019)*

| Variables | Breusch-Pagan LM | | Pesaran Scaled LM | | Bias-corrected LM | | Pesaran CD test | |
|---|---|---|---|---|---|---|---|---|
| | Test stat. | Prob. | Test stat. | Prob. | Test stat. | Prob. | Test stat | Prob. |
| S | 128.03** | 0.007 | 38.67** | 0.008 | 36.21*** | 0.000 | 13.82** | 0.002 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| X | 114.11** | 0.006 | 45.24* | 0.002 | 44.94*** | 0.002 | 9.64*** | 0.005 |
| Y | 88.97*** | 0.021 | 49.16** | 0.000 | 47.01*** | 0.004 | 10.74*** | 0.000 |
| Z | 187.64** | 0.003 | 73.02** | 0.010 | 70.88*** | 0.001 | 8.69* | 0.008 |
| VA | 149.03** | 0.000 | 51.25*** | 0.020 | 48.94*** | 0.000 | 4.36*** | 0.000 |
| PS | 111.67*** | 0.040 | 48.74** | 0.006 | 45.14*** | 0.003 | 6.65** | 0.000 |
| GE | 134.24* | 0.001 | 53.13*** | 0.016 | 52.76 | 0.127 | 3.11** | 0.037 |
| RQ | 122.11* | 0.001 | 49.86*** | 0.000 | 49.03* | 0.021 | 5.94** | 0.000 |
| RL | 102.45** | 0.032 | 38.34** | 0.056 | 35.01* | 0.000 | 3.64** | 0.042 |
| CC | 117.39 | 0.021 | 40.78 | 0.105 | 41.83*** | 0.000 | 4.55* | 0.054 |

Note:
1. Significance: * p<0.1; ** p<0.05; ***p<0.01
2. S, X, Y, and Z indicates Growth, Gross capital formation, outward FDI and trade openness respectively
3. Author's calculations

However, stationary property among the variables is also examined using the CIPS and CADF tests proposed by Pesaran [2007]. These tests specifically investigate the constant (C), and constant (C) plus trend (T) both at the level and at first differenced. Empirical results from HICs, UMICs, LMICs, and LICs groups indicate that the variables appear non-stationary $I(0)$ at level using the constant, and constant & trend, but after the first difference the variables became stationary $I(1)$ and significant. This implies that the variables in this study have a unique order of integration $I(1)$ which suggests the use of an advanced econometric technique such as ARDL to examine the long-run association between the variables. ARDL model is applicable where variables are in I(I) or I(0) or a mixture of both I(0) and I(1) but certainly not I(2) [Pesaran et al., 2001]. Table 14 presents the panel unit root results of CIPS and CADF tests for both high and upper-middle income countries.

*Table 14 – Second-generation panel unit root test outcomes for 1998-2019*

| | | High-income (HICs) | | | | Upper-middle income (UMICs) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | At level | | At first difference | | At level | | At first difference | |
| Var | Tests | C. | C. & T. | C. | C. & T. | C. | C. & T. | C. | C. & T. |
| S | CADF | 8.36 | 0.38 | 9.85*** | -8.87* | 6.00 | 2.74 | 9.17** | 3.31** |
| | CIPS | -0.53 | -0.91* | -0.86** | -2.03*** | -2.64 | -1.63 | -3.72* | -0.38** |
| X | CADF | 11.98* | 1.05 | 4.37** | 5.56*** | 5.92 | 0.63 | 7.38** | 1.03** |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | CIPS | -1.74 | -1.84 | -15.38* | -19.04** | -1.73 | -0.24 | 1.32* | -0.62* |
| Y | CADF | 13.77 | 9.93 | 1.73*** | -3.75* | 4.20* | 2.36 | 5.39** | 1.94*** |
| | CIPS | -0.93 | -0.76 | -3.06** | -2.20*** | -0.47 | -1.34 | 0.74* | 0.35** |
| Z | CADF | 9.34* | 3.26 | 4.11*** | 3.03*** | 7.19 | 0.42 | 4.88** | 3.84** |
| | CIPS | -2.36 | -1.48 | -5.73* | -9.68** | -1.73 | -0.35 | 1.37** | 1.12* |
| VA | CADF | 5.04 | 2.92 | 3.83*** | 1.54** | 3.14** | 1.34 | 1.86** | 0.48** |
| | CIPS | -2.84 | -1.03 | -0.87** | -3.56*** | -0.63 | -0.45 | 2.34* | -1.46* |
| PS | CADF | 3.54 | 2.34* | 1.74*** | 5.26** | 3.89 | 0.17* | 1.97 | -0.35* |
| | CIPS | -1.04 | -0.24 | -19.35* | -23.74* | 1.14 | -1.09 | 0.56* | 0.48 |
| GE | CADF | 3.06* | 0.12 | 3.44*** | -1.39*** | 5.71 | 2.03 | 1.24** | 0.66** |
| | CIPS | -0.23 | -0.83 | -0.56* | -6.47*** | -0.95 | -0.62 | 0.56* | -0.34* |
| RQ | CADF | 1.86 | 0.37 | 3.44*** | -1.39*** | 4.62 | 1.88 | 1.83** | 1.01** |
| | CIPS | -1.23 | -0.63 | -0.56** | -6.47* | 1.25* | 0.35 | 1.00** | 0.74*** |
| RL | CADF | 4.74* | 1.91 | 2.64** | 1.48*** | 4.41 | 0.45 | 1.89** | 0.54* |
| | CIPS | 1.42 | -1.07 | -1.39** | -2.52*** | 1.39 | -0.72 | 0.31* | 0.36** |
| CC | CADF | 5.28 | 0.01 | 2.06*** | 0.93** | 3.24 | 2.06 | 1.04** | 0.96** |
| | CIPS | -1.07 | -0.84 | -2.57** | -3.54** | -2.73 | 0.52 | -0.67** | 0.83** |

Note:
1. Significance: * $p<0.1$; ** $p<0.05$; ***$p<0.01$, "C" indicates constant, "T" indicates Trend
2. CADF indicates Cross-Sectional Augmented Dickey-Fuller,
3. CIPS indicates Cross-Sectional Im-Pesaran-Shin test
4. Author's calculations

The Westerlund [2007] cointegration test is applied to the panel data model in the presence of heterogeneity and cross-sectional dependence among the variables. The test provides p-values that are quite consistent and robust to the dependent and independent variables and confirmed the long-run relationship. Results of Table 15 showing the cointegration analysis of HICs categories suggest that the p-values of at least one cross-sectional (Gt or Ga) and two panel statistics (Pt and Pa) supports evidence that the null Hypothesis of 'no cointegration' is rejected at 1%, 5% and 10% significance level. This suggests the existence of long run cointegration relationship between growth and explanatory variables. Thus, the need to employ an econometric technique to estimate the long-run and short-run dynamic. But with the presence of CSD and heterogeneity in panel, this study adopts the CS-ARDL technique by Chudik & Pesaran [2015] robust to heterogeneity and cross-sectional dependent to examine the long-run relationship among the listed variables for all income groups.

*Table 15 – Westerlund (2007) tests for high-income countries (1998-2019)*

| Stat. | Model-I | | Model-II | | Model-III | | Model-IV | |
|---|---|---|---|---|---|---|---|---|
| | Value | p-value | Value | p-value | Value | p-value | Value | p-value |
| $G_t$ | -9.56** | 0.023 | -8.07*** | 0.000 | -6.63*** | 0.000 | -7.22*** | 0.000 |
| $G_a$ | -14.73** | 0.047 | -12.64** | 0.124 | -11.88** | 0.035 | -13.97** | 0.043 |
| $P_t$ | -5.56*** | 0.010 | -8.66** | 0.028 | -3.09*** | 0.000 | -3.36*** | 0.000 |
| $P_a$ | -11.95** | 0.006 | -17.68* | 0.010 | -09.35** | 0.031 | -10.03** | 0.008 |
| Stat | Model-V | | Model-VI | | Model-VII | | Model-VIII | |
| | Value | p-value | Value | p-value | Value | p-value | Value | p-value |
| $G_t$ | -8.63*** | 0.000 | -9.05*** | 0.000 | -7.94*** | 0.000 | -5.34*** | 0.000 |
| $G_a$ | -15.63** | 0.173 | -11.74** | 0.059 | -13.62** | 0.037 | -11.34** | 0.186 |
| $P_t$ | -5.08** | 0.017 | -3.84*** | 0.000 | -6.38*** | 0.000 | -3.86*** | 0.000 |
| $P_a$ | -12.17** | 0.000 | -17.54* | 0.002 | -10.29** | 0.023 | -11.47** | 0.000 |

Note
1. Significance: * $p<0.1$; ** $p<0.05$; *** $p<0.01$
2. Author's calculations

*The mediation effects in high income economies (HICs) group*

The empirical results in Table 16 revealed that the estimates of the ECM term which measures the speed of adjustment towards equilibrium is significantly negative which confirms the existence of a stable cointegration among the variables in long-run. This implies that the system reverts quickly to long-term equilibrium in case of a shock, at an average speed of 68.36%. However, the effect of outward FDI-growth is positive and statistically significant both in the short-run and long-run, but with a stronger effect in the long-run. This shows that an increase in outward FDI leads to an increase in economic growth in the short-run and long-term respectively. This finding support Hypothesis (H1a) that the impact of outward FDI spillover positively influence home country economic growth in HICs economies. Hypothetically, home country national corporation might have engaged in natural resources seeking investment in order to augment production stage due to increase in demand. This further stimulate national companies to conduct cross border investment. These findings coincide with some previous studies that have examined HICs

economies using single analysis. For instance, Navaretti & Castellani [2004] study found that outward FDI improve the growth of total factor productivity and output of Italy; outward FDI was found to strengthens the economic activities of Japanese firms [Hijzen et al., 2007]; and the effect of outward FDI in German economy shows growth-enhancing [Herzer, 2010]. This finding further suggests the likelihood of endogenous growth in HICs groups, facilitated by overseas investment transfer of new foreign technologies from other HICs countries, which improves the production function of the home country in the long run. This result validates Kocherlakota & Yi [1997)], [1996] findings using the US and UK data. This NGT effect may be influenced by the presence of strong national institution in these group of countries.

*Table 16 – CS-ARDL estimations outcome for high income countries (1998-2019)*

| Models | I | II | III | IV | V | VI | VII | VIII |
|---|---|---|---|---|---|---|---|---|
| **Short Run** | | Dependent variable: Economic growth (S) | | | | GDP per capita | | Full |
| | WOI | (1) | (2) | (3) | (4) | (5) | (6) | sample |
| $\Delta X$ | 0.313*** (0.068) | 0.558*** (0.074) | 0.413* (0.221) | 0.256** (0.120) | 0.311* (0.181) | 0.653*** (0.181) | 0.274** (0.124) | 0.641*** (0.231) |
| $\Delta Y$ | 0.208** (0.104) | 0.361*** (0.072) | 0.301*** (0.056) | 0.172** (0.086) | 0.483* (0.259) | 0.202* (0.112) | 0.383** (0.178) | 0.376** (0.169) |
| $\Delta Z$ | 0.482* (0.286) | 0.238*** (0.057) | 0.532 (0.325) | 0.437* (0.245) | 0.637* (0.366) | 0.323 (0.291) | 0.503** (0.216) | 0.336* (0.177) |
| $\Delta (VA \times Y)$ | | 0.504* (0.300) | | | | | | 0.564 (0.356) |
| $\Delta (PS \times Y)$ | | | 0.518** (0.216) | | | | | 0.483*** (0.125) |
| $\Delta (GE \times Y)$ | | | | 0.542** (0.238) | | | | 0.327*** (0.108) |
| $\Delta (RQ \times Y)$ | | | | | 0.486*** (0.087) | | | 0.392* (0.209) |
| $\Delta (RL \times Y)$ | | | | | | 0.417* (0.245) | | 0.446** (0.203) |
| $\Delta (CC \times Y)$ | | | | | | | 0.205*** (0.069) | 0.358 (0.218) |
| ECM(-1) | -0.718*** (0.025) | -0.637* (0.036) | -0.405* (0.023) | -0.857** (0.028) | -0.842* (0.026) | -0.531** (0.015) | -0.782** (0.041) | -0.697** (0.046) |
| **Long-run** | | | | | | | | |
| X | 0.357** (0.146) | 0.753 (0.478) | 0.603** (0.257) | 0.286* (0.164) | 0.579*** (0.215) | 0.869* (0.517) | 0.583*** (0.225) | 0.663 (0.462) |
| Y | 0.256** (0.114) | 0.481*** (0.062) | 0.375* (0.186) | 0.181* (0.076) | 0.309* (0.182) | 0.256* (0.148) | 0.552*** (0.164) | 0.394* (0.210) |
| Z | 0.561** (0.273) | 0.566** (0.281) | 0.470* (0.256) | 0.662** (0.287) | 0.594*** (0.225) | 0.463*** (0.157) | 0.612 (0.395) | 0.373** (0.271) |
| VA×Y | | 0.519*** (0.183) | | | | | | 0.588 (0.485) |
| PS×Y | | | 0.576*** (0.192) | | | | | 0.692*** (0.218) |
| GE×Y | | | | 0.585*** (0.215) | | | | 0.510*** (0.189) |
| RQ×Y | | | | | 0.431* (0.247) | | | 0.408* (0.215) |
| RL×Y | | | | | | 0.427* (0.253) | | 0.673** (0.298) |
| CC×Y | | | | | | | 0.486* (0.271) | 0.506* (0.289) |
| Obs. | 1122 | 1122 | 1122 | 1122 | 1122 | 1122 | 1122 | 1122 |
| CSD | 0.204 | 0.373 | 0.741 | 0.692 | 0.178 | 0.448 | 0.633 | 0.195 |

*Note:*

*1. Author's calculation; Δ indicates difference, WOI indicates "without institutions"*

*2. Significance: * p<0.1; ** p<0.05; ***p<0.01, values in the parentheses are robust standard errors*

*3. S, X, Y, and Z indicates Growth, Gross capital formation, OFDI and trade openness respectively*

The coefficient of institutions influencing growth effect of outward FDI is positive, which provide strong support for Hypothesis (H1b), However, the coefficient is larger than the direct impact of outward FDI-growth both in the long and the short-term. This suggests that institutional component in HICs countries indirectly enhances economic growth by facilitating and stimulating outward FDI. This finding is consistent with numerous studies such as Globerman et al. [2004] - developed countries; Globerman & Shapiro [2002] - developing and developed countries; etc., which argues that high quality institutions strongly determine the internationalization of innovative activity in home country. Furthermore, result indicates that government effectiveness (GE) in HICs countries contribute most to outward FDI-growth improvement in the short-run and long-run. This shows that efforts by home country to improve on governance effectiveness, strengthens the impact of outward FDI on economic growth both in the short-term and long-term respectively. This is followed by maintaining political stability (PS) which improves outward FDI-induced economic growth in the short-run and long-run respectively. The post estimation CSD test results confirmed the absence of cross-sectional dependence among variables which in-turn validates results of the estimated coefficients.

*The mediation effects in upper-middle income economies (UMICs) group*

Table 17 results show that the impact of outward FDI-growth in UMICs is positive in all sub-models both in the short-and long-run. In the short run, it is evident that an increase in outward FDI bring about an increase in economic growth. In the same vein, increase in outward FDI leads to an increase in economic growth for the long-run elasticity. This provides support for Hypothesis (H1a) and implies that outward FDI may increase home country economic growth via technology spillover effects, repatriation of returns on investment to home country for reinvestment purpose to upgrade production processes and boost the economy. However, the long-run estimated coefficients appear larger compared to the short-run indicating that outward FDI has stronger impact on economic growth at

the long-run. The coefficients of ECM (-1) term are negative and statistically significant, which implies that the system may return to steady state at an average speed of 53.03% if there is a shock that causes disequilibrium.

More so, in apparent support to Hypothesis (H1b), the coefficients of the impact of outward FDI-growth via home country institution are positive, significant, and larger than the coefficients of the direct impact of outward FDI on growth both in the short and long-run analysis. This suggests that home country institutional components enhance outward FDI-induced economic growth in UMICs countries in the short-and long-term. Specifically, political stability (PS) in UMICs countries appear to be the most contributing factor in outward FDI-induced growth. This implies that given the level of home country political stability (PS), a 1% increase in outward FDI leads to an increase in economic growth in the short-run and long-run respectively. This empirical result indicates that within the UMICs group, outward FDI spillovers shows to be an important factor that contributes to economic growth via the technology spillover generated. Thus, the positive effect (increase in GDP) within UMICs may be due to the possibility of the presence of endogenous growth caused by outward FDI spillover via reversed capital knowledge and/or technology transfer from other UMICs economies, facilitated by home country characteristics such as institutions. However, the p-values of the CSD tests indicate no cross-sectional dependence among the variables which further validates the robustness of estimated coefficients.

*Table 17 – CS-ARDL estimations for upper-middle income countries (1998-2019)*

| Models | I | II | III | IV | V | VI | VII | VIII |
|---|---|---|---|---|---|---|---|---|
| Short Run | | Dependent variable: Economic growth (S) (GDP per capita) | | | | | | Full |
| | WOI | (1) | (2) | (3) | (4) | (5) | (6) | sample |
| $\Delta X$ | 0.483** | 0.500* | 0.607 | 0.521*** | 0.752** | 0.489* | 0.523* | 0.607*** |
| | (0.203) | (0.290) | (0.595) | (0.133) | (0.345) | (0.251) | (0.312) | (0.145) |
| $\Delta Y$ | 0.203*** | 0.294** | 0.096* | 0.124** | 0.313 | 0.191*** | 0.303* | 0.241* |
| | (0.083) | (0.143) | (0.057) | (0.062) | (0.202) | (0.081) | (0.164) | (0.141) |
| $\Delta Z$ | -0.267** | -0.641*** | 0.610* | 0.395*** | -0.811* | -0.306 | 0.461*** | 0.657 |
| | (0.109) | (0.142) | (0.316) | (0.121) | (0.476) | (0.194) | (0.137) | (0.393) |
| $\Delta (VA \times Y)$ | | 0.356* | | | | | | 0.588*** |
| | | (0.211) | | | | | | (0.128) |
| $\Delta (PS \times Y)$ | | | 0.533* | | | | | 0.411* |
| | | | (0.301) | | | | | (0.238) |
| $\Delta (GE \times Y)$ | | | | 0.529*** | | | | 0.561** |
| | | | | (0.104) | | | | (0.258) |
| $\Delta (RQ \times Y)$ | | | | | 0.403* | | | 0.203* |
| | | | | | (0.227) | | | (0.115) |
| $\Delta (RL \times Y)$ | | | | | | 0.381** | | 0.447 |
| | | | | | | (0.190) | | (0.269) |
| $\Delta (CC \times Y)$ | | | | | | | 0.294** | 0.314* |
| | | | | | | | (0.126) | (0.187) |
| ECM(-1) | -0.633* | -0.466** | -0.672*** | -0.501** | -0.684* | -0.512** | -0.476** | -0.539** |
| | (0.049) | (0.045) | (0.024) | (0.030) | (0.059) | (0.028) | (0.066) | (0.015) |
| *Long-run* | | | | | | | | |
| X | 0.419** | 0.653* | 0.786* | 0.479 | 0.316** | 0.642*** | 0.733* | 0.628* |
| | (0.207) | (0.329) | (0.421) | (0.288) | (0.127) | (0.088) | (0.416) | (0.354) |
| Y | 0.215** | 0.117 | 0.144* | 0.322*** | 0.387 | 0.203** | 0.306*** | 0.248** |
| | (0.086) | (0.103) | (0.077) | (0.076) | (0.293) | (0.102) | (0.114) | (0.121) |
| Z | 0.325 | 0.208** | 0.384*** | 0.183*** | 0.472** | 0.637* | 0.741** | 0.218*** |
| | (0.211) | (0.097) | (0.111) | (0.066) | (0.234) | (0.378) | (0.316) | (0.053) |
| VA×Y | | 0.364*** | | | | | | 0.607* |
| | | (0.167) | | | | | | (0.312) |
| PS×Y | | | 0.572** | | | | | 0.468*** |
| | | | (0.282) | | | | | (0.139) |
| GE×Y | | | | 0.536* | | | | 0.387 |
| | | | | (0.301) | | | | (0.239) |
| RQ×Y | | | | | 0.448** | | | 0.178*** |
| | | | | | (0.213) | | | (0.039) |
| RL×Y | | | | | | 0.423* | | 0.733* |
| | | | | | | (0.213) | | (0.389) |
| CC×Y | | | | | | | 0.318*** | 0.547*** |
| | | | | | | | (0.123) | (0.168) |
| Obs. | 1034 | 1034 | 1034 | 1034 | 1034 | 1034 | 1034 | 1034 |
| Groups | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| CSD | 0.836 | 0.377 | 0.524 | 0.452 | 0.206 | 0.162 | 0.261 | 0.153 |

Note:
1. Author's calculation; Δ indicates difference, WOI indicates "without institutions"
2. Significance: * $p<0.1$; ** $p<0.05$; ***$p<0.01$, values in the parentheses are robust standard errors
3. S, X, Y, and Z indicates Growth, Gross capital formation, OFDI and trade openness respectively

*The mediation effects in low-middle income economies (LMICs) group*

Table 18 presents the estimated results of outward FDI-induced economic growth influenced by home country institutions in LMICs economies using the CS-ARDL technique. The impact of outward FDI-growth in home country indicates mixed results in the short-run, but the effect in the long-run is positive and unanimous (see the different models). The mixed results may be due to home country specificity and factors affecting outward FDI in different countries. Negative impact suggests that overseas direct investment in some LMICs countries may decrease growth by crowding out domestic investment, substitute exports, and give rise to hollow-out effects which may lead to unemployment [Huijie 2018]. However, more positive signs in the model results (six out of eight) shows that many LMICs countries benefit from the impact of outward FDI which promotes home country economic growth. Although this finding positive but appears not to provide strong argument for Hypothesis (H1a). These non-uniform effects indicate that some countries' internationalization activities of outward FDI within LMIC countries could help generate endogenous economic growth that improves home country economy in the long run. The coefficients of all the ECTs term are negative and statistically significant which indicates that the systems revert to equilibrium at an average speed of 48.71% in case of a shock that causes a disequilibrium.

