FOREIGN DIRECT INVESTMENT AND INCLUSIVE GROWTH: COMPARATIVE EVIDENCE FROM ZAMBIA AND MALAWI

Thesis submitted in fulfillment of the requirements for the degree of PhD in International Development Studies to the

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<tr>
<td>ADF</td>
<td>Augmented Dickey Fuller Test</td>
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<td>ADMARC</td>
<td>Agriculture Development and Marketing Corporation</td>
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<td>AfDB</td>
<td>African Development Bank</td>
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<td>AIC</td>
<td>Akaike information criterion</td>
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<td>BLUE</td>
<td>Best Linear Unbiased Estimators</td>
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<td>BoP</td>
<td>Balance of Payments</td>
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<td>COMESA</td>
<td>Common Market for Eastern and Southern Africa</td>
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<td>DOLS</td>
<td>Dynamic Ordinary Least Squares</td>
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<td>EPZs</td>
<td>Export processing zones</td>
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<td>ERP</td>
<td>Economic Recovery Plan</td>
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<td>EU</td>
<td>European Union</td>
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<td>FDI</td>
<td>Foreign Direct Investment</td>
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<td>FPE</td>
<td>Akaike’s Final Prediction Error</td>
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<td>GCI</td>
<td>Global Competitiveness Index</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GMM</td>
<td>Generalized Moments of Mean</td>
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<td>GoM</td>
<td>Government of Malawi</td>
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<td>GRZ</td>
<td>Government of the Republic of Zambia</td>
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<td>HDI</td>
<td>Human Development Index</td>
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<td>HQIC</td>
<td>Hannan and Quinn information criterion</td>
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<tr>
<td>ICSD</td>
<td>International Convention for Settlement of Investment Disputes</td>
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<td>IDP</td>
<td>Investment Development Cycle or Path</td>
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<td>ILO</td>
<td>International Labour Organization</td>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<td>IRFs</td>
<td>Impulse response functions (IRFs)</td>
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<td>Abbreviation</td>
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<tr>
<td>IV</td>
<td>Instrumental variable regression</td>
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<td>PFM</td>
<td>Public Financial Management</td>
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<td>ISA</td>
<td>Internalization Specific Advantages</td>
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<td>JML</td>
<td>Johansen Maximum Likelihood Test</td>
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<td>LDCs</td>
<td>Least-Developed Countries</td>
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<td>LM</td>
<td>Lagrange Multiplier</td>
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<td>LSA</td>
<td>Location Specific Advantages</td>
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<td>M&amp;As</td>
<td>Mergers and Acquisitions</td>
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<td>MDGs</td>
<td>Millennium Development Goals</td>
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<td>MGDS</td>
<td>Malawi Growth and Development Strategy</td>
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<td>MIPA</td>
<td>Malawi Investment Promotion Agency</td>
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<td>MNCs</td>
<td>Multinational corporations</td>
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<td>MPRS</td>
<td>Malawi Poverty Reduction Strategy</td>
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<td>MTEF</td>
<td>Medium-Term Expenditure Framework</td>
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<td>NICs</td>
<td>Newly Industrializing Countries</td>
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<td>OECD</td>
<td>Organization of Economic Cooperation and Development</td>
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<tr>
<td>OLS</td>
<td>Ordinary Least Squares</td>
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<td>OSA</td>
<td>Ownership Specific Advantages</td>
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<td>PCI</td>
<td>Per capita income</td>
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<td>PLC</td>
<td>Product life-cycle hypothesis</td>
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<td>PSDRDP</td>
<td>Private Sector Development-Reform Programme</td>
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<tr>
<td>R&amp;D</td>
<td>Research and development</td>
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<td>RESET</td>
<td>Regression Error Specification Test</td>
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<tr>
<td>R-SNDP</td>
<td>Revised Sixth National Development Plan</td>
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<td>SADC</td>
<td>Southern African Development Community</td>
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<td>SAPs</td>
<td>Structural Adjustment Programmes</td>
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<td>SBIC</td>
<td>Schwarz’s Bayesian information criterion</td>
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<td>Abbreviation</td>
<td>Full Form</td>
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<tr>
<td>SEZs</td>
<td>Special Economic Zones</td>
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<td>SLS</td>
<td>Stage Least Squares</td>
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<tr>
<td>SNDP</td>
<td>Sixth National Development Plan</td>
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<td>SOEs</td>
<td>State-owned enterprises</td>
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<td>SUR</td>
<td>Seemingly unrelated regression</td>
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<td>SUTVA</td>
<td>Stable Unit Treatment Value Assumption</td>
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<td>SWIID</td>
<td>Standardized World Income Inequality Database</td>
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<tr>
<td>TFP</td>
<td>Total factor productivity</td>
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<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
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<td>UNDP</td>
<td>United Nations Development Programme</td>
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<tr>
<td>UNIDO</td>
<td>United Nations Industrial Development Organization</td>
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<td>USA</td>
<td>United States of America</td>
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<td>VAR</td>
<td>Vector auto-regression</td>
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<td>VECM</td>
<td>Vector error correction model</td>
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<td>WAP</td>
<td>Working-age population</td>
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<td>WEF</td>
<td>World Economic Forum</td>
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<td>WIR</td>
<td>World Investment Report</td>
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<tr>
<td>WTO</td>
<td>World Trade Organisation</td>
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<td>ZDA</td>
<td>Zambian Development Agency</td>
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Declaration

I do hereby solemnly declare that this submission is my own original work, undertaken independently and without any illegitimate assistance. To the best of my knowledge and conviction, it contains no material previously published by any other person in its current or similar form, neither has it been accepted as or part of a dissertation for the award of any other degree or qualification within the university or any other institution of higher learning. Where reference is made to previous academic work, due acknowledgement of the respective authors is made both in the text and in bibliography of this dissertation.

Furthermore, I endeavored to maintain my study as adherent as possible to the “Guidelines for Good Scientific Practice” (Leitlinien guter wissenschaftlicher Praxis) cited under §9 of the Promotionsordnung des Promotionsstudiengangs “International Development Studies”, to the best of my ability.

Errors and omissions in this document remain my personal responsibility.

Themba Nyasulu
Bochum, Germany 2018
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Abstract

Inclusive growth which involves accelerating the pace as well as improving the distribution of economic growth in order to enable many people to contribute to and benefit from the growth process is one of the important topics currently dominating development discourse in Zambia and Malawi. Due to the economic growth-stimulating and employment-creation role it plays, inward foreign direct investment (FDI) has been suggested as a possible means for achieving inclusive growth. However, the FDI-inclusive growth nexus in the two countries is not well understood since no known study has so far been attempted to investigate the relationship. Against this background, we comparatively examine the FDI-effect on inclusive growth in the aforementioned countries using an extended neoclassical growth model and annual data covering the period 1970-2014. Our empirical results show that FDI has a positive effect on economic growth in both countries even though the effect is larger for Malawi relative to Zambia. Additionally, our Granger-causality results show evidence of FDI-led growth in Zambia while in Malawi both FDI and growth Granger-cause each other (i.e. feedback relationship). Furthermore, by taking into consideration imperfectly-functioning labor markets in both countries, we find employment creation to be the main channel linking the pace and distribution of FDI-induced growth. Also, FDI is found to increase the level of income inequality in both countries, though the inequality is higher in Malawi relative to Zambia. This suggests that FDI has not led to inclusive growth in both countries since it has only accelerated economic growth but worsened inequality.

Keywords: Foreign direct investment, inclusive growth, extended neoclassical growth model, Zambia, Malawi

JEL Classification Numbers: F21, F43, O11, O40, J21, D31
CHAPTER ONE
INTRODUCTION TO THE STUDY

1.0. Contextual background to the study

Inclusive growth which is primarily about raising the pace of economic growth and enlarging the size of the economy, while leveling the playing field for investment and increasing productive employment opportunities is a very important phenomenon currently dominating global development discourse. It is now generally accepted that even though a rapid expansion of the gross domestic product (GDP) over time is necessary for poverty reduction but for the growth to be sustainable in the long-run it must be broad-based across sectors and should cover the majority of the country’s labor force (Berg and Ostry, 2011; Dollar, Kraay, and Kleineberg, 2013). This clearly indicates that inclusive growth implies both the pace and distribution of economic growth which are interlinked and should be addressed together in order generate rapid and sustained GDP growth as well as to achieve significant reduction in poverty and income inequality. But given that growth is inclusive only if it utilizes large parts of the country’s labor force, the main instrument for achieving inclusive and sustained growth has therefore been identified as the creation of productive employment opportunities (Commission on Growth and Development, 2008). With productivity and employment growth as its cornerstones, inclusive growth has in the last decade gained global prominence in development literature for primarily allowing people to contribute to economic growth and at the same time benefit from it (Ianchovichina and Lundstrom, 2009a; Anand, Mishra, and Peiris, 2013).

Of late the world has been experiencing subdued economic growth mainly due to continued negative effects of global financial crisis, escalating geo-political conflicts in the Middle East, falling commodity export prices, threats of protectionism in some advanced countries, and slowing down of the Chinese economy. The International Monetary Fund (2017) observes that the global economy grew at a very modest rate of 2.2 percent to 3.4 percent during the period 2013-2016. These meagre global GDP growth rates have done very little to reduce the worsening world poverty and inequality levels. According to World Development Report (2016) approximately 1.1 billion people across the globe are at present living in extreme poverty thus
subsisting on less than US$1.25 per day which represents about 16 percent of the earth’s 7 billion inhabitants. Sub-Saharan Africa and South Asia combined make up more than 80 percent of the world’s poorest people and 47 percent of Sub-Saharan Africa’s total population is experiencing absolute poverty. On its part income inequality gap between the rich and the poor has also been increasing rapidly across the globe. Oxfam (2015) observes that 1 percent of the earth’s richest people currently own 48 percent of the total global wealth while 80 percent of the world’s poorest inhabitants only own and control 5.5 percent of the same. This trend seems to confirm what Bourguignon (2013) observed that while income disparity between countries has somewhat decreased because of globalization, inequalities among individuals within countries are still on the rise. It is such worsening poverty and inequality levels, among other factors, that have driven countries all over the globe to vigorously search for inclusive growth policies to improve people’s welfare and achieve human development.

Among the important pathways suggested by development economists for achieving inclusive growth is the promotion of foreign direct investment (FDI). Todaro and Smith (2014) define FDI as basically an investment equity made into a country by a company or entity from another country. In line with economic growth models such as some modified/extended versions of post-Keynesian, neoclassical and endogenous models, inward FDI can positively contribute to income growth over time. Since increasing and sustaining the pace of GDP expansion rate is a vital component for achieving inclusive growth, FDI has a very crucial role to play in this process. In fact, inward FDI can help to speed up the pace of economic growth by filling the various gaps that exist in the economy such as the savings, foreign exchange, fiscal and technology gaps. These constraints are more pronounced in developing countries that are in their early stages of economic transformation. By increasing both the domestic savings and investment levels through provision of supplementary capital and generating forward and backward linkages with local economies, FDI generates output increases over time. Similarly, FDI can help to seal foreign exchange gaps that may exist in an economy by increasing export revenue which can be used for purchasing productive foreign capital goods. By boosting government revenue through corporate taxation and foreign exchange earnings, foreign investment helps to bridging the fiscal gap and enables the increased resources to be channeled to other more productive activities which may trigger growth. On a similar note, foreign investment inflows introduce into the domestic economy modern technologies and other better management and organization techniques which
in the long run may enhance GDP growth. For the endogenous or new growth theorists FDI generates growth by enabling the ‘spillover’ or transfer of knowledge about more efficient production methods when local firms learn from foreign firms by copying or observing the new innovations (Blomström et al., 1995; De Mello, 1996, 1997 and 1999; and Borenzstein et al., 1996). But since GDP growth is the single most important factor in poverty reduction therefore FDI is certainly crucial to achieving this goal.

However, inclusive growth is not only about the increasing ‘pace of GDP growth’, it also involves transforming the ‘pattern of growth’ to reduce poverty and inequality. The ability of FDI to reduce poverty and income inequality has long been established in economics literature. Economists such as Lewis (1954), Kuznets (1955) and Rostow (1963) posit that in the long-run increased FDI flows increase income and reduce inequality in recipient country (host economy). They argue that as FDI starts trickling into a host economy it at first generates a small modern industrial sector that earn relatively higher wage rates thus creating income inequality. But over time as the modern sector expands and gradually starts absorbing surplus labor from the traditional sector, the marginal productivity of labor increases and hence triggers increase in the wage rates across society which over time reduce incidences of income inequality in the rural sector (Lewis, 1979; and Tsai, 1995). On top of this, economists also argue that FDI positively impacts on poverty alleviation through creation of more job opportunities for host countries suffering from high unemployment levels. For instance, Lindblad (1998) observes that FDI originating from Japan created approximately 250,000 new employment opportunities in Thailand, Malaysia, Singapore and Philippines, respectively in 1986 which led to reduced poverty incidences in these South-East Asian countries as standards of living rose significantly.

On a similar note, Klein et al., (2001) observe that FDI reduces poverty and inequality through stabilizing fluctuations of capital flows and incomes, enhancing assets distribution and incomes in countries undertaking privatization, improving social and environmental standards in host countries, and enhancing social safety nets delivery to the poor and marginalized. The above researchers argue that since FDI is a more stable and resilient form of investment relative to portfolio or debt flows, it provides better insulation to the poor in times of financial volatility. Additionally, Djankov and Murrell (2000) observe that compared to other cross-border capital flows FDI provides the most efficient type of equity in many developing countries which is
characterized by weak corporate governance. Its ability to comply with social corporate regulation protects the poor from unscrupulous corporate activities such as insider equity expropriation and asset stripping. Moreover, many foreign investment firms because of their higher productivity and global profile unlike domestic firms; are more compelled to adhere to and maintain high internationally-accepted environmental and social standards during production. On another note, foreign firms through their corporate tax remittances to host countries and their social corporate responsibilities have the potential to boost social safety nets for the poor and vulnerable hence help to mitigate the negative effects of growth such as inequality and poverty. In agreement with the above assertions, the World Bank (2012) affirms that FDI is a means, though not an end in itself, to alleviating poverty through generation of broad-based output expansion and improving the pattern and distribution of the growth achieved.

But for developing countries, it was the spectacular rise in the standards of living of South-East Asian nations such as South Korea, Taiwan, Singapore, Hong Kong, and Malaysia in the 1960s and 1970s that provided arguably the strongest empirical evidence in support of the positive impact FDI has on inclusive growth. The Organization of Economic Cooperation and Development-OECD (1995) observes that among others, the above countries aggressively implemented FDI promotion strategies in addition to their export-oriented trade policies in order to achieve rapid, sustained and broad-based economic growth. Lim and Fong (1991) cement the above point by arguing that foreign corporations (multinationals) contributed 17.7 percent to the total GDP per capita of Malaysia in 1960, and 9.73 percent for Taiwan in 1990. Through the promotion of export-oriented FDI and other state interventions, these South-East Asian economies have rapidly risen from being LDCs in the 1960s to become Newly Industrialized Countries (NICs).

It is this success that has largely inspired other developing economies especially those in the sub-Saharan African region to vigorously promote foreign investment as a credible tool for fostering growth. After overcoming post-independence fears that FDI could lead to loss of political sovereignty and stifle domestic investment, African governments gradually embraced inward FDI in the late 1970s and 1980s as an important contributor to achieving economic development, reducing poverty, and easing the burden created by the debt crisis and Structural Adjustment Programs (SAPs) (Moss, Ramachandran, and Shah, 2004). The African Union (2001) stresses
the importance of FDI by arguing that in order to meet its annual GDP growth target of 7 percent necessary to achieve poverty alleviation by 2015 most of its resources (i.e. capital) will have to be acquired from abroad and hence inward FDI is one such important source of foreign capital. In addition, UNCTAD (2013) observes that from just under US$1 billion in 1970s, FDI inflows into Africa have been on the rise; reaching US$2.2 billion and US$6.2 billion in the 1980s and 1990s respectively, before rising five-fold to US$13.8 billion in 2000 and by 2013 hit a record high of US$56 billion. But ever since the implementation of outward-oriented trade and FDI policies, African countries have had very varying results, with some experiencing rapid economic growth while others have seen their national output dwindling over the years and thus leading to mixed effects on their welfare improving and inequality reduction strategies (Basu and Srinivasan, 2002). This situation has cast a shadow of doubt on the ability of inward FDI to foster sustainable inclusive growth in many parts of Africa. The contrasting growth experience has therefore presented an urgent need to empirically examine the FDI-led inclusive growth effects on individual African economies to obtain a more accurate and complete picture of the situation.

A similar situation has occurred in Zambia and Malawi where despite the two countries zealously implementing largely foreign investment-led and outward-oriented trade policies since independence in 1964, their economic growth rates and welfare levels have fluctuated heavily. As a matter of fact, since the establishment of British colonial rule in the late 19th century, Zambia and Malawi have based their economies on mineral (mainly copper and cobalt) and agricultural (tobacco, tea, sugar, and cotton) exports, respectively. This situation has also meant that the growth performances have largely been tied to the expansions and declines in the mining and agricultural sectors of their economies (Thurlow and Wobst, 2004; Lea and Hamner, 2009; Ngwira, 2012). Since both Zambia and Malawi are capital-deficient economies which are also heavily reliant on foreign capital and technology for the smooth functioning of the primary export sectors, it therefore implies that FDI inflows play a crucial role in their macroeconomic performance.

World Bank (2015) underscores the continued significance of foreign investment to the above economies by revealing that FDI inflows have continued to expand rapidly so much so that as of 2013 they contributed 5.57 and 3.23 percent to the GDP of Zambia and Malawi respectively. But
over the years the two governments’ aggressive FDI and export-oriented trade policy actions have not been matched by similar increases in inclusive growth figures. The impressive national output expansion and welfare improvements of the late 1960s and 1970s were followed by significant economic declines in the 1980s and 1990s until the mid-2000s when the two economies began to recover and get back on an upward trajectory. The UNDP (2015) ranks the two nations as developing countries experiencing rising income inequality with Zambia having a per capita GDP of US$ 1490, an HDI (human development index) ranking of 0.561, and a Gini coefficient of 0.575. On the other hand, Malawi has per capita income of US$381, a Gini coefficient of 0.439, and an HDI ranking of 0.414. This situation, therefore, raises an urgent need to review the role inward FDI plays in fostering inclusive growth in the two countries.

1.2. Problem statement and justification for conducting the research

As referred to earlier on; the importance of inward FDI in achieving economic growth has long been established in development economics literature. It was during the Post-World War II period that several economic growth theories began attempting to explain the FDI-economic growth link. In particular, some modified versions of post-Keynesian, neoclassical, and endogenous growth models have attempted to show the linkage between FDI and GDP growth mainly through physical and human capital accumulation, and technological transfers. Apart from raising capital and technological stocks, FDI also creates managerial expertise, international best practices for doing business and promotes competition among firms thereby enhancing innovation and productivity which in the end increases the national output (Findlay, 1978; Blomström et al., 1996; Kinoshita, 1998; De Mello, 1999; Sjöholm, 1999; and Lall and Streeten, 1977). On the same, Alfaro (2014) observes that inward FDI not only supplies developing countries with direct capital financing but can also generate positive externalities on local firms which may help to jump-start production in the economy. With such an abundance of theoretical literature on the subject there seems to be some theoretical consensus among development economists on the role FDI plays in fostering and promoting economic growth provided the recipient country has reached a minimum threshold of education, technological and infrastructural development (Hansen and Rand, 2005).
But despite the seeming existence of the above theoretical consensus among economic researchers on the FDI-economic growth nexus, empirical findings on the subject in several developing countries show a high degree of divergence and contradiction. This has raised question marks on the exact nature of the relationship between the two parameters. As a matter of fact, while prominent researchers such as Lall (1974), Findlay (1978), Blomström (1986), De Gregorio (1992), Fry (1993), Kokko (1994), Borenstein et al., (1998), Soto (2000), Alfaro et al. (2004), Hansen and Rand (2004), Basu and Guariglia (2007), Chakraborty and Mukherjee (2012), and Baldi and Miethe (2015) find positive and significant linkages between FDI and GDP growth mainly through capital, technological and skill transfers, others such as Saltz (1992), Hanson (2001), Görg and Greenaway (2004), Meyer and Sinani (2009), Pessoa (2009), Bruno and Campos (2013), and Saqib et al., (2013) find negative or no correlation and causation between the two variables. Besides, critics argue that despite its benefits FDI also generates negative impacts for host countries more especially through its ‘crowding-out effect’ on the recipient economy. Moran (1978 and 2009); Harrison and Macmillan (2003) observe that FDI through its conduit, multinational corporations (MNCs), can displace domestic firms which most times fail to survive the market competition from foreign firms and this result in reduced local investment and hence depresses national output growth over time. Results of the above studies and several others continue to generate doubt on the feasibility of generating inclusive growth through FDI inflows. From this, therefore, it is crystal clear that the FDI-growth relationship is still subject to debate and hence in need of a critical re-examination.

In addition to this, Zambia and Malawi have since independence placed FDI as one of the catalysts for their economic development aspirations. Together with export-oriented trade policies, the promotion of inward FDI has been the dominant economic development agenda even though both countries briefly experimented, albeit unsuccessfully, with indigenization policies and import substitution industrialization in the early 1970s. The dominance of FDI in these economies can be seen through the continued prominence of multinational corporations’ in the primary sectors which form the backbone of their economies such as mining (i.e. copper and cobalt) for Zambia and commercial agriculture (i.e. tobacco, tea, cotton, and sugar) for Malawi. But nevertheless, the rapid rises in the volume of FDI inflows and exports in the two countries have not been matched by their growth experiences which have to a large extent been marked
with serious fluctuations. As already pointed out, the post-colonial economic boom of the 1960s and 1970s was quickly replaced by serious stagflation of the 1980s and 1990s, only for the two economies to bounce back and start growing again in the mid-2000s (Thurlow and Wobst, 2004 and Lea and Hanmer, 2009). Such a situation raises serious questions on the contribution of FDI inflows in triggering these economic growth cycles. This therefore necessitates an empirical study to be undertaken to shed more light on the exact nature of the relationship between FDI and growth in these two countries.

In the same vein, recently implemented development policies such the Malawi Growth and Development Strategy (MGDS I, II and III), the Six National Development Plan of Zambia (SNDP) between 2005 and 2012, and the current Revised SNDP have to a large extent been firmly based on the attraction and promotion of FDI. Through these policies the two governments view foreign investment as a solid platform to launch their industrialization, modernize their agriculture and mining sectors, but more importantly, plug the resource gaps in their economies (Government of Malawi-GoM, 2012; Government of the Republic of Zambia-GRZ, 2011). Even though most of these development plans have been under implementation for quite some time and others such as MDGS (I and II) having already completed their implementation phases in 2010 and 2013 respectively, no known evaluation has been carried out with the aim of empirically assessing the FDI effects on inclusive growth. But it is common knowledge that for these development blue prints to achieve meaningful structural transformation in the two economies and raise their citizens’ standards of living there is an urgent need to conduct a thorough analysis of the effect FDI has had on economic growth, employment creation and income inequality for the duration when the programs have been under implementation. Our study therefore offers such an opportunity especially with respect to the early phase of SNDP and the entire MGDS I and II.