*Table 18 – CS-ARDL estimations for lower-middle income countries (1998-2019)*

| Models | I | II | III | IV | V | VI | VII | VIII |
|---|---|---|---|---|---|---|---|---|
| | | Dependent variable: Economic growth (S) (GDP per capita) | | | | | | Full |
| Short Run | WOI | (1) | (2) | (3) | (4) | (5) | (6) | sample |
| ΔX | 0.047 | 0.239** | 0.189*** | 0.210 | 0.126** | 0.257* | 0.163** | 0.213** |
| | (0.052) | (0.115) | (0.024) | (0.126) | (0.054) | (0.136) | (0.082) | (0.098) |
| ΔY | 0.101* | -0.029** | -0.103** | 0.094* | 0.187*** | 0.061 | 0.042*** | 0.206 |
| | (0.057) | (0.014) | (0.052) | (0.053) | (0.024) | (0.043) | (0.013) | (0.128) |
| ΔZ | 0.189*** | 0.235* | 0.134** | -0.111* | 0.255** | 0.217*** | -0.197* | 0.244 |
| | (0.065) | (0.128) | (0.061) | (0.058) | (0.114) | (0.084) | (0.116) | (0.182) |
| Δ (VA×Y) | | 0.046** | | | | | | 0.175* |
| | | (0.023) | | | | | | (0.091) |
| Δ (PS×Y) | | | 0.057*** | | | | | 0.086** |
| | | | (0.005) | | | | | (0.037) |
| Δ (GE×Y) | | | | 0.121* | | | | 0.114 |
| | | | | (0.072) | | | | (0.079) |
| Δ (RQ×Y) | | | | | 0.054* | | | 0.196* |
| | | | | | (0.028) | | | (0.110) |
| Δ (RL×Y) | | | | | | 0.088*** | | 0.046** |
| | | | | | | (0.026) | | (0.022) |
| Δ (CC×Y) | | | | | | | 0.003*** | 0.151*** |
| | | | | | | | (0.001) | (0.018) |
| ECM (-1) | -0.406** | -0.542* | -0.513* | -0.498** | -0.597** | -0.368* | -0.428** | -0.545* |
| | (0.102) | (0.203) | (0.122) | (0.185) | (0.083) | (0.151) | (0.087) | (0.044) |
| Long-run | | | | | | | | |
| X | 0.136* | 0.201* | 0.216*** | 0.243* | 0.131* | 0.236** | 0.152 | 0.249** |
| | (0.081) | (0.114) | (0.081) | (0.133) | (0.077) | (0.111) | (0.187) | (0.121) |
| Y | 0.074* | 0.103*** | 0.132** | 0.122* | 0.188** | 0.103* | 0.106* | 0.123 |
| | (0.038) | (0.024) | (0.052) | (0.063) | (0.089) | (0.057) | (0.056) | (0.098) |
| Z | 0.267** | 0.148* | 0.277* | -0.203** | 0.261*** | 0.364 | -0.156** | 0.236* |
| | (0.126) | (0.079) | (0.146) | (0.103) | (0.084) | (0.299) | (0.078) | (0.131) |
| VA×Y | | 0.087** | | | | | | 0.186* |
| | | (0.043) | | | | | | (0.111) |
| PS×Y | | | 0.094** | | | | | 0.073* |
| | | | (0.047) | | | | | (0.042) |
| GE×Y | | | | 0.147*** | | | | 0.197 |
| | | | | (0.026) | | | | (0.148) |
| RQ×Y | | | | | 0.074* | | | 0.108 |
| | | | | | (0.038) | | | (0.095) |
| RL×Y | | | | | | 0.103* | | 0.101*** |
| | | | | | | (0.054) | | (0.017) |
| CC×Y | | | | | | | 0.027** | 0.139*** |
| | | | | | | | (0.011) | (0.043) |
| Obs. | 902 | 902 | 902 | 902 | 902 | 902 | 902 | 902 |
| Groups | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| CSD | 0.413 | 0.936 | 0.311 | 0.630 | 0.233 | 0.831 | 0.445 | 0.372 |

Note:

1. Author's calculation; Δ indicates difference, WOI indicates "without institutions"

2. Significance: * p<0.1; ** p<0.05; ***p<0.01, values in the parentheses are robust standard errors

3. S, X, Y, and Z indicates Growth, Gross capital formation, OFDI and trade openness respectively

The result of the interaction of outward FDI with home country institutional quality is positive and significant in all models. This implies that home country institutions

strengthen outward FDI-induced economic growth in LMICs countries both in the short and long-run. This finding shows to be consistent with Hypothesis (H1b). Interestingly, control of corruption (CC) component shows to be the least contributing factor to outward FDI-growth both in the short term and long-term. This implies that steps by governments to curb corruptions in LMICs countries improve home country's institutions that facilitate outward FDI-growth in the short and long term. Contrarily, government effectiveness (GE) has the greatest impact on outward FDI-growth nexus, which implies that efforts by government in LMICs countries to provide better service delivery to it citizenry improves the growth effect of outward FDI in short- and long-run respectively. The p-values of post estimation test of Pesaran [2004] CD shows that the estimated coefficients are cross-sectionally independent, thus the estimated coefficients are reliable.

*The mediation effects in low-income economies (LICs) group*

The results reported in Table 19 clearly indicate that the ECM term is negatively significant, suggesting an average recovery speedy of 35.75% from any disequilibrium in the long-run, which suggests that the mean half-life disequilibrium[45] will be about 1.938 years (almost 2-years). For the impact of outward FDI on growth in the short-run, six out of eight experimenting models show negative results, but in the long-run, four out of eight models indicate negative effects. This implies that outward FDI in LICs countries have adverse effect on growth both in the short-and long-term, but the negative impact seems severe in the short-term. This finding is inconsistent with Hypothesis (H1a) and the implication is that increase in outward FDI leads to a decrease in economic growth in LICs countries. This shows that overseas expansion within LICs group may not cause growth for home country. More so, negative effects of outward FDI on growth may cause FDI escapism in home country [Osabuohien-Irabor & Drapkin, 2022a], as MNCs may initiate an escape strategy perhaps due to institutional void [Stoian & Mohr, 2016]; political

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[45] Fanelli, L. and Paruolo, P. Speed of adjustment in cointegrated systems // Journal of Econometrics. –2010. –Vol. 158. – No. 1. – pp. 130-141, https://doi.org/10.1016/j.jeconom.2010.03.020.

instability [Osabuohien-Irabor & Drapkin, 2022a] as well as misalignment between MNCs and domestic firms, which affects growth negatively [Barnard & Luiz, 2018].

*Table 19 – CS-ARDL estimations outcome for low-income countries (1998-2019)*

| Models | I | II | III | IV | V | VI | VII | VIII |
|---|---|---|---|---|---|---|---|---|
| | Dependent variable: Economic growth (S) (GDP per capita) | | | | | | | Full |
| | WOI | (1) | (2) | (3) | (4) | (5) | (6) | sample |
| ΔX | 0.103*** (0.021) | 0.019** (0.008) | 0.003 (0.027) | 0.084** (0.037) | 0.152* (0.082) | -0.174 (0.102) | 0.105* (0.061) | 0.079* (0.043) |
| ΔY | -0.088* (0.052) | -0.013 (0.021) | 0.007** (0.003) | -0.030 (0.027) | -0.204** (0.090) | 0.012*** (0.004) | -0.166* (0.087) | -0.101 (0.065) |
| ΔZ | 0.135*** (0.051) | 0.046** (0.023) | 0.097* (0.054) | 0.089* (0.046) | -0.173* (0.101) | -0.151 (0.093) | 0.064* (0.033) | 0.136*** (0.052) |
| Δ (VA×Y) | | 0.007 (0.005) | | | | | | 0.088** (0.039) |
| Δ (PS×Y) | | | 0.009* (0.005) | | | | | 0.103* (0.055) |
| Δ (GE×Y) | | | | 0.037*** (0.013) | | | | 0.017* (0.009) |
| Δ (RQ×Y) | | | | | -0.006 (0.018) | | | 0.077 (0.105) |
| Δ (RL×Y) | | | | | | 0.013* (0.007 | | 0.096 (0.098) |
| Δ (CC×Y) | | | | | | | 0.002 (0.011) | 0.043* (0.025) |
| ECM (-1) | -0.531* (0.298) | -0.248** (0.339) | -0.464** (0.277) | -0.203* (0.308) | -0.416* (0.360) | -0.359* (0.288) | -0.376* (0.257) | -0.26** (0.227) |
| *Long-run* | | | | | | | | |
| X | 0.067* (0.038) | -0.058* (0.030) | -0.079** (0.031) | 0.115* (0.061) | 0.174 (0.128) | -0.168 (0.123) | 0.183* (0.097) | 0.043** (0.021) |
| Y | 0.104** (0.050) | -0.094*** (0.025) | 0.005** (0.002) | 0.022 (0.016) | -0.129* (0.067) | -0.103* (0.058) | 0.012 (0.046) | -0.137 (0.086) |
| Z | -0.116* (0.063) | 0.173 (0.148) | -0.114** (0.054) | 0.096* (0.052) | -0.126* (0.068) | 0.044** (0.022) | 0.127** (0.064) | 0.149* (0.083) |
| VA×Y | | 0.003** (0.001) | | | | | | 0.064 (0.095) |
| PS×Y | | | -0.023 (0.016) | | | | | 0.007** (0.003) |
| GE×Y | | | | 0.041* (0.040) | | | | 0.158** (0.073) |
| RQ×Y | | | | | 0.004 (0.003) | | | 0.081** (0.041) |
| RL×Y | | | | | | 0.015** (0.007) | | 0.137 (0.085) |
| CC×Y | | | | | | | 0.006** (0.003) | 0.010** (0.005) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Obs. | 484 | 484 | 484 | 484 | 484 | 484 | 484 | 484 |
| Groups | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| CSD | 0.632 | 0.231 | 0.753 | 0.553 | 0.407 | 0.564 | 0.812 | 0.212 |

Note:
1. Author's calculation; Δ indicates difference, WOI indicates "without institutions"
2. Significance: * p<0.1; ** p<0.05; ***p<0.01, values in the parentheses are robust standard errors
3. S, X, Y, and Z indicates Growth, Gross capital formation, OFDI and trade openness respectively

*Table 20 – CS-ARDL estimates of OFDI-growth without institutional quality (1998-2019)*

| | Dependent variable: Economic growth (S) GDP per capita | | | |
|---|---|---|---|---|
| Short-run | HICs | UMICs | LMICs | LICs |
| ΔX | 0.313*** | 0.483** | 0.047 | 0.103*** |
| | (0.068) | (0.203) | (0.052) | (0.021) |
| ΔY | 0.208** | 0.203*** | 0.101* | -0.088* |
| | (0.104) | (0.083) | (0.057) | (0.052) |
| ΔZ | 0.482* | -0.267** | 0.189*** | 0.135*** |
| | (0.286) | (0.109) | (0.065) | (0.051) |
| Long-run | | | | |
| X | 0.357** | 0.419** | 0.136* | 0.067* |
| | (0.146) | (0.207) | (0.081) | (0.038) |
| Y | 0.256** | 0.215** | 0.074* | 0.104** |
| | (0.114) | (0.086) | (0.038) | (0.050) |
| Z | 0.561** | 0.325 | 0.267** | -0.116* |
| | (0.273) | (0.211) | (0.126) | (0.063) |
| Obs. | 1122 | 1034 | 902 | 484 |
| Groups | 51 | 47 | 41 | 22 |
| CSD | 0.204 | 0.836 | 0.413 | 0.632 |

Note:
1. Author's calculations
2. Significance: * p<0.1; ** p<0.05; ***p<0.01, values in the parentheses are robust standard errors
3. S, X, Y, and Z indicates Growth, Gross capital formation, OFDI and trade openness respectively.

Although the joint impact of outward FDI and institutions on home country economic growth is positive and appears not contrary to Hypothesis (H1b), but the coefficient of the combined impact is small compared to LMICs, UMICs, and HICs countries. This indicates that the impact of home country institutions in outward FDI-growth appears weak both in the short term and long term. Nevertheless, the impact of the interaction of VA×Y, RQ×Y and CC×Y are insignificant in the short-term, while PS×Y and RQ×Y are insignificant in the long run. However, GE, RL, and CC appear to positively

affect growth in the long run. Overall, finding suggests that countries with low wage appears not to benefit from MNCs outward-internationalization activities, and the role play by home country institutions in stimulating outward FDI-induced growth appears weak. This may be due to the small number of MNCs investments and financially constrained domestic firm, leading to an economy with lack of investment capital and weak institutional framework.

However, Table 20 show the estimates of the growth effect of outward FDI without the influence of home country institution for the different income groups. Estimations in the absence of home country's institutions show that the estimates for HICs and UMICs remain positive and statistically significant both in the short-run and long-run. This positive impact could be due to the presence of other strong macroeconomic factors in home country, providing support for MNCs overseas expansion. This view is corroborated by the large and stable coefficients of the gross capital formation (X) in the long-term and short-term. For LMICs and LICs countries, the economic growth effects of outward FDI are also positive and statistically significant, except LICs group which is negative in the short-term. Nevertheless, the positive impacts of outward FDI and the capital formations for LMICs and LICs income groups appear weak given the small values of their coefficients, both in long-term and short-term.

## 3.2. FDI Outflows and International Trade nexus: Empirical Evidence from Country Income Groups

Table 21 present the empirical results from the estimation of the investment model (shown in Equation 4, model-II) which examines the impact of international trade on outward FDI across income economic using the two-steps SYS-GMM. Contrary to Hypothesis (H2a), the impact of international trade on outward FDI in LICs is negative and statistically insignificant, implying that an increase in international trade may decrease outward FDI flow to foreign countries, but the effects are statistically insignificant. This suggests that international trade do not complement outward FDI in low wage economies. Regarding

other income groups such as LIMCs, UMICs and HICs, findings show that the coefficient of the relationship is positive and provide strong support for Hypothesis (H2a) which suggests the existence of "trade supporting outward FDI" effects to stimulates domestic investment to increase scale of production and upgrade technologies for home countries. This finding shows that an increase in home country international trade may lead to overseas production expansion for LIMCs, UMICs and HICs group. International trade facilitates outward FDI to exploit relative factor costs difference in abroad. This may improve or raise capital back home and in-turn improve the economy. Finding shows that international trade complements outward FDI more in countries with HICs closely followed by UMICs, compared to other income economies group.

The estimation results of other macroeconomics variables in the investment model (shown in Equation 4) are quite satisfactory. For instance, the per capita GDP, institutions, infrastructure development and population are positive and statistically significant in all income economies group. This implies that these variables support trade impact on outward FDI to improve the economies. In addition, the negative coefficients of GFC dummy suggests that the 2007 and 2008 global financial crisis affects outward FDI internationalization activities in all economic group, but the crisis appears to deteriorate in 2007 compared to the year 2008. The model diagnostic checks for the analysis shows that the overriding identification (Hansen test specification) and autocorrelation tests for AR (2) do not rejects the null Hypotheses, which indicate that the overall performance of the investment models are satisfactory. Thus, the results in Table 21 correctly describe the impact of trade on outward FDI relationship.

*Table 21 – SYS-GMM estimates of the effects of home country trade on OFDI*

| Dependent Variable: Outward FDI | World Bank Country Income Classifications | | | | All sample |
| --- | --- | --- | --- | --- | --- |
| | Low-Income (1) | Low-Middle (2) | Upper-Middle (3) | High-Income (4) | (5) |
| Lagged OFDI | 0.164** | 0.183*** | 0.201*** | 0.147* | 0.105*** |
| | (2.130) | (2.642) | (7.921) | (1.694) | (6.610) |
| TRD | -0.103 | 0.162*** | 0.340*** | 0.544*** | 0.493*** |
| | (-1.660) | (3.512) | (11.453) | (2.410) | (8.947) |
| GDP | 0.026* | 0.181** | 0.320* | 0.413* | 0.602** |
| | (1.790) | (2.503) | (1.860) | (1.670) | (2.207) |
| INST | 0.008 | 0.274* | 0.316* | 0.507*** | 0.516 |
| | (1.497) | (1.657) | (1.940) | (3.335) | (1.430) |
| INFR | 0.113** | 0.240* | 0.456*** | 0.553 | 0.376* |
| | (2.010) | (1.900) | (2.550) | (1.380) | (1.704) |
| POP | 0.143** | 0.270* | 0.335 | 0.281* | 0.432 |
| | (2.370) | (1.782) | (1.340) | (`1.687) | (0.430) |
| 2007 GFC | -0.058* | -0.021 | -0.097* | -0.088** | -0.125* |
| | (1.850) | (-1.062) | (-1.750) | (-2.141) | (-1.801) |
| 2008 GFC | -0.078 | -0.188*** | -0.115 | -0.156* | -0.107** |
| | (-0.200) | (-2.590) | (-0.120) | (-1.740) | (-2.400) |
| Constant | -3.200*** | -3.174 | -1.638* | 2.301*** | 2.743* |
| | (-4.271) | (-1.160) | (1.670) | (3.744) | (1.889) |
| Total Observation | 484 | 902 | 1034 | 1122 | 3542 |
| Instruments/Groups | 20/22 | 29/41 | 24/47 | 30/51 | 53/161 |
| Instrument ratios | 1.000 | 1.413 | 1.958 | 1.700 | 3.037 |
| A-Bond (1) p-value | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 |
| A-Bond (2) p-value | 0.372 | 0.288 | 0.197 | 0.402 | 0.253 |
| Hansen test p-value | 0.444 | 0.176 | 0.252 | 0.387 | 0.504 |

Note:
1. OFDI is lagged one year, t-statistics are in parentheses.
2. Significance: * $p<0.1$; ** $p<0.05$; ***$p<0.01$
3. Author's calculation:  Sources: Data sources is from https://data.worldbank.org/

Table 22 shows the robustness results of the investment model using the DFF-GMM estimator. International trade shows to substitutes investment in LICs and LMICs which contradict Hypothesis (H2a), but consistent with the results in UMICs and HIC groups indicating that the impact of international trade on outward FDI is complementary. Substitutive effects of trade could be due to large national disadvantage which may temporary affect MNCs investment. Thus, domestic firm may export goods and services along investment to foreign country. This can occur when MNCs partially relocates abroad due to numerous reasons such as political instability, as well as other home country risks.