On another note, a careful review of the empirical literature on the relationship between foreign investment and economic growth reveals that studies solely targeting Malawi and Zambia are very scarce. Worse still, even the few available studies that have so far been attempted on the above subject in the two countries such as those of Mulenga (1996), Saiwa (2000); Simeo (2004); Kazembe and Namizinga (2007) and Magalasi (2009) tend to focus on the determinants of inward FDI, its relationship with domestic investment and the political-economy but not on
economic growth or inclusive growth, as it were. This study, therefore, aims to contribute to addressing this empirical gap by examining the effect of FDI on not only economic growth but also inclusive growth in Zambia and Malawi during the post-colonial era. Coupled with this, given the fluctuating growth episodes both countries have experienced since independence, this study also seeks to examine the effect inward FDI has had on the pace and pattern of this economic growth. On the same note, the study also seeks to assist in determining not only the pace of FDI-induced per capita income growth but also the employment intensity of this growth process. Analysis of this dynamic is very vital because economic growth is inclusive only if its sources involve employment of large sections of the country’s labor force which are trapped in low productivity activities e.g. subsistence agriculture.

Furthermore, despite the availability of so many studies on the FDI-growth nexus in developing countries, the distributional effects of inward FDI in these countries have largely been ignored in the literature (Figini, and Görg, 2011). It is therefore not surprising to note that so far, no known study of a similar nature has so far been done in developing countries such as Zambia and Malawi. This research therefore aims to be the first in examining the FDI-effects on income distribution in the two countries. Given the rising public concerns in many sub-Saharan African countries that globalization may worsen existing inequalities, it is necessary to empirically examine the distributional effects of inward FDI in Zambia and Malawi during the post-colonial era. In undertaking the above tasks, the study will employ a country-by-country comparative analysis to critically examine pathways through which FDI affects growth, employment creation and income inequality. In so doing, the study hopes to reveal deeper insights into how the above factors drive the FDI-inclusive growth relationship as well as interactions with other macroeconomic variables in the two countries.

Actually, the acute shortage of empirical literature on the subject as exhibited by the scarcity of empirical studies on the subject reveals a very clear picture of the huge knowledge gap that exists on the relationship between inward FDI and inclusive growth in both Malawi and Zambia. It is against this background therefore that the above study aims to contribute to bridging this empirical knowledge gap by analyzing the effect of FDI on inclusive growth in the two countries. However, the study will differ sharply with previous studies done elsewhere by going
beyond merely measuring the FDI-induced GDP growth rate but will also focus on measuring
the resultant socio-economic welfare (i.e. job-creation), and income inequality. This is so
because economic growth is not an end itself but a means to achieving human development and
as such, FDI-induced growth needs to enhance human capabilities necessary to allow people
raise their standards of living and reduce their income disparities. Therefore, unlike any previous
similar study done so far, the research will look beyond the ‘pace of FDI-induced per capita GDP
growth’ and focus on ‘the distribution of the growth benefits’ amongst the citizens of Zambia
and Malawi. Thus, the study aims to not only examine the growth benefits of FDI but also to
ascertain whether every citizen benefits the same from inward FDI or some are made better-off
while others are made worse-off in the two countries.

1.3. Objectives of the study

The main aim of this study is to empirically examine the relationship between inward FDI and
inclusive growth in Malawi and Zambia during the post-colonial period. Further to this, the study
seeks to utilize economic and econometric theory to quantify the FDI-effects on inclusive
growth, more specifically on per capita income growth, employment growth and income
inequality. But it must be noted that since we are using neoclassical growth theory, therefore
economic growth in this study is primarily referring to transitional growth.

1.3.1. Specific objectives of the study

In seeking to achieve the study’s general aim of quantifying the FDI effect on the ‘pace’ and
‘distribution’ of economic growth, the following specific objectives will be pursued:

- To quantify the effect of inward FDI on per capita income growth in Zambia and Malawi
- To ascertain not only the causality relationship between FDI and per capita income
growth but also its direction of causality in the two countries
- To measure the FDI-effect on employment growth in Zambia and Malawi
- To examine the causality relationship between FDI and income inequality in the host-
countries
• To empirically assess the response of income inequality to inward FDI in Zambia and Malawi during the post-colonial era.
• To provide relevant policy recommendations to economic development and investment stakeholders as far as the FDI-inclusive growth nexus is concerned not only in Malawi and Zambia but also in other host-developing countries.

1.3.2. Working hypotheses

In utilizing a neoclassical growth framework where economic growth in our study primarily refers to transitional growth, the following null hypotheses will also be tested:

• FDI has no transitional effect on per capita income growth in Malawi and Zambia;
• There is no causal relationship between FDI and per capita income growth in Malawi and Zambia;
• FDI does not influence employment growth in Zambia and Malawi
• There is no cointegrating (i.e. statistical equilibrium relationship) between FDI and income inequality in Malawi and Zambia
• FDI exerts no causal effect on income inequality in Zambia and Malawi

1.3.3. Research questions

The following general research questions will guide the study:

• Has inward FDI contributed to increasing the pace of economic growth by expanding the level of per capita income in Zambia and Malawi during the post-colonial era?
• Has inward FDI into Zambia and Malawi generated increases in employment growth during the post-colonial period?
• Has inward FDI improved income distribution in Zambia and Malawi by reducing the level of income inequality?
• Should the Governments of Zambia and Malawi continue with their FDI-led economic development policies?
1.4. Significance of the study

Against a background of FDI and export-led economic development policies that have been in existence since the dawn of the post-independence era in Zambia and Malawi, it is very vital that an empirical study be carried out to ascertain whether these policy actions have had on economic growth, employment creation, and income inequality. More so, now that both countries are still underdeveloped and have failed to meet most of their key targets under Millennium Development Goals scheme, it is crucial to investigate whether the two host governments should continue with the FDI-led inclusive development agenda based on the whole duration when these policies have been under implementation. This study could therefore act as a useful empirical and evidence-based guide to policy makers in the two countries wishing to determine whether to continue promoting FDI as a growth catalyst during the present era of Sustainable Development Goals (Agenda 2030) or look for alternative policies altogether. Likewise, the study will also act as a capable reference point for researchers interested in conducting further empirical studies on the topic not only in the two countries but also across the globe. The above analysis will therefore generate new empirical insights on the FDI-effect on inclusive growth.

1.5. Delimitation, scope of the study, and justification for choosing Malawi and Zambia as case studies

Basically, the present study is a country-level comparative analysis of the effects of inward FDI on inclusive growth in Malawi and Zambia for the period 1970-2014. But in pursuit of this objective, the contribution of other important macroeconomic factors to the inclusive growth and development process will also be assessed. This notwithstanding, the scope of the study is restricted to quantitative analysis of aggregate contribution of inward FDI on per capita income growth, economic welfare (in form of employment creation), and income inequality. Moreover, the study is geographically confined to Zambia and Malawi mainly because of the two countries’ long history of FDI and trade-led economic growth and development policy. Besides, being capital and technology-deficient economies, both countries consider FDI as a viable means to
cover these resources and skills gap and hence sustain their national output growth. This, therefore, gives the above research a strong motivation to assess the effects that inward FDI has had on the inclusive growth of Malawi and Zambia because so far, no known study of a similar nature has been undertaken.

This study also intends to undertake a comparative analysis in order to examine hypothesis that differences in sectoral composition into which FDI flows (i.e. mining and agriculture) may also generate differing growth effects in the two host economies. According to supporters of the resource base theory such as Baldwin (1956) and Binswanger (1994) extractive production such as mining are likely to contribute less to economic growth and development relative to agriculture because it lacks meaningful forward and backward linkages with the domestic economy (local product and labor markets) and its ‘enclave character’ renders it prone to embezzlement or looting by corrupt local elites. On a related note, Isham, Woolock, Pritchett and Busby (2005) argue that minerals as prime example of natural resources extracted from a natural geographic and economic base (i.e. ‘point-source natural resources’) are likely to slow down economic growth by weakening the public institutional framework of the domestic economy. In contrast, Nunnenkamp and Spatz (2004) observe that much as resource-seeking FDI in primary sectors such as mining may hinder growth and cause some kind of ‘Dutch disease’, but these foreign investment inflows may in certain instances boost growth since they involve an upfront transfer of capital, knowhow, and technology and may also generate foreign exchange earnings for the host economy especially if the production is for export. Our comparative analysis of Zambia and Malawi’s mining and agriculture-dominated economies respectively provides a good platform for empirically examining the above diverging theoretical propositions on the differing growth-effects of inward FDI in developing host-countries.

Additionally, the two countries’ contrasting per capita income levels also provides another interesting point of comparative research. Given that Zambia is a lower-middle income while Malawi is a low-income economy with per capita incomes of US$1490 and US$ 381 respectively; it is necessary to empirically investigate whether the FDI-effect on growth varies with the level of economic development (i.e. per capita income levels). Actually, Blomström, Lipsey and Zejan (1992) postulate that the growth effects of FDI may also differ in developing host-countries depending on their level of per capita income i.e. level of economic development.
The above economists observe that higher-income developing host countries in most cases attract most of the FDI flowing into the developing world and they are also very likely to benefit more from FDI-induced knowledge spillovers compared to their lower-income nations. Besides, local enterprises in higher-income developing countries are relatively advanced compared to domestic firms in poorer host-countries and as such, they are more likely to easily absorb technology and know-how from foreign multinationals. In contrast, the technological level of local firms in poorer developing countries is too backward to allow these host countries to adequately imitate production and organizational techniques of multinationals or supply inputs to foreign investors. With this, therefore, Blomström, Lipsey and Zejan (1992) conclude that growth effects of FDI are more likely to be larger in higher-income developing host-countries than in least developed host-countries. Based on the above reasoning it can be expected, from a theoretical point of view, that FDI inflows into Zambia may generate larger positive growth-effects relative to Malawi since the former is a lower-middle country while the latter is a low-income economy. However, the above theoretical proposition cannot just be assumed but instead it has to be empirically tested using real data in the two countries; and this study aims to do that. Against this background, therefore, the above income differences (i.e. differing levels of economic development) give this study justification to conduct a comparative study of the two host economies.

1.6. Structure of the study

The above study is arranged in the following structure:

*Chapter One* introduces the study by revealing its concise contextual back ground. From this it builds-up a research problem that translates into its research objectives and hence research questions and hypotheses.

*Chapter Two* gives a concise analysis of the main concepts underlying foreign direct investment. To this end, focus is placed on activities of multinationals as the main drivers of FDI. The chapter ends with a summary of recent global trends in FDI.

*Chapter Three* primarily aims at defining the concept of inclusive growth. It starts by examining the main components that constitute inclusive growth by outlining the basic ideas behind it. In
subsequent sections the meaning of inclusiveness of growth and its importance in economic development is explained. In conclusion, the main instrument for achieving inclusive growth is discussed.

**Chapter Four** analyzes the causal relationship between FDI and inclusive growth as discussed by modified/extended versions of some of the major economic growth models. The link between inward FDI, welfare, and inequality is also analyzed. In addition, a summary of some important empirical studies done across the globe on the FDI-growth nexus is also presented. As a conclusion, a critical examination of the pros and cons of FDI as a catalyst for achieving inclusive growth in relation to empirical evidence will be made.

**Chapter Five** offers a concise account of the FDI and macro-economic experiences of Zambia and Malawi in the post-colonial period. An analysis of important economic policies that have shaped the FDI trends in these countries will be made. The chapter ends by analyzing recent important developments as far as FDI and economic development in both countries is concerned.

**Chapter Six** provides a detailed account of the analytical framework which the study will utilize. The analytical framework operationalizes the inclusive growth definition into FDI-induced pace and distribution of economic growth. Thereafter, econometric models are generated in order to empirically test the FDI-inclusive growth relationship in Zambia and Malawi.

**Chapter Seven** primarily presents the study’s empirical findings and provides the statistical interpretation of the same. But the chapter begins by discussing data collection and data sampling issues. As the study’s main data analysis tools, ordinary least squares (OLS) regression and vector error correction models (VECMs) are also discussed in this chapter. Furthermore, results of regression diagnostic tests performed on the time series are presented in order to ensure robustness of the results. Finally, the chapter not only presents results of the estimated regression models but also provides statistical meaning to the empirical findings and hence answers the study’s research questions.

**Chapter Eight** begins by giving a concise summary of the study’s empirical results and their interpretation as a way of addressing the research objectives. Thereafter the chapter proceeds to provide the main conclusions and policy recommendations drawn from the empirical results.
Finally, the discussion concludes by providing suggestions of some areas on the topic that the study did not adequately cover due to its scope but can be further analyzed by future research.

The next chapter presents an overview of the FDI concept and the activities of multinational corporations in relation to economic development.
CHAPTER 2
THE MECHANICS OF FDI

2.0. Chapter synopsis

The following chapter analyzes the main ideas and drivers behind FDI. It begins by presenting the main definitions and types of FDI. Also, major theories of FDI are discussed to shed more light on the reasons that motivate firms to undertake foreign investment. The activities and impacts of multinational corporations (MNCs) especially in the developing world are also analyzed in detail. Finally, the chapter concludes by giving the latest trends in FDI flows both globally and in Africa.

2.1. Definition of FDI

Economists and international organizations the world over have put forward numerous definitions trying to describe what FDI is all about. However, among the few definitions that stand out are the ones suggested by the International Monetary Fund (IMF) and the United Nations Conference on Trade and Development (UNCTAD). The IMF defines FDI as a form of new equity acquired by parent corporations in overseas companies which they control, and this new equity may also include setting up of new subsidiaries. The above organization further argues that FDI does also involve reinvestment of earnings and profits by the subsidiary firms, and intra-firm loans from the parent corporation to the firms they control (IMF, 2009). For UNCTAD, FDI is basically an external investment made by a corporation either directly or channeled through a firm in which it holds a long-lasting interest and is resident in that economy (UNCTAD, 2013). On its part, the World Bank views FDI as a type of investment done to acquire a long-term management interest in a foreign enterprise whereby the investor’s main aim is to have a say in the management of the acquired firm. According to this view, FDI is simply the sum of equity capital reinvestment earnings that excludes short and long-term capital as is indicated of balance of payments (BoP) accounts (World Bank, 2007).

On top of this, the World Bank, IMF, UNCTAD, as well as OECD and US Department of Commerce view a firm as foreign-owned when a non-national investor owns at least 10 percent
of the equity of a local enterprise. The 10 percent threshold simply reflects the idea that large stock holders, even though they may not have a major stake in the firm but will have an important say in the firm’s decisions and will thus directly influence its management. From this reasoning one can see that FDI is all about the ownership of assets in a country by residents of another with a primary aim of controlling those assets (Alfaro, 2014).

It must also be stated that direct investments occur when international capital flows are associated with investments in enterprises in which a foreign entity acquires a controlling share. On the other hand, portfolio or equity investments occur when international capital flows simply involve purchases of bonds or stocks but without a controlling stake (Alfaro and Chauvin, 2016). On the same, Graham and Krugman (1995) observe that the desire to acquire complete or partial control over the operations of an enterprise in another country is what distinguishes FDI from portfolio or equity investment. The two researchers further argue that the definition of FDI itself generates serious challenges and so do attempts to measure the degree to which foreign enterprises exercise control over production facilities and assets located in a host country. This implies that it is not easy to define exactly what is meant by control and on top of this, the definition of nationality of the investor is also not easy to define in an increasingly globalized world.

In terms of measurement, we can also differentiate FDI stocks from FDI flows. Basically, FDI stocks quantify the total level of direct investment in a given time, usually per year. Additionally, FDI stocks are captured at book value to reflect prices prevailing at the time the investment was undertaken. On the other hand, FDI flows simply refer to the change in the value of cross border transactions related to direct investment from year to year. Both FDI stocks and flows are usually recorded in US dollars as percentage of the GDP (OECD, 2014). So, in summary, total FDI can be viewed as an account in the BoP that sums up total value of equity, reinvested earnings and inter-firm loans attributable to enterprises with a controlling stake in another country (Alfaro and Chauvin, 2016).
2.2. Types of FDI: Vertical versus Horizontal FDI

Broadly speaking, there are two types of FDI that are mostly identified in the literature: (i) vertical FDI and (ii) horizontal FDI. As a matter of fact, horizontal FDI occurs when a firm replicates a number of its production activities in another country, thus duplicating the production process. In contrast, vertical FDI occurs when firms fragment their production value-added chains because of cost considerations emanating from factor cost differentials between the home countries (i.e. where MNCs originate) and host countries (i.e. overseas MNC locations) (Alfaro, 2014). Production cost differences in vertical FDI are mainly determined by contrasting labor and capital endowments prevailing in different countries. As the theory of comparative advantage predicts; capital and skill-intensive production processes such as R&D normally take place in developed countries since these countries are capital-abundant while labor-intensive activities such as assembly and testing are done in developing countries most of which are labor-abundant. But vertical FDI may also involve a trade-off between fixed and per unit production costs. In the end the decision to relocate the production process abroad may be dependent on the scale of the firm’s production and level of the trade-off (Krugman et al., 2011).

MNCs involved in vertical FDI also aim to reduce costs through manipulating the production cost differences for the components of the manufacturing process that are being relocated abroad. On the same, economists argue that a scale cut-off point exists for vertical FDI which is mainly determined by not only differences in production costs but also fixed costs of running a subsidiary abroad. As such, only those multinationals operating at a production scale that exceeds the cut-off point will opt to undertake vertical FDI. Botric and Skuflic (2005) further argue that since the main driving force behind the above decision is cost effectiveness in production, vertical FDI is therefore closely associated with ‘efficiency seeking’ MNCs. Two forms of this vertical FDI are: (a) backward FDI which is commonly associated with extractive industries such as mining and oil extraction, and (b) forward FDI which involves an affiliate firm located abroad selling outputs produced in the MNC’s home country. But it also must be stated in passing that vertical FDI is one of the fastest growing types of foreign investment currently moving into developing countries.
In contrast, horizontal FDI mainly consists of investment flows among developed countries whereby both the parent multinational and its subsidiaries are located in the developed world. Horizontal FDI mainly comes about because of the desire of firms to be located nearest to their customer catchment areas. In this case, the possibility of achieving a reduction in transport costs and also increasing trade volume plays a vital role in the multinational’s FDI location decision than production cost differences. Car manufacturing industry provides a good example of horizontal FDI where with time major car manufacturers were forced by high trade costs and customer base to relocate from their home countries some of their production and replication processes abroad more especially to other developed countries where they have a large market share (Markusen and Venables, 2000). Another important driver of horizontal FDI is increasing returns-to-scale in the production process. With increasing returns, MNCs do not find it cost effective to replicate their production too many times and run manufacturing plants that produce very little output. This scenario whereby multinationals attempt to maximize their increasing returns-to-production is called ‘proximity-concentration trade-off’ for FDI. Furthermore, horizontal FDI is also closely associated with ‘market seeking’ MNCs that conduct their activities between developed countries and in the process contribute to an increase in labor-intensive production in the MNC’s home country (Yeaple, 2006; Alfaro and Charlton, 2009).

But it must be pointed out that in reality the distinctions existing between vertical and horizontal FDI are not as clear-cut as the picture presented in the above discussion. In fact, the two types of FDI can overlap especially in circumstances where parent MNCs run a group of subsidiary companies that replicate the manufacturing process, but these subsidiaries are interconnected with other firms also under the umbrella of the multinationals.

2.2.2. FDI Classifications

According to UNCTAD (2013) FDI in developing economies assumes different forms depending on prevailing conditions for both the host country and foreign investors, bargaining power of the rich and poor countries, and the type of investment being pursued. Economists therefore classify these forms into five main groups. Firstly, they observe that FDI can take the form of wholly-owned external subsidiaries which are completely owned by the foreign MNCs. Additionally, joint ventures which involve equity co-ownership by foreign investors and domestic firms are
another form that FDI commonly assumes in host countries. But FDI can also involve franchising of products and brands as is commonly done by international food outlets such as KFC and McDonald’s. ‘Fading-out agreements’ is another common dimension FDI takes in host countries. In this case, local partner firms are expected to gradually assume ownership of management and the actual investment portfolio from the investors as their skills and financial capacity expands. FDI in developing countries may sometimes simply involve licensing of technology through patents. Furthermore, agreements in production sharing may also comprise another form of FDI. This is the case where MNCs and their domestic counterpart firms only share production activities and not ownership of capital. Lastly, FDI may take the form of turnkey ventures in which the MNC surrenders ownership of a project to the host economy once the start-up kicks in.

2.3. Theories of FDI

With the end of the Second World War, the forces of globalization were re-set in motion as a result FDI flows began increasing worldwide. But it was the growth in influence of US multinational corporations investing in Western Europe that aroused global academic interest on the issue of FDI and international production in the 1950s and 1960s. Since then, numerous theories explaining why firms engage in FDI have been formulated. These theories can be categorized into three broad groups namely: theories based on perfect competition, theories of imperfect competition, and FDI theories based on other factors. The first group of theories consists of the traditional view of FDI where firms are assumed to engage in FDI in order to maximize returns on capital. This perspective which emerged in the 1950s not only considers FDI as merely a component of international capital movement but also a subset of portfolio investment. In contrast, the second group of FDI theories which emerged in the 1960s provides a more convincing explanation of foreign investment. The theories basically emphasize the role of imperfect markets and the fact that FDI is more than capital investment but includes technology as well as know-how. In fact, it is this group of theories that has formed the backbone of the ‘modern view’ of FDI. Finally, the third category of theories considers other factors beyond perfect and imperfect market conditions to explain the motivations of FDI. A more detailed description of these categories is described in the discussion that follows below.
2.3.1. Theories of FDI based on perfect competition

This basically forms the foundation of a classical/traditional view of why firms undertake FDI. Under this framework of perfectly competitive markets, enterprises engaging in FDI are principally viewed as arbitrageurs of capital between countries in response to market forces i.e. cost of capital differentials between countries.

2.3.1.1. The Differential Rates of Return Hypothesis/Cost of capital theory of FDI

The above hypothesis which is deeply rooted in the Hecksher-Ohlin (1933) model of international trade constitutes one of earliest attempts to explain FDI. It is therefore not surprising that under this approach FDI is treated as part and parcel of international capital transfers (Moosa, 2002). Basically, the Hecksher-Ohlin model argues that since commodities differ in relative factor intensities and that countries are relatively endowed with different factors, therefore differences international factor prices will occur overtime. This model predicts that capital-abundant nations will indulge in capital-intensive production and exchange of goods. But in cases where no commodity trade exists, then capital-abundant countries will transfer capital to foreign countries where rates of return are relatively higher on capital and lower on labor until factor price equalization occurs. In this case, therefore, perfect competition is an overriding assumption in this theory (Krugman et al., 2011).

The differential rates of return theory assumes a world where there are no barriers to international capital movement, no risk or uncertainty is present and as such, capital tends to gravitate from host countries with lower returns towards those with the higher returns. The risk-neutral basis of this hypothesis implies that countries consider domestic and foreign investment as perfect substitutes. This theory however argues that due to their size and structure MNCs are able to easily access lower-cost financial capital relative to domestic firms and hence easily undertake foreign investment. Thus, the above theory views the cost of capital as the only basis for undertaking FDI whereby MNCs are driven to move capital between countries in order to exploit interest differentials between these countries (Nayak and Choudhury, 2014; Moosa,
The above hypothesis received strong empirical support from researchers such as Mundell (1957), MacDougall (1958), Kemp (1964), Frankel (1965), and Caves (1971).

But one important theoretical weakness of this cost of capital theory is its failure to incorporate control which is a fundamental component of FDI. Hymer (1976) observes that if the cost of capital is higher abroad then an enterprise will merely invest abroad but there will be no compelling reason to drive it into controlling the enterprise which it has lent money to. Dunning (1981) further observes that contrary to the theory’s assertions, MNCs’ motives for undertaking FDI go beyond capital transfers but also include other important factors such as technology, and organizational/managerial know-how. The cost of capital theory is also faulted for emphasizing intra-industry capital transfers when in reality FDI also involves movement of capital between different enterprises. But more importantly perhaps, Kindleberger (1969) and Hymer (1976) argue that the above approach has limited explanatory power because for FDI flows to occur; some form of market imperfection must be present (Faeth, 2009).

2.3.2. Theories of FDI based on Imperfect Competition

This perspective emphasizes the importance of imperfect competition in enabling an enterprise to undertake FDI. It recognizes the vital role imperfect market conditions play in enabling multinationals to successfully invest abroad by offsetting the local firm’s advantages in a host economy such as superior knowledge of the market, familiarity with legal and political systems and socio-cultural factors. In essence, the group of theories under this category underline that FDI is more than capital transfers but also includes technology and know-how, among others.

2.3.2.1. International Organization Theory

Hymer (1976) developed the international organization theory whilst trying to explain how FDI moves across countries not only in response to changes in finance but also in a quest to offer technical and financial support to the activities of MNCs operating abroad. By founding the industrial organizational theory, Hymer came up with the first systematic approach to studying FDI. His theory was a pioneering work to analyzing international production endeavors firms undertake in imperfect market conditions.
The main thrust of Hymer’s approach is that companies with business operations abroad face competition from domestic firms in host countries in which the latter have comparative advantage in form of culture, legal system, language, and consumer preference. In addition, these firms also face challenges of exposure to foreign exchange risks in foreign markets. To ensure survival and success in the foreign markets, MNCs use their market power as way of countering these setbacks and to maximize profit on their international investments. This theory calls the above sources of market power, ‘firm-specific advantages’. Such advantages are depicted in form of brand names, economies of scale, patent-protected superior technology and other cheap sources of financing. Hymer puts it clear that possession of technology is the most significant advantage firms possess over rivals and it enables these enterprises to produce new products with new features. Moreover, technological know-how empowers the firm to develop and enhance other skills such as improved production and marketing expertise (Antras and Yeaple, 2014). In cementing the above view, Caves (2007) observes that the most important facet of Hymer’s theory is its argument that the firm-specific advantages are easily channeled from one unit of the firm to the other although the units may be based in different countries.

The theory’s basic argument is that firms take advantage of market imperfections to flex their market power and enjoy the benefits of investing in foreign markets. Empirical evidence provided by Graham and Krugman (1995) supports this argument by observing that in the past, European firms used their superior advantage to penetrate the United States market. Likewise, Sodersten (1970) further strengthens the theory’s crux by suggesting that FDI mainly emanates from firms’ desire to increase profit earnings through exploiting their technological and organizational superiority. Despite this consensus, critics such as Robock and Simmond (1983) dispute the industrial organization theory’s arguments by suggesting that possession of firm-specific advantages does not automatically imply that firms will invest abroad since these firms may opt to utilize their advantages in alternative ways for instance, through exporting and licensing. The above researchers identify several factors that determine the choice of whether to invest abroad or to license/export. These factors include: size and structure of the domestic market, government policies, degree of the investment risk, and the reaction of rival firms. For Sodersten and Reed (1994), it is FDI that enables MNCs to maximize utilization of their firm’s advantages to acquire all the rents that come with such market dominance. The above authors therefore argue that a firm’s concern is about maximizing its power and control in order to
prevent leakage of technology to its rivals. This argument forms the basis of why the theory of FDI evolved from neoclassical trade theories into the industrial organization theory.

It must be stated in closing that the main weakness of Hymer’s theory is its failure to provide a complete explanation of FDI more especially where and when FDI occurs. Later theories that followed such as Vernon’s (1966) product life cycle (PLC), the internalization theory by Buckley and Casson (1976), and Dunning’s eclectic theory (1977, 1979, and 1988) give a better description of the motives, location, and occurrence of FDI (Antras and Yeaple, 2014). These theories are considered in detail in the section that follows.

2.3.2.2. The Monopolistic Power Hypothesis

The above theory is basically an extension of Hymer’s hypothesis. Kindleberger (1969) developed the above theory by arguing that monopoly power in form of superior technology; managerial expertise and patents play an important role in determining a firm’s decision to engage in FDI. He argues that the aforementioned factors drive firms to venture abroad in order to fully exploit their resultant benefits and also prevent rival firms from acquiring them or from exploiting the same. The theory posits that the higher the probability of earning monopoly profits in foreign countries, the more likely firms will engage in FDI and vice versa.

Despite the theoretical intuitiveness of Kindleberger’s theory in describing different kinds of monopoly benefits/rents firms acquire from investing abroad, the theory fails to clearly explain the most important factors enterprises prioritize when engaging in FDI. Another drawback of the theory is its assumption that firms can only capture the monopolistic advantages if host-country policies are favorable. However, empirical evidence suggests that firms have continued to invest in some host countries with unfavorable policies even in the face of threats of nationalization (Moosa, 2002). This indicates that there are other important factors apart from monopoly power that drive firms into undertaking FDI as the next section will reveal.

2.3.2.3 Transaction Cost or Internalization Model

The above theory is an attempt to explain the origin of FDI by focusing on intermediate production inputs and technology. The founders of the theory, Buckley and Casson (1976)
changed its main emphasis from country-specific towards both firm-level and industry-level determinants of foreign investment. Henisz (2003) observes that the internalization theory is basically an extension of the Coase theory of the firm developed in 1937 which basically tries to explain why firms exist and what determines their scale and scope of operations. Coase (1937) provided an economic explanation on why economic agents choose to set up partnerships, firms and other business organizations instead of undertaking bilateral trade through contracts in markets. He reasoned that this is so because of the presence of transaction costs in utilizing a market. This being the case, he concluded that firms will therefore opt to undertake production internally to circumvent these costs. The framework developed by Buckley and Casson (1976) is commonly referred to as the internalization theory of FDI simply because of its emphasis on firm and industry-specific advantages of international investment. The theory is based on three arguments listed below:

- Profit maximization for most firms occurs under imperfect market conditions
- Creation of internal markets offers a better solution to the existence of imperfect markets selling intermediate products
- Multinational corporations are a direct result of global internalization of markets

Caves (1992) and Rugman (1986) succinctly summarize the transaction cost/internalization approach by arguing that FDI is simply a reaction to imperfections that exists in markets and therefore, MNCs try to correct this situation by reducing their transaction costs. According to the above researchers FDI acts a channel through which MNCs internalize market imperfections such as tariffs and subsidies provided to competing local firms, foreign exchange and import restrictions, income and corporate taxes and other unfavorable regulatory instruments they face in foreign countries. Due to the transactions costs incurred in transferring technology and other skills, MNCs prefer investing only in those foreign markets where they feel their technology is better protected through patents, for example.

It is widely accepted that even though firms engaged in R&D activities can generate new technologies and products, they may find it difficult to sell their new innovations to rival firms simply because the latter may find the transaction costs too high. Internalization through backward and forward linkages becomes the only option for the firms seeking to circumvent high
transaction costs. In this case, the multinational firm achieves backward and forward integration by simply using production output of one of its subsidiaries as a factor input of another’s production or utilizes the technical innovation of one subsidiary to propel production of another affiliate. FDI therefore comes into existence if the production operations are carried out in different countries (Caves, 2007). In addition to this, Buckley and Casson (1976) argue that there are five kinds of market imperfections that generate internalization in firms. These imperfections are: long time lags required in resource coordination; discriminatory pricing techniques necessary for firms to maximize their market power; unstable bargaining situations generated by oligopolies; imperfect price information which prevents buyers from making rational business decisions; and transfer pricing tendencies resulting from government interference in international markets.

Much as the theory acknowledges the negative consequences of government intervention in the market, it does not consider market risk differentials occurring in several industries. Buckley and Casson (1976) argue that there is higher risk of government intervention in public goods such as telecommunications and power plants than in private goods simply because societal considerations would require balancing private and social needs in a country.

**2.3.2.4. Vernon’s Product Life Cycle Theory**

The above theory represents another important theoretical development in examining the origin and form of internalization firms undertake. Raymond Vernon (1966) founded the product-life-cycle (PLC) theory by observing that firms that pioneer the development of a product in a domestic market are often times the same firms that generate products for consumption in international markets. In other words, Vernon’s product-life-cycle theory primarily seeks to explain the evolutionary transition of international innovation from export-oriented investments to foreign direct investment.

Basically, the model views the above developments to have occurred in three phases or cycles namely: (i) the infancy/development phase, (ii) the growth phase, and (iii) the mature phase. The time the products undergo during the three transformation phases is dependent upon several factors. He observes that firms venture into FDI at particular phases in the life cycle of the products they have pioneered, and they may sometimes even sell old products in their newly
discovered markets. For the infancy phase, the product life cycle hypothesis argues that when initial aggregate potential demand exceeds initial demand, there is a skill-biased, labor-intensive mode of production and the production is small-scale mainly targeting the domestic innovative market. In fact, during the infancy phase, companies originating from developed countries engage in foreign investment more especially in other rich economies when domestic demand for their products has expanded large enough to boost local production. In this case, the FDI is primarily local market-oriented among developed nations only (Nayak and Choudhury, 2014).

On the other hand, the growth phase is characterized by increased demand for domestic and foreign markets, standardized advanced production which is geared for long-term production targeting larger markets and demand. On top of this, a sizeable amount of domestically produced output is exported to other countries to meet growing foreign demand. This also coincides with improved production by some innovating foreign firms whose products begin to reach internationally accepted standards. The distinguishing feature during the growth phase is that firms decide to move production to developing or poorer countries where labor costs are much lower relative to the developed world. For that reason, under the growth stage, production and FDI are primarily export-oriented mainly driven by labor cost reduction motives (Moosa, 2002).

Finally, during the mature phase the innovating firms start to satisfy aggregate demand as production technology becomes more sophisticated but standardized and the innovating corporations begin investing some of their capital in foreign markets. What is more visible during this stage is that production plants located in developing countries export the majority of the firm’s products to the developed world where the product innovation was pioneered.

But despite its valuable contribution, the PLC theory does not clearly explain why firms find it profitable to engage in foreign investment at particular stages of production instead of continuing to export their output and to license foreign companies that can produce on their behalf. Jigme (2006) argues that Vernon’s PLC theory only holds true for certain products more especially those developed by horizontally-integrated firms. But, the hypothesis is inapplicable to production in vertically-oriented multinational firms. He further contends that some firms may acquire foreign assets before commencing their production or distribution in foreign markets.
2.3.2.5. The Oligopolistic theory of FDI

This theory was developed by Knickerbocker (1973) who viewed imperfect market competition as an important catalyst behind an enterprise’s decision to undertake FDI. At that time, it was generally accepted in the economics fraternity that firms’ desire to set up operations abroad was determined by two important factors namely: to gain access to the markets abroad and to acquire the relatively cheap and abundant factors of production that are in a host country. To these two, Knickerbocker (1973) added a third determinant: the desire to match the decision of rivals investing abroad. Simply put, the theory states that firms engage in FDI by imitating the internationalization decisions of rivals to avoid losing strategic advantages that foreign markets offer (Head et al., 2002). As a matter of fact, the above researchers observe that oligopolistic conditions which prevail in many external markets compel firms engaging in FDI to imitate the location decisions of their competitors. Altomonte and Pennings (2003) summarize the gist of the above theory by stating that production-costs uncertainty in export markets exposes firm(s) to the risk of being priced-out of the market when rival enterprises switch from exporting to establishing production plants abroad. As a way of avoiding being underpriced, firms resort to imitation of their rivals’ foreign investment strategies.

Using data from several US multinationals, Knickerbocker tried to empirically validate his hypothesis by estimating a foreign entry concentration-index for these firms over time. He concluded that MNCs’ oligopolistic reaction increased as the concentration index surged. But as the diversity of the commodities produced increased, the MNC’s oligopolistic reaction decreased. His empirical findings found support in many components of oligopoly-dominated global industries such as car-manufacturing, chemical processing and electronics, just to name a few. Gwyne (1979) observes that since a few powerful firms dominate these industries they are able to match or counter the decisions of their competitors. But despite its appeal, the theory’s assumptions have received a number of important empirical and theoretical criticisms. For example, Head et al., (2002) argue that the theory’s oligopolistic assumptions are partially valid. These critics argue that the above assumptions only hold true when cost uncertainty prevails in a host country, forcing risk-averse oligopolistic firms to imitate their rival’s decision to venture abroad. But In circumstances where there is certainty, oligopolistic firms are less likely to follow
their rivals in undertaking FDI. This being so, Nayak and Choudhury (2014) therefore observe that Knickerbocker’s theory does not offer a convincing explanation on what drives the firm in the first place to engage in foreign investment.

2.3.2.6. Dunning’s eclectic theory of FDI

Dunning (1981) generated the above theory in order to explain why firms or investors choose to undertake FDI. He argues that three conditions determine and influence the firm’s FDI decision namely: Ownership (O), Location (L) and Internalization (I) advantages. For this reason, the eclectic paradigm is commonly referred to as the ‘OLI theory’. But to a large extent Dunning’s eclectic approach to FDI is an upgrade and a refinement of not only Hymer’s theory but also those by other researchers such as Kindleberger (1969), Caves (1971), Buckley and Casson (1976) and Rugman (1981).

Ownership Specific Advantages (OSA) specifically describes certain kinds of innate knowledge and privileges which a firm has but which its rivals do not possess. These OSA accrue to a firm when its superior technical innovation and management expertise empowers it to engage in production and distribution in foreign markets despite the prevalence of transactions costs in these external markets. Due to their technological and managerial deficiencies rival firms are hindered from participating effectively in such markets.

In contrast, Location Specific Advantages (LSA) accrue to a firm when it decides to locate its production activities in a particular area. Usually the LSA come into existence when the country hosting the firm offers a large enough market to generate demand. Additionally, LSA are prevalent if the host economy has a liberalized trade regime in place or possesses good infrastructure or has low input costs necessary for production.

For Internalization Specific Advantages (ISA) to occur there has to be some form market imperfection that makes production costly. In response, firms seek solutions to organize production and distribution using their own structures rather than through the market and hence ‘internalizes’ the transactions by their own initiative.

Antras and Yeaple (2014) argue that FDI will only occur if and only if the three advantages are working in tandem. Multinational firms’ decisions to invest externally are primarily influenced
by OLI arguments that determine ‘why, where and how’ to invest abroad. More specifically, the ‘why’ decision is mainly determined by OSA while the ‘how’ decision is propelled by the ISA. On the other hand, LSA has a significant influence on where the firm decides to locate its production and distribution facilities internationally. The schematic diagram below illustrates Dunning’s model by focusing on the main determinants of the firm’s internationalization process.

Figure 2.1: Dunning’s Internationalization decision process

The above diagram concurs with the arguments made by Hennart and Park (1994); and Buckley and Casson (1998) who argue that OSA, ISA, and LSA are all intertwined and hence have a similar effect on the firm’s decision (‘how, why, and where’) to engage in foreign investment. In fact, the main feature of Dunning’s theory is that all the three conditions must be met before FDI comes into existence. The theory likens the OLI variables to a three-legged stool where each leg plays a supportive role to the others and that the stool is fully functional if all the three variables are in equilibrium. Dunning (1980) argues that if a firm possesses ownership and internalization advantages but does not have location advantages achieved by setting up a plant abroad, it will concentrate on production of products from its home base for exports to international markets. By the same token, if a firm possesses both ownership and locational advantages then it will make business sense for it to produce abroad instead of producing domestically for export. But if there are no internalization advantages then it may be more profitable to engage in licensing of its ownership advantages to foreign companies.
In extension to the eclectic theory’s basic arguments, Dunning and Narula (1996) observe that countries undergo several phases for them to be called outward and inward foreign direct investors. This metamorphosis is mainly driven by ownership advantages, location advantages, and transaction costs that FDI presents. The first stage of this transformation is characterized by very low levels of domestic investment as foreign firms prefer to conduct their import and export business in external markets and as such they may only undertake non-equity joint ventures with local firms. In the second phase, inward investment begins to increase as outflow of capital shrinks gradually. These phenomena are dependent on a country’s endowment with a set of location-specific advantages such as well-trained human capital, good physical infrastructure and a large domestic market, among other things.

For the above researchers, the third stage of this transformation is mainly associated with gradual declines in inward investment as firms start searching for foreign markets for their products which influences investment outflows to increase. But nevertheless, the domestic market and hence demand still expands as incomes, wages, research and development increases in the domestic economy. Increases in wage rates, however, reduce the country’s comparative labor advantage as firms are forced to drift away from labor-intensive import substitution to technology-driven production. FDI therefore moves to lower-wage developing host-countries.

Dunning and Narula (1996) further argue that countries reach the fourth stage when investment outflows and inflows equalize but the rate of growth of the former is higher than that of the latter. The resultant assets created therefore become the determining factor in a country’s utilization of its location advantages. Having reached this far, host-country firms now become effective competitors to MNCs in external markets.

During the fifth and final stage the net investment outflows decrease drastically even though both inward and outward FDI keep on rising. As the level of industrialization reaches maturity MNCs increase their cross-border transactions and location-bound assets of most countries equalize leading to even greater convergence in their global FDI positions.

On the same, Narula (1996) categorized stage one and stage two countries depending on their research and development and GDP levels. Countries which belong to these phases include Mexico, Thailand, China and Malaysia. On the other hand, Portugal, Taiwan, South Korea, and
Spain were classified as approaching stage three based on their per capita GDP level (1988 prices) which was at that time between US$5000 and US$10000. Moreover, Hong-Kong was given as an example of countries reaching stage four while the rest of the developed countries were bundled in stage five.

It is clear from the above arguments that Dunning’s eclectic theory represents pioneering work in understanding FDI. But its greatest contribution to the existing literature is the fusion of several complementary theories and the pointing-out of the main drivers of MNCs operations. This is the main reason why the theory has managed to achieve wider acceptance in the literature compared to rival imperfect market-based theories. Empirical results generated by Dunning (1980) validate the theory’s main arguments. However, its main weakness lies in its inclusion of too many analytical variables which reduces its practical applicability. Dunning concedes to this criticism but argues that this basically results from an attempt to include as many FDI motivations as possible to come up with a single general theory. This criticism has led to the development of variants to theory such as “Investment Development Cycle or Path” (IDP) theory which aims to examine the connection between a country’s level of economic development and its international investment position. Its main hypothesis is that once a country develops or raises its per capita GDP level, the macroeconomic conditions which domestic and foreign firms face in the economy will also change. This implies that there is a dynamic interaction between FDI and GDP growth. In sharp contrast with earlier paradigms, the IDP concedes that government policies can determine the host country’s investment climate hence directly influence FDI inflows and the local firms’ ownership advantages. With this therefore the IDP represents an upgrade on the eclectic theory of FDI.

2.4.0. FDI and the Operations of Multinational Corporations

As referred to earlier on, multinational corporations (MNCs) simply refer to firms with production activities located in more than one country. MNCs typically manage to run production operations in several countries by making use of branches of their company called subsidiaries. Generally, firms are considered foreign-controlled and hence a subsidiary of another externally-based corporation if at least 10 percent of its stock is in the hands of a foreign-based firm. The idea is that in principle, 10 percent of stock affords the holding company effective control. In a similar vein, a domestic company is considered a multinational if it has at
least a 10 percent controlling stake in a foreign firm. This therefore implies that the firm owning the controlling stock is called a **multinational parent** while the controlled firm is known as an **affiliate**. Outward FDI occurs not only when a domestic company purchases a controlling stake (i.e. at least 10 percent stock) in a foreign firm but also when the domestic firm constructs a new manufacturing plant abroad. On the other hand, inward flow of FDI occurs when a foreign firm invests in a domestic economy through purchasing a controlling stake in a local firm and/or builds a new factory in the country. It is also important to note, that the construction of a production facility is called **Greenfield FDI** while the purchase of at least 10 percent stock in a firm of an external economy is simply known as **Brownfield FDI or cross border mergers and acquisitions (M&As)** (Caves, 2007, UNCTAD, 2013).

Since there is considerable diversity among MNCs and their motivations for undertaking foreign investment, the global FDI patterns are also quite complex. MNCs may invest abroad simply to obtain access to productive raw materials such as natural resources or cheap labor in what is called ‘**supply-oriented or resource-seeking FDI**’. Alternatively, firms may decide to invest abroad solely to serve an important foreign market directly thereby indulge in ‘**demand-oriented or market-seeking FDI**’. Additionally, multinationals may venture into ‘**efficiency-seeking or rationalized FDI**’ to enhance a more efficient division of labor and to encourage portfolio specialization of both its domestic and external assets. Finally, a multinational’s FDI motivation may just be to strengthen its firm specific advantages by preventing competitors from acquiring strategic assets. In this case the foreign investment undertaken is called ‘**strategic-asset-seeking FDI**’ (Desai, 2009 and Alfaro, 2014).

Multinationals have for the past 30 years played a vital role in expanding international trade and capital movements the world over. Even though these enterprises have traditionally been based in developed countries of the West, over the past decades newly industrialized countries (NICs) such as South Korea and Taiwan have also come to the fore as a source of some of the world biggest MNCs and so have developing countries such as China, Brazil and India. It is now widely accepted in economics literature that for all the positives MNCs bring to socio-economic development they may also pose challenges in many LDCs where they have set their operations. Some commonly cited potential FDI drawbacks include: lack of positive linkages with local
economies, possibility of environmental pollution especially in extractive industries, social disruption emanating from rapid industrialization, potential deterioration of the host economy’s BoP position as profits are repatriated abroad and negative effects of FDI-induced competition in markets of host economies (Todaro and Smith, 2014; OECD, 2002)

The growth in influence of MNCs on world trade and international capital movements has led to expansion of overseas equity i.e. brownfield FDI. In essence, MNCs act as a channel through which FDI flows from developed to developing countries. FDI has been very instrumental in the spread and popularity of the globalization process. Empirical evidence points to the fact the majority of FDI flows among developed countries and the little that goes to developing countries tends to be largely concentrated in the higher-income developing countries. The concentration of the bulk of FDI inflows to richer countries is in support of the fact that private capital normally moves to countries which offer the highest returns on investment and those with stable macroeconomic and political climate. Furthermore, FDI usually gravitates towards countries with low debts, more complete reforms and where capital losses are low. But the main reason behind the activities of MNCs in LDCs is not to promote socio-economic development; rather these corporations simply aim to maximize total returns on their capital investments. As such, MNCs are attracted by the proposition of maximizing profits and hence they are largely not concerned about socio-economic variables present in the developing countries they operate in such as poverty, unemployment, environmental problems and socio-economic inequality (Todaro and Smith, 2009 and 2014).