Except the population variable, which is negative, the results of other controlled variables in LICs group are positive and statistically significant. This help in stimulating home country trade and outward FDI activities toward improve growth. Regarding the GFC dummies, negative and statistically significant results in all income groups indicate that the global financial crisis affected outward FDI internationalization activities at different level of income economies in the 2007 and 2008. These results validate the SYS-GMM estimation on the effect of GFC on outward FDI shown in Table 21. However, the overall performance of the investment model based on the diagnostic test statistics (Hansen and AR (1) and (2) tests) is satisfactory which indicates robustness of the estimated coefficients. Table 22 is shown thus.

Table 23 presents the empirical results for international trade model (the reverse of the investment model shown in Equation 4, model-II) which examines the impact of outward FDI on international trade across income groups such as LICs, LMICs, UMICs and HICs using the two-step SYS-GMM technique. The lagged trade term for all specification for income groups are positive and statistically significant, but their values are less than one. This indicates that changes in the explanatory variables at a specific point in time influences the current period. However, it can be noted that except for LICs which is inconsistent with Hypothesis (H2b), there is a significant positive relationship between outward FDI and international trade in LMICs, UMICs and HICs groups showing strong supports for Hypothesis (H2b) (In Table 23). This implies that the expansion of overseas production may increase international trade for LMICs, UMICs and HICs groups, and indicate a complementary relationship. This suggests "OFDI-supporting trade[46]" that cause import for home country via backward vertical integration, and simultaneously stimulate export due to enhanced competitiveness effects with the local firms. Similarly, outward FDI spillover may encourage development of economies through repatriation of investment returns which facilitates technical know-how and skills to home country which improve the economy.

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[46] Osabuohien-Irabor, O., Drapkin, I.M. FDI outflows and international trade nexus: Empirical evidence from country income groups // R-Economy. –2022c. –Vol. 8. – No. 4. –pp. 340-236 doi: 10.15826/recon.2022.8.4.026

*Table 22 – Robustness check: DFF-GMM estimates of home country trade on OFDI*

| Dependent Variable: Outward FDI | World Bank Country Income Classifications | | | | All sample |
| | Low-Income (1) | Low-Middle (2) | Upper-Middle (3) | High-Income (4) | (5) |
|---|---|---|---|---|---|
| Lagged OFDI | 0.105* | 0.168*** | 0.188** | 0.129*** | 0.101** |
| | (1.670) | (7.390) | (2.430) | (3.203) | (2.250) |
| TRD | -0.100** | -0.171*** | 0.387*** | 0.567*** | 0.465*** |
| | (-2.230) | (-2.790) | (5.000) | (4.980) | (6.610) |
| GDP | 0.058** | 0.194* | 0.333*** | 0.441* | 0.621 |
| | (2.770) | (1.680) | (4.360) | (1.673) | (0.870) |
| INST | 0.011* | 0.283 | 0.323** | 0.513 | 0.527** |
| | (1.652) | (1.510) | (2.460) | (0.410) | (2.170) |
| INFR | 0.121** | 0.252*** | 0.418 | 0.556*** | 0.395* |
| | (2.690) | (2.810) | (0.870) | (3.050) | (1.910) |
| POP | -0.145 | 0.273 | 0.347* | 0.293** | 0.439*** |
| | (-0.110) | (0.680) | (1.658) | (2.570) | (2.960) |
| 2007 GFC | -0.036* | -0.019*** | -0.103** | -0.074*** | -0.108** |
| | (1.790) | (4.010) | (2.160) | (4.510) | (2.105) |
| 2008 GFC | -0.081** | -0.169* | -0.122* | -0.147** | -0.090* |
| | (1.982) | (-1.890) | (-1.970) | (2.130) | (-1.920) |
| Constant | 1.375 | 4.128* | 3.235* | -1.621** | 2.550* |
| | (1.130) | (1.930) | (1.690) | (-2.061) | (1.760) |
| Total Observation | 484 | 902 | 1034 | 1122 | 3542 |
| Instruments/Groups | 20/22 | 28/41 | 22/47 | 26/51 | 49/161 |
| Instrument ratios | 1.100 | 1.464 | 2.136 | 1.961 | 3.285 |
| A-Bond (1) p-value | 0.001 | 0.000 | 0.000 | 0.000 | 0.002 |
| A-Bond (2) p-value | 0.189 | 0.373 | 0.329 | 0.504 | 0.293 |
| Hansen test p-value | 0.211 | 0.521 | 0.173 | 0.284 | 0.447 |

Note:
1. OFDI is lagged one year, t-statistics are in parentheses.
2. Significance: * $p<0.1$; ** $p<0.05$; *** $p<0.01$
3. Author's calculation: Sources: Data sources is from https://data.worldbank.org/

However, negative relationship of OFDI-trade in LICs suggests a substitutional relationship (see Table 23), indicating that the "OFDI-supporting trade" concept do not hold in LICs, which further suggests that home trade does benefit from outward FDI, does not cause imports, and stimulate exports. In addition, the impact of 2007 GFC on international trade is positive and statistically insignificant in LICs and LMICs groups, but negatively significant in UMICs and HICs. Nevertheless, in 2008, empirical results

indicates that GFC affected all income economies group in world economy. The p values of Hansen tests of overriding identification and AR (2) autocorrelation tests shows to be insignificant and do not reject the null Hypothesis.

*Table 23 – SYS-GMM estimates of the effects of OFDI on home country's trade.*

| Dependent Variable: International Trade | World Bank Country Income Classifications | | | | All sample (5) |
|---|---|---|---|---|---|
| | Low-Income (1) | Low-Middle (2) | Upper-Middle (3) | High-Income (4) | |
| Lagged TRD | 0.361*** | 0.286*** | 0.405*** | 0.397*** | 0.210*** |
| | (7.340) | (11.803) | (9.643) | (10.747) | (6.730) |
| OFDI | -0.046* | 0.093* | 0.197** | 0.200** | 0.211*** |
| | (-1.670) | (1.910) | (2.396) | (1.994) | (2.731) |
| GDP | 0.006*** | 0.178 | 0.220* | 0.397** | 0.579*** |
| | (2.830) | (1.490) | (1.680) | (2.371) | (2.750) |
| INST | 0.018* | 0.127*** | 0.279** | 0.313* | 0.401 |
| | (2.406) | (5.390) | (2.090) | (1.694) | (1.350) |
| INFR | 0.009 | 0.174*** | 0.243*** | 0.502*** | 0.585* |
| | (1.410) | (2.584) | (4.845.) | (7.215) | (1.872) |
| POP | 0.123* | 0.351** | 0.132* | 0.332 | 0.607** |
| | (1.660) | (2.130) | (1.819) | (1.450) | (2.260) |
| 2007 GFC | 0.014 | 0.019 | -0.093*** | -0.061*** | -0.174*** |
| | (1.000) | (1.641) | (-2.610) | (-11.080) | (-2.890) |
| 2008 GFC | -0.007* | -0.002** | -0.138*** | -0.111*** | -0.103*** |
| | (-1.700) | (2.065) | (-4.864) | (-9.002) | (-8.543) |
| Constant | 2.005* | 1.856*** | -2.343*** | -1.116*** | 0.793* |
| | (1.676) | (4.563) | (-6.238) | (-3.223) | (1.948) |
| Total Observation | 484 | 902 | 1034 | 1122 | 3542 |
| Instruments/Groups | 21/22 | 27/41 | 26/47 | 33/51 | 67/161 |
| Instrument ratios | 1.047 | 1.518 | 1.807 | 1.545 | 2.402 |
| A-Bond (1) p-value | 0.001 | 0.003 | 0.000 | 0.002 | 0.000 |
| A-Bond (2) p-value | 0.183 | 0.347 | 0.298 | 0.643 | 0.353 |
| Hansen test p-value | 0.201 | 0.836 | 0.233 | 0.427 | 0.197 |

Note:
1. TRD is lagged one year, t-statistics are in parentheses.
2. Significance: * $p<0.1$; ** $p<0.05$; ***$p<0.01$
3. Author's calculation:  Sources: Data sources is from https://data.worldbank.org/

To further examine the consistency of the estimated results shown in Table 23, this study re-estimates the trade regressions model using DFF-GMM technique. The estimated coefficients are informative given that DFF-GMM estimates of lagged dependent variable is downward biased to the SYS-GMM and the technique magnifies gaps in unbalanced

panels, hence it may not be consistent. However, the estimated results of the impact outward FDI on trade using the DFF-GMM estimator is presented in Table 24. The lagged trade variable is positive and statistically significant across the different income group which implies that the trade model is dynamically stable. Contrary to Hypothesis (H2b), the results suggest that outward FDI provides a substitutive effect to international trade in countries with low wages but support a complementary relationship of international trade impacting outward FDI in LMICs, UMICs and HICs groups. These findings are consistent with the estimated results presented in Table 23 using the two-steps SYS-GMM. However, the empirical findings of trade and outward FDI relationship in this dissertation, corroborate the results of the disaggregate trade (export and import) and outward FDI relationship shown in Annex A - Annex E [Osabuohien-Irabor & Drapkin, 2021].

*Table 24 – Robustness check: DFF-GMM estimates of OFDI on home country trade.*

| Dependent Variable: International Trade | World Bank Country Income Classifications | | | | All sample |
|---|---|---|---|---|---|
| | Low-Income (1) | Low-Middle (2) | Upper-Middle (3) | High-Income (4) | (5) |
| Lagged TRD | 0.278*** | 0.213*** | 0.368*** | 0.304*** | 0.167*** |
| | (4.534) | (5.827) | (7.532) | (9.561) | (5.267) |
| OFDI | -0.036*** | 0.97*** | 0.199** | 0.198*** | 0.233** |
| | (-2.870) | (1.731) | (2.030) | (2.187) | (1.865) |
| GDP | 0.015 | 0.198*** | 0.249* | 0.403 | 0.593 |
| | (1.360) | (4.050) | (1.720) | (1.237) | (0.131) |
| INST | 0.026** | 0.138** | 0.288*** | 0.347*** | 0.418* |
| | (2.370) | (1.760) | (3.531) | (2.930) | (1.671) |
| INFR | 0.028* | 0.187 | 0.265* | 0.519** | 0.597** |
| | (1.673) | (1.540) | (1.831) | (2.633) | (2.131) |
| POP | 0.137 | 0.370* | 0.146** | 0.348* | 0.625* |
| | (1.334) | (1.840) | (2.330) | (1.917) | (2.190) |
| 2007 GFC | 0.069* | 0.012 | -0.067* | -0.146* | -0.258* |
| | (2.170) | (0.860) | (-1.880) | (-1.870) | (-1.930) |
| 2008 GFC | -0.002** | -0.004** | -0.151* | -0.193*** | -0.111* |
| | (-3.873) | (-5.039) | (-1.962) | (-7.116) | (-1.873) |
| Constant | 2.232 | 1.867*** | -2.271* | 1.018*** | 0.841** |
| | (1.550) | (4.190) | (-1.832) | (2.920) | (2.073) |
| Total Observation | 484 | 902 | 1034 | 1122 | 3542 |
| Instruments/Groups | 18/22 | 23/41 | 20/47 | 29/51 | 62/161 |
| Instrument ratios | 1.222 | 1.782 | 2.350 | 1.758 | 2.596 |
| A-Bond (1) p-value | 0.003 | 0.000 | 0.000 | 0.001 | 0.002 |
| A-Bond (2) p-value | 0.169 | 0.204 | 0.236 | 0.441 | 0.192 |

| Hansen test p-value | 0.342 | 0.571 | 0.186 | 0.202 | 0.564 |

The empirical results of per capita GDP, institutions, infrastructure development as well as home country population shows to provide positive effects to trade across income groups which help improve domestic economy. However, the impact of GFC dummy only shows to affect UMICs and HICs during the year 2007, but in 2008, all income groups were affected. These findings corroborate the results of SYS-GMM estimates. Results presented in Table 24 also report the diagnostic test statistics which shows that the Hansen test statistics do not reject the null Hypothesis of valid over-identifying restrictions.

In addition, the p-value of AR (2) test suggests that the trade regression model do not exhibit second-order serial correlation. These tests clearly suggests that the trade model as well as the estimated results are robust and correctly describe the impact of outward FDI on international trade across income economies group.

## 3.3. Effect of Home Country Risk Index on Outward FDI in the Global Economy

The disaggregate data of country risk index and FDI outflow are analyzed. The descriptive statistics and the correlation matrix are presented in Table 25. It describes the nature and distribution of the data employed. The mean distribution of the country risk components variable shows that economic risk index (C) and financial risk index (F) have the lowest and highest mean respectively. Regarding the variables standard deviations, economic risk index (C) has the lowest clustered data around the mean compared to political risk index (P) with more spread-out data, and the values of the interaction terms are approximately about 1.0. Expectedly, the S.D value of the global political risk seems to be higher than the economic and financial risk index. This shows that the global political risk is likely to bring more risk to outward FDI flow than the other components risk. The correlation matrices provide observatory evidence on the level of bivariate relationships between

variables. We found that the interaction variables of $\tau_x$ & E; $\lambda_z$ & E; as well as $\lambda_z$ & $\tau_x$ have correlation values more than 0.50, which is suspectedly high, (see Table 25).

*Table 25 – Descriptive statistics and correlation matrix for country risk index and outward FDI relationship in the global economy*

| | Descriptive statistics | | | Correlation matrix | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Var* | *Obs.* | *mean* | *St. D* | *O* | *C* | *E* | *F* | *P* | $\tau_x$ | $\omega_y$ | $\lambda_z$ |
| *O* | 1778 | 7.291 | 3.525 | 1 | | | | | | | |
| *C* | 1778 | 2.369 | 0.436 | -0.065 | 1 | | | | | | |
| *E* | 1778 | 0.838 | 0.595 | 0.006 | 0.355 | 1 | | | | | |
| *F* | 1778 | 2.116 | 0.693 | -0.126 | 0.314 | 0.067 | 1 | | | | |
| *P* | 1778 | 2.821 | 0.743 | 0.248 | -0.250 | -0.060 | -0.383 | 1 | | | |
| $\tau_x$ | 1778 | 1.589 | 0.993 | 0.027 | 0.424 | 0.523 | 0.034 | -0.010 | 1 | | |
| $\omega_y$ | 1778 | 3.766 | 0.783 | -0.059 | 0.395 | 0.002 | 0.314 | -0.200 | -0.019 | 1 | |
| $\lambda_z$ | 1778 | 1.759 | 1.354 | -0.026 | 0.355 | 0.556 | 0.403 | -0.177 | 0.517 | 0.289 | 1 |

These high correlated coefficients suggests that the study's findings may be biased and inconsistent owing to the problem related to multicollinearity[47,48]. Hence, variables are further tested using Variance Inflation Factor (VIF) to confirm the results of the correlation matrix. The VIF result presented in Table 26 reveals that the individual values of the explanatory variables vary between 1.050 - 2.560 which is considered far less than 10, a threshold suggested by Wooldridge [2010]; Green [2012], and the overall mean values are between 1.000 - 1.346 which are not significantly greater than 1, indicating the absence of multicollinearity effects among the explanatory variables [Kamal et al., 2019].

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[47] Multicollinearity is a statistical concept where several independent variables in a model are correlated.
[48] Voss, D.S. Multicollinearity // Encyclopedia of Social Measurement. – 2005

*Table 26 – Multicollinearity test for the description of country risk index and outward FDI relationship in the global economy*

| Variables | Variance Inflation Factor (VIF) values | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Country risk (O) | 1.000 | 1.192 | 1.192 | 1.200 | 1.200 | 1.200 | 1.230 |
| Economic risk (E) | | 1.140 | 1.140 | 1.140 | 1.150 | 1.160 | 1.160 |
| Financial risk (F) | | | 1.050 | 1.070 | 1.070 | 1.070 | 1.070 |
| Political risk (P) | | | | 1.190 | 1.210 | 1.220 | 1.250 |
| $E{\times}P$ $(\tau_x)$ | | | | | 2.100 | 2.090 | 2.090 |
| $P{\times}F$ $(\omega_y)$ | | | | | | 2.100 | 2.130 |
| $E{\times}F$ $(\lambda_z)$ | | | | | | | 2.560 |
| Mean | 1.000 | 1.166 | 1.127 | 1.150 | 1.346 | 1.475 | 1.641 |

The results of aggregate and disaggregate home country's component risks such as economics risk, financial risks, and political risks are reported in Tables 27 – 31. From the main model (equation 5), six different empirical sub model are evaluated (see Table 27 - 31) to investigate the effects of home country risk on outward FDI. This investigates the effects of the disaggregate component risks on outbound investment and show the direct linkages between home country components risks and direct investment abroad without the influence of other risk variables in the regression model. They are simply in a bivariate regression framework and measures the co-movement between domestic risk and outward FDI. However, the sub-models simultaneously examine all disaggregate risk. It examines the effects of one risk index in the presence of other risks indexes with respect to outward FDI. This study also designs the interaction variables to examine the joint effects of home country risk on outbound investment, which are estimated using the fixed effect (FE) estimator, OLS pooled regression (OLS), difference GMM (DGMM) and the two-step system GMM (SGMM) approach.

The study relies on SGMM estimator as the main estimation technique employs to examine home country risks on outward FDI, because of its capability to deal with several econometric problem associated with endogeneity, heterogeneity, reverse causality, simultaneous bias etc., hence it offers more efficient and consistent estimates compare to the other estimation techniques (see Table 27). However, the results of other techniques

such as DGMM (Table 28), FE (Table 29) and OLS (Table 30) estimators, are used as robustness check to validate the consistencies of the main estimator (SGMM). Two tests were used to examine the validity of SGMM and DGMM estimated coefficients in the models, and these include the Sargan/Hansen J tests[49, 50] and the Arellano and Bond Autoregressive (AR 1 & 2) test. The results of Hansen's [1982] J tests presented in Tables 27 – 30 indicates that the values are insignificant which suggests the validity of over identifying restrictions, confirming that the employed sets of instruments in the regression model are not endogenous, and the values of the Arellano-Bond [1991] tests which examines whether error terms have correlation do not reject the absence of second order serial correlation in all estimated models. Disaggregate home country economics risk (E), financial risk (F) and political (P) risk data are presented in Appendix G, Appendix H and Appendix I respectively. However, home country composite risk index is computed as $0.5(E + F + P)$ [See, ICRG, 2017]. In Table 27, sub-model I column reports the result of home country composite risk index effects on outward FDI for panel of 127 countries using twosteps SGMM estimator.

However, contrary to Hypothesis (3a), finding shows that home country composite risk index has negative and significant (5%) impact on outward FDI for the countries under consideration (Model 1). The estimation results for the financial and political risk components also show negative relationship with outward FDI (Models 3, 4). The results suggests that home country risks of national companies increase the level of uncertainty in planning international investment projects and negatively affect the volume of outward FDI in the country. From a financial point of view, with a higher level of country risk, national companies set a relatively higher discount rate when evaluating investment projects, which leads to a decrease in the number of implemented projects abroad. All other things being equal, companies from countries with a higher level of country risk will lose the competition for assets to companies from countries with a lower level of country

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[49] The Sargan/Hansen test of overidentifying restrictions is applied to check the validity of the instruments used in the model specification.
[50] Roodman D. A note on the theme of too many instruments // Ox Bull Econ Stat. –2009. –Vol. 71. – pp. 135-158. https://doi.org/10.1111/j.1468-0084.2008.00542.x

risk. It can be concluded that a higher level of risk in a country imposes restrictions on the rate of development of national companies, which negatively affects the economic growth of the country.