Even though FDI has traditionally represented a small proportion of LDCs’ resources, but of late foreign investment inflows have become the largest source of foreign financing to countries on the development path. Additionally, FDI has also created a sizeable amount of employment opportunities in many developing countries and these jobs have mainly been in the urban sector. But more importantly, MNCs bring with them to developing regions a wide range of products associated with the developed world such as productive technologies, tastes and life styles, organizational and management techniques, and business management ideas.
There are two types of characteristics that distinguish MNCs from other firms. These attributes are their large size of operations, and the central control of their global operations by their parent companies. MNCs as ‘foreign mega-enterprises’ have become the driving force of globalization and world trade in general with a small number of the largest of these firms controlling the bulk of the total world trade. MNCs can now be called ‘global factories’ because their activities are spread out across several countries mainly to exploit to the fullest, price differentials in these countries. It is therefore not surprising to learn that some MNCs have per year annual sales and profits exceeding the total national output of the developing countries that host them. This immense scale of operations combined with minimal effective competition they face in these markets affords them tremendous bargaining power which often they misuse in negotiating with poorer developing countries (Moran, 2007; and Krugman et al., 2011).

But despite the majority of MNCs originating from the developed West, South-South trading is gaining prominence in many parts of the developing world thus enabling mega-enterprises from other middle-income developing incomes like China, India, South Africa, Russia and Brazil to play a vital role in international trade. But despite the rising trend of MNCs originating from other developing countries, many LDCs still feel overwhelmed when transacting with these mega-firms because of the belief that the firms act on behalf of their countries of origin. With the exception of only China, most developing countries have not fairly negotiated with powerful MNCs with regards to technology transfers and corporate taxation. The small market size and weak central government prevalent in most of the developing world has worked to the detriment of these countries when it comes to bargaining with MNCs.

In a nutshell therefore, the immense size of MNCs affords them huge economic and political power in bargaining with their host countries. Coupled with this, MNCs’ tendency to mainly operate in predominantly oligopolistic markets with few sellers allows them the freedom to manipulate domestic prices, collude with local firms to determine market shares and profits and to restrict entry of competitors through possession of superior technology, product differentiation and advertising. Correspondingly, even though most of the global FDI flows gravitate towards rich countries, it is the poorer countries who feel the impact of MNCs on their economies the most because of their smaller market sizes. At present MNCs are operating in many developing
countries in all sectors of their economies such as extractive primary sector (i.e. agriculture and minerals); manufacturing (i.e. light industries and food processing sectors); export sector (i.e. agricultural exports) and service sectors such as tourism and banking.

2.4.1. Multinational operations: foreign outsourcing and off-shoring

Krugman et al., (2011) observes that outsourcing comes about when a parent multinational decides to contract an independent firm to undertake certain production processes abroad on its behalf. The contracted independent firms are mainly those with the best cost advantage in the desirable production process within the location. This is often seen as a substitute to vertical FDI. On the other hand, off-shoring implies the relocation abroad of certain aspects of the production process and in most cases results in integrating foreign outsourcing and vertical FDI processes. Since the turn of the 21st century, off-shoring has been one of the main triggers of rapid expansion of FDI, international trade in services such as telecommunications and business services, and globalization in general. Off-shoring can sometimes take the form of intra-firm trade, when intermediate goods are manufactured by the multinationals' subsidiaries across the globe. Of late the world has also witnessed a dramatic rise in intra-firm trade (Olsen, 2006). Independent firms sometimes produce certain goods at a far much lower cost than the parent company because they sometimes specialize in narrow aspects of the production process unlike the multinational which normally has broader manufacturing objectives. If the independent firm produces for several parent MNCs it may enjoy the benefits of economies of scale. Additionally, since most independent firms are domestic companies in host economies as such, they normally utilize local ownership and resources in aligning, managing and monitoring their production activities which in the end heavily reduces their production costs relative to the parent multinational (Markusen, 2005; and Görg and Hanley, 2003).

On another note, when a multinational opts to offshore through entering a contractual relationship with suppliers in a foreign country it mainly considers several trade-offs between reduced production costs and the fixed costs of relocation certain production processes abroad. Broadly speaking, firms may therefore choose either the off-shoring option or the no off-shoring (non-dismantling of the production process and non-relocation abroad) alternative based on these
cost differentials, among other things. But this choice also involves a scale cut-off implying that larger firms will generally opt for off-shoring and importing some intermediate raw materials while smaller firms will most likely choose the no-off-shoring alternative. There is strong empirical evidence suggesting that firms that opt for off-shoring and import intermediate inputs, also engage in exportation of their products. These firms have larger production scales and are more productive relative to those firms that decide neither to offshore nor to engage in international trade (Baghwati, Paganariya and Srinivasan, 2004; Schwörer; 2013).

As with most processes, production expansion and outsourcing by MNCs generate welfare consequences on the economies of host-developing countries. It must be pointed out that MNC outsourcing decisions to benefit from cost differentials can sometimes have similar welfare implications as relocation of production processes when countries open-up to international trade. This is so because both processes lead not only to increased overall gains to international trade but also generate some negative income distribution effects that make certain groups in society worse-off (Olsen, 2006). Most of these negative consequences appear clearly in the short run as MNCs are shifting production scales because of globalization waves leading to changes in employment levels. In the end these shifts in conjunction with plant relocations and closures because of say import competition may generate job cuts and thus impose heavy costs on the retrenched employees (Krugman et al., 2011).

2.5. Evolution of Global FDI flows

Global FDI flows have been characterized by remarkable volatility in the last century. Buoyed by rapid economic growth and innovations in transport and telecommunications, FDI flows expanded tremendously between 1880 and the early 20th century. It is a well-known fact that during this time most of these foreign investments gravitated towards natural resources such as coal, iron, petroleum and agricultural commodities. In addition, it can also be pointed out that the meteoric rise in global FDI flows is largely a consequence of laissez-faire government policies regarding international private transactions and the liberal business environment which was prevalent in the 1920s (Jones, 1996).
Indeed, the onset of the First World War and nationalization of private property in Leninist Russia in 1917 had greatly reduced global FDI flows in the early 20th century. But it was the emergence of the Great Depression in 1929 that marked an end to the era of boom as far as global foreign investment is concerned. To make matters worse, the global stagflation and the breakdown of the international economic and financial systems that followed the Great Depression significantly reduced investment flows across the world. Besides, many governments throughout the 1930s were hostile towards FDI because they were greatly concerned not only with FDI’s potential negative effects but also the potential loss of national sovereignty that is associated with foreign investment inflows. In a bid to ‘regain control over their resources’ many countries, more especially in the developing world, openly dismissed FDI and multinationals as being exploitative and an imperialist mechanism (Alfaro, 2014).

The situation dramatically changed in the 1960s as FDI flows throughout the world surged because of improved global macroeconomic environment. Still, there was a fundamental difference in FDI flows during this period compared to those experienced during the pre-Great Depression era. The new inward FDI was then primarily gravitating towards manufacturing and the developed world with West capturing more than two-thirds of the total global flows. Likewise, some developing countries pursuing import-substitution policies were also able to attract some FDI in their manufacturing sectors by building tariff walls to protect their local industries. These countries also allowed MNCs to engage in ‘tariff jumping’ investments provided the foreign firms opened up plants in these countries in order to meet domestic demand.

The resurgent global FDI flows met significant obstacles in the 1970s and 1980s as oil prices rapidly increased and the debt crisis spiraled throughout the developing world. These developments cast a huge shadow of doubt on the efficacy of FDI as an important contributor to global development. However, there was significant shift in global perceptions towards FDI in the mid-1980s as global a consensus began to emerge among governments and economists on the merits of promoting foreign investment as a catalyst for accelerating economic development. FDI began to be viewed as a vital tool for uplifting global well-being by supplying superior technology, capital and know-how to host countries (Antras and Yeaple, 2014; Alfaro, 2014).
But it can also be argued that the above swing of the pendulum in favor of FDI may have emanated from the fallout of the 1980s debt crisis which made it difficult for developing countries to access credit and portfolio investments in global markets. As a matter of fact, FDI flowing into technology-intensive sectors was very attractive to developing countries which saw it as a vital promoter of technology absorption in their economies. It is therefore not surprising that as relations between MNCs and host countries improved during this period, governments across the globe began to aggressively remove barriers to FDI as well as offering incentives to attract foreign firms and thereby advancing globalization. Nonetheless, the biggest development that occurred during this period was the opening up of China to foreign investment following the implementation of a series of market reforms in the early-1980s (Todaro and Smith, 2014).

For many countries in the global South the debt crisis also signaled an end to the state-led import substitution model and heralded the adoption of export-oriented industrialization. On the back of newly-found optimism that FDI fosters growth and creates employment opportunities, many host-developing countries began to aggressively implement FDI-attracting schemes. Among some important schemes implemented were trade liberalization, bilateral and multilateral free-trade agreements and the development of export processing zones (EPZs) and free zones. During this period numerous EPZs sprouted up in Asia, Africa and Latin America to serve as export platforms to developed country markets and also to take advantage of low labor costs in the host-countries. Balasubramanyam (2001); Moss, Ramachandran and Shah (2006) observe that some of the important factors that have rekindled developing countries’ interest in FDIs include familiarity with the operations of MNCs, a decline in the availability of alternative sources of development financing such as foreign aid and external loans, and successes of FDI-led growth in some LDCs and NICs. Coupled with this is the fact that technology and knowledge transfers across countries have been greatly enhanced and simplified due to improvements in information technology that have occurred during this period.

Economists are broadly agreed that important determinants of FDI inflows into developing countries since the 1980s include the following factors: size of the domestic market, resource endowment, level of infrastructural development, stability of the macroeconomic and political environment, existence of a transparent investment framework, membership of regional
economic blocs, and absence of bureaucratic interference in MNCs’ operations (Balasubramanyam, 2001; Nunnenkamp, 2002; and UNCTAD, 2011). Indeed, inward FDI has been on an upward trajectory in recent times. UNCTAD (2016) observes that FDI inflows into the developing world have risen from US$35 billion in 1990 to US$765 billion in 2015. This expansion has mirrored a global surge in inward FDI which soared between 1990 and the early 2000s, reaching a landmark growth of 50 percent in 2006. Even though the 2008 global financial crisis and the subsequent recession greatly diminished FDI flows, global foreign investment levels have steadily been rebounding in recent years and reached US$1.4 trillion in 2015. The discussion below provides an illustration of global FDI inflows during the past decade.

2.6. Recent Trends in FDI Flows across the World

According to UNCTAD’s 2015 World Investment Report (WIR) global FDI inflows experienced a sharp decrease from approximately, US$1.47 trillion in 2013 to US$1.23 trillion in 2014 as a result of the continued slow-down in the world economy, investment and macroeconomic policy uncertainty and the persistence of geopolitical risks. Furthermore, the above challenges led to a significant divestment and hence nullified the impact of new FDI ventures. In contrast to the above declines in FDI flows, world trade, GDP and employment levels have been expanding over time as the table below is indicating.

Table 2.1: World growth rates of FDI flows, GDP, International trade and employment, 2008-2016

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<tbody>
<tr>
<td>FDI flows</td>
<td>-20.4</td>
<td>-20.4</td>
<td>11.9</td>
<td>17.7</td>
<td>-10.3</td>
<td>4.6</td>
<td>-16.3</td>
<td>11.4</td>
<td>8.4</td>
</tr>
<tr>
<td>GDP</td>
<td>1.5</td>
<td>-2.0</td>
<td>4.1</td>
<td>2.9</td>
<td>2.4</td>
<td>2.5</td>
<td>2.6</td>
<td>2.8</td>
<td>3.1</td>
</tr>
<tr>
<td>World trade</td>
<td>3.0</td>
<td>-10.6</td>
<td>12.6</td>
<td>6.8</td>
<td>2.8</td>
<td>3.5</td>
<td>3.4</td>
<td>3.7</td>
<td>4.7</td>
</tr>
<tr>
<td>Employment</td>
<td>1.2</td>
<td>1.1</td>
<td>1.2</td>
<td>1.4</td>
<td>1.4</td>
<td>1.4</td>
<td>1.3</td>
<td>1.3</td>
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Source: UNCTAD, 2015

NB: *are projected values

Despite the overall global slump in FDI, there are significant disparities among various regions across the world. UNCTAD (2015) observes that much as the developed countries experienced a general decline of about 28 percent in 2015, developing countries saw their FDI volumes booming during the same period. Driven by developing Asia, FDI flows into the developing
world rose to a historical level of about US$ 681 billion by the end of 2014. The figure below gives clear depiction of these variations.

![Figure 2.2: FDI flows in various regions of the world from 1995 to 2014](source: UNCTAD (2015))

But despite the general decline experienced in the 2013-2014 era, FDI flows across the globe bounced back strongly in 2015, reaching a record high of US$1.4 trillion. The upward trajectory was projected to continue in 2016 where their value was expected to reach US$1.5 trillion by end-2016. Among the forecasted drivers of this upturn include: continued recovery of the US economy, lower global oil prices stimulating aggregate demand, increased liberalization and promotion of investment, and favorable macroeconomic policies (i.e. monetary and fiscal and investment). In addition to the encouraging global macroeconomic outlook, the increased profitability and liquidity of MNCs is expected to boost global FDI flows even further. But still, threats such as continued geopolitical upheaval especially in the Middle-East and macroeconomic turbulence in the Eurozone and in some emerging markets have the potential to disrupt the expected recovery.

### 2.7. Recent trends in FDI flows across Africa

According to the UNCTAD’s 2015 World Investment Report, Africa received a total of US$54 billion worth of foreign direct investment as of end-2014. Regionally, North Africa experienced
significant declines amounting to over 15 percent as a result of tension and conflict in some of its countries such as Libya. On a similar note, the West African region also saw its FDI inflow share shrink sharply by approximately 10 percent owing to the Ebola epidemic, falling commodity prices and rising insecurity. For Southern Africa, a similar situation prevailed during the aforementioned year as inward FDI decreased slightly by 2.4 percent in response to contracting commodity export prices on the world market and the stuttering of the Chinese economy.

But the picture was far much different further east of the continent. FDI inflows into East Africa rose significantly by 11 percent in 2015 on the back of gas discoveries in Tanzania and the opening up of garment and textiles plants in Ethiopia. Furthermore, Central Africa also experienced a boom in FDI as MNCs ignored the falling world commodity prices to raise their investment by more than one-third especially in Republic of Congo and Democratic Republic of Congo. But on the overall it must be stated that compared to 2014, FDI flows into Africa were generally stable as declines in the North were offset by increases in Central and Eastern African sub-continents. The figure below depicts the total value of inflows and outflows experienced by various African regions from 2008 to 2014.

Figure 2.3: Total FDI flows in African regions from 2008 to 2014

In addition to this, South Africa, Republic of Congo, Mozambique, Egypt, and Nigeria respectively, were ranked as the top-five destinations for FDI in Africa at the end of 2014. The
World Investment Report 2015 further notes that China and India were the main sources of FDI inflows in Africa while France, United States of America, and United Kingdom were the principal countries that divested from the region as of end-2014. Other points of note were that during the year 2015 M&A rose to US$ 5.1 billion especially in the financial and petroleum sectors. Services accounted for the largest share of Africa’s inward FDI stock while finance comprised of the largest portion of the service sector. Furthermore, the growing importance of FDI in infrastructure was clearly visible in the rise of foreign ownership of transport and telecommunication firms.

2.7. Chapter summary

The above discussion has given an overview of FDI. In particular, it has given an analytical summary on the different definitions, forms, classifications, and theories of FDI. A careful analysis of both the classical and modern perspectives of FDI reveals that there now exist a consensus among economists that foreign investment is more than just capital but also encompasses technology and know-how, among others. The important role that multinational corporations play in propagating FDI flows was also examined in considerable detail. Additionally, a brief overview of recent trends in FDI inflows both globally and across Africa was presented. From these trends, it is clear that FDI which is mainly transmitted through the operations of MNCs originating from both developed and developing countries, is one of the most important phenomena which are currently shaping both the global macro-economy and economic development. It is also clear from the discussion that even though rich countries have historically been the largest recipients, developing countries are also beginning to attract economically significant FDI inflows both from the developed world and from other developing countries. The recent evolution in FDI patterns further indicates that for many developing countries, the end of the 1980s debt crisis marked the genesis for the growth in foreign investment inflows. From the discussion, it is also clear that through-out the 1990s and early 2000s inward FDI has expanded rapidly in the developing world. Though the 2008 financial crisis dealt a significant blow to global FDI flows, but growth in FDI in many parts of the world has continued to recover impressively in recent times.
CHAPTER THREE
DEFINING INCLUSIVE GROWTH

3.0. Chapter overview

This chapter primarily aims at defining the concept of inclusive growth. It examines the main components that constitute inclusive growth. To adequately cover these components, the chapter begins by introducing the basic idea behind the concept. The definition of inclusiveness and its importance in economic development is also presented. Furthermore, the above concept’s emphasis on economic growth is also elaborated and finally, the main instrument for achieving inclusive growth is discussed.

3.1. The concept of inclusive growth

The concept of inclusive growth emerged from the shift in development thinking that occurred in the early 2000s when development practitioners moved away from seeing equity as a burden or as a by-product of economic growth, as had been traditionally accepted in development circles. Instead, development economists began accepting that that not only growth with equity is possible but also that economic growth, inequality and poverty reduction can be instrumental to each other. Development economists the world over now recognize that there are significant interactions between growth, inequality and poverty reduction and hence these issues have to be tackled simultaneously if welfare is to be enhanced. However, there exists no consensus on the definition, measurement or operationalization of inclusive growth as literature on the subject is awash with different definitions and conceptualizations of the above concept (Ranieri and Ramos, 2013).

Owing to the above lack of consensus on the subject, this paper follows Ianchovichina and Lundstrom (2009) and Anand et al., (2013) in defining inclusive growth as the process of raising the pace of economic growth and enlarging the size of the economy while providing equal opportunities for investment and productive employment creation. In other words, this paper
views inclusive growth as primarily about the pace and distribution of economic growth. Thus, how growth is generated and how its fruits are distributed in society is important for poverty reduction and welfare improvement. This implies that inclusive growth considers pace of growth and income distribution as interlinked and hence in need of being addressed simultaneously in order to alleviate poverty and to reduce income inequality. On the same, Berg and Ostry (2011) observe that growth and income distribution analyses need to be done together since recent evidence suggests that there may not be a trade-off between equity and efficiency, as had been previously suggested by Okun (1975).

Indeed, for rapid and sustained poverty reduction to be successful there is need for a kind of economic growth that allows as many people as possible to not only contribute to but also benefit from the process of economic growth. Inclusive growth is precisely this kind of economic growth. As a matter of fact, rapid pace of economic growth is the most important ingredient for substantial poverty reduction since it expands the income of the poor proportionately with overall growth (Dollar and Kraay, 2002; Dollar, Kraay and Kleineberg, 2013).

3.2. Inclusive of large part of the labor force

For economic growth to be sustainable over time it needs to be broad-based across economic sectors but also inclusive of the majority of the country’s labor force. In this framework, growth is therefore inclusive if and only if it enables large parts of the labor force to contribute to and benefit from economic growth. Alternatively, the inclusivity of growth is measured by its ability to absorb the majority of the productive population trapped in low-productive activities as well as enabling its benefits to reach the above sections of the society that are oftentimes excluded from the growth process (Ianchovichina and Lundstrom, 2009a; Anand et al., 2013). The above definition of inclusive growth emphasizes the synergy between macro and micro determinants of economic growth. The micro component mainly illustrates the importance of structural transformation which is necessary for economic diversification, competition and creation of more productive employment opportunities. This focus on identifying sources and constraints to sustained high growth sharply differs from the traditional pro-poor growth literature which is mainly focused on measuring the growth impact on poverty reduction.
In a similar vein, the World Bank Commission on Growth and Development (2008) observes that the success of any economic growth strategy largely depends on inclusiveness of growth. This inclusiveness covers equity, equality of opportunity and protection in markets and employment fluctuations.

3.3. Economic growth as the focal point of inclusive growth

The main focus of inclusive growth is on increasing and sustaining the rate of economic growth which is a vital ingredient in any poverty reduction intervention. There is ample empirical evidence suggesting that rapid growth of the GDP over extended periods of time is a necessary condition and oftentimes the main contributor to poverty reduction (Deininger and Squire, 1998; Dollar and Kraay, 2002; Bourguignon, 2003; Dollar, Kraay and Kleineberg, 2013). But it must be borne in mind that sustained, rapid growth rates and poverty reduction episodes can only be achieved when there is a subsequent expansion in the sources of economic growth and when significant shares of labor force are integrated in the growth process efficiently.

Further to this, inclusive growth follows a longer term approach and is concerned with sustained economic growth. This indicates that sustained long-term economic growth requires the economic expansion to be broad-based across sectors of the economy. Thus, structural transformation for economic diversification is the lynchpin for inclusive growth. The above attribute also implies that growth is inclusive of the majority of the labor force and offers equal opportunities in terms of markets, resources and the general economic environment. On a related note, the long-term perspective also entails that there is often a time lag between growth reforms and growth outcomes. Thus, it emphasizes on economic growth policies that should be implemented in the short run to achieve sustainable long-term growth.

This study follows Ianchovichina and Lundstrom (2009a) and Anand et al., (2013) in adopting an inclusive growth measure that is in line with the absolute definition of pro-poor growth but not the relative definition. With an absolute definition, growth is viewed as pro-poor if and only if the poor benefit in absolute terms, measured by some agreed poverty measure. On the other
hand, the relative definition labels growth pro-poor as long as the income level of the poor grows faster than that of the whole population and thus reducing inequality (Dollar and Kraay, 2002; Kraay, 2004; Dollar et al., 2013). Given that the relative definition focuses so much on inequality, it may therefore lead to suboptimal growth outcomes for both the poor and non-poor in society. By utilizing the absolute definition, therefore, the study aims to focus on accelerating the rate of economic growth to achieve rapid poverty reduction.

3.4. Productive employment creation: the main instrument for achieving inclusive growth

The World Bank Commission on Growth and Development (2008) identifies productive employment creation as the main tool for achieving sustainable inclusive growth. As a matter of fact, employment growth creates new jobs and income-earning opportunities for a country’s residents from wages in firms and self-employment from micro-enterprises. On the other hand, productivity growth of the economy has the potential to increase wages for those in formal employment as well as individuals earning their living in self-employment. This is very important for many developing countries such as Malawi and Zambia that face significant challenges of both unemployment and underemployment.

On the same, Ianchovichina and Lundstrom (2009a) argue that the ability of individuals to be productively employed is largely dependent on the availability of opportunities to optimally utilize available resources as the economy grows. This, therefore, implies that inclusive growth is mainly interested in strengthening the productive resources and people’s capacity on the labor-supply side as well as generating new productive job opportunities on the labor-demand side. It is against this background, therefore, that this study will examine employment growth generated by foreign firms as the main driver of inclusive growth in Zambia and Malawi.

Given that that the emphasis on productive employment enables the majority of the country’s citizens to benefit from and contribute to economic expansion over time, inclusive growth therefore embraces both the process and outcomes of the growth process. But apart from combining the two dimensions, emphasis on productive employment-creation also helps to
clarify the difference between inclusive growth and pro-poor growth. Unlike pro-poor growth which principally focuses on one group (i.e. the poor), inclusive growth is mainly concerned with raising the overall pace of growth by utilizing large parts of the population (i.e. the labor force). But despite this distinction, inclusive growth does not dismiss the importance of inequality and poverty reduction to determining inclusiveness. Instead, income inequality and poverty are at the core of its growth analysis (Ranieri and Ramos, 2013).

Based on the above definition of inclusive growth as being about the increasing the speed of growth and improving the distribution of its benefits, the study operationalizes this definition by examining the interactions between economic growth, employment creation and income inequality. A critical analysis of these relationships will help to determine how growth takes place, the proportion of labor force that has been utilized in propelling growth and overall distribution of its benefits.

3.5. Chapter summary and conclusion

The foregoing chapter has given a brief but concise discussion on the concept of inclusive growth and its main components. The chapter defines inclusive growth as primarily being about raising the speed of economic growth and improving the distribution of the resultant growth benefits in order to enhance welfare and reduce income inequality. On the same, economic growth was underlined as its focal point. Inclusiveness was defined as the ability of the economic growth process to not only utilize but also to benefit large parts of the labor force. With this, therefore, the discussion indicated that productive employment is the main instrument for achieving inclusive growth in developing countries. Finally, the chapter concludes by stating that inclusive-growth initiatives take a longer-term perspective and are oftentimes country-specific.
CHAPTER FOUR
LITERATURE REVIEW ON THE FDI-INCLUSIVE GROWTH NEXUS

4.0. Chapter preview

This chapter examines the linkage between FDI and inclusive growth by reviewing available theoretical and empirical literature on the above subject. In essence, some important economic growth models and empirical studies done so far throughout the globe explaining the FDI-growth nexus will be analyzed. Also, the linkage between FDI-induced growth and welfare as well as income inequality is revisited. The chapter ends by assessing the pros and cons of inward FDI on inclusive development especially in developing host-countries.

4.1. Theoretical Literature review on the FDI-economic growth nexus

Basically, the FDI-economic growth nexus is theoretically conceptualised in the literature by taking inward FDI as one of the important ingredients in the growth process. To this end, various competing economic growth models have offered different explanations on how FDI induces output expansion and welfare improvement. In general, the major economic growth models can be divided into three categories namely: post-Keynesian models (e.g. Harrod-Domar, Gap models), neoclassical models (e.g. Solow-Swan models), and endogenous models (e.g. Romer model, and other variants). Actually, for investment-growth analytical purposes, modified/extended versions of post-Keynesian and neoclassical growth models can be viewed as capital-formation models while endogenous growth models represent technology/knowledge spill-over models. However, for purposes of this study, this chapter will only discuss growth models that have relevance in developing countries such as Harrod-Domar, Two-Gap models and the Solow model.
4.1.1. Post-Keynesian growth models

4.1.1.1. Harrod-Domar (H-D) Growth Model

Inspired by Keynesian thinking, Roy Harrod (1939) and Evesey Domar (1946) independently developed a circular flow model to explain the instability that characterizes a growing economy. The experience of the Great Depression in the 1920s and 1930s influenced John Maynard Keynes (1936) to postulate that sticky wages cause involuntary unemployment and that demand for investment goods as well markets in general are inherently volatile and unstable. This therefore calls for economic stabilization, and governments or state authorities have the capabilities to achieve this through deficit spending when the economy is in crisis. Although the independent models of Harrod and Domar differ in detail but their approach and conclusions are substantially similar. Therefore, the two models are jointly referred to as the ‘Harrod-Domar growth model’. Some of the important assumptions of the Harrod-Domar (H-D) model are as follows: the economy is initially in equilibrium, there is no government intervention in the functioning of the economy, the economy is closed (i.e. there is no foreign trade), there are no time lags in adjustment between not only demand and supply but also between investment and savings, capital-to-output ratio and marginal propensity to save and consume are constant and the production technology is given. It must also be borne in mind that the Great Depression which was characterized by low investment, falling national output and mass unemployment, provides the empirical background to the H-D model.

We now discuss an important facet of the of the H-D model: capital accumulation and economic growth. The model views capital accumulation as a vital driver of the economic growth process. Both Harrod and Domar point out that capital accumulation or net investment has a double role to play in catalyzing growth. Firstly, it generates income (i.e. income/demand effect) and secondly, it increases the economy’s production capacity (i.e. capacity/supply effect). For instance, the establishment of a factory would generate income for the suppliers of the building materials for the factory but at the same time it would increase a nation’s total capital stock, and this would in the end boost the economy’s production capacity. The resultant new income generated creates demand for goods and services (Thirlwall, 2002). In this model, the prerequisite for achieving growth is that new demand and spending must be large enough to
absorb the output produced by the increased capital stock. If this condition is not satisfied the economy will be characterized by idle or excess capacity. From this therefore; it is clear that economic growth in the above model occurs if the economy’s production capacity rises. That is to say; when the firms purchase additional machinery and equipment it increases short-run income via additional demand and in the long-run installation of the new machines increases the economy’s capacity. This is the gist of the model.

The H-D model begins with a linear production function in which aggregate output \( Y \) is a function of average productivity of capital \( \frac{Y}{K} \) multiplied by the total capital stock \( K \) as follows:

\[
Y = \left(\frac{Y}{K}\right)K
\]

But \( \frac{K}{Y} = k \) is the capital-to-output ratio (i.e. the inverse of the average capital productivity) which the H-D model assumes to be constant. This implies that

\[
Y = \left(\frac{Y}{K}\right)K = \left(\frac{1}{k}\right)K
\]

This simply means that aggregate output is equal to the average productivity multiplied by the capital stock which in turn equals the inverse of the capital-to-output ratio times the capital stock. With constancy in the \( k \), then a change in total output \( \Delta Y \) should be equal to the change in the capital stock \( \Delta K \) multiplied by the inverse of capital-to-output ratio \( \frac{1}{k} \):

\[
\Delta Y = \frac{1}{k} \Delta K
\]

This essentially means that change in the national output over time depends on change in the total capital stock and the inverse of the capital-to-output ratio. Moreover, Harrod and Domar assume an economy where the commodity market and capital market are in equilibrium; however, there is also massive unemployment of the labor force so that new machines can be operated by additional workers that can be recruited from the unemployment. With this assumption, therefore, \( \Delta Y = \left(\frac{1}{k}\right) \Delta K \) holds. Assuming that change in capital stock \( \Delta K \) in a given period equals net investment \( I \) during that period; then this follows that change in output \( \Delta Y \) is a function of investment and the inverse of the capital-to-output coefficient, \( \frac{1}{k} \) i.e.: \( \Delta Y = \frac{1}{k} I \).
In addition to this, Harrod and Domar postulate that savings \((S)\) is a constant proportion of national output \((Y)\). This implies that: \(S = sY\), Where \(s\) represents the marginal propensity to save or \(\frac{dS}{dY}\). Additionally, the H-D model also argues that the desired savings must equal the volume of desired investment at equilibrium level of output. This implies that \(S = I\). So, by extension this means that \(S = I = sY\). By replacing \(I\) with \(sY\) in equation \(\Delta Y = \frac{1}{k}I\) we generate \(\Delta Y = \frac{s}{k}Y\) and by extension this translates into: \(\frac{\Delta Y}{Y} = \frac{s}{k}\). This expression implies that growth rate of output equals the inverse of the capital-to-output ratio (i.e. capital productivity) multiplied by the marginal propensity to save. The \(\frac{\Delta Y}{Y}\) is called the equilibrium growth rate since it is related to the equilibrium condition \(S = I\). More technically, it describes the capacity utilization of the capital stock and it fulfils the expectations of the investors.

In fact, Harrod (1939) wanted to find out the rate of growth of income that ensures that plans to invest are equal to plans to save over time. Coupled with this, the above researcher was also interested in investigating whether there is any guarantee that the above rate of income growth will prevail. To answer the two questions, Harrod came up with three different growth concepts namely: actual rate of growth \((g_a)\); warranted rate of growth \((g_w)\); and the natural rate of growth \((g_n)\). Basically, the actual growth rate refers to the rate of growth of income that the economy always achieves. It is also technically given as the savings-to-output ratio \((s)\) divided by the incremental capital-to-output ratio \((c)\) i.e. \(g_a = \frac{s}{c} = \frac{s}{\left(\frac{1}{\Delta Y}\right)} = \frac{s}{\left(\frac{\Delta k}{\Delta Y}\right)} = \frac{s}{k}\). On the other hand, the warranted growth rate is the growth rate at which all saving is absorbed by investment. This rate keeps capital fully employed, as such there is no overproduction or underproduction and hence producers are willing to maintain their production/investment in the future as they did in the past. The natural rate of growth is the long-run growth rate required to maintain full employment. It is determined by population (labor force) growth and labor productivity growth. Harrod argues that dynamic equilibrium requires that \(g_a = g_w\). Otherwise, if this condition does not hold; there will be macroeconomic instability. For instance, if \(g_a < g_w\); then investment plans will be less than plans to save; and hence income growth will shrink further below the warranted growth. Alternatively, if \(g_a > g_w\) it implies that plans to invest will be greater than plans to save thereby leading to actual growth rate being driven even further above the warranted
rate. Harrod called this instability ‘knife-edge’ or ‘razor-edge’ economic growth since any deviation from equilibrium, instead of correcting the problem, will be worsening the situation.

Domar (1946) arrived at a similar conclusion to that of Harrod by using a different route. He observed that investment increases not only aggregate demand via the Keynesian multiplier but also aggregate supply by expanding capacity. He therefore wanted to examine the rate of growth of investment that would guarantee that demand equals supply. Domar finds this rate to be the one at which investment must grow to equal the product of the savings-to-output ratio and the productivity of capital \( \left( \frac{Y}{k} \right) \) i.e. \( \left( \frac{\Delta Y}{i} = sY = \frac{s}{k} \right) \). Therefore, at full-employment both the Harrod and Domar results for equilibrium growth are the same. But Harrod observes that even if \( g_a = g_w \) and thus ensuring the full utilization of capital, but this does not automatically guarantee the full utilization of labor which depends on \( g_n \). He postulates that for labor to be fully-employed then the condition \( g_a = g_n \) must hold. Otherwise if \( g_a < g_n \) then there will be growing unemployment in the economy. Likewise, if \( g_a > g_n \) there will be labor shortages which will prevent further growth. On the same if, \( g_w > g_n \) economies may experience perpetual secular stagnation; while if \( g_w < g_n \), then both persistent inflation and unemployment may simultaneously occur. With this, therefore, Harrod argues that full utilization or full-employment of labor and capital entails that the condition \( g_a = g_w = g_n \) must hold. However, there is no mechanism in the original Harrod model for automatically generating equality in the three types of growth rate. Against this background therefore, the Harrod model postulates that due to the \( g_a \neq g_w \neq g_n \) capitalist economies cannot achieve full-employment and steady growth but instead these economies will face inherent instability or ‘edge-of-the-knife’ growth (Thirlwall, 2002).

So, as a way of evaluation, it can be argued that the H-D model seems to be partially successful in relating theory and empirical data for \( g_w > g_n \) in conditions where there is significant unemployment (Thirlwall, 2002). However, the model fails to take into consideration in its analysis other important drivers of economic growth such as technical progress, institutions and human capital, among others. In addition, the model’s assumption of a linear production function i.e. constant \( k \) is not realistic more especially when full-employment is the prevailing condition in the economy. In such a scenario, the H-D model basically implies ‘edge-of-the-knife’ growth.
Indeed, given that most of its parameters (e.g. $k$, $s$ and labor growth) are exogenous the model cannot achieve long-run equilibrium growth rate. Any change in these parameters will cause the economy to deviate from its equilibrium growth path leading to ‘edge-of-knife’ or ‘razor-edge growth’ (Easterly, 1999). However, these criticisms are largely misplaced and unfounded because Harrod and Domar essentially generated their models in a setting with high unemployment and not full-employment conditions. With this therefore, one can argue that the H-D model is useful in explaining growth in an economy with unemployment.

For purposes of our study, the original version of the Harrod-Domar model seems not to offer any role for FDI and international trade in the growth process since it assumes the economy to be closed. However, when the model is modified or opened-up to allow international capital flows, FDI can play a meaningful role in catalyzing economic growth by supplementing domestic savings and hence contribute to increased capital accumulation in the economy. The next section discusses the above fact in more detail under the Two-Gap growth models.

4.1.1.2. The Two-Gap model

The Two-Gap model is basically an extension and indeed, an adaptation of the Harrod-Domar model for open developing economies. To begin with, its pioneers Chenery and Strout (1966) assume that most developing countries have large population growth rates which translate to a large labor force. Furthermore, the above researchers also assume that developing economies have small savings-to-GDP ratios because of low per capita incomes and low productivity. This implies that these countries have large capital coefficients. Other important assumptions of the Two-gap model are that factors of production are not substitutable, capital-to-output ratios are constant and this constancy is also assumed to hold in both the marginal and average productivity of capital.

Essentially, the Two-Gap model observes that economic growth in these countries is constrained by the presence of two gaps in their economy. Apart from the savings gap that was already identified by the Harrod-Domar model, the Two-Gap model argues that a second gap exists in the economy called the foreign-exchange gap or trade gap. In essence a nation’s ability to
mobilize not only adequate savings necessary for investment but also abundant foreign exchange earnings from international trading transactions is what triggers and sustains output growth over time (Ghattak, 1995). More technically, the savings gap indicates that the amount of aggregate savings ($S$) is inadequate to finance the net investment ($I$) required to achieve sufficient growth of GDP. On the other hand, the foreign exchange gap simply indicates that the primary trade balance is inadequate to enable the importation of machinery required to achieve sufficient output growth.

Following the footsteps of Bender and Löwenstein (2005) the savings gap can be mathematically illustrated as below. Given that $Y$ is national output/income, $C$ is consumption, $I$ is investment and $S$ is saving; this implies that

\[ Y = C + I \quad \text{and} \quad Y = C + S \]

By transitivity this implies that $I = S$. Furthermore, if net investment $I$ in the economy is the summation of domestic investment $I_d$ and foreign investment $I_f$, then: $I = I_d + I_f$. Therefore; $(I_d + I_f - S)$ may be said to be the national savings-gap that can be financed by capital imports ($KIM$) from abroad. This can be expressed as follows: $I - S = I_d + I_f - S \leq KIM$.

Recall that $s = \frac{S}{Y}$ and $kim = \frac{KIM}{Y}$ is the savings-to-output ratio and capital imports-to-output ratio respectively. Therefore, the total investment to output ratio can be given as: $\frac{I}{Y} = \frac{I_d}{Y} + \frac{I_f}{Y} \leq s + km$. Mathematical manipulation of the above equation, replacing $\frac{I_f}{dY} = k_f$ and $\frac{I_d}{dY} = k_d$ yields the following expression:

\[ \frac{I_d}{dY} \ast \frac{dY}{Y} + \frac{I_f}{dY} \ast \frac{dY}{Y} = (k_d + k_f)gY \leq s + km \]

The savings gap (SG) in the economy can therefore be presented as follows:

\[ SG: \quad gY \leq \frac{s + km}{k_d + k_f} \]

This simply means that the economic growth is being restricted by inadequate savings (i.e. savings gap). Thus, the savings gap is a binding constraint to economic growth which can be widened by capital imports.
We also follow Bender and Löwenstein (2005) in illustrating the foreign exchange gap as is presented below. Assuming that a country’s capacity to import is given as \((IM)\), consumer goods are represented by an index \((C)\), an economy’s total intermediate goods are given as \((II)\) and that of capital goods is given as \((K)\). Without foreign exchange reserves, the country’s capacity to import is determined by the volume of exports \((EX)\). This implies that

\[
IM_C + IM_{II} + IM_K \leq EX - IM
\]

Therefore, the primary trade account balance \((PTA)\) which is available to import capital goods can be given as follows: \(PTA = EX - IM_C - IM_{II}\). Now if one recalls that the import of capital goods \((IM_K)\) equals the purchases of investment goods of foreign origin \((I_f)\) i.e. \((IM_K = I_f)\) then by inserting \(\frac{PTA}{Y}\) into the expression \(IM_C + IM_{II} + IM_K \leq EX - IM\) and thereafter solving for \(\frac{IM_K}{Y}\), the following formulation is obtained:

\[
\frac{IM_K}{Y} = I_f \leq (pta + kim)
\]

By introducing \(\frac{dY}{dY}\) to both sides of the above equation, one can yield the following result: \(I_f \frac{dY}{dY} \leq (pta + kim) \frac{dY}{dY}\). Likewise, by substituting \(I_f = k_f\), in the above equation the following expression can be generated:

\[
\frac{dY}{Y} \leq (pta + kim) \frac{dY}{dY} \times \frac{1}{k_f}
\]

Therefore, the foreign exchange gap \((FG)\) can be given as follows:

\[
FG: gY \leq (pta + kim) \frac{1}{k_f}
\]

This indicates that the economy’s capacity to achieve a given import ratio for capital goods is restricted by the sum of the country’s primary trade balance ratio and capital import ratio. In simple terms, this shows that an economy’s GDP growth rate is being restricted or bound by the availability of foreign currency. Furthermore, Chenery and Strout (1966) and Chenery (1968) observe that both the savings and foreign exchange gaps can be bridged by foreign aid or by net capital imports, respectively. These researchers argue that if the Two-gap model is applied to a particular economy it is easy to estimate the required injection of foreign aid or net-capital
imports to reach a target growth rate of that country. Easterly (1999) argues that it is such simplicity that makes the Two-gap model attractive to multilaterals interested in channeling project financing to developing countries.

In order to empirically examine the Two-Gap model, Bender and Löwenstein (2005) assess changes in potential growth in an economy in response to a rise in capital imports-to-GDP ratio. They find that at smaller $gY$ the foreign exchange gap is binding while at larger values of $gY$ the savings gap is the binding constraint. Both these gaps are simultaneously filled by rising capital imports. With this, therefore, the above researchers conclude that the Two-gap model is basically a One-Gap model that is akin to a Harrod-Domar model that is augmented by capital imports. The only difference in the models being that in the Two-Gap model the existing shortage of savings can be bridged by capital imports. Even though the foreign currency gap might exist in an economy, but it does not restrict the growth rate of the GDP.

Among the important weaknesses of the Two-Gap models is that by solely concentrating on the availability of foreign exchange and savings in an economy, the model overlooks efficient allocation of these resources which is also vital for spurring and sustaining growth. Also, the model is based on unrealistic assumptions such as constant marginal and average productivity of capital which do not match economic realities of the developing world. Furthermore, the model’s assumption of a linear production function implies ‘edge-of-knife’ growth (Bender and Löwenstein, 2005). In summary, Quibria (1971) observes that much as the Two-Gap model has some usefulness to analyzing growth but it fails to adequately explain the available growth options and offers limited guidance to specific growth policies. More specifically, the model ignores possibilities of substitution in consumption and production and the resultant structural change. However, despite these weaknesses the Two-Gap model is preferred by multilateral development agencies for its intuitiveness and simplicity in enabling back-of-the-envelope calculations for achieving growth targets in developing countries.

In relation to FDI, Two-gap models can allow FDI inflows to supplement domestic savings and in the process, reduce the savings gap in host economies and hence contribute to growth. On the same note, Van der Berg and Lewer (1999) point out two principal ways through which FDI and
international trade in the Two-Gap model can positively contribute to domestic capital accumulation of a host country. Firstly, FDI may accomplish this simply by directly supplementing the level of domestic savings and investment in the host economy. On the other hand, FDI may also indirectly contribute to the creation of a better enabling environment for mobilizing domestic savings by generating forward and backward linkages with local firms (Borenzstein et al., 1995; Fry, 1997). However, some economists argue that FDI may sometimes have a negative effect on capital accumulation in the host country when it directly competes with domestic savings and investment (Frank, 1969; Lall and Streeten, 1977). This may occur in instances where, for example, foreign multinationals over-borrow from local financial markets thereby displacing domestic enterprises and in so doing exacerbating credit constraints of these local firms (Harrison and McMillan, 2003).

Apart from this contribution to domestic capital accumulation, FDI may also boost the foreign exchange earning capacity of host countries if foreign multinationals operate in export-oriented sectors of these economies. On this, Cotton and Ramachandran (2005) identify several channels through which FDI enhances the export competitiveness of host country. They observe that foreign multinationals often introduce superior technologies that enhance production and quality of the host-country’s export products. These firms also have better marketing and branding prowess in addition to better access to trade financing opportunities relative to domestic firms. These advantages together with better warehousing and transportation facilities have the potential to boost the volumes of exports and the resultant foreign exchange revenue earned from the same. Host countries may benefit from FDI-induced foreign exchange inflows and thereby boosting their ability to purchase capital imports (KIM). However, Todaro and Smith (2014) observe that FDI can only contribute to filling foreign-exchange gaps in host countries if multinationals do not operate under import substitution in which their subsidiaries are protected by tariff and quota walls and often produce solely for domestic consumption. The above researchers argue that in such cases, multinationals may worsen BoP positions of host countries through importation of intermediate products and capital equipment from their overseas affiliates at inflated prices thus leading to foreign exchange outflows.
4.1.2. Neoclassical growth model

The above model which is sometimes called the ‘Solow-Swan model’ was independently developed by Robert Solow and Trevor Swan in 1956. The cornerstone of the model is a neoclassical production function (of Cobb-Douglas form) exhibiting constant returns to scale, diminishing returns to each factor input, and positive and smooth elasticity of substitution. Furthermore, this neoclassical production function satisfies Inada conditions, meaning that the marginal productivity of the capital or labor approach infinity as the factor inputs reach zero. By combining the above production function with a constant saving rule; the Solow model generates a basic general equilibrium model (Barro and Sala-i-Martin, 2004). In contradiction to the propositions of the Harrod-Domar model, Solow observed that the process of economic development in the US was characterized by steady growth in output, productivity and real wages as well as limited state intervention and small unemployment rates. With this therefore, Romer (1996) concludes that that unlike Harrod and Domar whose model was designed to explain economic development in a world with labor market failure (mass unemployment in the 1920s), Solow’s model is firmly based on the assumption of perfectly-functioning markets for resources, production factors and commodities.

Other important assumptions of the Solow model are the fact that it considers a world in which a single homogenous good or output is produced and consumed. It also assumes that perfect competition exists in factor and commodity markets. Furthermore, Solow assumes that there is no international trade in the economy since only a single good exists i.e. the economy is closed. Technology in the model is exogenous such that the available technology is not affected by actions of firms (Solow, 1956 and 1957, Romer, 1996).