*Table 27 – Effects of home country composite risk index on OFDI*

| OFDI (O) | Two-step System Generalized Method of Moment (SGMM) | | | | | |
|---|---|---|---|---|---|---|
| | S-Model 1 | S-Model 2 | S-Model 3 | S-Model 4 | S-Model 5 | S-Model 6 |
| Lagged OFDI | 0.570*** (13.480) | 0.089** (2.510) | 0.101*** (2.990) | 0.135*** (3.760) | 0.231*** (5.360) | 0.135*** (3.600) |
| Country risk (C) | -0.693** (-2.100) | | | | | |
| Economic risk (E) | | 0.209*** (1.970) | | | 0.431* (1.730) | |
| Financial risk (F) | | | -0.721** (-2.020) | | -0.928* (-1.910) | |
| Political risk (P) | | | | -0.696* (-1.890) | -1.003*** (-4.710) | |
| $E \times P$ ($\tau_x$) | | | | | | 0.406*** (2.880) |
| $P \times F$ ($\omega_y$) | | | | | | -0.688** (-2.470) |
| $E \times F$ ($\lambda_z$) | | | | | | 0.753*** (2.940) |
| Constant | 3.136*** (5.980) | 5.135*** (3.100) | 4.921*** (11.850) | 4.746*** (2.590) | -5.097*** (-2.870) | 1.273** (2.250) |
| Total Obs./Grand | 1743/3556 | 1743/3556 | 1743/3556 | 1743/3556 | 1735/7112 | 1735/7112 |
| Instruments/Group | 14/127 | 12/127 | 13/127 | 12/127 | 28/127 | 19/127 |
| Instrument ratios | 9.071 | 10.583 | 9.769 | 10.583 | 4.537 | 6.684 |
| Wald test p-value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| A-Bond (1) p-value | 0.000 | 0.004 | 0.001 | 0.000 | 0.000 | 0.000 |
| A-Bond (2) p-value | 0.379 | 0.465 | 0.422 | 0.235 | 0.873 | 0.438 |
| Hansen test p-value | 0.311 | 0.187 | 0.193 | 0.111 | 0.296 | 0.331 |

*Note:*

*1. Author's calculation:  Significance: * p<0.1; ** p<0.05; ***p<0.01*

*2. Outward FDI is lagged one year, t-statistics are in parentheses and the two-step robust.*

*3. $\tau_X$, $\omega_Y$ and $\lambda_Z$ indicates the interaction terms between economic and political risk, between political and financial risk, and between economics and financial risk respectively.*

The obtained results do not allow the author to demonstrate the phenomenon of the

"FDI escapism" of national capital abroad, in which an increase in country risk leads to an increase in outward FDI in the home country. Probably, in order to obtain confirmation of this phenomenon, it is necessary to consider cross-country data on foreign direct investment, separately assessing investments from countries with a high level of country risk to countries with a low level of country risk. Unfortunately, within the framework of the database used, this is not possible and can form the basis for further research by the author.

Thus, the obtained results indicate that reducing risks in the country of origin of investments will stimulate outward FDI abroad. According to the author, this result is important from the point of view of developing policies aimed at stimulating the expansion of national companies in foreign markets.

*Results of other econometric techniques (robustness checks)*

We verify the model's adequacies for the estimated coefficients using numerous estimation techniques such as DGMM (Table 28), FE (Table 29) and OLS (Table 30) as robustness checks. That is, to further examine the consistency of the estimated coefficient, we re-estimate the panel regressions model using DGMM, FE, and OLS. The results might not be consistent owing to the presence of lagged dependent variable in the right-hand side of the model, but the estimated coefficients are informative given that the pooled OLS estimation is biased upward, and the FE estimations is downward biased [Nickel, 1981; Bond, 2002]. Thus, the consistent estimated coefficients should lie within the lower bound of FE and upper bound of OLS [Arellano and Bond, 1991; Nickel, 1981].

*Table 28 – Robustness check: Effects of home country composite risk index on OFDI*

| OFDI (O) | Difference Generalized Method of Moment (DGMM) | | | | | |
|---|---|---|---|---|---|---|
| | S-Model 1 | S-Model 2 | S-Model 3 | S-Model 4 | S-Model 5 | S-Model 6 |
| Lagged OFDI | 0.730*** (12.042) | 0.107** (2.521) | 0.137*** (3.012) | 0.185*** (2.673) | 0.266*** (4.703) | 0.156*** (2.835) |
| Country risk (C) | -0.678* (-1.960) | | | | | |
| Economic risk (E) | | 0.211** (2.531) | | | -0.908*** (-3.120) | |
| Financial risk (F) | | | -0.704** (-1.872) | | -0.877** (-2.834) | |
| Political risk (P) | | | | -0.641** (-2.310) | -1.048** (-2.223) | |
| E×P ($\tau_x$) | | | | | | 0.419** (2.310) |
| P×F ($\omega_y$) | | | | | | -0.702** [2.135] |
| E×F ($\lambda_z$) | | | | | | -0.813* (-1.853) |
| Constant | 5.540* (1.792) | 4.752*** (2.846) | 5.077*** (9.643) | 5.006** (2.281) | -5.263*** (-2.649) | 2.614** (2.137) |
| Total Obs./Grand | 1766/3556 | 1766/3556 | 1766/3556 | 1766/3556 | 1761/7112 | 1761/7112 |
| Instruments/Group | 13/127 | 11/127 | 10/127 | 10/127 | 23/127 | 15/127 |
| Instrument ratios | 9.769 | 11.545 | 12.700 | 12.700 | 5.521 | 8.466 |
| Wald test p-value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| A-Bond (1) p-value | 0.005 | 0.006 | 0.001 | 0.003 | 0.002 | 0.001 |
| A-Bond (2) p-value | 0.331 | 0.374 | 0.228 | 0.203 | 0.462 | 0.375 |
| Hansen test p-value | 0.207 | 0.129 | 0.187 | 0.115 | 0.193 | 0.254 |

Note:

1. Author's calculation: Significance: * $p<0.1$; ** $p<0.05$; ***$p<0.01$

2. Outward FDI is lagged one year, t-statistics are in parentheses and the two-step robust.

3. $\tau_X$, $\omega_Y$ and $\lambda_Z$ indicates the interaction terms between economic and political risk, between political and financial risk, and between economics and financial risk respectively.

The estimated results for home country composite (C) risk are evaluated in sub-model 1. For instance, C is negative -0.678 (DGMM, see Table 28), -0.714 (FE, see Table 29), -0.653 (OLS, see Table 30). This also suggests that increase in the overall country risks, decreases the volume of investment abroad, and these results contradicts Hypothesis (3a) and the results of SGMM technique with estimated coefficient as -0.693.

However, the coefficient of OLS is insignificant, but lies on the upper bound of SGMM estimate with the FE estimates downward biased. The coefficient of the economic

(E) risk effect on outward FDI flow estimation evaluated in sub-model 2 shows positive (0.211) and statistically significant result using the DGMM estimator. However, this finding is consistent with Hypothesis (3a). The DGMM framework magnifies gaps in unbalanced panels, hence it may not be consistent [Roodman, 2009]. The system GMM estimator shows to be both valid, significant, and more consistent with a coefficient of 0.209. Regarding the OLS estimator, economic (E) risk index shows positive result and appears consistent with Hypothesis (3a) with a coefficient of 0.221 at 10% significant level. The FE technique has a coefficient of 0.148 at 1% significance level, and the results also appears to support Hypothesis (3a). The positive result of all estimators examining economic risk index appears to be consistent with the SGMM techniques which supports Hypothesis (3a) that suggests that home country economic risk index is highly significantly related to escaping outward FDI.

This study also used the DGMM, FE, and OLS estimators shown in sub-model 3 to examine financial risks and outward FDI relationship in order to determine the parameter adequacy as well as the consistency of the SGMM model. Both the results of SGMM and DGMM estimations are negative which contradict Hypothesis (3a). However, the estimate of the SGMM (-0.721) appears to be more reliable than the DGMM (-0.704). This is supported by the Blundell [1998]; Roodman [2009] papers on the robustness of the system GMM. The values of OLS (-0.694) and FE (-0.746) estimates also lies on upper and lower bound respectively of the SGMM estimates. This further shows the consistency of the SGMM estimates. In sub-model 4, the informative estimates of the political (P) risk using DGMM, FE and OLS is also examined. The results shows that the coefficients of OLS (-0.627) and FE (-0.718) are upward, and download biased respectively, and the DGMM is -0.641. These results are unanimously negative and contradict Hypothesis (3a) which suggests that increase in political risk may correspondingly bring about overseas investment flows. Thus, this finding seems not to demonstrate FDI escapism phenomenon.

*Table 29 – Robustness check: Effects of home country composite risk index on OFDI*

| OFDI (O) | Fixed Effect (FE) | | | | | |
|---|---|---|---|---|---|---|
| | S-Model 1 | S-Model 2 | S-Model 3 | S-Model 4 | S-Model 5 | S-Model 6 |
| Lagged OFDI | 0.498*** (4.032) | 0.023* (1.976) | 0.076*** (2.430) | 0.107*** (2.513) | 0.206* (1.961) | 0.113*** (2.875) |
| Country risk (C) | -0.714* (-1.869) | | | | | |
| Economic risk (E) | | 0.148*** (2.261) | | | 0.407*** (2.842) | |
| Financial risk (F) | | | -0.746* (-1.803) | | -0.931*** (-2.624) | |
| Political risk (P) | | | | -0.718*** (-2.635) | -0.987* (-2.645) | |
| $E \times P$ ($\tau_x$) | | | | | | 0.393*** (3.122) |
| $P \times F$ ($\omega_y$) | | | | | | -0.472*** (-3.005) |
| $E \times F$ ($\lambda_z$) | | | | | | 0.610* (1.854) |
| Constant | 7.947*** (6.542) | 4.684*** (7.254) | 6.501*** (9.093) | 5.237*** (3.912) | 3.426*** (8.117) | 3.809*** (9.784) |
| Total Obs./Grand | 1776/3556 | 1776/3556 | 1776/3556 | 1776/3556 | 1774/7112 | 1774/7112 |
| F-Statistic | 223.862 | 241.116 | 197.482 | 212.345 | 283.732 | 200.003 |
| R-Squared ($R^2$) | 0.389 | 0.527 | 0.488 | 0.763 | 0.634 | 0.443 |

Note:

1. Author's calculation: Significance: * p<0.1; ** p<0.05; ***p<0.01

2. Outward FDI is lagged one year, t-statistics are in parentheses and the two-step robust.

3. $\tau_X$, $\omega_Y$ and $\lambda_Z$ indicates the interaction terms between economic and political risk, between political and financial risk, and between economics and financial risk respectively.

For SGMM and DGMM estimators to be consistent, the overall instruments validity for the model needs to be appropriate including the absence of second order serial correlation in the error term. The values of the second order Arellano-Bond [1981] specification tests (AR2) shown in Table 27 and Table 28, indicates that the absence of second order serial correlations is not rejected. This implies that the error structures of the model are serially uncorrelated, suggesting that the results are valid, and the derived model's specifications are appropriate. Beside the AR (2) test, the values of Hansen [1982] J tests are insignificant, indicating that the over identifying restrictions and instruments

specification are valid. The proliferation of instrument[51] which can weaken both autocorrelation and Hansen tests, remain one major drawback of GMM estimator. However, to overcome this problem, we collapsed the instrument matrix and ensure that the group is larger than the instruments [Roodman, 2009], hence all instrument ratios in the specified models are not less than 1 ($\geq 1$), see instrument ratios in Tables 27 and 28

*Table 30 – Robustness check: Effects of home country composite risk index on OFDI*

| OFDI (O) | Ordinary Least Squares Pooled (OLS) | | | | | |
|---|---|---|---|---|---|---|
| | S-Model 1 | S-Model 2 | S-Model 3 | S-Model 4 | S-Model 5 | S-Model 6 |
| Lagged OFDI | 0.749*** (16.453) | 0.122** (1.408) | 0.141*** (2.864) | 0.296*** (2.074) | 0.271*** (1.984) | 0.273*** (2.753) |
| Country risk (C) | -0.635 (-1.781) | | | | | |
| Economic risk (E) | | 0.221* (2.273) | | | 0.498*** (3.120) | |
| Financial risk (F) | | | -0.694** (-1.935) | | -0.877** (-2.834) | |
| Political risk (P) | | | | -0.627** (-2.431) | -1.048** (-2.223) | |
| E×P ($\tau_x$) | | | | | | 0.428* (1.916) |
| P×F ($\omega_y$) | | | | | | -0.702** [2.135] |
| E×F ($\lambda_z$) | | | | | | -0.813* (-1.853) |
| Constant | 5.540* (1.792) | 4.752*** (2.846) | 5.077*** (9.643) | 5.006** (2.281) | -5.263*** (-2.649) | 2.614** (2.137) |
| Total Obs./Grand | 1776/3556 | 1776/3556 | 1776/3556 | 1776/3556 | 1774/7112 | 1774/7112 |
| Instruments/Group | - | - | - | - | - | - |
| Instrument ratios | - | - | - | - | - | - |
| F-Statistic | 352.831 | 546.873 | 284.672 | 284.019 | 204.111 | 198.964 |
| R-Squared ($R^2$) | 0.602 | 0.496 | 0.375 | 0.532 | 0.438 | 0.562 |

*Note:*

*1. Author's calculation: Significance: * p<0.1; ** p<0.05; ***p<0.01*

*2. Outward FDI is lagged one year, t-statistics are in parentheses and the two-step robust.*

*3. $\tau_X$, $\omega_Y$ and $\lambda_Z$ indicates the interaction terms between economic and political risk, between political and financial risk, and between economics and financial risk respectively.*

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[51] Osabuohien-Irabor, O., and Drapkin, I.M. FDI Escapism: the effect of home country risks on outbound investment in the global economy // Quantitative Finance and Economics. – 2022a. – Vol. 6. – No. 1. – pp. 113-137. doi: 10.3934/QFE.2022005

The consistency of the estimated coefficients of the impact of home country risks on outward FDI examined using the FE and OLS estimators are shown in Tables 29 and 30. All the values of R-squared at different sub-models are large, suggesting that the specified models explain at least 38.9% and 37.5% for FE and OLS respectively the effects of the components of country risk on outward FDI. The robustness checks conducted validates the model specifications, and the coefficient of the estimated parameters using FE and OLS estimators are consistent and unbiased, hence the results found may validly describes the effects of country risks on outward FDI.

*Finding*

This section empirically examined and discussed the impact of outward FDI on economic growth considering the influence of institutions, international trade, and home country's risks across world bank income economies group. However, the dissertation specifically focused on how home country mechanism such as institution influences the growth effect of outward FDI. Given the relevance of outward FDI coupled with the huge significance amount of research in existences, drawing an inference using a single empirical analysis may not be enough to determine the growth effects of outward FDI at different levels of economic development given the role of home country institution and international trade. Therefore, different sets of empirical analysis related to MNCs home country overseas investment expansion in different income groups were examined. Anticipated spurious results due to multiplicative interaction of variables, endogeneity, heterogeneity, and cross-sectional dependence were effectively controlled using an extended robust econometric technique. To this end, the following findings are deduced from this dissertation.

First, the empirical result of the effect of outward FDI-growth in HICs and UMICs groups is positive and statistically significant both in the short-run and long-run, but with a stronger effect in the long-run compared to the short-run. This finding supports Hypothesis (H1a) suggesting that increase in overseas investment expansion may bring about an increase in economic growth both in the short-run and long-term. Positively

significant effects imply increase in home country economic growth due to outward FDI spillover effects further stimulates national companies to expand investment across the border. However, the coefficients of outward FDI in HICs group is higher compared to UMICs group. Regarding LMICs group, the direct impact of outward FDI-growth in home country economy indicates mixed results, but the effect in the long-run is positive and unanimous showing strong support for Hypothesis (H1a). Contrary to Hypothesis (H1a), six out of eight experimenting sub-models examining the direct impact of outward FDI-growth in LIC country indicates negative results in short-term, but in the long-run, four out of eight indicate negative effects. This suggests that outward FDI in LICs group have negative effects on economic growth both in the short-and long-term, but the adverse impact appears more severe in the short-term compared to the long-run.

Second, the impact of outward FDI facilitated by national institutional development in HICs, UMICs, and LMICs groups may have helped generate endogenous economic growth via technology transfer to improve home country economy in the long run. The positive finding is consistent with Hypothesis (H1b) which suggest outward FDI flow as driver of long-term endogenous economic growth through technology and knowledge transfer facilitated by home country institution. Thus, there is the possibility of the presence of endogenous growth caused by outward FDI spillover via reversed technology spillover and/or knowledge transfer from other similar economies groups, facilitated by home country characteristics such as institutions.

Third, notwithstanding the variations of home country institutions across income groups, its impact strengthens outward FDI-induced economic growth both in the short and long-run. Specifically, governance effectiveness (GE) appears to influence outward FDI-growth relationship the most in all income group such as HICs, UMICs, LMICs and LICs, which implies that efforts by government in these income countries to provide better service delivery to it citizenry improves the growth effect of outward FDI both in the short- and long-term. This finding is also consistent with Hypothesis (H1b). Similarly, in support of Hypothesis (H1b), finding indicates that steps taken by LMICs governments to curb

corruptions improves home county's institutional components which facilitate outward FDI-induced growth both in the short and long term respectively.

Fourth, the empirical results from the investment model shows that except for LICs result which contradict Hypothesis (H2a), the impact of international trade on outward FDI in LMICs, UMICs and HICs is positive and statistically significant. This suggests that international trade activities may increase overseas investment expansion, which shows a complementary relationship that suggests "Trade-supporting OFDI". This implies that international trade, stimulate domestic investment to increase scale of production and upgrade technologies for home countries. This finding shows that an increase in home country international trade may lead to overseas production expansion for LIMCs, UMICs and HICs group. Nevertheless, "trade supporting OFDI" concept may not hold for LICs.

Fifth, regarding the trade model, the study found that "OFDI-supporting trade" hold for LIMCs, UMICs and HICs income groups, indicating a complementary relationship that is consistent with Hypothesis (H2b), indicating that the impact of outward FDI spillover on international trade via backward vertical integration which stimulates trade due to enhanced competitiveness between local and foreign firms. Nevertheless, negative relationship of OFDI-trade in LICs do not support Hypothesis (H2b) and suggests a substitutional relationship that home country trade do not benefit from outward FDI flow. Hence, does not cause imports and stimulate exports.

Six, the assessment of companies' decision on overseas investment expansion due to prevailing home country risk is revealed. Our finding revealed that home country composite risk index negatively impacts outward FDI, which implies that increase in home country composite risk index decreases the volume of outward FDI flows which contradict the formulated Hypothesis (3a). Regarding economic risk index, findings indicate positive and statistically significant impact on FDI outflow for home countries. This result supports Hypothesis (3a) and suggests that economic risk index may facilitate national companies' escaping home country's economy. Nevertheless, financial and political risk indexes show to be negative and inconsistent with Hypothesis (3a), suggesting that the impact of home

country's risks on outward FDI may cause a decline in outward FDI flows, reduce the volumes of investment outflow and cause production chains to be disrupted. However, these findings may not convey the "FDI escapism" phenomenon.

# CONCLUSION

This dissertation carefully analyzed and discussed the growth effect of outward FDI and international trade at different levels of economic development, considering the role of home country institutions. Specifically, the study examined the impact of outward FDI spillovers on economic growth via the channels of home country institutions at different income economies classification such as high income (HICs), upper-middle income (UMICs), lower-middle income (LMICs), and low-income (LICs). The study aims to determine whether/how international trade complements overseas investment expansion in different income groups, as well as examine the components of home country risk index likely to "push" MNCs to initiate an escape (exit) strategy from the domestic economy, a phenomenon known as FDI escapism. The empirical findings obtained characterized the different scientific novelty of this dissertation. To get a wider view of the effect of outward FDI on home country economic growth at different level of economic development, different set of empirical studies were considered due to the fact that a single case study analysis might not be sufficient to draw research conclusion. The study main variables include outward FDI, international trade, real per capita GDP, country risk index and home country institutional indicators. Other crucial determinants relevant to this study such as population, infrastructure, etc., were also examined. The theoretical and empirical findings of this study clearly highlight the importance of these determinants in the global economy, particularly across different income economies group. Therefore, the results of the impact analysis of this study are insightful in the promotion of home country's MNCs activities including strengthening government policies in different economic development.

The study uses parametric approach of statistical analysis and utilized several panel data econometric techniques such as cross-sectional autoregressive distributed lags (CS-ARDL) proposed by Chudik & Pesaran [2015], the Generalized Method of Moments (GMM) such as the system GMM (SYS-GMM) estimator developed by Blundell & Bond [1998] and the differenced GMM (DFF-GMM) technique proposed by Arellano & Bond [1991]. Other methods which include the Fixed Effects (FE) and Pool OLS techniques

were also used to examine the impacts of outward FDI spillover and international trade on economic growth mediated by home country institutions. The use of these techniques helped in correcting econometric problems such as, endogeneity, heteroskedasticity, simultaneity bias, omitted variable bias, reverse causality, as well as cross-sectional dependence and heterogeneity in panel. The study employed different panel datasets, sub-divided according to the world bank income economies cluster between the recent period of 1998-2019.

The dissertation is based on an integrated theoretical framework of internationalization and internalization theories influenced by institutional theory in order to provide a comprehensive explanation on home country economic growth. The combination of these theories is informed by the realization that both the internationalization and internalization potential of national enterprise, supported by institutional theory which provide foundation for the theoretical argument that 'institutions matter' for either encouraging or discouraging outward FDI toward stimulating economic growth. Thus, the underpinned theoretical framework of this dissertation lies on the fundamental works of Benito & Gripsrud [1992]; Andersson [2000]; Mort & Weerawardena's [2006] internationalization theory of firms which referred to the process by which firms expand their operations across national borders, engaging in activities such as foreign market entry, cross-border investments and global supply chain integration; Buckley & Casson [1976]; Rugman [1981]; Hymer [1960]; Kindleberger's [1969] internalization theory which asserts that firms create competitive advantages for their domestic market by internalizing and exploiting market imperfections which help them to create unique and difficult to replicate resources; Arrow [1962], Lucas [1988] & Romer's [1986, 1990] New Growth Theory (NGT) which argues that MNCs through outward FDI drive economic growth and play a significant role in the globalization of world economies via investment, technology and knowledge capital transfer; North's [1990] institutional theory which help explain the role of government in firm's internationalization activities as well as Mundell [1957], Helpman [1984] & Markusen's [1984] substitutability and

complementarity relationship of international trade and investment, which have revealed several interesting results in different levels of economic development.

In *high-income* economies group, findings show that home countries' outward FDI spillover affects economic growth positively and significantly both in the short-run and long-run. This implies that overseas investment expansion increases domestic production, create competitiveness, and improve both local firm and the economies of countries such as Japan, Canada, UK, USA, Australia, Germany, etc. This finding is inconsistent with some notion that overseas investment expansion decreases economic growth for home country but clearly in-line with many previous studies such as Hijzen et al. [2007] that outward FDI strengthens economic activities of Japanese firms; and the effect of outward FDI in German economy shows growth-enhancing [Herzer, 2010]. However, the results of the six institutional components are highly positive and significant, suggesting that home country institutional development in countries such as Japan, Canada, UK, USA, Australia, Germany, etc., plays a crucial role in the spillover effects of outward FDI toward the facilitation of technologies, knowledge and resource transfer to home country which help stimulate the integration of domestic economy into the global economy. Thus, home country institutions may play a crucial role in reducing uncertainties, establishing a stable economy, and act as background characteristics that absorb input and facilitates overseas investment expansion. This evidently suggests that countries where the standard of living is above US$ 12,375 GNI per capita etc., may have reached and possibly surpassed the minimum level of economic development and absorptive capacity needed to capture the growth enhancing effects of outward FDI. This finding also supports numerous studies examining institutions and growth relationship in developed economy such as Globerman et al. [2004] which argues that high quality institutions strongly determine the internationalization of innovative activity in home country. This further suggests the existence of the new growth theory which indicates that outward FDI supported by home country institutions affect economic growth endogenously by encouraging the transfer of new foreign technologies from other high-income countries, which improves the

production function of the home country in the long run. Similarly, outward FDI and international trade bidirectional causality have a complementary relationship, which suggests the presence of "OFDI-supporting trade" as well as "Trade-supporting OFDI" effects via backward vertical integration to enhance the domestic economy if/when the standard of living is above US$ 12,375 GNI per capita. These findings reveal some policy recommendation that may help enhance high income countries. *First*, the high positive results of outward FDI, institutions, international trade and economic growth relationship in high-income countries attest to the fact that MNCs in these economies use the presence of strong institutional development coupled with politically stable and economically developed environment to leverage their interests and investment in foreign countries. To this end, policymakers and government of high-income countries are, thereby, called to sustain and possibly improve on all existing home country policies (such as economic policies, trade policies, and investment policies, etc.) that support, and facilitate national companies' internationalization activities. *Second*, as a proactive measure, monitoring and evaluation committee must be set-up to ensure that both investors and government officials fully comply with the laws, as this will help achieve and sustain the nation's trade and investments goals. *Third,* for government of high-come countries to enhance investor's confidence and reduce home country risk, policymaker and governments need to remain committed to creating open and predictable environment and policies for business activities especially FDI and trade. However, there are several extensions that could be made to this research in order to extend beyond institutions facilitating trade and outward FDI induced economic growth. On this account, future studies may consider sector-specific effects of outward FDI on economic growth in high-income economies. For instance, potential research may distinguish the growth effect of outward FDI in manufacturing, industrial, and services sectors.

For *upper middle-income* countries, the growth effect of outward FDI is positive and statistically significant both in the short-run and long-run. This suggests that an increase in overseas investment expansion may increase the economic growth of countries

such as Argentina, Mexico, Iran, Brazil, Georgia, Turkey, China, etc., via knowledge and technology spillover as well as repatriation of returns on investment to upgrade production processes and boost home country economy. Although the impact of outward FDI on growth is positive, but the degree of impact (estimates) is lower than that of high-income countries. However, the growth effect of outward FDI supported by home country institutions is positive, significant, and larger than the coefficients of the direct impact of outward FDI induced growth both in the short and long-run. The implication of this finding suggests that home country institutional development is a significant determinant that enhances the growth effect of outward FDI in countries such as Argentina, Mexico, Iran, Brazil, Georgia, Turkey, China, etc. This further validates the New Growth Theory influenced by home country characteristic such as institutions. Specifically, political stability appears to be the most contributing factor in the growth effects of outward FDI within upper-middle income countries, followed by governance effectiveness. However, the dynamic interactions of international trade and outward FDI is positive and complementary, which implies that countries where the standard of living is between US$ 3,995 and US$ 12,375 GNI per capita, the mutually complementary interplay of trade and outward FDI plays a critical role in home country's economic growth & development. Hence, the two determinants remain the core of globalization. Whilst international trade may have influenced outward FDI in this group of countries due to importation of natural resources, outward FDI induces international trade to bring about an enhanced competitiveness on foreign market via trade (export medium). On policy matters, several key policy formulations that may boost the growth effects of outward FDI in upper-middle income countries have been suggested. *First*, to improve on the positive results of the growth effect of outward FDI and international trade facilitated by national institution to the benefit of upper-middle income countries, there is the need to upgrade national institutions to high absorbing capacity and redirect it to specific tasks and goals both in the short and long-term. *Second*, given that outward FDI is a trade creator that stimulates the domestic economy, overseas investment expansion must be fully encouraged,

supported and link with home country international trade, especially export, in order to stimulate both the local firm and the economy both in the short and long term. This may help meet specific target and objectives in home country. For these reasons, policymakers and government of upper-middle income countries are, thereby, called to review, link and strengthen home country international trade and investment policies in order to maximize the benefit of overseas investment expansion and trade relationship that actively induced potential investors, accelerate trading activities and boost the economy both in the short and long-run. *Third*, as a matter of policy, reducing/removing international trade barriers is vital for upper-middle income countries. This will benefit the domestic economy as well as MNCs using outward FDI to search for intermediate inputs and regional trade. Thus, trade openness should be encouraged so as to signal commitment to outward-looking and market-oriented activities which enhances trading opportunities and improve economy growth. However, future research has also suggested in order to add to the strand of studies examining the growth effect of outward FDI in home country. Given that institutional development across the different levels of economic development is certainly not the only determinants that vary the growth effect of outward FDI, future studies may consider other potential influencing determinants that facilitate/impede the growth effect of outward FDI in upper-middle income countries. For instance, home country characteristics such as political stability, level of economic development, resource endowments, etc., maybe investigated to enrich the literature and add to strand of studies.

Regarding *low-middle income* group, findings show that the impact of outward FDI induced growth have mixed results in the short-run, but the effect in the long-run is positive. Whilst the positive impact of outward FDI spillover may influence home country economic growth through knowledge, capital, and technology transfer, negative impact suggests that overseas investment expansion may decrease economic growth by crowding out domestic investment to foreign countries (a hollow-out effects phenomenon). The mixed results (positive & negative) may be occasioned by large disparity in Gross National Income (GNI) among countries in low-middle income category, due to the different

background characteristics and factors affecting the growth effects of outward FDI in different countries. However, more positive signs in the model results clearly shows that many low-middle income countries appear to benefit from the impact of outward FDI spillovers which promotes home country economic growth, compared to countries affected by the negative impact. For instance, countries such as Zambia (US$ 1,130); Myanmar (US$ 1,310); Pakistan (US$ 1,420); Zimbabwe (US$ 1,460); Cambodia (US$ 1,530); Uzbekistan (US$ 1,770); Kenya (US$ 1,900); etc., have low annual GNI per capita based on 2020 PPP dollars, compared to countries such as Indonesia (US$ 3,900); El Salvador (US$ 3,760); Mongolia (US$ 3,720); Ukraine (US$ 3,570); Philippines (US$ 3,350); Morocco (US$ 3,260); Tunisia (US$ 3,230); Cabo Verde (US$ 3,100); etc., with higher annual GNI per capita. Therefore, outward FDI from the latter countries are much more likely to improve the domestic economy with endogenous effects compared to the former where this effect may be very low, absence or impacting domestic economy negatively, notwithstanding that these countries belong to the same low-middle income group where the GNI per capita is between US$ 1,026 and US$ 3,995. Despite the mixed results, the institutional development of LMICs promotes the growth effects of outward FDI to support the domestic economy. However, findings revealed that the dynamic interplay between outward FDI and international trade shows positive and complementary relationships which boost low-middle income economies via backward and forward vertical integration. This implies that economies with a standard of living between US$ 1,026 and US$ 3,995 GNI per capita may benefit from outward FDI and international trade relationship. These findings have several policy implications relevant to countries' governments, policymakers, and MNCs interested in increasing domestic growth and raising investment returns. *First*, although the impact of institutions appears to facilitate the growth effect of outward FDI in low-middle income countries, but the degree of impact is low compared to high and upper-middle income countries. Therefore, there is the need to pay urgent attention to home country institutional development which plays a significant role in the link between outward FDI and economic growth. Thus, relevant

home country institutions must be upgraded and the absorptive capacity increased, in order to strengthen firm's overseas investment and trading activities in different sectors of the economy aided by innovations and technology inflow. Therefore, government and policymakers in low-middle income countries are, thereby, called to upgrade local institutions as a matter of policies by reformulating and redirecting home country institutions to specific tasks, targets, and strategies. *Second*, intensifying international trade openness as well as its linkages with outward FDI should be encouraged in order to create competitiveness, and promote trading opportunities that boost local firms as well as the economy in the long term. This may encourage local investors to "go abroad" with the intent on taking advantage of the new trading opportunities likely to boost domestic production for local demand and foreign market. Therefore, policymaker should look into enacting trade combine outward FDI related policies in home country. If the policy is already in existence, there should be a review in order to strength it. *Third*, the knowledge and technological driven effects of outward FDI and international trade flow may spur the demand for skill work force in low-middle income countries. Therefore, home country government must promote human capital, especially technical and vocational education that complement overseas investment expansion and international trade drive. Consequently, policymakers in low-middle income countries are, thereby, called to develop policy template that support integrated training and education programs tailored toward specific target that aid investment and trading activities beneficial to MNCs and the domestic economy both in the short and long-term. *Fourth,* low-middle income countries must have sound economic and financial policies that focuses on stability and growth in home countries. These policies must provide capacity building on how to boost domestic revenue, manage public finances, regulate financial system, introduce appropriate monetary policies (such as inflationary policies, exchange rate policies, etc.), and develop statistical system. In view of these recommended policies, policymakers must strengthen existing economic policies which should be monitored, evaluated and implemented by government agents. However, given the mixed findings obtained, future

studies can examine the magnitude of the growth effect of outward FDI influenced by institutions for the purpose of generating the minimum level of impact that will maximize economic growth in low-middle income countries. This can help distinguish countries actively utilizing the growth effect of outward FDI to enhance their economy among the low-middle income category.

For *low-income* countries, the results of the growth effects of outward FDI and international trade influenced by home country institutional development have also been documented. Contrary to the findings in other income categories, the impact of outward FDI spillover on economic growth is significantly negative, implying that overseas investment expansion in low-wage countries may have significant adverse effects on home country economic growth. This finding largely suggests that MNCs activities in countries such as Ethiopia, Tajikistan, Nepal, Burundi, Haiti, Togo, etc., may crowd-out investment, reduce domestic capital accumulation, and give rise to unemployment. However, the level of a country's institutional development may either support or constrains economic growth as well as managerial investment decisions. Thus, home country institutions may play a crucial role in reducing uncertainties, establishing a stable economy, and act as background characteristics that absorb input and facilitates overseas investment expansion. Therefore, examining how home country institutions relate with the growth effects of outward FDI in countries where standard of living is below US$ 1,026 GNI per capita, will provide necessary insight for both government and policymaker toward quality legislation and effective implementation. Finding indicates that the growth effects of outward FDI supported by relevant home country' institutions is positive in low-income countries. Nevertheless, the degree of impact is small when compared to other categories of income groups. This implies that the impact of home country institutions in stimulating outward FDI-induced economic growth appears weak both in the short term and long term. This further shows that low-wage countries such as Ethiopia, Tajikistan, Nepal, Burundi, Haiti, Togo, Mali etc., may not have reached the minimum level of economic development and absorptive capacity required to capture the growth enhancing effects of outward FDI.

For this reason, countries with standard of living below US$ 1,026 GNI per capita may not benefit from MNCs outward FDI-led internationalization activities. Similarly, the results for outward FDI and international trade interactions for low-wage countries have also been documented. Findings indicate that the impact of outward FDI on international trade and vice versa is significantly negative, implying that an increase in overseas investment expansion may decrease international trade in countries where the standard of living is below US$ 1,026 GNI per capita - a substitutive relationship. This indicates that "OFDI-supporting trade" concept and vice versa do not hold in countries such as Ethiopia, Tajikistan, Nepal, Burundi, Haiti, Togo, Mali etc., which further suggests that home country international trade do not benefit from overseas investment expansion (as OFDI do not cause import and stimulate exports). These several findings have key policy implication relevant to home country's governments, policymaker and MNCs. However, compared to other income economies groups, the overall findings in low-income countries are more relevant, severe, and crave urgent attention, given the negative growth effects of outward FDI in the presence of weak institutions. We suggest thus, *First*, considering the negative growth effect of outward FDI and weak institutional development in low-income countries, home country government must liaise with policymakers to initiate sound economic policies centered on economic growth, development, and stability. Appropriate monetary policies such as low inflation-targeting policies, appropriate exchange rate regime (such as pegging), effective utilization of government bond, as well as lowering interest rate to encourage borrowing, spending and investment. These strategy policies will help control money in supply and promote economic growth both in short and long term. However, for appropriate fiscal policy adoption and planning, government must reduce overhead cost of governance and unnecessary spending, offer tax rebate and low taxation of investments & commodity to encourage economic growth in low-income countries. Whilst policymakers in low-income countries are, thereby, urgently called to review and strengthen existing economic policies with appropriate policies that encompasses sound monetary and fiscal policies, government must complement these

policies by instituting relevant committees to evaluate and implement these policies. *Second*, one of the keys finding of this study is the evidence of weak institutional framework in low-income countries which greatly contribute to the negative results of the growth effects of outward FDI. To this end, upgrading home countries national institutions to increase the absorptive capabilities of new technologies and innovation, which can facilitate MNCs internationalization motives and stimulate economic growth via forward and backward integration, should be a top priority for both governments and policymakers of low-income countries. Therefore, policymakers should review and strengthen all existing laws related to national institutions and make appropriate provisions for upgrade with high absorbing capacity. *Third*, home country's institution can be designated to support outward FDI directed to specific issues, such as promoting certain types of outward FDI to certain target markets which may help promote home country productivity. Therefore, as a matter of policy, specific task and target must be assigned to low-income country institutions with technological innovation and economic growth as key priority both in the short and long term. *Fourth*, economies where the standard of living is below US\$ 1,026 GNI per capita and the growth effect of outward FDI is negative, may be a red flag for both local and foreign investors. Therefore, government must increase investors confident to avoid investment relocation, and put-up appropriate measure to increase the numbers of domestic investment. Thus, government must restore investor's confident and provide financial support to encourage potential greenfield investors and investments with a view to inducing foreign investors to the domestic economy. To this end, policymaker must review and strengthen appropriate laws that assure investment safety and support greenfield investment programs initiated by home country governments as a matter of policy. *Fifth*, all obstacles and barriers hindering international trade and investment activities in low-income countries should be removed. Whilst increase in international trade barriers may induce domestic firms to invest abroad over trade (export), the reduction of trade barriers encourages more trade and investment. To this end, international trade openness and competitiveness agenda should be a key priority for policymakers in low-

income countries. *Sixth*, outward FDI and international trade are two essential channels of internationalization that provide opportunities to local firms to explore new ideas, processes, and techniques, which help them to become competitive in the world market. Therefore, appropriate links between outward FDI and international trade if well directed for mutually complement effects, home countries' economy as well as local firms are likely to benefit both in the short and long term. On this account, outward FDI and international trade interactions in low-income countries should be linked to home country economic growth and development, as a matter of urgent policy. For future study, potential research may examine the magnitude of the growth effect of outward FDI influenced by institutions in low-income countries for the purpose of generating the minimum level of impact that will maximize growth in low-income economies. However, sector specific effect of outward FDI induced growth may be examined in order to know the specific sectors effectively lagging or contributing to economic growth.

**Prospects for future research.** Nevertheless, due to limited data availability, the study excluded many countries from the constructed panel data sample, thus missing considerable number of country observations which may have been relevant to the empirical results. Finally, this dissertation applied advanced econometric methods such as CS-ARDL, and system GMM estimators, etc., to obtain consistent and reliable estimated coefficients. Nevertheless, these advanced techniques have several restrictions and conditions in its applications toward evaluating the unknown parameters. Thus, empirical results may be counterproductive and produce spurious results if estimating techniques are not properly applied. In view of this constrain, future research may apply simple econometric framework that deals with cross sectional dependence, heterogeneity and heteroskedasticity to obtain consistent and reliable estimated coefficients. Overall, the findings of this dissertation are limited to the variables selected, the econometric techniques applied, the sample of countries used, and the period analyzed.

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Appendix A – The extended CS-ARDL individual model that examines the short- and long-run effects of outward FDI, institutions and growth nexus are shown as;

Model-IA

$$
\left.
\begin{aligned}
\Delta S_{i,t} &= \omega_i + \alpha_i(S_{i,t-1} - \beta_1 X_{i,t-1} - \beta_2 Y_{i,t-1} - \beta_3 Z_{i,t-1} - \beta_4(VA_{i,t} \times Y_{i,t}) + \alpha_i^{-1}\varsigma_{ik}\overline{W}_{i,t}) \\
&+ \sum_{j=0}^{p-1} \delta_{1j}^i \Delta S_{i,t-j} + \sum_{j=0}^{q-1} \delta_{2j}^i \Delta X_{i,t-j} + \sum_{j=0}^{m-1} \delta_{3j}^i \Delta Y_{i,t-j} + \sum_{j=0}^{n-1} \delta_{4,j}^i \Delta Z_{i,t-j}) \\
&+ \sum_{j=0}^{r-1} \delta_{5j}^i \Delta(VA_{i,t} \times Y_{i,t}) + \sum_{1=0}^{PT} \dot{\psi}_{i,t} \Delta \overline{W}_{i,t-j}) + \epsilon_{i,t}
\end{aligned}
\right\} \quad (E1)
$$

The model shows the integration of voice and accountability (VA) into outward FDI (Y) induced economic growth for home country. The goal is to evaluate the VA induced outward FDI on economic growth.