Jones (1998) summarizes the basic Solow model as being built around two fundamental equations: (i) a production function and (ii) a capital-accumulation equation. The production function describes how factor inputs are combined to produce output. Typically, this production function is assumed to take a Cobb-Douglas form and can be given as follows:

\[ Y = F(K, L) = AK^\alpha L^{1-\alpha} \]

Where \( Y \) is output, \( A \) is technology, \( L \) is labor, \( K \) is capital, \( \alpha \) and \( 1 - \alpha \) are output elasticities with respect to capital and labor respectively, and \( 0 < \alpha < 1 \). Furthermore, the above Cobb-
Douglas production function is assumed to exhibit constant returns, positive and diminishing returns with returns to each input implying that doubling of inputs will also double the output. It also satisfies Inada conditions. Moreover, firms in the Solow economy pay workers a wage, $w$, for each unit of labor and pay $r$ to rent a unit capital for one period. The economy is also assumed to contain many firms so that there is perfect competition and that these firms are price takers. By normalizing the price of output in the economy to equal one, these profit-maximizing firms solve this expression: 

$$\maximize_{K,L} F(K,L) - rK - wL \text{ (Romer, 1996).}$$

Profit maximization entails that firms will hire laborers until marginal product of labor ($MP_L$) equals wage ($w$) and at the same time, rent capital until the marginal product of capital ($MP_K$) is equal to the rental price $r$. Mathematically this can be illustrated as follows: 

$$w = \frac{\partial y}{\partial L} = (1 - \alpha)AK^\alpha L^{-\alpha} = (1 - \alpha)A(K/L)^{\alpha}, \quad \text{and} \quad r = \frac{\partial y}{\partial K} = \alpha AK^{(\alpha - 1)}L^{-(\alpha - 1)} = \alpha A \left(\frac{K}{L}\right)^{\alpha - 1}.$$ 

With $wL + rK = Y$, factor inputs completely exhaust the value of output produced so that there are no economic profits earned. The Solow model is also interested in analyzing output and capital in per worker/capita terms, as such, output per worker and capital per worker are given as $y \equiv \frac{Y}{L}$ and $k \equiv \frac{K}{L}$, respectively. The production function can also be re-written in an intensive form as follows: 

$$y = \left(\frac{K}{L}\right)^{\alpha}.$$ 

Similarly, expressing wage rate and rental rate in intensive form yields 

$$w = (1 - \alpha)Ak^{\alpha} \quad \text{and} \quad r = \alpha Ak^{\alpha - 1} \text{ respectively (Weil, 2013).}$$

The second important equation in the Solow model is the capital accumulation equation. Barro and Sala-i-Martin (2004) call it the fundamental Solow-equation. This equation can be derived as follows given as follows: recall that a net increase in capital stock at a point in time $t$ equals gross investment minus capital depreciation 

$$\dot{K} = I(t) - dK(t) = sY - dK(t).$$

Expressing the same in intensive form yields 

$$\dot{k} = s\frac{Y}{L} - dK.$$ 

To transform $\dot{K}$ in terms of $k$ we can take derivative of $k \equiv \frac{K}{L}$ with respect to time $t$ as follows:

$$\dot{k} \equiv \frac{\partial (K)}{\partial t} = \frac{k}{L} - nk \text{, where population growth rate } n = \frac{\dot{L}}{L}.\]
Recall that under full-employment settings this implies that the rate of labor-force growth rate \( \frac{\dot{L}}{L} \) is given by the growth rate of the population. Substituting the above expression for \( \frac{\dot{K}}{L} \) and rearranging the terms yields the following fundamental differential equation of the Solow model:

\[
\dot{k} = sy - (n + d)k.
\]

Barro and Sala-i-Martin (2004) view the term \((n + d)k\) as the effective depreciation rate of the capital-labor ratio \( \frac{K}{L} \). They argue that if the savings rate \( s \) is zero, then the capital per laborer would decrease because of depreciation of capital at an exogenous rate \( d \). This decline in the \( \frac{K}{L} \) could also result from the increase in the population growth rate \( n \).

Solow (1956) distinguishes three important concepts as far as capital is concerned and these are capital deepening, capital flattening, and capital widening. **In a growing economy, capital deepening raises capital per worker for all workers.** Recall that we are in a full-employment setting and this therefore implies that the economy is starting from a steady state where \( \frac{K}{L} \) is constant. Capital deepening (i.e. \( \frac{\dot{K}}{L} \) increases, \( y = \frac{Y}{L} \) increases, wage rate increases) can only result from either an increase of \( gK \) or from a fall of \( n \) in the phase of transitional growth towards the new steady state. This new steady-state level is where the \( \frac{K}{L} \) is at a higher level than before and constant but also where the \( gK \) has again adjusted to \( n \). **On the other hand, capital flattening is the opposite of capital deepening.** In a shrinking economy, capital flattening reduces capital per worker for all workers. Starting from a steady state-level where \( \frac{K}{L} \) is constant, capital flattening reduces not only the \( \frac{K}{L} \) but also the \( y = \frac{Y}{L} \) and the wage rate. This can only emanate from the fall in \( gK \) or from an increase of \( n \) in the phase of transitional growth towards the new steady state (i.e. where the \( \frac{K}{L} \) is constant and at a lower level than before and where \( gK \) has again adjusted to \( n \)). **In contrast, capital widening in a growing economy extends the existing capital per worker to new extra workers.** As a matter of fact, capital widening implies the constancy of \( \frac{K}{L} \), of \( y = \frac{Y}{L} \) and of the wage rate. Indeed, capital widening raises the question, where these extra workers should come from in a world which is characterized by full employment. **In such a world (the Solow world), capital widening only occurs in the steady state** where, by definition, the growth rate of the capital stock has adjusted to the growth rate of the labor force which equals the growth rate of the population. In a full
employment economy, population growth is the only source from where the extra workers can come from.

We can also assess **steady-state dynamics of the basic Solow model without technology**. Jones (1998) defines steady state as simply a situation where the various quantities grow a constant or perhaps zero rates. This being the case, our steady-state level of capital per worker is simply derived by setting $\dot{k} = 0$. To do this we begin from $\dot{k} = sy - (n + d)k$. By setting $\dot{k} = sy - (n + d)k = 0$, we get the following steady-state amount of capital per worker:

$$k^* = \left( \frac{s}{n + d} \right)^{1/(1-\alpha)}$$

By substituting $k^*$ into the production function we obtain the following steady-state level quantity of output per worker:

$$y^* = \left( \frac{s}{n + d} \right)^{\alpha/(1-\alpha)}$$

The above equation indicates that, ceteris paribus, countries with high savings or investment rates in the past will be richer today. These countries accumulate higher quantities of capital per worker and hence generate more output per worker. On the other hand, countries with higher population growth rates will be poorer since these countries have to utilize a higher fraction of their savings on keeping the capital-to-labor ratios high to meet the demands of a rising population. Such ‘capital-flattening’ in the transitional period impedes capital deepening and the economies accumulate less quantities of capital per worker (Weil, 2013). An important result that can be observed in steady state is that there is no long-run per capita economic growth in the Solow model since in the steady state there is no more capital deepening or capital flattening given that $\frac{K}{L}$ is constant. Moreover, in the steady state, output grows at the rate as that of capital accumulation which in turn also grows at the same rate as consumption which grows at the similar rate to that of the labor force and the population. This equality in the growth rates of aggregates which are all identical with the population growth rate implies that the levels of per capita output, the per capita capital stock, the per capita consumption are all constant. However, empirical evidence suggests that economies may continue to grow over time and this fact is one of the major weaknesses of the basic Solow model. Furthermore, Jones (1998) argues that the above Solow model suggests that savings and investment are only beneficial in the short-run period but in the long run they cannot sustain growth since diminishing returns set in.
We now analyze the role of technology in the Solow model. Solow (1956) argues that it is technological progress that generates sustained growth in income per capita in an economy. To model technology in the Solow model we introduce technology \( (A) \) in the Cobb-Douglas production function as follows:

\[
y = \frac{Y}{L} = A^{1-a} \left( \frac{K}{L} \right)^a
\]

In this production function technology, \( A \) is assumed to be ‘Harrod-neutral’ or labor augmenting. This technological progress takes place when \( A \) increases over time. As stated earlier on; technological progress is assumed to be exogenous, regardless of whatever economic activities are being undertaken in the economy. With \( A \) growing at a constant rate \( \frac{\dot{A}}{A} = g \) and hence

\[
A = A_0 e^{gt}, \text{ Where } g \text{ represents growth rate of technology. In addition to this, the fundamental Solow differential equation in this model is as before: } \dot{k} = sy - (n + d)k. \text{ In this case, output per worker can be given as: } y = k^a A^{1-a}. \text{ Now, growth rate in the output per worker under the Solow model with technology is also generated by taking logarithms and differentiating the above equation as follows:}
\]

\[
\frac{\dot{y}}{y} = a \frac{\dot{k}}{k} + (1 - a) * \frac{\dot{A}}{A}
\]

From the capital accumulation equation discussed earlier on, one can notice that growth rate of \( K \) will be constant as long as \( \frac{\dot{y}}{\dot{k}} \) is also constant. Additionally, if there is constancy in the ratio \( \frac{\dot{y}}{\dot{k}} \) then \( \frac{\dot{y}}{\dot{k}} \) will also be constant and both \( y \) and \( k \) will be expanding at the same rate over time. It must also be stated that a balanced growth path will be achieved if and only if output, capital, population and consumption are growing at a constant rate. In this case, if \( g_x \) is used to denote growth of \( x \) along a balanced growth path then: \( g = g_y = g_k \). In the Solow model with technological progress, capital per worker and output per worker will both increase the rate of technological change \( g \) along the balanced growth-path (Jones, 1998).

We can also obtain steady-state quantities in a Solow model with technology from the expression \( \dot{k} = sy - (n + g + d)k \) by setting \( \dot{k} = 0 \) as follows:

\[
k^* = \left( \frac{s}{n + g + d} \right)^{1/(1-a)}
\]
\[ y^* = \left( \frac{s}{n + g + d} \right)^{\alpha/(1-\alpha)} \]

Where \( g = \frac{A}{A} \) is growth in technology

In the above scenario exogenous technical progress allows for continuous steady-state growth over infinite periods of time provided that \( g > 0 \). So in a nutshell, one can note that in steady state, output per worker and technology depend on time. Also, along the balanced growth path the determinants of output per worker are technology, population growth and investment rate. The important conclusion from the above steady-state dynamics is that changes in population or investment only affect the long-run level of output per worker but have no effect on the growth rate of output per worker (Barro and Sala-i-Martin, 2004).

In summary, some strengths and weakness of the Solow model can now be evaluated. The first advantage is that it proposes a theory for determining how rich a country is in the long run period. In this case, the long run is equivalent to the steady state. Secondly, the model’s principle of transitional dynamics provides an intuitive means of understanding differences in growth rates across countries (Weil, 2013). Indeed, the further an economy is from its steady state the faster it will grow and vice versa. The main weakness of the model is that despite its attempt to deepen our understanding of long-run growth it has only partially succeeded in doing so. The other weakness is that the Solow model only concentrates on investment and capital but neglects an important factor, total factor productivity (TFP) which is left unexplained (Jones, 1998). The model also fails to offer a convincing explanation on the variation of investment and productivity rates across countries. In addition, the model’s principle of transitional dynamics also fails to sufficiently explain growth. Furthermore, Lucas (1990) observes that the Solow model does not adequately explain income disparities among heterogeneous countries across the globe. Also, Löwenstein and Bender (2017) observe that the Solow model’s assumption of perfectly-functioning product markets including labor markets conflicts with realities of developing countries where labor market failure is common as depicted by the prevalence of large informal sectors where poverty is also endemic.

As already pointed out; the original version of the Solow model assumes a closed economy and hence envisages no role for FDI and international trade in the growth process. However,
modified versions of the model allow for foreign capital flows to have an influence on economic growth. Among the first of such models was developed by Hans Brems (1970) and it simply adds FDI (as one form of foreign capital) as another input factor in production process of the economy. By employing an extended neoclassical growth model, the above researcher illustrated that FDI augments physical capital accumulation in the host economy and in so doing, contributes to national output growth over time. In short, economists identify the growth effects of FDI as emanating from two sources factor accumulation and total factor productivity growth. This is what is identified in the literature as the ‘direct transmission mechanism’ of FDI-induced economic growth (Neuhaus, 2006). But despite its intuitive appeal, the above approach has some important theoretical drawbacks. As already illustrated in the discussion; capital accumulation in the standard Solow model only has transitional growth effects but not permanent effects. Indeed, permanent per capita growth in the model can only be accomplished by unexplained or exogenous technical progress, as it were. Applying this concept to Brems’ extended version of the Solow model means that FDI can only generate transitional but no permanent effects on per capita income growth. This framework therefore ignores the important role that FDI plays in fostering knowledge spillovers and technological innovations from R&D activities which drive long-term output growth. This importance of FDI-induced knowledge spillovers and technological transfers is picked up by modified versions of endogenous growth models which we will not discuss in this chapter because they are not in line with the scope of our study.

4.2. Empirical literature review: some prominent empirical studies on the FDI-economic growth nexus

The empirical relationship between FDI and economic growth has of late received significant global attention in the development economics discourse. There exists a considerable amount of empirical studies done across the world using different econometric techniques and varying types of data. The majority of these recent surveys have focused on the determinants, effects, linkages and spillover channels involved in the FDI-growth nexus. Some of the most prominent and recent empirical surveys on the topic in question include those done by Caves (1996), Blomström and Kokko (1998), Hanson (2001), Lipsey (2002), Markusen (2002), Alfaro and Rodríguez-Clare (2004), Barba-Navaretti and Venables (2004), Görg and Greenaway (2004),
Moran (2007), Alfaro, Kalemli-Ozcan, and Sayek (2009), Harrison and Rodriguez-Clare (2010), Kose et al., (2009 and 2011), and Alfaro and Johnson (2012) and Alfaro (2014). Among the common FDI-growth determining factors that have been empirically investigated by these studies include: income differentials among countries, level of financial deepening, trade regimes, and the degree of foreign capital dependence. But what is emerging from this large body of literature is that there is no overwhelming consensus that FDI fosters growth or vice versa as empirical results are varied across countries and within sectors of the economy.

But in order to clearly understand the evolution of this empirical literature it is necessary to categorize the above studies into two broad groups or schools of thought. To begin with, the first school of thought seeks to understand whether FDI has any effect on economic growth. It acknowledges that the benefits of FDI-induced growth are not automatic but are dependent on the existence of complementary policies and conditions that enable domestic firms, regions and host countries to effectively absorb these positive spillovers. This being so, this school of thought does not unearth exogenous effects of FDI-induced growth but instead finds conditional positive or negative impacts depending on local characteristics such as trade policies, institutional quality, human capital, domestic financial markets, sector characteristics and composition and the market structure. Under this strand, studies which have results showing conditional positive FDI-effects on growth include those of Balasubramanyam et al., (1996 and 1999), De Mello (1999); Borensztein et al., (1998); Blomström and Kokko (2003); Durham (2004); Alfaro et al., (2004 and 2010); Moran (2007); Bénassy-Quéré, Coupet, and Mayer (2007); Aykut and Sayek (2007); Bruno and Campos (2013); and Alfaro and Charlton (2013); On the other hand, others such as Dixon and Boswell (1996); Kentor (1998 and 2003), Lipsey (2002); and Görg and Greenaway (2004); and Sakar (2007) find negative or no consistent effects, indicating weak evidence of the FDI-GDP growth relationship.

In contrast, the second school of thought is primarily interested in analyzing how FDI influences growth by taking into consideration interactions not only in the host-country’s labor-market but also between MNCs and local firms. This strand is awash with empirical literature examining the how different types of FDI impact on economic growth. The main fields of interest include: the sector of investment, form of foreign investment and the origin of the FDI. They include the
following studies: Haddad and Harrison (1993); Aitken, Harrison, and Lipsey (1996); Feenstra and Hanson (1997); Girma, Greenaway, and Wakelin (1999); Lipsey and Sjöholm (2001); Calderón, Loayza, and Servén (2004); Sjöholm and Lipsey (2006); te Velde and Xenogiani (2007); Harrison and Rodríguez-Clare (2010); Neto, Brandão, and Cerqueira (2010); Harms and Méon (2011); Girma and Görg (2007); Javorcik and Spatareanu (2008 and 2011); Alfaro (2003); Merlevede, Koen, and Spatareanu (2013).

Ambiguity in the empirical results of the above studies confirms the well-known fact that assessing the impact of FDI on economic growth in host countries is an arduous task. But it must be pointed out that the divergence in the empirical results at both the macro and micro levels could be a consequence of using different analytical variables, errors in estimation, and exclusion of some important host-country conditions. A summary of some of the seminal studies on the macro-impacts of FDI on growth conducted in several countries across the globe is presented in Appendix C.

4.3. FDI, Welfare and Poverty Reduction

From a general perspective, it is widely accepted in the literature that, on average, FDI enhances national welfare by paying higher wages to workers relative to domestic firms in host countries (Blomström, 1983; Aitken, Harrison, and Lipsey, 1996; Girma, Greenaway, and Wakelin, 1999; Lipsey and Sjöholm, 2001; Sjöholm and Lipsey, 2006). This is made possible by the fact that, on average, MNCs have higher productivity relative to domestic firms. These higher wages ensure that a sizable percentage of the FDI-induced GDP growth is captured by MNCs’ local workers thereby significantly increasing the host-country’s welfare level (Alfaro, 2014).

But more specifically, the World Bank (2000) observes that even though economic growth has the potential to benefit the poor in every society, there are some important policy actions that need to be implemented to translate output growth over time into a poverty reduction and welfare-enhancing mechanism. FDI has therefore been touted as one of the vital tools for improving the standards of living because of its ability to not only generate GDP growth but also to reduce the poverty and inequality (i.e. contribute to inclusive growth). The Bank argues that FDI accelerates inclusive growth and hence reduces poverty through the following means:
• Stabilizing the fluctuation of capital flows and incomes
• Enhancing distribution of assets and incomes when a country is undertaking privatization
• Improving social and environmental standards of host countries
• Enhancing social safety nets and basic social service delivery to the poor and marginalized

4.3.1. FDI’s role in protecting the poor from bad investment decisions and reducing financial volatility

It is argued that in the absence of well-functioning competitive markets the gains from FDI may be transferred abroad to the detriment of the host-economy. But because of its affinity for competitive markets structures, FDI ensures that its share earnings are commensurate with the performance of its equity investment, so that MNCs lose out when their projects fail and gain when their investment succeeds (Vernon, 1977). This is unlike other forms of financing such as foreign loans and debts which always benefit the creditors regardless of the performance (i.e. success or failure) of their projects because they are guaranteed by host governments and hence the poor masses who form the majority of these countries’ citizens. With FDI, therefore, poor taxpayers in the host countries rarely shoulder the repayment burden and hence seldom suffer the effects of bad investment decisions made by foreign investors because losses are normally absorbed by the MNCs and their foreign equity shareholders.

On top of this, economists observe that not only is the host-country’s risk profile with FDI much better than with foreign loans but also that FDI provides better incentives for investors to evaluate projects. Indeed, empirical evidence suggests that foreign investors unlike other types of investors stick to their investment projects more consistently because FDI flows are more stable relative to debt and portfolio flows. Even though FDI can sometimes be more volatile relative to domestic capital because of the “footloose behavior” (i.e. frequent re-location) of some MNCs, but when compared to other forms of private capital flows (e.g. debt and portfolio flows), FDI seems to be most stable. As such, World Bank (1999) and Klein et al., (2001) argue that among all cross-border private capital flows, FDI is the most likely to positively contribute to economic
growth since it is the least volatile, most available to developing countries, and least likely to burden poor taxpayers with debt repayment. Furthermore, available empirical evidence suggests that during financial crises, MNC subsidiaries respond better and recover faster relative to domestic firms because of their production links and intra-firm financial links with parent firms. This can help to alleviate the impact of financial crises on developing host countries (Alvarez and Görg, 2007; Desai, Foley and Forbes, 2008; Alfaro and Chen, 2012).

4.3.2. FDI and promotion of improved corporate governance

Djankov and Murrell (2000) observe that compared to other cross-border capital flows, FDI provides a more efficient type of equity in host countries where weak corporate governance is rampant. The above researchers argue that many MNCs are more compliant with social corporate rules and regulations than domestic firms. This adherence reduces risk of portfolio equity expropriation by insiders and inefficient asset stripping which in turn raises productivity and reduces poverty levels. Likewise, apart from reducing the likelihood of minority shareholder expropriation, foreign-owned firms tend to encourage more equitable shareholding by locals in countries with weak corporate governance frameworks. Similarly, by encouraging workers to hold shares in the MNC, FDI has triggered rises in both productivity and wages in some Eastern European countries, unlike domestic firms controlled by dispersed minority owners (Djankov and Hoekman, 2000). Rueda-Sabater (2000) presents similar empirical evidence on the relationship between inward FDI and corporate governance in low-income host countries across the globe. Such evidence suggests that FDI by improving corporate governance indirectly assists in not only boosting firm productivity but also equitably redistributing the benefits of such increased productivity among host-country workers.

Klein et al., (2001) state that the ability of FDI to improve corporate governance in host countries also derives from the capacity of foreign investors who unlike their domestic counterparts are less attached to vested local interests which may breed corruption. This ability to shun away from corruption-infested projects may stem from the MNCs’ desire to protect their international reputation unlike domestic investors that have no international image to protect (Drabek and Payne, 1999; Smarzyanska and Wei, 2000; Habib and Zurawicki, 2002; Bénassy-Quéré, Coupet,
and Mayer, 2007). Additionally, MNCs’ limited connection with local vested socio-economic and political interests may enable them to break economic barriers such as opening up high-paying employment opportunities to women who may otherwise not access these openings in domestic firms. This improves the distribution of output expansion and thereby reduces poverty as growth benefits equitably permeate across sectors of the host country.

4.3.3. FDI and better social and environment standards promotion

Apart from transferring more ‘cleaner technologies’, FDI also has the potential to raise environmental and social standards in host countries many of which have their standards falling short of the minimum international requirements. This is so because foreign MNCs unlike domestic firms can afford to maintain higher and better social and environmental standards simply because of their higher productivity. The world over, large foreign multinationals are now coming under increasing pressure from civil society organizations and other lobbyists to raise their environmental and social safety standards in developing countries. Threats of boycotts and legal litigation compel MNCs to abide by international social and environmental regulations in many developed economies (OECD, 2002). The presence of perfectly competitive market structures enables consumers in rich countries to boycott products of non-compliant MNCs in favor of their competitors at a very low cost. This is why many MNCs have a strong interest in raising and maintaining internationally-accepted standards in host economies. In turn, this puts pressure on host countries also to not only raise their standards but also to enforce these throughout the economy for fear of losing environmental and social-conscious FDI through a process called ‘race to the top’ (Oman, 2000; Bhagwati, 2007). But it must also be stated that there are assertions that inward FDI may worsen environmental conditions in host countries especially in poor host-countries. This argument which is commonly referred to as the ‘pollution-haven’ hypothesis or ‘race-to-the-bottom’ hypothesis argues that multinationals particularly those undertaking highly polluting activities prefer relocating to host countries with weaker or less stringent environmental standards (Xing and Kolstad, 1997). But despite the plausibility of this thesis, empirical literature finds very weak evidence in support for the “pollution haven” hypothesis across the world (Dean, 1992; Eskeland and Harrison, 1997; Zarsky, 1999; Wheeler, 2000; Smarzynska and Wei, 2001).
With this, therefore, there seems to be reasonable consensus among researchers that the driving force behind FDI’s impact on improving environmental and social standards is improved productivity. With enhanced production systems MNCs accumulate more profit and hence can afford to maintain their high standards. This in combination with effective competition enables foreign investors to pass on the benefits of better environmental standards to domestic firms which may enhance inclusive economic growth in the host economy overtime. Welfare improvement in the host country also becomes possible because not only does GDP growth become rapid and sustainable but also that the better environmental standards protect the poor from the negative effects of MNCs’ production activities such as pollution (OECD, 2002).

4.3.4. FDI and enhancement of social safety nets for the poor

It must be stated in passing that even though FDI plays a vital role of spurring growth and raising wages but it does not directly redistribute the economic growth effects to the poorest groups in society. However, what FDI does is to create enabling pre-conditions for the growth benefits to reach the poor by among others, generating corporate tax revenue for the host country government and by broadening the tax base through increased national productivity; resources from which can be utilized to fund social security and safety net programs. Through their social corporate obligations, foreign investors may also assist in financing social and infrastructure programs in the areas where their business operations are located, and these may socio-economically uplift the lives of poor people (Klein et al., 2001).