Model-IB

$$
\left.
\begin{aligned}
\Delta S_{i,t} &= \omega_i + \alpha_i(S_{i,t-1} - \beta_1 X_{i,t-1} - \beta_2 Y_{i,t-1} - \beta_3 Z_{i,t-1} - \beta_4(PS_{i,t} \times Y_{i,t}) + \alpha_i^{-1}\varsigma_{ik}\overline{W}_{i,t}) \\
&+ \sum_{j=0}^{p-1} \delta_{1j}^i \Delta S_{i,t-j} + \sum_{j=0}^{q-1} \delta_{2j}^i \Delta X_{i,t-j} + \sum_{j=0}^{m-1} \delta_{3j}^i \Delta Y_{i,t-j} + \sum_{j=0}^{n-1} \delta_{4,j}^i \Delta Z_{i,t-j}) \\
&+ \sum_{j=0}^{r-1} \delta_{5j}^i \Delta(PS_{i,t} \times Y_{i,t}) + \sum_{1=0}^{PT} \dot{\psi}_{i,t} \Delta \overline{W}_{i,t-j}) + \epsilon_{i,t}
\end{aligned}
\right\} \quad (E2)
$$

Model-IB, equation ($E2$) shows the impact of political stability (PS) in outward FDI-growth for home country. The term $PS_{i,t} \times Y_{i,t}$ is integrated into equation ($E2$). The effects are evaluated both in the short-run and long-run.

Model-IC

$$\Delta S_{i,t} = \omega_i + \alpha_i \left( S_{i,t-1} - \beta_1 X_{i,t-1} - \beta_2 Y_{i,t-1} - \beta_3 Z_{i,t-1} - \beta_4 (GE_{i,t} \times Y_{i,t}) + \alpha_i^{-1} \varsigma_{ik} \overline{W}_{i,t} \right.$$
$$+ \sum_{j=0}^{p-1} \delta_{1j}^i \Delta S_{i,t-j} + \sum_{j=0}^{q-1} \delta_{2j}^i \Delta X_{i,t-j} + \sum_{j=0}^{m-1} \delta_{3j}^i \Delta Y_{i,t-j} + \sum_{j=0}^{n-1} \delta_{4,j}^i \Delta Z_{i,t-j})$$
$$+ \sum_{j=0}^{r-1} \delta_{5j}^i \Delta (GE_{i,t} \times Y_{i,t}) + \sum_{1=0}^{PT} \dot{\psi}_{i,t} \Delta \overline{W}_{i,t-j}) + \epsilon_{i,t} \qquad (E3)$$

To examine the mediating effects of governance effectiveness (GE) in the impact of outward FDI (Y) on economic growth (S), model-IC shown in equation (*E3*) is utilized. The control variables such as X and Z are also evaluated in the short-run and long-run.

Model-ID

$$\Delta S_{i,t} = \omega_i + \alpha_i \left( S_{i,t-1} - \beta_1 X_{i,t-1} - \beta_2 Y_{i,t-1} - \beta_3 Z_{i,t-1} - \beta_4 (RQ_{i,t} \times Y_{i,t}) + \alpha_i^{-1} \varsigma_{ik} \overline{W}_{i,t} \right.$$
$$+ \sum_{j=0}^{p-1} \delta_{1j}^i \Delta S_{i,t-j} + \sum_{j=0}^{q-1} \delta_{2j}^i \Delta X_{i,t-j} + \sum_{j=0}^{m-1} \delta_{3j}^i \Delta Y_{i,t-j} + \sum_{j=0}^{n-1} \delta_{4,j}^i \Delta Z_{i,t-j})$$
$$+ \sum_{j=0}^{r-1} \delta_{5j}^i \Delta (RQ_{i,t} \times Y_{i,t}) + \sum_{1=0}^{PT} \dot{\psi}_{i,t} \Delta \overline{W}_{i,t-j}) + \epsilon_{i,t} \qquad (E4)$$

The effect of outward FDI-led economic growth based on home country regulatory quality (RQ) is examined in model-ID. This reveals the effect of the combination of $RQ_{i,t} \times Y_{i,t}$ on home country economic growth in the short-term and long-term.

Model-IE

$$\Delta S_{i,t} = \omega_i + \alpha_i \left( S_{i,t-1} - \beta_1 X_{i,t-1} - \beta_2 Y_{i,t-1} - \beta_3 Z_{i,t-1} - \beta_4 (RL_{i,t} \times Y_{i,t}) + \alpha_i^{-1} \varsigma_{ik} \overline{W}_{i,t} \right.$$
$$+ \sum_{j=0}^{p-1} \delta_{1j}^i \Delta S_{i,t-j} + \sum_{j=0}^{q-1} \delta_{2j}^i \Delta X_{i,t-j} + \sum_{j=0}^{m-1} \delta_{3j}^i \Delta Y_{i,t-j} + \sum_{j=0}^{n-1} \delta_{4,j}^i \Delta Z_{i,t-j})$$
$$+ \sum_{j=0}^{r-1} \delta_{5j}^i \Delta (RL_{i,t} \times Y_{i,t}) + \sum_{1=0}^{PT} \dot{\psi}_{i,t} \Delta \overline{W}_{i,t-j}) + \epsilon_{i,t} \qquad (E5)$$

Model-IE is constructed to specifically examine how home country rules and regulations (RL) impact outward FDI-led economic growth both in the short-run and long-run. The model captures both the direct and indirect impact.

Model-IF

$$
\left.
\begin{aligned}
\Delta S_{i,t} = \omega_i &+ \alpha_i \big(S_{i,t-1} - \beta_1 X_{i,t-1} - \beta_2 Y_{i,t-1} - \beta_3 Z_{i,t-1} - \beta_4 (CC_{i,t} \times Y_{i,t}) + \alpha_i^{-1} \varsigma_{ik} \bar{W}_{i,t}\big) \\
&+ \sum_{j=0}^{p-1} \delta_{1j}^i \Delta S_{i,t-j} + \sum_{j=0}^{q-1} \delta_{2j}^i \Delta X_{i,t-j} + \sum_{j=0}^{m-1} \delta_{3j}^i \Delta Y_{i,t-j} + \sum_{j=0}^{n-1} \Delta \delta_{4,j}^i Z_{i,t-j}) \\
&+ \sum_{j=0}^{r-1} \Delta \delta_{5j}^i (CC_{i,t} \times Y_{i,t}) + \sum_{1=0}^{PT} \grave{\psi}_{i,t} \Delta \bar{W}_{i,t-j}) + \epsilon_{i,t}
\end{aligned}
\right\} \quad (E6)
$$

The effect of the joint impact of control of corruption (CC) and outward FDI (Y) on growth is evaluated in model-IF, equation (*E6*). The model integrates the term $CC_{i,t} \times Y_{i,t}$ and controlled for variables such as X and Z both in the short-and long-run.

*Appendix B – Classification of countries according to the world bank income economies used in the estimation of outward FDI induced economic growth nexus.*

### High Income economies (51)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | *Australia* | *Austria* | *Bahamas,* | *Bahrain* | *Barbados* | *Belgium* | *Bermuda* |
| | *Brunei* | *Canada* | *Chile* | *Croatia* | *Cyprus* | *Czech Rep.* | *Denmark* |
| | *Estonia* | *Finland* | *France* | *Germany* | *Greece* | *Hong Kong* | *Hungary* |
| *HI* | *Iceland* | *Ireland* | *Israel* | *Italy* | *Japan* | *Korea, Rep.* | *Latvia* |
| | *Lithuania* | *Luxembo.* | *Macao SAR* | *Malta* | *Netherlands* | *New Zealand* | *Norway* |
| | *Oman* | *Panama* | *Poland* | *Portugal* | *Saudi A.* | *Seychelles* | *Singapore* |
| | *Slovak* | *Slovenia* | *Spain* | *Sweden* | *Switzerland* | *U A E* | *UK* |
| | *USA* | *Uruguay* | | | | | |

### Upper Middle-income economies (47)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | *Albania* | *Algeria* | *Argentina* | *Armenia* | *Azerbaijan* | *Belarus* | *Belize* |
| | *Bosnia* | *Botswana* | *Brazil* | *Bulgaria* | *China* | *Colombia* | *Costa R.* |
| *UM* | *Cuba* | *Domin. Rp.* | *Ecuador* | *Fiji* | *Gabon* | *Georgia* | *Guatema* |
| | *Iran* | *Iraq* | *Jamaica* | *Jordan* | *Kazakhst.* | *Kosovo* | *Lebanon* |
| | *Libya* | *Malaysia* | *Maldives* | *Mauritius* | *Mexico* | *Montenegro* | *Namibia* |
| | *Macedonia* | *Paraguay* | *Peru* | *Romania* | *Russian* | *Serbia* | *South A.* |
| | *Sri Lanka* | *Thailand* | *Tonga* | *Turkey* | *Venezuela* | | |

### Low Middle-income economies (41)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | *Angola* | *Bangladesh* | *Bhutan* | *Bolivia* | *Cabo Verd* | *Cambodia* | *Cameroon* |
| | *Congo,Rep* | *Cote d'Ivoir* | *Egypt* | *E Salvador* | *Eswatini* | *Ghana* | *Honduras* |
| *LM* | *India* | *Indonesia* | *Kenya* | *Kiribati* | *KyrgyzRep* | *Lao PDR* | *Lesotho* |
| | *Mauritania* | *Moldova* | *Mongolia* | *Morocco* | *Myanmar* | *Nicaragua* | *Nigeria* |
| | *Pakistan* | *Philippines* | *Senegal* | *Solomon I* | *Sudan* | *Timor-Leste* | *Tunisia* |
| | *Ukraine* | *Uzbekistan* | *Vanuatu* | *West Bank* | *Zambia* | *Zimbabwe* | |

### Low-income economies (22)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | *Benin* | *Burkina F.* | *Burundi* | *Chad* | *Congo D.R* | *Ethiopia* | *Gambia* |
| *LI* | *Guinea* | *Guinea-B.* | *Haiti* | *Madagascar* | *Mali* | *Mozambique* | *Nepal* |
| | *Niger* | *Rwanda* | *Sierra L.* | *Syria* | *Tajikistan* | *Tanzania* | *Togo* |
| | *Uganda* | | | | | | |

*Note:*

*Source: Country income classifications for the World Bank's 2018 fiscal year*

*Appendix C – List of countries included in the sample used in the estimation of country risks and outward FDI in the global economy.*

| | | | | | | |
|---|---|---|---|---|---|---|
| *Albania* | *Canada* | *Germany* | *Kenya* | *Mauritania* | *Serbia* | *Hong Kong* |
| *Algeria* | *Chile* | *Ghana* | *Korea, DPR* | *Mauritius* | *Singapore* | *Uzbekistan* |
| *Angola* | *China* | *Greece* | *Kuwait* | *Namibia* | *Slovakia* | *Yemen* |
| *Argentina* | *Colombia* | *Guinea* | *Latvia* | *Netherland* | *Slovenia* | *Vietnam* |
| *Armenia* | *Congo, DR* | *Guinea-Bi.* | *Lebanon* | *N. Zealand* | *South Africa* | *Vanuatu* |
| *Australia* | *Congo, Rep* | *Georgia* | *Liberia* | *Nicaragua* | *Spain* | *Zambia* |
| *Austria* | *Costa Rica* | *Honduras* | *Libya* | *Niger* | *Sri Lanka* | *Zimbabwe* |
| *Azerbaijan* | *Cote d'Ivo.* | *Hungary* | *Lithuania* | *Nigeria* | *Sweden* | |
| *Bahrain* | *Croatia* | *Iceland* | *Luxembourg* | *Norway* | *Switzerland* | |
| *Bangladesh* | *Cyprus* | *India* | *Madagascar* | *Oman* | *Thailand* | |
| *Belarus* | *Czech Rep.* | *Indonesia* | *Malawi* | *Pakistan* | *Togo* | |
| *Belgium* | *Cabo V.* | *Iran* | *Malaysia* | *Peru* | *Trinidad & T* | |
| *Bolivia* | *Denmark* | *Iraq* | *Mali* | *Philippines* | *Tunisia* | |
| *Botswana* | *Dominica* | *Ireland* | *Malta* | *Poland* | *Turkey* | |
| *Brazil* | *Egypt* | *Israel* | *Mexico* | *Portugal* | *Ukraine* | |
| *Burundi* | *Estonia* | *Italy* | *Moldova* | *Qatar* | *United King.* | |
| *Bulgaria* | *Finland* | *Jamaica* | *Mongolia* | *Romania* | *Uruguay* | |
| *Burkina F.* | *France* | *Japan* | *Montenegro* | *Russia* | *United States* | |
| *Benin* | *Gabon* | *Jordan* | *Morocco* | *Saudi A.* | *UAE* | |
| *Cameroon* | *Gambia* | *Kazakhstan* | *Mozambique* | *Senegal* | *Uganda* | |

*Appendix D – Definition of variables and data sources used in the estimation of outward FDI and international trade relationship across income economies group*

| Variable | Definition | Unit | Sign | Source |
|---|---|---|---|---|
| *OFDI* | *The natural logarithm of foreign direct investment net outflows as a % of GDP* | *Constant 2010 US$* | *+/−* | *UNCTAD (2020)* |
| *TRD* | *Total trade measured in natural logarithm* | *Constant 2010 US$* | *+/−* | *World Bank (2020)* |
| *GDP* | *The real Gross Domestic product per capital (market size) in logarithm* | *Constant 2010 US$* | *+/−* | *World Bank (2020)* |
| *INST* | *Institution composite index* | *Composite index* | *+* | *WGI (2020)* |
| *INFR* | *Overall Quality of infrastructure* | *Composite index* | *+* | *WEF (2019)* |
| *POP* | *Size of home country (total population) measured in natural logarithm* | *Annual* | *+* | *World Bank (2020)* |
| *GFC* | *Dummy 1 for year of crisis, 0 otherwise* | *Scale* | *−* | *Author's construction* |

*Appendix E – Scatter plots illustrating outward FDI and international trade relationship across income economies group.*

### OFDI-Trade relationship (1998 - 2019)
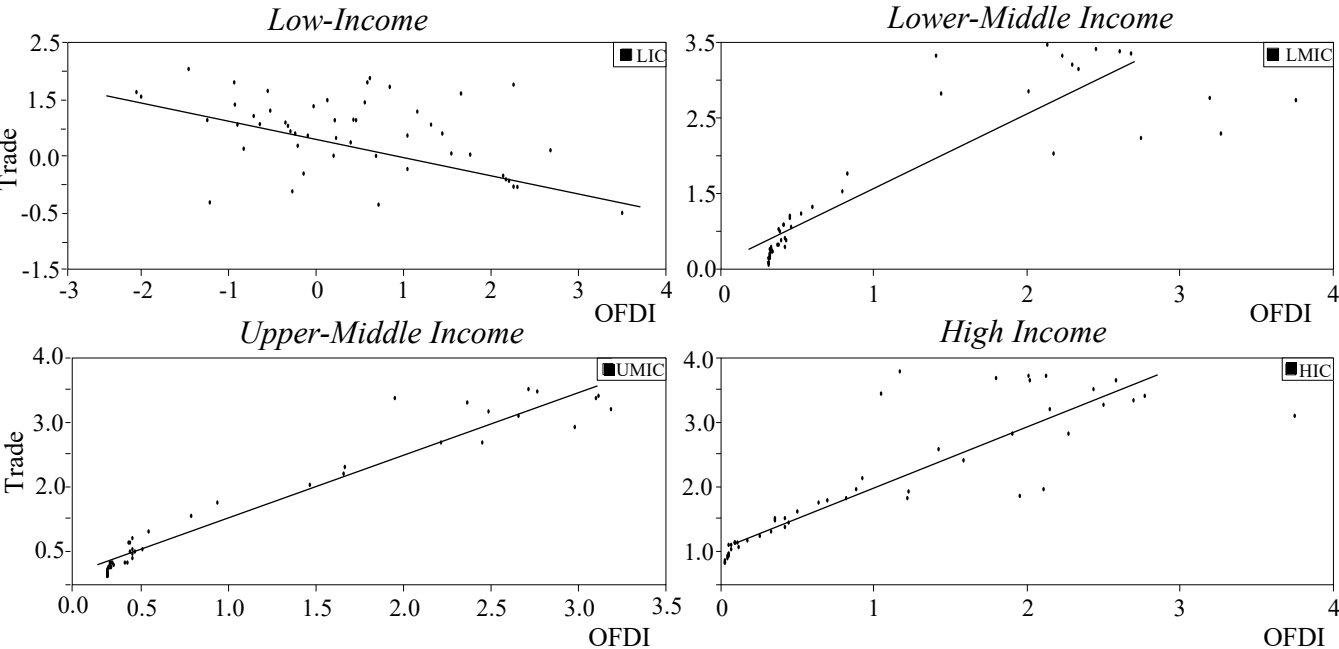


The graphs show positive relationship between FDI outflows and international trade
Source: Authors' calculations using data from https://data.worldbank.org/

*Appendix F – Plots for OFDI-Growth nexus across income economies group*

*OFDI-Growth nexus across Income economies (1980 - 2020)*



*(a) High income*

*(b) Upper Middle*

*(c) Lower Middle*

*(d) Low Income*
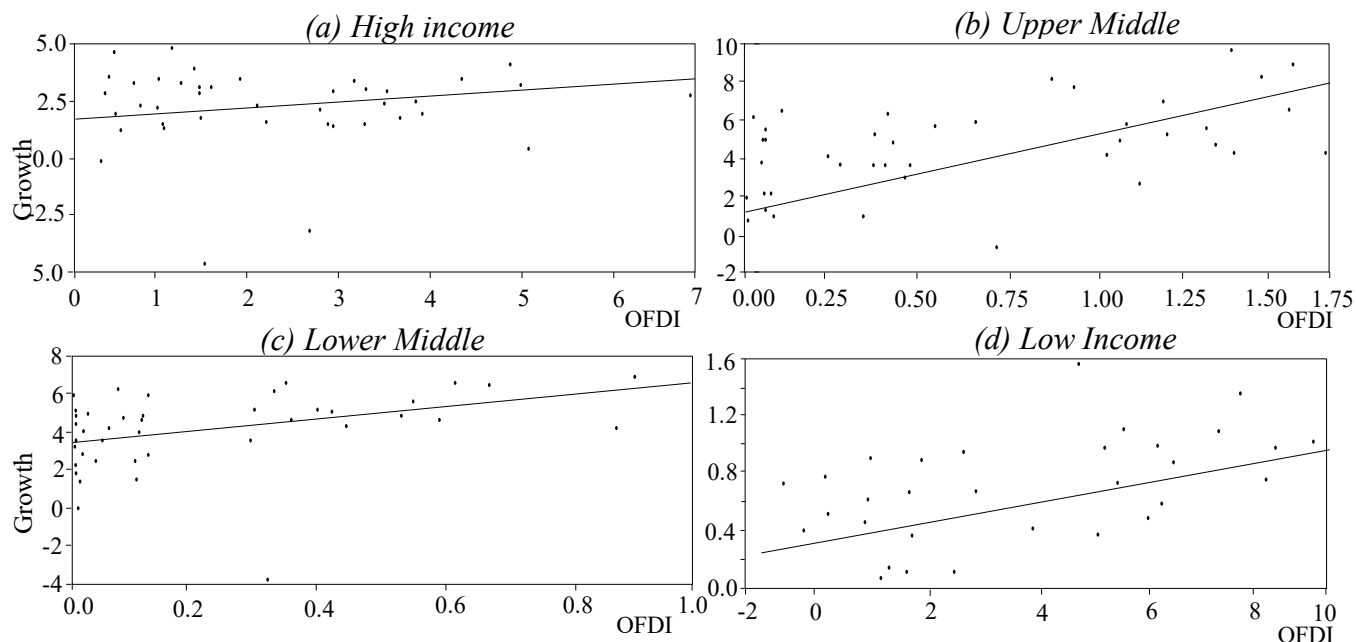
*The graphs (plots (a), (b), (c) and (d)) shows positive correlation between FDI outflow and growth relationship in all income classifications.*
*Source: Authors' calculations using data from https://data.worldbank.org/*

*Appendix G – Economic Risk Components*

| | *Economic Risk components* | *Points max* |
|---|---|---|
| *1* | *GDP per head* | *5* |
| *2* | *Real GDP growth* | *10* |
| *3* | *Annual inflation rate* | *10* |
| *4* | *Budget balance / % of GDP* | *10* |
| *5* | *Current account / % of GDP* | *15* |

*Sources:*
*1. United Nations Conference on Trade and Development (UNCTAD) 2019*
*2. The World Bank, World Development Indicators (2019)*

*Appendix H – Financial Risk Components*

| | *Financial Risk components* | *Points max* |
|---|---|---|
| *1* | *Foreign debts /% of GDP* | *10* |
| *2* | *Foreign debts / exports* | *10* |
| *3* | *Current account / exports* | *15* |
| *4* | *Net international liquidity as months of imports cover* | *5* |
| *5* | *Exchange rate stability* | *10* |

*Sources:*
*1. Federal Reserve bank of St. Louis (Fred economic data)*
*2. International Monetary Fund (IMF)*
*3. U.S. department of the treasury*
*4. Euro-area-statistics org*
*5. The World Bank, World Development Indicators (2019)*

*Appendix I – Political Risk Components*

| | Political Risk Components | Points max |
|----|---|---|
| *1* | *Government stability* | *12* |
| *2* | *Socioeconomic conditions* | *12* |
| *3* | *Investment profile* | *12* |
| *4* | *Internal conflict* | *12* |
| *5* | *External conflict* | *12* |
| *6* | *Corruption* | *6* |
| *7* | *Military in politics* | *6* |
| *8* | *Religion tensions* | *6* |
| *9* | *Law and other* | *6* |
| *10* | *Ethnic tension* | *6* |
| *11* | *Democratic accountability* | *6* |
| *12* | *Bureaucracy quality* | *4* |

*Sources:*

*International country risk guide (ICRG), (https://dataverse.harvard.edu/dataset.xhtm)*

*Appendix J – Chart illustrating outward FDI for different income economies group respectively.*
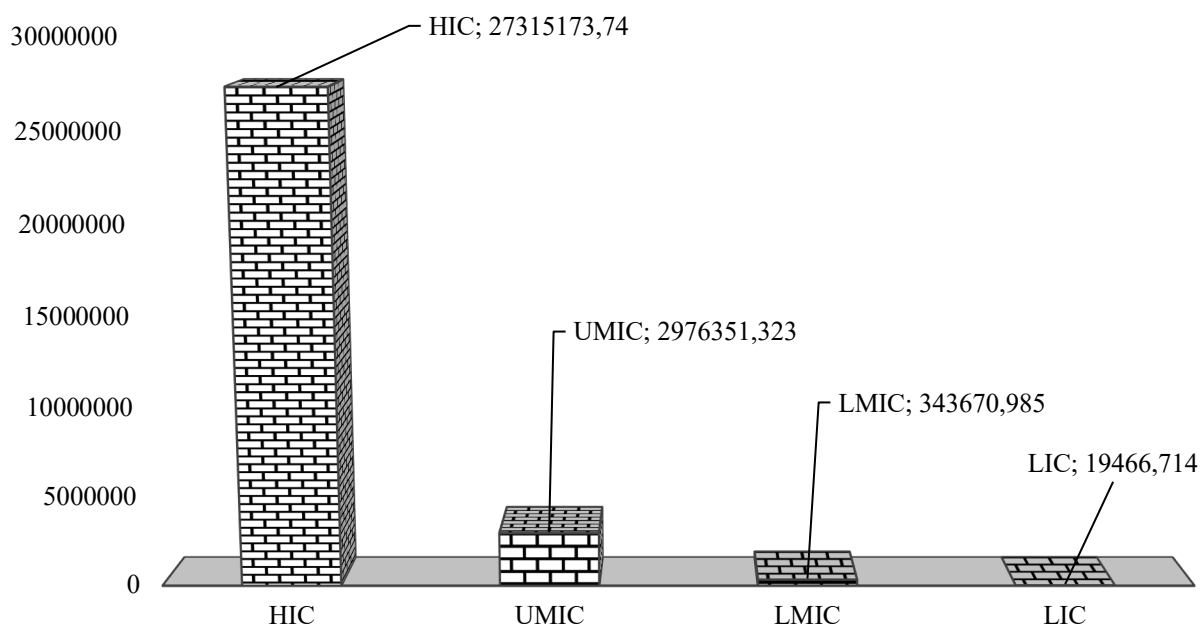


*Source: Authors evaluation using World Bank database*

*Appendix K – Summary of existing studies on countries' income economies clusters prior to this study*

| Author | Income groups | Methods | Main results |
|---|---|---|---|
| *Haque et al. [2022]* | *Middle-income, 1980 to 2020* | *Panel ARDL, mean group, pooled mean group, and a dynamic fixed effect estimation* | *The panel estimations revealed the significance of financial market development, inflation rate, trade openness, and real economic growth as the most critical factors for FDI inflow in middle-income economies* |
| *Baiashvili & Gattini [2020]* | *Low-, middle- and high-income in 111 countries, from 1980-2014* | *SGMM, DGMM* | *Finds that FDI benefits do not accrue mechanically and evenly across countries, and an inverted-U shaped relationship between countries' income levels and the size of FDI impact on growth was found* |
| *Saha et al. [2022]* | *Lower-middle income in 28 countries in six different regions spanning 2002 to 2018* | *Two-step system GMM, threshold analysis* | *Control of corruption and regulatory quality enhances FDI inflow while high rule of law and voice & accountability help mitigate FDI inflow in lower-middle income countries.* |
| *Awad [2021]* | *Low and middle income in Africa over the period 1990-2019* | *Three-stage least square (3SLS) technique* | *The impact depends slightly on the development level for each income group, while the direct impact is positive, the indirect effect is negative.* |
| *Haftel et al. [2022]* | *High-income developing countries* | *GMM* | *Higher levels of FDI outflows as a share of the national economy result in greater exposure to the international investment agreement regime.* |

| | | | |
|---|---|---|---|
| *Kalambaden & Steffen [2020]* | *High-, upper middle-, lower middle- and low-income covering the period 2002-2013.* | *Fixed effect, instrumental variable* | *We find that FDI to high-income countries have a positive effect on domestic jobs, while FDI to lower middle-income countries are associated with a loss of domestic jobs.* |
| *Mottaleba & Kalirajanb [2010]* | *Low-income and lower-middle income for 68 developing countries for the year 2006-2007.* | *Fixed and random effect estimators* | *Countries with larger GDP and high GDP growth rate, higher proportion of international trade and with more business-friendly environment are more successful in attracting FDI.* |
| *Irshad et al. [2023]* | *Lower middle-income countries for 18 countries from 1995 to 2017* | *Fully Modified Ordinary Least Squares (FMOLS) and Dynamic Ordinary Least Squares (DOLS)* | *Logistics sector development is one of the most important determining factors of economic growth in LMICs that includes transportation and tele-communication sectors development* |
| *Osei et al. [2019]* | *Low-income countries and (ii) lower–middle-income countries in Africa over the period 1980–2015.* | *system generalized method of moments (SGMM).* | *Economic growth robustly enhances openness in low-income countries, in the case of lower–middle-income countries, the impact is not robust and largely negative* |
| *Joshua et al. [2020]* | *low-income, lower-middle-income, upper-middle-income, and high-income countries for the period 1990–2018* | *Pooled ordinary least squares (POLS), dynamic panel estimation with fixed-effects and random-effects and generalized method of moments (GMM).* | *FDI is more noticeable across emerging economies compared to developed economies* |

| | | | |
|---|---|---|---|
| *Sabir et al. [2019]* | *Low, lower-middle, upper-middle and high-income countries for the sample period of 1996–2016* | *System Generalized Method of Moments (GMM)* | *Trade openness as a percentage of GDP and infrastructure positively affect FDI in developed countries.* |
| *Alvarado et al. [2017]* | *High-income countries (HIC), upper-middle-income countries (UMICs) and lower-middle-income countries (LMICs) for 19 Latin American countries* | *Fixed effects model (FE) or random effects (RE* | *FDI has a positive and significant effect on product in high-income countries, while in upper-middle-income countries the effect is uneven and non-significant. Finally, the effect in lower-middle-income countries is negative and statistically significant.* |
| *Radosevic & Yoruk [2018]* | *Lower middle income, Upper middle income, Lower high income and Upper high income in 42 countries 2007-2013* | *OLS regression* | *Results suggest the existence of middle-income trap in technology upgrading – i. e. countries' technology upgrading activities are not reflected in their income levels.* |
| *Velonjara & Gondje-Dacka [2019]* | *Lower-middle-income economies (Cote d'Ivoire, Ghana, Nigeria and Senegal) of West Africa for the period 2000-2016* | *Regression model and the Granger causality test* | *The tertiary sector influences the GDP's growth in several West African countries more than the other sectors* |
| *Ben Jebli et al. [2019]* | *Lower Middle, Upper Middle, High income in 22 Central and* | *Fully modified OLS (FMOLS), the dynamic OLS (DOLS)* | *Tourism, renewable energy, and FDI contribute to the reduction of emissions, while trade and economic* |

| | | | |
|---|---|---|---|
| | *South American countries, spanning the period 1995–2010* | *panel estimate methods, and Granger causality.* | *growth lead to higher carbon emissions* |
| *Chan & Tang [2017]* | *High-, middle-, and low-income groups 35 and 100 countries for the period 1980–2014.* | *Panel cointegration tests* | *FDI inflow and intellectual property rights (IPRs) with the other control variables are cointegrated for full countries and high-income group.* |
| *Robeena BiBi, & sumaira. [2022]* | *Upper middle income (UMI), lower middle income (LMI) and high income (HMI) countries for 193 economies for the period 1998 to 2018* | *system GMM* | *FDI affect economic growth significantly and positively in the global panel, lower middle income (LMI) and upper middle income (UMI) countries, but not true for high income (HI) countries* |

*Annex A – Two-step system GMM estimation results for effects of outward FDI*

*on export relationship across income economies group*

| Variables | World Bank Income Classification | | | | |
| | Low | Low-Middle | Upper-Middle | High | All Income |
| | (1) | (2) | (3) | (4) | (5) |
| --- | --- | --- | --- | --- | --- |
| Lag EXP | 0.746*** | 0.741*** | 0.561*** | 0.674*** | 0.237*** |
| | (34.450) | (180.080) | (33.750) | (94.230) | (8.350) |
| IFDI | 0.284*** | -0.031*** | 0.315*** | 0.054*** | 0.110*** |
| | (10.370) | (-2.790) | (6.780) | (8.730) | (4.860) |
| OFDI | -0.174*** | 0.025*** | 0.214*** | 0.018*** | 0.023** |
| | (-4.060) | (7.820) | (9.090) | (4.000) | (2.510) |
| GDP | 0.287*** | -0.180** | 0.450*** | 0.099*** | 0.121** |
| | (4.480) | (-2.090) | (3.360) | (4.500) | (2.430) |
| TEXP | -0.691 | -0.864*** | 0.540*** | -0.491*** | -0.621* |
| | (-0.910) | (-4.230) | (5.990) | (-9.340) | (-1.700) |
| HDI | -1.007* | -0.242 | 0.462*** | -0.676*** | 0.395*** |
| | (-1.800) | (-1.110) | (2.720) | (-4.670) | (3.190) |
| TRDT | 0.161 | 0.255*** | -0.101* | 0.127** | 0.179*** |
| | (1.130) | (7.170) | (-1.760) | (2.522) | (4.190) |
| QINF | -0.181 | -0.760*** | 0.118*** | 0.718*** | 0.513*** |
| | (-0.830) | (-10.800) | (5.480) | (15.790) | (3.450) |
| DEBT | -0.234* | 0.354*** | 0.249*** | -0.757*** | -0.151** |
| | (-1.810) | (7.270) | (5.060) | (-24.230) | (-2.190) |
| Constant | 2.045 | 1.566** | -2.749*** | 1.948*** | 5.134*** |
| | (1.400) | (10.860) | (-6.480) | (10.870) | (6.210) |
| Obs/Grand | 400/4260 | 704/7480 | 880/9350 | 880/9350 | 2864/30430 |
| Nos. of Inst. | 22 | 43 | 50 | 52 | 88 |
| Nos. of Groups | 25 | 44 | 56 | 55 | 179 |
| Wald test p-val | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| AR (1) p-val. | 0.006 | 0.005 | 0.012 | 0.034 | 0.000 |
| AR (2) p-val. | 0.273 | 0.307 | 0.211 | 0.604 | 0.304 |
| Hansen p-val. | 0.687 | 0.375 | 0.210 | 0.242 | 0.291 |

*Note:*

*Source: Author's calculations*

*t-statistics are in parentheses, significance: * p<0.1; ** p<0.05; ***p<0.01*

*Annex B – Two-step system GMM estimation results for exports supporting outward*

*FDI relationship across income economies group*

| | World Bank Income Classification | | | | |
|---|---|---|---|---|---|
| | Low | Low-Middle | Upper-Middle | High | All Income |
| Variables | (1) | (2) | (3) | (4) | (5) |
| Lagged OFDI | 0.217*** | 0.171*** | 0.091*** | 0.108*** | 0.227*** |
| | (4.120) | (6.660) | (4.890) | (5.170) | (11.480) |
| IFDI | 0.272* | -0.271*** | 0.765*** | 1.004*** | 0.330*** |
| | (1.740) | (-4.410) | (14.630) | (14.340) | (7.910) |
| EXP | -0.199*** | 0.058** | 0.169*** | 0.229*** | 0.471*** |
| | (-4.010) | (2.590) | (11.450) | (-3.430) | (2.780) |
| GDP | 0.327*** | 0.197*** | -0.367*** | 0.731*** | 0.772*** |
| | (3.170) | (3.400) | (-2.690) | (10.600) | (0.001) |
| TEXP | 0.692 | 0.513*** | -0.811** | -0.513*** | -0.312*** |
| | (0.610) | (2.620) | (-2.050) | (-10.440) | (-4.970) |
| HDI | 0.408* | 1.005*** | 0.684*** | -0.122*** | 0.310*** |
| | (1.740) | (4.600) | (5.480) | (-4.590) | (3.970) |
| TRDT | 0.455** | 0.353*** | -0.280* | 0.298*** | -0.014 |
| | (2.560) | (7.830) | (-1.740) | (2.760) | (-0.250) |
| QINF | -0.075 | 0.819** | -0.605* | 0.554*** | 0.501*** |
| | (-0.070) | (2.690) | (-1.980) | (5.000) | (3.220) |
| DEBT | -0.522*** | 0.456** | -0.878*** | -0.876*** | -0.353*** |
| | (-3.380) | (2.200) | (-4.930) | (-3.380) | (-2.91) |
| Constant | -3.516 | -0.807** | -0.487 | 3.258*** | 1.864* |
| | (11.260) | (-2.140) | (-0.310) | (7.690) | (1.890) |
| Obs/Grand | 400/4260 | 704/7480 | 880/9350 | 880/9350 | 2864/30430 |
| Nos. of Inst. | 24 | 41 | 47 | 53 | 71 |
| Nos. of Groups | 25 | 44 | 56 | 55 | 179 |
| Wald test p-val | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| AR (1) p-val. | 0.006 | 0.025 | 0.012 | 0.034 | 0.001 |
| AR (2) p-val. | 0.291 | 0.264 | 0.235 | 0.544 | 0.226 |
| Hansen p-val. | 0.583 | 0.311 | 0.341 | 0.272 | 0.315 |

*Note:*

*Source: Author's calculations*

*t-statistics are in parentheses, significance: * p<0.1; ** p<0.05; ***p<0.01*

*Annex C – Two-step system estimation results for effect of outward FDI on Imports*

*relationship across income economies group*

| Variables | World Bank Income Classification | | | | |
| --- | --- | --- | --- | --- | --- |
| | Low | Low-Middle | Upper-Middle | High | All Income |
| | (1) | (2) | (3) | (4) | (5) |
| Lag IMP | 0.782*** | 0.768*** | 0.527*** | 0.704*** | 0.707*** |
| | (27.530) | (84.910) | (96.460) | (102.840) | (79.160) |
| IFDI | 0.077*** | 0.0312 | 0.516*** | -0.029** | 0.009 |
| | (3.100) | (0.204) | (18.380) | (-2.630) | (0.900) |
| OFDI | -0.057* | 0.040** | 0.037*** | 0.156*** | 0.039** |
| | (-1.830) | (2.670) | (3.640) | (-30.750) | (2.100) |
| GDP | 0.715*** | 0.426*** | 0.208*** | 0.617*** | 0.249*** |
| | (2.260) | (3.790) | (3.340) | (13.270) | (3.830) |
| TEXP | -0.631*** | 0.025 | 0.258*** | -0.216*** | -0.652*** |
| | (-4.570) | (0.100) | (15.820) | (-12.970) | (-4.100) |
| HDI | -0.302 | 0.777*** | 0.815*** | -0.392 | -0.413*** |
| | (-1.260) | (4.190) | (7.440) | (-1.370) | (-3.960) |
| TRDT | -0.186** | 0.249*** | 0.440*** | 0.116*** | 0.096*** |
| | (-2.480) | (4.620) | (48.550) | (3.760) | (2.670) |
| QINF | -0.087 | -0.961*** | 0.717*** | 0.326*** | 0.620*** |
| | (-0.71) | (-6.78) | (8.380) | (10.24) | (6.410) |
| DEBT | -0.076 | 0.475*** | 0.241*** | 0.636*** | 0.035 |
| | (-0.710) | (4.280) | (4.830) | (12.440) | (0.680) |
| Constant | 1.798*** | 1.978*** | -2.020*** | 3.599*** | 1.735*** |
| | (5.100) | (6.190) | (-22.760) | (13.580) | (6.380) |
| Obs/Grand | 400/4260 | 704/7480 | 880/9350 | 880/9350 | 2864/30430 |
| Nos. of Inst. | 22 | 42 | 48 | 52 | 83 |
| Nos. of Groups | 25 | 44 | 56 | 55 | 179 |
| Wald test p-val. | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| AR (1) p-val. | 0.006 | 0.005 | 0.012 | 0.034 | 0.000 |
| AR (2) p-val. | 0.217 | 0.264 | 0.199 | 0.631 | 0.275 |
| Hansen p-val. | 0.303 | 0.380 | 0.230 | 0.202 | 0.321 |

Note:

Source: Author's calculations

t-statistics are in parentheses, significance: * p<0.1; ** p<0.05; ***p<0.01

*Annex D – Two-step system GMM estimation results for imports supporting outward*

*FDI relationship across income economies group*

| Variables | World Bank Income Classification | | | | |
| --- | --- | --- | --- | --- | --- |
| | Low | Low-Middle | Upper-Middle | High | All Income |
| | (1) | (2) | (3) | (4) | (5) |
| Lag OFDI | 0.222*** | 0.148*** | 0.196*** | 0.139*** | 0.089*** |
| | (3.7400) | (5.340) | (8.110) | (6.870) | (3.420) |
| IFDI | 0.120* | 0.105 | 0.717*** | 0.362*** | 0.143* |
| | (2.000) | (1.430) | (14.680) | (11.390) | (1.720) |
| IMP | -0.117* | 0.072*** | 0.064** | 0.282*** | 0.198*** |
| | (-1.98) | (2.760) | (2.00) | (-3.510) | (5.170) |
| GDP | -0.340** | 0.159 | 0.717*** | 0.926*** | 0.817*** |
| | (-2.240) | (0.251) | (4.030) | (13.870) | (2.700) |
| TEXP | -0.842** | 0.202*** | 0.613** | -0.135*** | -0.733** |
| | (-2.080) | (2.900) | (2.140) | (-17.140) | (-2.600) |
| HDI | 0.049 | 0.825*** | 0.376 | -0.299*** | 0.872*** |
| | (0.760) | (3.100) | (1.300) | (-5.40) | (2.580) |
| TRDT | -0.432* | 0.353*** | -0.181*** | 0.206** | -0.204* |
| | (-1.800) | (5.400) | (-3.750) | (2.580) | (-1.710) |
| QINF | 0.238 | -0.310*** | 0.390* | 0.461*** | 0.310 |
| | (0.450) | (-4.220) | (1.710) | (6.230) | (0.810) |
| DEBT | -0.410** | -0.530* | -0.688*** | -0.857 | -0.799*** |
| | (-2.280) | (-1.910) | (-22.59) | (-1.512) | (-2.930) |
| Constant | 1.619** | 0.078 | -1.025*** | 5.217*** | 0.867* |
| | (2.070) | (0.040) | (-8.830) | (10.380) | (1.890) |
| Obs./Grand | 400/4260 | 704/7480 | 880/9350 | 880/9350 | 2864/30430 |
| Nos. of Inst. | 24 | 39 | 47 | 48 | 92 |
| Nos. of Groups | 25 | 44 | 56 | 55 | 179 |
| Wald test p-val | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| AR (1) p-val. | 0.006 | 0.005 | 0.012 | 0.034 | 0.000 |
| AR (2) p-val. | 0.291 | 0.234 | 0.211 | 0.714 | 0.115 |
| Hansen p-val. | 0.479 | 0.389 | 0.230 | 0.202 | 0.201 |