Likewise, FDI in utilities such as water, electricity and telecommunication sectors of host countries can help in efficient social service delivery to millions of their citizens. Due to their superior technical and organizational acumen relative to domestic investors, foreign investors are more suited to private provision of social services and infrastructure through running of utilities. This can go a long way in generating GDP growth in and improving socio-economic welfare in LDCs, most of which are hindered by persistent power and infrastructural shortages.
4.4. FDI and Income Inequality

A careful review of the literature suggests that the linkage between inward FDI and income inequality is quite complex, involving many transmission channels. But nevertheless, the impact of FDI on income inequality can be simply analyzed by dividing the foreign investment effects into two groups: wage effects and non-wage effects. On wage effects, there seems to be a heated debate in the literature on whether FDI increases inequality in host-developing countries. Economists who argue that FDI reduces wage inequality base their argument on the Heckscher-Ohlin model of international trade which basically predicts that since foreign investment allows developing countries to specialize in less-skill-intensive activities due to their labor-abundant endowment, it equalizes factor prices such as wages in the long-run and hence reduces inequality. However, empirical evidence seems not to support the occurrence of complete factor-price equalization because of not only huge differences in resource endowments and levels of technology among and within host countries but also due to the existence of barriers to international trade such as transport costs, tariffs, and import quotas (Krugman et al., 2009).

On the other hand, proponents of the perspective that FDI induces wage inequality base their views on four arguments: skill-specific wage bargaining, skill-specific productivity change, education and training, and composition effects. According to te Velde (2001) highly-skilled multinational workers are in a better position than their less-skilled colleagues to negotiate for higher wages from the MNCs because they possess more scarce production expertise as well as better negotiation skills than the other groups. Furthermore, Berman and Machin (2000) point out that since FDI sometimes drives up rapid productivity growth in labor for both multinationals and local firms, it may lead to skill-biased technological change and hence higher wages to more-skilled workers than the less-skilled ones. Additionally, FDI also increases wage inequality in host countries through education and training which in most cases targets more skilled laborers than the less-skilled ones; as such it directly contributes to large and persistent wage differences between these two groups of workers (te Velde and Xenogiani, 2007). On the same, Feenstra and Hanson (1995) argue that since most MNCs unlike local firms prefer to set up their production plants in skill-intensive sectors of host economies, their productivity increases only
serve to increase wages of skilled workers at the expense of the less-skilled workers hence exacerbating wage-inequality gulfs throughout these countries.

Apart from wage inequality, FDI also significantly impacts on non-wage income inequality. According to Weeks (1999) FDI may sometimes drive up profits and capital returns above that which alternative incomes such as those earned by the self-employed and full-time laborers. The above researcher contends that if real wages decline because of other macroeconomic factors such as inflation, this may result in increased inequalities as capital owners benefit more from the real wage decline relative to employees. This was very evident in Latin America in the 1980s and 1990s where economic reforms only benefited capital owners to the detriment of workers. FDI may also have indirect impacts on non-wage income inequality through its influence on host-country revenues and expenditures. Productivity expansions and declines of MNCs may critically affect the amount of taxation host countries collect from these firms and may in the long run affect the host governments’ expenditure patterns. The changes in tax revenue will have a direct impact on state spending on social protection and social security that insulates the poor from negative effects of foreign investments and macroeconomic shocks in general.

FDI may also impose both positive and negative impacts on gender equity in host countries. On a positive note, if FDI is channeled towards economic sectors with a higher concentration of female employees such as textiles and electronics assembling, it may enhance economic opportunities for women (Braunstein, 2006). Empirical evidence provided by studies done by Braunstein and Epstein (2002) and Joekes and Weston (1994) appear to confirm the above view. These studies reveal that FDI in labor-intensive and export-oriented sectors has in most cases increased the proportion of female workers in host-countries’ total labor force. But there is also evidence suggesting that FDI may increase inequalities within sexes if, for example, multinationals invest in skill-intensive sectors since this will only benefit better-educated women to the disadvantage of their less-educated peers who form most of the host-country population. Also, since most female employees seem to dominate lower-paying sectors than male employees, Braunstein (2006) argues the positive FDI effects on gender equity in form of employment creation may be offset by the FDI-driven negative wage pressure, as more women will be employed in lower-paying jobs.
4.5. The FDI and Inclusive Development Debate

There is considerable degree of disagreement among development economists on the benefits and costs that FDI imposes on host countries through MNCs. Much as the impact MNCs have on macroeconomic variables such as savings, GDP, investment and manufacturing seems to arouse less controversy, the same cannot be said about the nature and character of the desirability of the FDI-led inclusive economic development. Thus, most of the disagreements center on whether or not the FDI-induced outcomes are socially and economically desirable to the host nation. The discussion below briefly describes some of the main positives and negatives of FDI.

4.5.1. Traditional economic arguments in support of FDI

4.5.1.1. Filling savings, foreign-exchange, revenue, and management gaps

As discussed earlier on; despite the original formulations of post-Keynesian growth models envisaging no direct role for FDI in the growth process; however, some modifications to these models point out that inward FDI may supplement the insufficient level domestic savings in host countries. In this case, FDI can be said to be contributing to sealing the resource gap between targeted investment and locally mobilized savings (Todaro and Smith, 2014). Also, though the original version of both the Solow model had a closed economy in mind, however some extensions of these models show that FDI as a form of foreign capital inflow can augment the capital accumulation process in the host country thus indirectly contributing to output growth over time in the host country (Brems, 1970).

In addition to this, inspired by modified versions of the Two-Gap model, adherents of the FDI-led development agenda argue that foreign investment inflows can contribute to closing the gap between the desired foreign exchange requirement and those realized from net-export earnings from international trade. This gap is commonly referred to as the trade gap or foreign exchange gap. FDI inflows can contribute to filling of the trade gap on the balance of payment (i.e. current account) over time if, for example, MNCs operate in export-oriented sectors thereby generating net positive inflows of export revenue to the host economy (Tan, 1995). But this does not work
under an import substitution regime where MNCs operate in an economic environment protected by tariff and quota barriers and produce for consumption. Its net effect is the widening of the trade gap which in the end worsens the host-country’s BoP position. The importation capital goods from the MNCs’ external affiliates at inflated prices and the foreign exchange outflows through overseas payments and repatriation may also serve to worsen both the host-country’s BoP position. Empirical evidence suggests that a sizeable number of MNC production operations in LDCs involve labor-intensive value addition which drains foreign exchange as a result of re-exportation (Todaro and Smith, 2009 and 2014).

The fiscal gap is another important deficiency that FDI can contribute to its closure. FDI can play a vital role in bridging the difference between the targeted tax revenue and other domestically mobilized tax revenues. Host governments can not only easily mobilize financial resources by imposing corporate and other taxes on the profits and operations of MNCs but can also financially participate in joint ventures with these foreign firms. This would boost domestic resource mobilization in host countries (Bacha, 1990; Shapiro and Taylor, 1990).

FDI is also commended for filling the gap that exists in entrepreneurship, technology, management and human capital in many developing countries. Through their immense, technical and financial muscle MNCs possess the capability to transfer a bundle of these managerial, entrepreneurial, technical and organizational expertise to their local affiliates in developing countries through labor-force training and vocational programs but also through ‘learning by doing’ methodologies (Balasubramanyam, 2001; te Velde and Xenogiani, 2007).

Indeed, supporters of the FDI-led development agenda argue that FDI has the capacity to impart skills of locating alternative sources of supply and foreign financing, diversifying markets and international marketing to managers of their local affiliate firms. This contributes to bridging all the above gaps. In addition, MNCs can also transfer modern technology required to improve productivity in capital-deficient host countries. There are also arguments suggesting that the transferred knowledge may spillover to the rest of the economy when managers of local MNC affiliates quit and establish their own firms or simply join other local firms. This knowledge
transfer can raise the aggregate productivity in the host country hence generate GDP growth and create employment opportunities (Javorcik, 2011; Alfaro, 2014).

4.5.2. Welfare-related criticisms against FDI

Despite the above stated advantages, FDI is criticized by economists who view it as a hindrance to socio-economic development because it widens the very same gaps it was supposed to fill such as the savings, foreign exchange, fiscal and managerial and technological gaps. Apart from the strictly economic arguments against FDI, there are also ideological and philosophical criticisms mostly advanced by Dependency theorists who view the activities of MNCs as neo-colonial and only aimed at exploiting and keeping LDCs subservient to the West and hence underdeveloped. The discussion below presents the economic arguments against the gap-filling justifications of FDI.

Firstly, critics argue that FDI results in crowding-out of domestic investment by local firms since foreign firms mobilize most of their capital locally, from the host-country’s financial institutions. In fact, MNCs use their size of operations to dislodge local firms from capital markets (Harrison and McMillan, 2003). Furthermore, even though foreign firms may sometimes generate capital, they may also diminish the domestic savings and investment levels. This domestic savings/investment reduction is achieved through the following ways: by substituting for private savings levels, signing of exclusive production treaties with host countries and hence eliminating effective market competition, repatriation of most of their earnings instead of reinvesting them in the host country, stifling growth of local firms by importing inputs that can easily be sourced locally and encourage income inequality by increasing incomes of groups of people with lower savings propensities. These activities in the end widen the savings gap in the host economies and hence curtail their GDP growth (Lall and Streeten, 1977).

MNCs are also accused of widening the foreign-exchange gap through their importation of intermediate products and capital goods most of which can easily be produced within the borders of the host countries. This results in current account losses for host countries since the importation is done in hard currencies such as US dollars or Euros. Similar losses are incurred in
the host-countries’ capital accounts when MNCs repatriate most of their profit earnings, interest, rent, royalties and other fees to overseas countries where they are headquartered i.e. home countries (Lindblad, 1998 and Palan, 2000, Alfaro, 2014).

Furthermore, FDI contributes to increasing fiscal gaps in developing countries as a result of tax concessions and holidays, disguised subsidies, huge investment incentives and tariff protections MNCs sign and agree with host governments. On the same note, foreign firms extensively engage in transfer-pricing activities which rob the host countries of valuable tax revenues. Critics therefore argue that even though host governments may get corporate tax-revenues from the operations of MNCs, their contribution is far much less than the surplus value foreign firms take out of the host economy (Frank, 1969; Cardoso, 1972; Hanson, 2001).

Some economists argue that the technical and knowledge transfers MNCs provide to host countries may sometimes constrain the growth and development of local entrepreneurship because of the foreign firms’ over-domination of domestic markets. These transfers may in the end have very minimal and at times negative impacts on local resources and hence the aggregate productivity of the host country. The result is diminished economic growth and development (Harrison and McMillan, 2003).

4.5.3. Ideological and philosophical arguments against FDI

On the ideological and political front, several accusations have also been levelled against the activities of foreign firms with respect to development of their host countries. Critics argue that MNC activities encourage and reinforce the development of dualism in host countries, where two regions with different levels of development and income levels are encouraged to exist side by side. This is so because MNC activities tend to promote the interests of influential minority groups in developing countries, such as elites, by paying such groups higher wages relative to the others especially workers in traditional sectors of the economy. These wage differentials encourage income inequalities, rural-urban migration, and uneven development in these host countries. MNCs also oftentimes divert local productive resources needed for agriculture to the manufacture of luxury goods that only satisfy the needs of the elite both in the host country and
abroad. This in the end may contribute to food insecurity, extreme deprivation and hinders socio-economic transformation in the host LDCs (Todaro and Smith, 2014).

Another significant drawback of FDI is that it creates very little employment opportunities and sometimes worsens the employment situation in developing countries. Critics argue that MNCs contribute to this situation through their production of inappropriate goods and services which are only needed by the minority elite, encourage inappropriate consumption patterns through advertising and their strong market power. On top of this, production of the above goods is largely accomplished using capital-intensive technologies in labor-abundant but human capital-scarce host economies (Tsai 1995; Lewellen, 1995).

Dependency theorists further observe that since MNCs promote dualistic development and their productive activities are geared towards satisfying the demand of the minority elite, local productive resources in host countries are misallocated to socially and economically undesirable projects and programs. As a result, this only serves to exacerbate the income inequality levels in the developing world and hinders the efforts of host governments to curb growing differentials between urban and rural economic opportunities and hence stem rural-urban migration flows (Lall and Streeten, 1995; Frank, 1969).

On another note, Todaro and Smith (2009 and 2014) argue that MNCs use their economic might to influence policy decisions of host-countries to suit their own interests and not that of the citizens of these countries. Through their rent-seeking behavior some MNCs entice ruling elites in LDCs to grant them economic and political concessions such as tax rebates, protection from competition, excessive investment incentives, cheap provision of land to construct their industries and even social services. This negatively impacts on socio-economic development because MNCs activities impose private social costs which are higher than the private benefits they offer to the host country. Additionally, through transfer-pricing tendencies MNCs evade higher taxes in host countries by shifting their taxable profits to other LDCs with lower taxation regimes. This results in high revenue losses on the part of the host countries many of which are heavily reliant on taxes to finance their economic development projects.
Some socio-economic commentators also argue that MNCs harm the economic structures of their host countries through stifling of domestic investment and utilizing their superior financial power, global contacts, technical know-how, advertising prowess and other support services to force out the market local rival firms and other small and medium-sized enterprises (SMEs). This crowds out domestic investment and reduces GDP growth. In the same light, some MNCs have been accused of practicing asset-stripping in developing countries. Through participation in privatization, some mega-foreign firms have been able to use their superior financial acumen such as debt-for-equity swaps to cheaply purchase state-owned enterprises in host countries. The acquisition of these state-owned corporations has hindered effective provision of essential social services such as water, electricity and telecommunications to most of the host-countries’ impoverished population which cannot afford the services, since the MNCs are only interested in maximizing their return to capital without any regard to social obligation the corporations used to fulfil. Critics argue that this negatively affects socio-economic development (Djankov, 2000, Todaro and Smith, 2009).

Some observers state that powerful MNCs can gain control of strategic local assets and employment opportunities that can enable them to influence local politics and decision-making processes. Chile’s experience with International Telephone Telegraph (ITT) in the 1970s provides an illuminating example of how multinationals can bribe local elites and finance ‘friendly local parties’ in order to influence government policies and public opinion in their favor. This may be detrimental to inclusive development since such FDI-induced benefits often times only accrue to the minority elite at the expense of the impoverished majority (Kline, 1992).

In conclusion therefore, criticisms against the negative role FDI plays in economic development through MNC activities can be summarized into the following arguments: stifling international income flows and worsening host-country BoP position, disruption of domestic production, low and inappropriate technology transfers, encouragement of inappropriate consumption patterns, disruption of social structures and exacerbation of economic stratification, worsening of income inequalities and promotion of dualistic development.
4.5.4. Reconciling the advantages and disadvantages of FDI

From the foregoing discussion it appears that there is considerable disagreement in the literature on the impact of FDI on economic development. Even among critics, while some base their critical views around different ideological and normative judgements about nature, source and definition of development (e.g. section 4.5.3), but others present their criticisms from empirical research and not ideological differences per se (e.g. sections 4.2, 4.4., and 4.5.2). In contrast, most of the staunch supporters of FDI are free market economists who strongly believe in the power of the market to efficiently solve economic development challenges without the direct intervention of the government. But empirical evidence shows that MNCs tend to be monopolistic and oligopolistic and achieve price-setting through international bargaining and collusion which goes against the free-market economics. The above critics of the FDI-driven economic development hypothesis are mostly motivated by the belief in sovereignty of host countries over their domestic economic activities and the desire to avoid and reduce exploitative dependency relationships between MNCs and the host countries. Such critics argue that these mega-foreign firms are conduits of dependency and anti-development because they reinforce dualism and worsen income inequalities by producing inappropriate goods and services, as well as technology. Since they view MNCs as agents of neo-colonialism by Western countries, these critics advocate for more tight regulation and control of foreign investment, more uncompromising stance by host countries when bargaining with MNCs to get fair deals, implementation and reinforcement of strict quality requirement standards and greater domestic leverage on the ownership of MNCs. Some radical theorists argue for tighter government control on the terms and conditions of foreign investment (Frank, 1969; Cardoso, 1971). However, empirical evidence from South America and Tanzania shows that indigenization of foreign investments through forcing MNCs to relinquish ownership of business ventures reduces FDI inflows. Among developing countries, it is only China that has so far successfully applied these indigenization policies largely because of its large market size and its global economic and political might (Todaro and Smith, 2014).

In contrast to the widely held belief by mostly Marxist economists that FDI displaces (‘crowds out’) local firms from domestic credit markets through over-borrowing, empirical evidence from
several developing host-countries suggest otherwise. In fact, Harrison, Love and McMillan (2004) find that foreign multinationals ‘crowd in’ financial resources for local firms when they enter host countries, implying that as FDI flows in, the volume of credit to local firms rises.

But it appears that the main criticism levelled against FDI is that MNCs exploit workers in developing countries by paying ‘low and inadequate’ wages relative to the earnings and general economic power of these large foreign corporations. However, the above argument does not stand up to empirical evidence which clearly points to the fact that, on average, MNCs offer workers in developing countries higher wages than what these employees would get from alternative employment elsewhere, for example in local firms or self-employment. In fact, empirical studies such as those done by Blomström (1983), Haddad and Harrison (1993), Aitken, Harrison, and Lipsey, (1996), Lipsey and Sjöholm (2001), Sjöholm and Lipsey (2006), and Harrison and Rodriguez-Clare (2010) show that many MNCs pay a wage premium which is an average wage that is above the local going-wage. These studies found that on average the premium wage offered is 10 percent higher than local wages but some US multinationals operating in LDCs even offered a premium wage in the range of 40 to 100 percent. The same evidence was found for subcontractors acting on behalf of MNCs. So, if one takes into consideration the imperfectly-functioning labor markets and the no full-employment situation that is prevalent in many developing host-countries, the above FDI-induced higher productivity and higher wages (by host-country standards) could enable the fruits of foreign investment to be shared by many people in the host county and thus raise national welfare.

Even though the above raging debate appears far from being settled, it is clear that FDI can only meaningfully contribute to inclusive development if there is some congruence between the profit-maximizing objectives of foreign firms and development aspirations of host countries. The most plausible solution lies in striking a delicate balance between strengthening the bargaining power of developing host-countries through some targeted coordination of FDI activities and providing conducive environment to maintain the profitability of MNC operations. There is now growing acceptance globally of the role corporate social responsibility (CSR) as one of the ways of forcing MNCs to give back some of their profits to the host-countries’ socio-economic development agenda. Bhaghwati (2007) suggests that multinationals’ CSR activities can be
effectively implemented through three ways: ‘social norming’, voluntary codes, and compulsory codes. These methods exert both indirect and direct pressure on the MNCs to not only give back to host countries some of their earnings as a gesture of altruism but also uphold internationally acceptable social and environmental standards. With the rapid socio-economic development taking place in many LDCs combined with the global popularity of FDI there is a need for host countries and their MNC counterparts to find a ‘win-win’ solution on how their broad-based development aspirations and profit-maximization ambitions, respectively can be achieved simultaneously.

4.6. Chapter summary and conclusion

The foregoing discussion has given both the theoretical and empirical link between FDI and inclusive growth. The chapter began with a discussion on some of the major economic growth models and the role FDI plays in fostering growth. Likewise, some of the major empirical studies undertaken globally on the FDI-economic growth nexus were also reviewed. Thereafter the connection between FDI, welfare and inequality were also discussed in detail. The chapter concluded by examining the major pros and cons of the FDI in fostering inclusive growth and development. What is emerging from the above discussion is that FDI, on its own, is not a panacea but an integral part to achieving inclusive development. For it to catalyze GDP growth, boost welfare and reduce inequality; host-country policies and objectives of foreign investors should be complementary.
CHAPTER FIVE

FDI AND ECONOMIC DEVELOPMENT IN ZAMBIA AND MALAWI IN THE POST-COLONIAL ERA

5.0. Chapter overview

This chapter presents an account of post-colonial experiences of Malawi and Zambia with regards to FDI and economic development from 1964 to date. More specifically, an in-depth analysis of the major macroeconomic developments that have characterized the post-colonial era in the countries is discussed. In addition, a chronicle of the major policy reform actions undertaken after independence with regards to FDI promotion and economic development in both countries is presented as a way of offering important insights into the status of the growth situation and investment climate. The chapter concludes by discussing the main constraints hindering the achievement of economic development and foreign investment promotion in the two countries.

5.1. FDI and Macroeconomic Performance in Malawi

5.1.1. Overview of Malawi’s economy and recent macroeconomic developments

Malawi is a low-income Southern African nation with a population of 16.8 million and per capita income of US$381 as of the year 2015. This low-income status is reflected in its low socio-economic welfare levels as the country’s poverty head-count ratio and human development index currently stand at 50.7 percent and 0.445 respectively. Since British colonial times, Malawi’s economy has been heavily dominated by agricultural commodity exports primarily tobacco, sugar, tea, and cotton. Agriculture contributes approximately 30 percent to Malawi’s GDP while the service sector constitutes another important vital economic sector that makes up 28 percent of its national output. Manufacturing and mining are still in their infant stages even though the latter has of late been growing steadily with the opening of several uranium, niobium, and heavy sand mines in the country (World Bank, 2016).
Since gaining independence from Britain in 1964, Malawi has registered fluctuating economic growth rates mainly due to its over-reliance on primary agricultural exports, global economic shocks, low agricultural productivity, and poor macroeconomic management. Robust growth rates of about 6 percent experienced in 1960-1980 were replaced by rapid output declines in the late 1980s to 1999 as the fall-out from the debt crisis, structural adjustment program (SAPs) and macroeconomic mismanagement set in (Lea and Hanmer, 2009). But with the support of multilaterals, the Malawi Government undertook several macroeconomic and structural reforms aimed at realigning its economy in the early 2000s. This combined with favorable climatic conditions and high export prices on the world market propelled Malawi’s GDP to grow at a rapid but sustained rate of 7 percent between 2004 and 2011.

However, the decade of rapid economic growth came to a halt in 2011 as macroeconomic mismanagement and worsening human rights record resulted in suspension of foreign aid, foreign exchange and fuel shortages, rising inflation and declining GDP. The new government that came into power in mid-2012 undertook a series of bold economic reforms aimed at restoring macroeconomic stability and accelerating growth. These reforms included a 40 percent devaluation of the domestic currency, market liberalization of foreign exchange, implementation of floating exchange rate policy, adoption of automatic fuel price adjustment mechanism, and implementation of a short-term stabilization policy called ‘the Economic Recovery Plan (ERP)’. Fruits of these measures were realized almost instantly as economic growth picked-up again in late 2012, the investment climate improved, foreign aid inflows resumed and shortages in foreign exchange and fuel supply were eliminated. But, the above macroeconomic reform gains were quickly wiped out when a large-scale theft of public funds by civil servants, business persons and politicians was discovered in mid-2013, in a scandal dubbed ‘Cash-gate’. Consequently, foreign aid was cut once again by the majority of the country’s Western donors and inflation rate sky-rocketed from 4.3 percent in 2012 to 24.5 percent in 2014; thus significantly denting the country’s growth prospects (World Bank, 2015).

The above shocks together with government’s slippages in implementing monetary and fiscal reforms has greatly hindered the achievement of key milestones of Malawi’s inclusive development goals under the Malawi Growth and Development Strategy (MGDS) framework such as increased GDP growth, reduced poverty levels and inequality, and low inflation. The
investment climate together with donor confidence has remained low as concerns over government’s weakness to implement public financial management (PFM) reforms persisted in the 2014/2015 period. Malawi’s macroeconomic outlook has subsequently remained cloudy mainly due to the continued foreign aid freeze, running inflation rates, negative weather shocks the country is experiencing, and the decline in global exports demand. But despite the above hurdles economic growth rate was still expected to remain robust at approximately 5.5 percent in 2016 (IMF, 2015). The figure below depicts some recent trends of Malawi’s macroeconomic indicators such real GDP and inflation relative to selected Sub-Saharan African countries.