*Note:*

*Source: Author's calculations*

*t-statistics are in parentheses, significance: * p<0.1; ** p<0.05; ***p<0.01*

*Annex E – Results summary of OFDI and disaggregate Trade (export and import)*

| Effects | Complementary (+) / Substitutionary (-) | | | |
|---|---|---|---|---|
| Income category | OFDI → EXP | EXP → OFDI | OFDI → IMP | IMP → OFDI |
| Low Income | (−) | (−) | (−) | (−) |
| Low-middle | (+) | (+) | (+) | (+) |
| Upper-middle | (+) | (+) | (+) | (+) |
| High Income | (+) | (+) | (−) | (+) |
| All income | (+) | (+) | (+) | (+) |

*Annex F – show plots for FDI outflow for group of developed economies.*
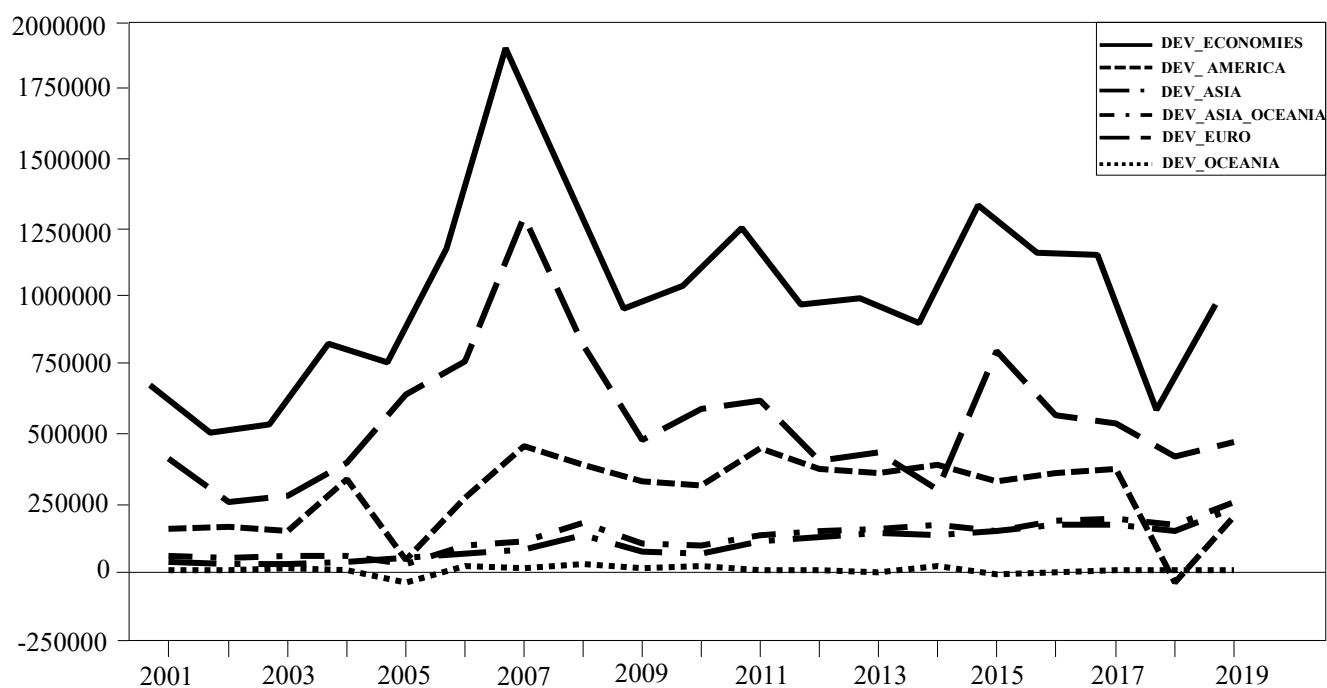
*Annex G – Plots illustrating FDI outflow from groups of developing economies.*
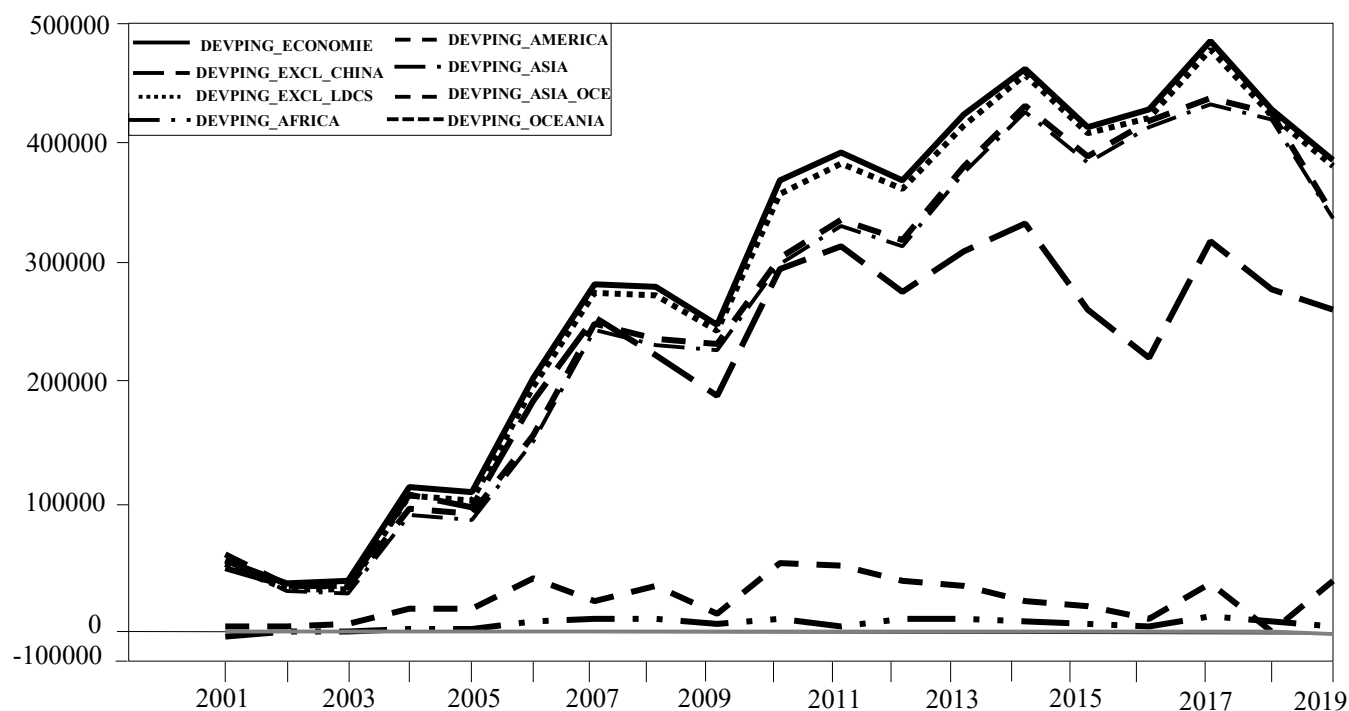


*Annex H – Plots for FDI outflow for some selected groups of countries*
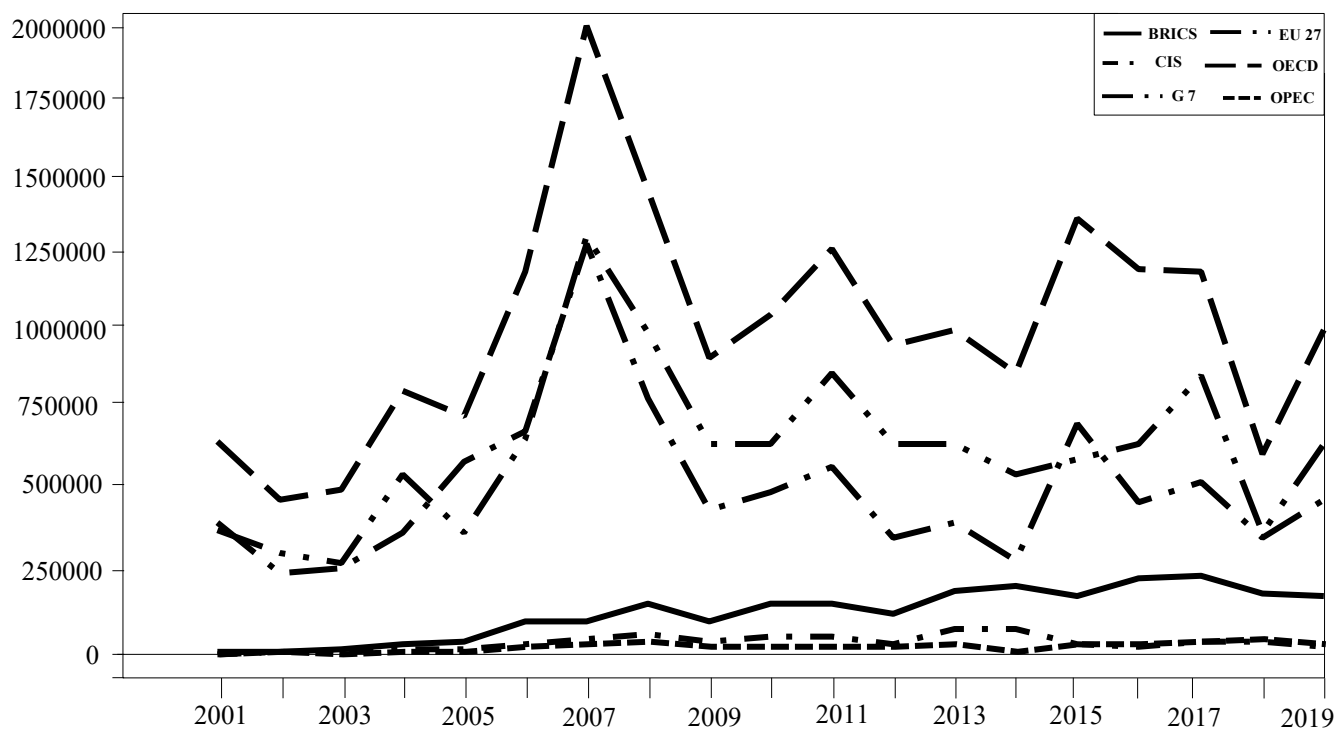
*Annex I – shows the aggregate plots for FDI outflow for ESCAP countries.*
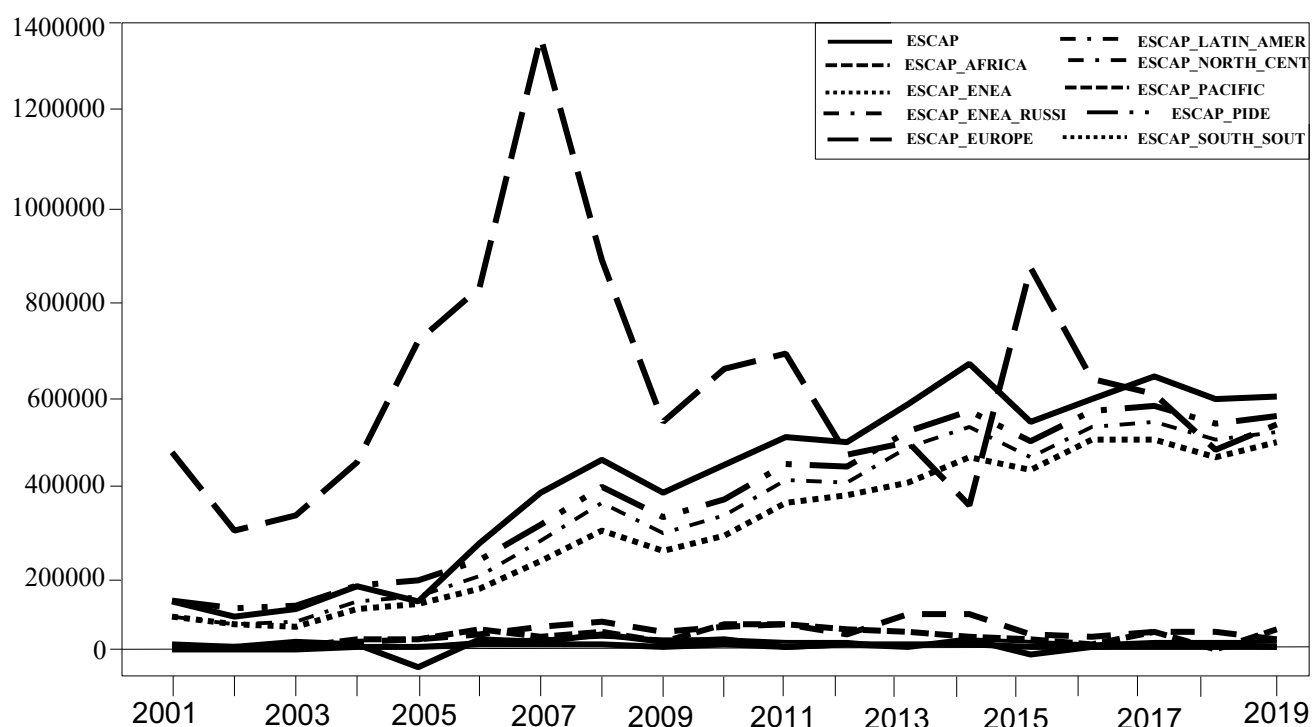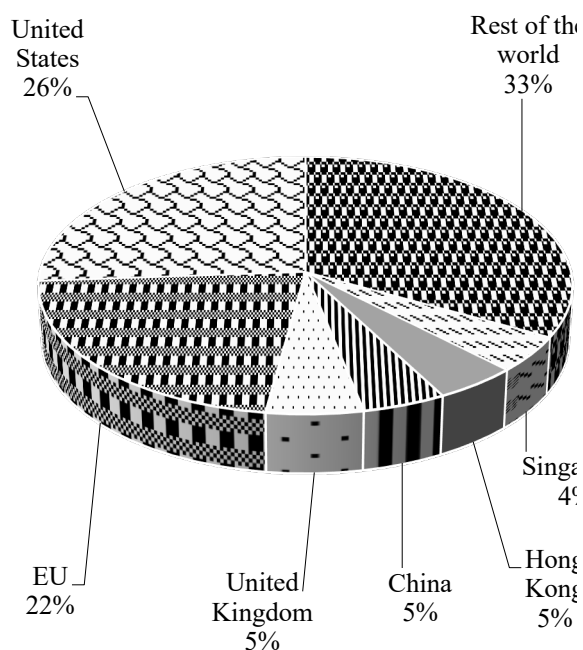


*Source: Authors' evaluation using UNCTAD database (2001-2019) - The graph shows the aggregate plots for FDI outflow for ESCAP countries. ESCAP indicates Economics and social commission for Asia and the Pacific*

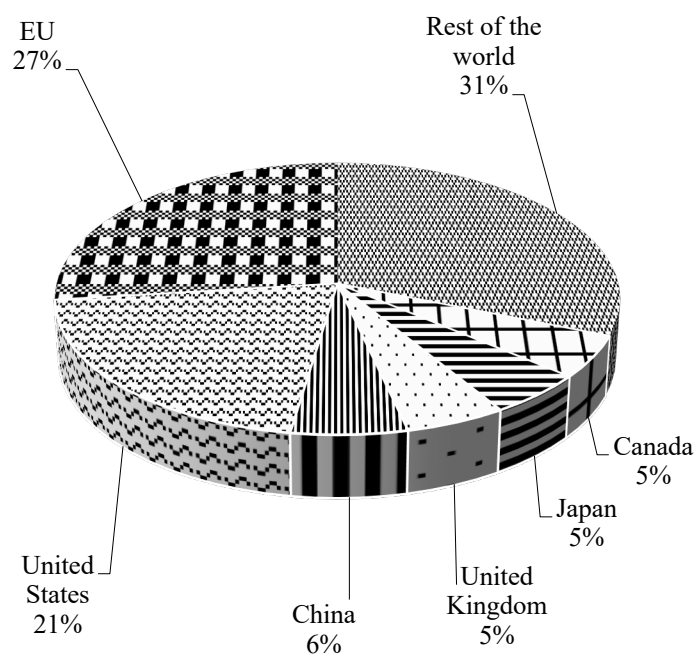*Annex J – Plots for FDI outflow for some selected emerging market economies*
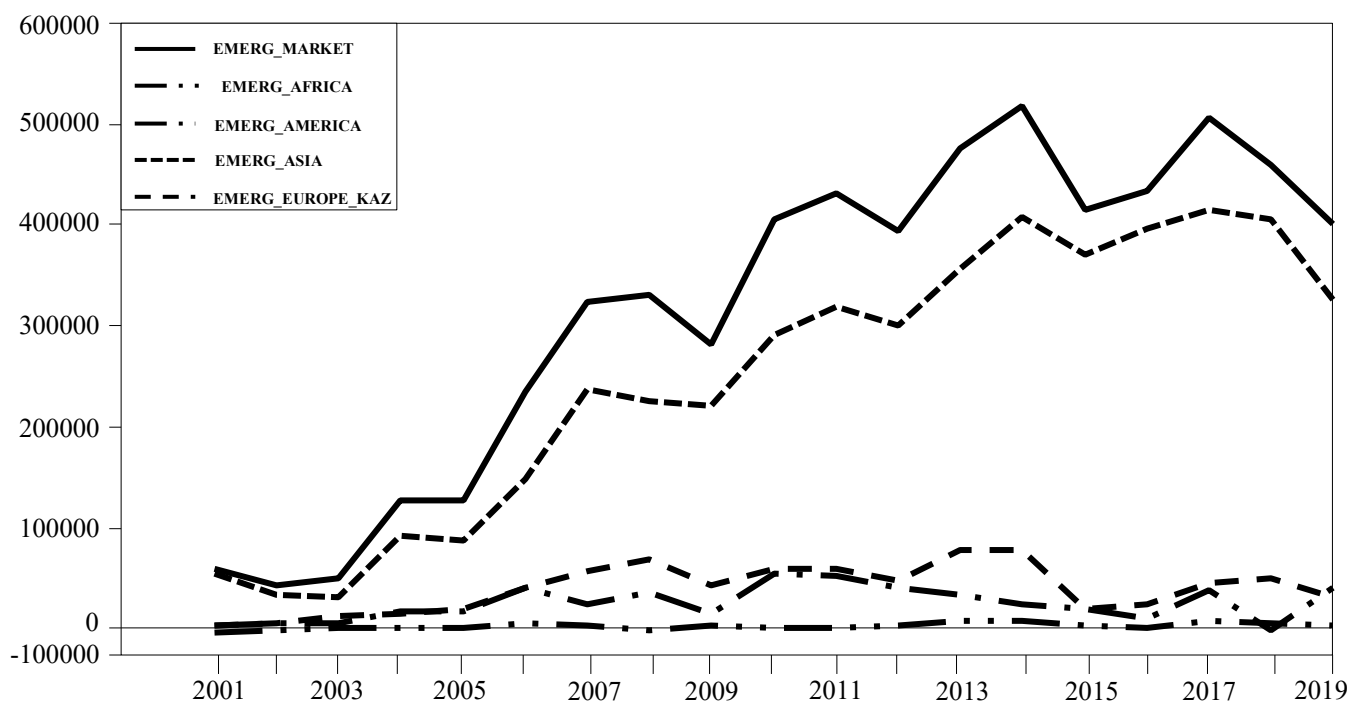


*Annex K – World stocks of foreign direct investment, 2020 (% of total)*

**In the exporting economy**

**Abroad**

United States
26%

Rest of the
world
33%

EU
27%

Rest of the
world
31%

EU
22%

United
Kingdom
5%

China
5%

Hong
Kong
5%

Singa
4%

Canada
5%

Japan
5%

United
Kingdom
5%

China
6%

United
States
21%

*Source: Eurostat (bop_fdi6_pos) and UNCTAD (FDI/MNE database)- Europe
shows to be the leading outward investor, accounting for more than close to half
(45%) of the world's outward investment stocks.*