Figure 5.1: Real GDP growth rates and inflation in Malawi and some Sub-Saharan African countries


5.2. Post-colonial FDI Promotion and Economic Development Policies in Malawi

Soon after attaining self-rule from Great Britain in 1964, the newly independent Government of Malawi placed foreign investment attraction as one of the cornerstones of its economic growth and development agenda. Policy makers realized at the onset that the country’s domestic savings, tax revenue and export earnings were inadequate to finance the socio-economic transformation of its impoverished population. Therefore, among some of the most important macroeconomic objectives set by the post-colonial government of Malawi was the attraction of FDI in order to supplement the inadequate domestic revenues necessary to kick-start economic development. It
is therefore not surprising to note that FDI promotion has been at the heart of all the national development programs that the Government of Malawi has produced and implemented since independence. Chirwa and Zakeyo (2003) and Magalasi (2009) summarize the major FDI-related macroeconomic policy actions put in place by the Government of Malawi from 1964 to early 2000s into three major categories: the pre-reform period (1964-1980), reform period (1981-1994), and post-reform period (1995-to date) which are hereby discussed below.

5.2.1. The pre-reform period (1964-1980)

During this period the Government of Malawi actively controlled investment (both foreign and domestic) and other macro-economic activities. The rationale was to create conducive platform on which long-term economic development could be based. To this end, the government set up two state-owned companies namely Malawi Development Corporation (MDC) and Agricultural Development and Marketing Corporation (ADMARC) to spear-head investment and agro-led development, respectively. MDC handled all the domestic and external investment issues, laying down the investment regulatory framework and coordinating wholly government-funded investment projects and sometimes partnering with multinationals in large infrastructural projects. However, it must be stated in passing that since the pre-reform phase coincided with the height of the Cold War period and Malawi being pro-capitalist economy, FDI in the country was only restricted to MNCs originating from the capitalist bloc while those from the socialist/communist bloc were barred from the country.

Moreover, ADMARC was mainly concerned with purchasing of agricultural commodities from mainly small-holder farmers and selling produce and farm inputs at a relatively small profit margin. It also acted as a state-owned marketing board dictating the agricultural price structure and thus the demand and supply of agro-products in the country. The pre-reform era in Malawi was also synonymous with active state intervention in the macro-economy. The rationale was to create conducive investment climate through macro-economic policy actions aimed at achieving low and stable inflation and interest rates and fixing the exchange rate, among others.
During this pre-reform phase especially in 1960s and 1970s, Malawi also briefly experimented with import substitution industrialization (ISI) when it actively encouraged foreign investors to domestically manufacture previously imported commodities. The state offered MNCs incentives including tax holidays, concessions and other preferential privileges in order to woo them to set up factories in the country. Additionally, the government through MDC not only partnered with multinationals but also single-handedly financed some strategic ISI projects.

5.2.2. The period of macroeconomic policy reforms (1981-1994)

Policy action during this period was heavily influenced by the World Bank and IMF’s Structural Adjustment Programs (SAPs). Due to the fallout-out from the debt crises of the 1980s anemic growth rates as well as poor macroeconomic performance mainly resulting from declines in global export prices and, Malawi like other LDCs was forced to adopt SAPs in order to get her economy back on track. SAPs in Malawi were mainly concerned with economic liberalization and restructuring, and privatization of state-owned enterprises (SOEs). This therefore meant that FDI was actively encouraged through privatization of parastatals and general economic liberalization. The government sold-off part or in certain instances its entire stake in state-owned corporations to foreign investors. The above state divesture implied that MDC’s grip on the country’s investment arena was greatly weakened and ADMARC’s core aims were redefined to move away from social enterprise obligations to more commercial endeavors. Among the landmark FDI achievements that occurred during this period was the massive entry of multinationals into the manufacturing sector in 1991, signing of bilateral trade and investment agreements with South Africa in the same year and the reduction in trade tariffs to a maximum level of 75 percent in 1994 (Chirwa and Zakeyo, 2003).

5.2.3. The post-reform Period (1995-to-date)

According to Magalasi (2009) the post-reform phase was inter-twined with the advent of multi-party democracy in Malawi (i.e. in 1994) and the superseding decade of poor macroeconomic performance that immediately followed political pluralism in the country. Fiscal indiscipline by the government coupled with declines in world-export commodity prices sharply reduced GDP
growth rates in Malawi. In order to acquire stabilization credit from multilateral organizations as a way to revive its ailing economy, Malawi was forced to carry out extensive market reforms and liberalization. But it must also be pointed out that the overriding macroeconomic policy during this period was economic growth without much consideration for the equitable distribution (non-inclusive economic growth). At this time the Government of Malawi put into action several important macroeconomic policies some of which are discussed below.

- It persisted with implementation of the National Privatization Program until it was abandoned in 2001 because of failure to produce the intended results.
- The Government of Malawi reaffirmed its commitment to promoting regional integration and trade openness by actively participating in regional economic and trade blocs such as SADC and COMESA.
- Malawi established Export Processing Zones (EPZs) in 1995 to boost its international competitiveness.

Since 1994 Malawi has implemented numerous socio-economic development policies aimed at not only generating a sustained increase in output growth but also reducing poverty and extreme deprivation in the country. The main policies that have characterized this era are the Vision 2020, Malawi Poverty Reduction Strategy (MPRS) and the Malawi Growth and Development Strategy (MGDS I, II, and III). While the Vision 2020 represents long-term term socio-economic aspirations of the government aimed at driving the country towards middle-income status by the year 2020, the MPRS is medium-term blue print to tackling economic and social deprivation. On its part, the MGDS is a short to medium-term tool to boost and sustain the GDP growth level capable of socio-economically transforming the country. These three policies have formed the fulcrum of Malawi’s macroeconomic policy framework in the post-reform phase. By formally instituting the second Malawi Growth and Development Strategy (MDGS II) in 2011 to replace the MGDS I, the Government of Malawi reaffirmed the country’s development plan of reducing poverty through sustained economic growth and infrastructural development from 2011 to 2016. The main cornerstone of the both MGDS I and II is implementation of macro-economic policies aimed at achieving rapid output growth, single-digit inflation, and increased foreign exchange reserves (African Development Bank, 2012). The MGDS plan also strives to increase investment
in electricity, irrigation and in other high-priority sectors such as agriculture, mining, tourism and manufacturing. These investments emanating from both domestic and foreign financing were envisaged to generate robust GDP growth, while the prudent macroeconomic policies were expected to bring down inflation rates and hence accelerate the attainment of Millennium Development Goals by the end of 2015. The Government of Malawi (2012) observes that during the pre-MGDS period (2002-2005) the country achieved an average GDP growth rate of 3.5 percent while under the MGDS I era (2005-2011) national output grew by 7.5 percent.

Apart from the above growth-driven policies the Government of Malawi also implemented several economic reforms aimed at attracting FDI during the post-reform period. Some of the important policy actions include: removing barriers to international trade, implementing prudent and predictable economic policies aimed at achieving macroeconomic stability, and maintained political stability through the adoption of numerous democratic reforms (Magalasi, 2009). On top of this, several FDI-specific initiatives were also put into action including the setting-up and operationalizing of the Malawi Investment Promotion Agency (MIPA) in 1991. Another initiative was the removal of Forfeiture Act in 1992. The two actions clearly signaled the government’s intent to not only guarantee private property rights but also to fully adopt the Bretton-Woods-inspired market economic reforms in the early 1990s. Internationally, Malawi signed dual taxation treaties with several important trading partners such as United Kingdom, France, Sweden, Switzerland, South Africa and Norway. This was in addition to signing-up to the International Convention for Settlement of Investment Disputes (ICSD) and the World Bank-affiliated Multilateral Investment Guarantee Agency (MIGA) (UNCTAD, 2014), among others.

Another recent significant development has been the establishment of a system of incentives to promote FDI in Malawi. The system consists of three main incentives: (i) general incentives (e.g. FDI allowances, import duty exemptions and deductible preparation costs), (ii) export incentives (e.g. removal of tax on dividends and capital goods and excise tax exemptions) and (iii) manufacturing in bond (e.g. duty drawback schemes, exports and transport tax allowances and customs tax exemptions) (GoM, 2011).

Recent FDI inflows into Malawi have not deviated much from the traditional pattern as the majority of them continue to trickle into the country’s agriculture sector followed by
manufacturing, services and mining. Indeed, South Africa, China, India and the UK are the main source-countries for this FDI (UNCTAD, 2012). But it must also be stated that Malawi’s FDI inflows have been very erratic just like its real GDP growth trajectory during most of its post-colonial period. During the pre-liberalization era (i.e.1980-1993) FDI inflows averaged just under US$5 million annually representing less than 3 percent of Malawi’s total national income. But after liberalization in 1994, there has been a significant boom in foreign investment with the country receiving approximately US$2 billion worth of FDI inflows between 2003 and 2013. This constitutes a contribution of more than 60 percent and 18 percent to the country’s total stock of capital and GDP respectively (GoM, 2011; fDi Intelligence, 2013). Figure 5.2 below shows trends in FDI inflows and GDP growth during most of the post-colonial era in Malawi.

Figure 5.2: Trends of FDI inflows and GDP growth in Malawi from 1980 to 2012

Source: Adapted from UNCTAD (2013) and Mahembe (2014)

5.3. Recent Developments in Brownfield and Greenfield FDI Inflows into Malawi

As it was discussed earlier on, the mid-2000s was a period associated with macroeconomic stability, investment reforms and robust economic growth rates. This macroeconomic climate seems to have attracted significant Brownfield and Greenfield FDI into Malawi. But it must be stated that the majority of mergers and acquisitions (Brownfield FDI) that have occurred in the 2000s have their roots in the privatization initiatives the Government of Malawi started after 1994 as part of the macroeconomic reforms to revive its ailing economy. The table below chronicles some of the significant M&As that have taken place from 1996 to 2010.
Table 5.1: Some major Brownfield FDI (mergers and acquisitions) in Malawi from 1994 to 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Acquired firm</th>
<th>Sector of operation</th>
<th>Acquiring firm</th>
<th>Home-country of acquiring firm</th>
<th>Value in US$ million</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>BHP Minerals Mali Inc</td>
<td>Mining</td>
<td>Gencor</td>
<td>South Africa</td>
<td>53</td>
</tr>
<tr>
<td>1996</td>
<td>Packaging Industries Limited</td>
<td>Paper and plastic processing</td>
<td>Nampak Limited</td>
<td>South Africa</td>
<td>2</td>
</tr>
<tr>
<td>1997</td>
<td>Dwangwa Sugar Corporation</td>
<td>Sugar production</td>
<td>Lonrho PLC</td>
<td>United Kingdom</td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td>Blantyre Hotels Limited</td>
<td>Hospitality</td>
<td>Investor Group</td>
<td>Malawi</td>
<td>2</td>
</tr>
<tr>
<td>2000</td>
<td>Kynoch-Optichem</td>
<td>Fertilizer manufacturing</td>
<td>Investor Group</td>
<td>Malawi</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>Commercial Bank of Malawi</td>
<td>Financial Services</td>
<td>Standard Bank Group</td>
<td>South Africa</td>
<td>14</td>
</tr>
<tr>
<td>2002</td>
<td>Malital (African Lakes Corporation PLC)</td>
<td>Vehicle assembly and distribution</td>
<td>Cie Francaise d’Africa</td>
<td>France</td>
<td>6</td>
</tr>
<tr>
<td>2005</td>
<td>Mobit Oli Malawi Limited</td>
<td>Petroleum</td>
<td>Total SA</td>
<td>France</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>FDH Limited</td>
<td>Investment advisory</td>
<td>Kingdom Security Holdings</td>
<td>Zimbabwe</td>
<td>1</td>
</tr>
<tr>
<td>2007</td>
<td>Kangankunde Carbonite Company</td>
<td>Mining</td>
<td>Nec Linas Corp</td>
<td>Australia</td>
<td>4</td>
</tr>
<tr>
<td>2009</td>
<td>Tonse Solutions</td>
<td>Telecommunications</td>
<td>Norsat International Inc</td>
<td>Canada</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>Stazone Corporation</td>
<td>Stationery Processing</td>
<td>Chee Wah Corp.</td>
<td>Malaysia</td>
<td></td>
</tr>
</tbody>
</table>

Source: UNCTAD, 2011

With a stable macroeconomic environment and robust economic growth rates experienced in mid-2000s, Malawi managed to attract significant Greenfield FDI in its primary and service sectors. While the traditional economic mainstay, agriculture, was still the main attraction point for FDI, the mining sector more especially uranium and niobium also received significant Greenfield investment mainly from Australia. Telecommunications, financial services and hospitality were the other main destinations for Greenfield FDI inflows in Malawi during this period. The table below illustrates some important Greenfield FDI ventures into the country announced between 2008 and 2010.

Table 5.2: Some major Greenfield FDI in Malawi from 2008 to 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Name of MNC</th>
<th>Home country of MNC</th>
<th>Sector of operation</th>
<th>Total investment(US$ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>Ecobank</td>
<td>Togo</td>
<td>Financial services</td>
<td>9.2</td>
</tr>
<tr>
<td>2008</td>
<td>ICB Financial Group Holdings</td>
<td>Malaysia</td>
<td>Financial services</td>
<td>9.2</td>
</tr>
<tr>
<td>2009</td>
<td>Paladin Energy</td>
<td>Australia</td>
<td>Mining</td>
<td>220</td>
</tr>
<tr>
<td>2009</td>
<td>Global Metals</td>
<td>Australia</td>
<td>Mining</td>
<td>233.7</td>
</tr>
<tr>
<td>2009</td>
<td>Lafarge</td>
<td>France</td>
<td>Cement manufacturing</td>
<td>200</td>
</tr>
<tr>
<td>2009</td>
<td>Lonrho</td>
<td>United Kingdom</td>
<td>Food and Tobacco processing</td>
<td>31.4</td>
</tr>
<tr>
<td>2010</td>
<td>G-Mobile Holdings</td>
<td>Mongolia</td>
<td>Telecommunications</td>
<td>150</td>
</tr>
<tr>
<td>2010</td>
<td>Bhati Group</td>
<td>India</td>
<td>Telecommunications</td>
<td>100</td>
</tr>
<tr>
<td>2010</td>
<td>Thumbay Group</td>
<td>United Arab Emirates</td>
<td>Healthcare</td>
<td>47.8</td>
</tr>
</tbody>
</table>

Source: UNCTAD, 2011

Like many other developing host-economies, Malawi was also not spared from the vagaries of the Global Financial Crisis of 2008 that negatively affected its Greenfield FDI inflows. UNCTAD (2015) observes that foreign investment into Malawi dwindled rapidly during the
crisis so much so that by 2012, only US$23 million worth of inward Greenfield FDI was recorded. But just like its Southern African neighbors, Malawi’s Greenfield FDI inflows have recovered strongly during the post-Global Financial Crisis era so much so that the country registered Greenfield investments from abroad worth US$559 million in 2013.

5.4. Constraints affecting Malawi’s FDI Promotion and Inclusive Development Agenda

Despite the Malawi Government’s efforts to implement a raft of macroeconomic reforms, restructure its economy and adopt investment-friendly policies during the post-colonial era; the annual levels of FDI inflows and economic growth have not tallied. As already alluded to, the exports-driven economic boom of the 1960s and 1970s was quickly replaced by economic growth decline in the 1980s largely due to the global petroleum crisis, rising debt crisis, the Mozambican civil war which cut-off Malawi’s vital supply routes and the negative impact of the SAPs (Chirwa and Zakeyo, 2003). In addition, the World Bank (2013) observes that Malawi’s economic slump intensified between the mid-1990s and early-2000s largely because of misplaced economic policies, volatile macroeconomic environment, rising corruption and adverse weather conditions such as severe drought. These conditions precipitated an unstable macroeconomic environment characterized by rising inflation, volatile exchange rate, a shrinking manufacturing sector, domestic investor risk-aversion and rising production of low-value subsistence crops. The above factors together with an over-reliance on primary export commodities and foreign aid have historically left Malawi’s economy susceptible to exogenous macroeconomic fluctuations which have curtailed GDP growth and discouraged foreign investment during most of its post-colonial period (Lea and Hanmer, 2009).

On the same note, Chirwa (2005) observes that the country’s economic and FDI promotion policy framework and implementation have also been largely to blame for its GDP and FDI inflow volatility. The above researcher argues that Malawi like most LDCs undertaking reform, has experienced regular economic and FDI promotion policy reversals as most times the policies have been sequenced with no clear focus and direction. The policy sequencing and reversals have created macroeconomic and legal uncertainty leaving foreign investors unsure about whether their investments will still be safe and profitable. The Malawi Government (2004)
concerns with the above argument by admitting that policy reversals have indeed been the major source of the erratic nature of the FDI inflows in the country. In agreement with the above view, a study by Magalasi (2009) concludes that there exists negative correlation not only between FDI inflows and macroeconomic instability but also FDI inflows and legal policy uncertainty in Malawi.

Further to this, despite the government’s recent reforms in the investment and business climate Malawi is still performing poorly relative to its neighbors as has been revealed by major international business indices such as the World Economic Forum’s Global Competitiveness Index (GCFI), and the Doing Business Report of the World Bank. Among the major investment constraints pointed out so far include: inadequate infrastructural network (especially unreliable power supply), inefficient statutory bureaucracy, unstable economic policies, poor financial access and shortage of a well-educated labor force (IMF, 2015). The 2015/2016 GCI Report summarizes Malawi and Zambia’s current competitiveness ranking relative to the rest of the world, as is indicated in the table below.

Table 5.3: A summary of Malawi and Zambia’s competitiveness ranking relative to the world

<table>
<thead>
<tr>
<th></th>
<th>Malawi</th>
<th>Zambia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall global competitiveness index</strong></td>
<td>Rank out of 140 countries</td>
<td>Score out of 7</td>
</tr>
<tr>
<td></td>
<td>135</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>Sub-index A: Basic requirements</strong></td>
<td>138</td>
<td>3.1</td>
</tr>
<tr>
<td>Quality of institutions</td>
<td>92</td>
<td>3.6</td>
</tr>
<tr>
<td>Quality of infrastructure</td>
<td>135</td>
<td>2.0</td>
</tr>
<tr>
<td>Macroeconomic environment</td>
<td>140</td>
<td>2.4</td>
</tr>
<tr>
<td>Primary education and health</td>
<td>121</td>
<td>4.4</td>
</tr>
<tr>
<td><strong>Sub-index B: Efficiency enhancers</strong></td>
<td>127</td>
<td>3.2</td>
</tr>
<tr>
<td>Higher education and training</td>
<td>133</td>
<td>2.5</td>
</tr>
<tr>
<td>Goods market efficiency</td>
<td>117</td>
<td>3.9</td>
</tr>
<tr>
<td>Labor market efficiency</td>
<td>29</td>
<td>4.6</td>
</tr>
<tr>
<td>Financial market development</td>
<td>100</td>
<td>3.5</td>
</tr>
<tr>
<td>Technological readiness</td>
<td>133</td>
<td>2.4</td>
</tr>
<tr>
<td>Market size</td>
<td>127</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Sub-index C: Innovation and sophistication factors</strong></td>
<td>119</td>
<td>3.1</td>
</tr>
<tr>
<td>Business sophistication</td>
<td>121</td>
<td>3.4</td>
</tr>
<tr>
<td>Innovation</td>
<td>121</td>
<td>2.7</td>
</tr>
</tbody>
</table>

*Source: World Economic Forum, 2015*
5.5. FDI and Macroeconomic Performance in Zambia

5.5.1. An overview of recent FDI and macroeconomic developments in Zambia

Zambia is a lower middle-income country in Southern Africa with a population of 15.72 million and a GDP per capita of US$1490. Being a developing country, poverty levels are obviously quite high with a poverty head count ratio of 60.1 percent and the HDI value standing at 0.586. The country failed to meet most of its targets under the Millennium Development Goals in 2015. Copper mining is the mainstay of the Zambian economy contributing approximately 8 percent to its GDP and 65 percent to the country’s total exports. Furthermore, tobacco and minerals such as emeralds, cobalt and nickel constitute other important exports (World Bank, 2016).

Just like Malawi, Zambia has also undergone erratic phases of economic growth since obtaining independence from the United Kingdom in 1964. High world copper prices of the 1960s and 1970s fueled robust economic growth rates of above 6 percent in the country during the early post-colonial period. However, a drastic fall in global copper demand coupled with the world economic slow-down, the debt crisis, and macroeconomic mismanagement greatly reduced GDP growth rates to below 2 percent on average, from the 1980s to the late 1990s. Prudent macroeconomic policies and bold market-liberalization reforms undertaken by the government in the 1990s coupled with high world copper prices strongly resuscitated the Zambian economy at the turn of the 21st century, so much so that GDP growth has averaged 7 percent from 2004 to 2013. Mahembe (2014) chronicles these income fluctuations by observing that per capita GDP fell from US$673 in 1980 to US$319 in 2000, before meteorically rising to US$1,471 in 2011.

But in recent times, the Zambian economy has been facing headwinds as the decade-long robust growth seems to be slowing, with GDP expansion rates decelerating to below 5 percent, poverty levels and inflation rising in the period 2014-2015. IMF (2015) observes that the main drivers of this macroeconomic decline are huge fiscal imbalances, falling world copper prices, slowing down of the Chinese economy and policy uncertainties by its government. This situation has piled pressure on its current account, substantially reducing its international reserves and depreciating its domestic currency. Other important challenges presently dogging the Zambian economy include poor infrastructure, low level of human capital, weak business climate, and low
agricultural productivity (World Bank, 2015). The figure below shows recent trends in per capita GDP (PPP) and poverty incidences from 2000 to 2014. It is clear from Figure 5.3 that the recent rapid per capita income growth has not done much to reduce poverty in Zambia.

![Figure 5.3: Per capita GDP (PPP) and poverty levels in Zambia from 2000 to 2014](image)

But despite the macroeconomic challenges Zambia has recently been facing, its government has persisted with implementation of the revised Sixth National Development Plan (2013-2016) which seeks to achieve inclusive economic growth by promoting infrastructure development, attracting FDI, enhancing human capabilities, developing rural areas, and creating employment opportunities. Nevertheless, challenges persist such as unfavorable business environment, inflexible labor market, an undiversified copper-dependent economy, mining-sector taxation bottlenecks, unstable fiscal and exchange rate regimes and policy reversals in the investment sector. All these constraints will have to be urgently addressed if Zambia is to realize its SNDP goals of achieving projected medium growth rates of 5-7 percent and attracting significant FDI (IMF, 2015).

### 5.5.2. Post-colonial FDI Promotion and Economic Development Policies in Zambia

As it has already been pointed out; the post-colonial economic history of Zambia is synonymous with copper mining. Indeed, the rise and decline of the copper industry has shaped both the country’s periods of economic boom (i.e. 1960 to the early-1980s) and real GDP decline (i.e. mid-1980s) which eventually culminated in the adoption of Structural Adjustment Policies (SAPs) in 1991 (Thurlow and Wobst, 2004). It is therefore not surprising to note that foreign investment in the country has to a large extent also followed the above pattern, with the majority
of the recent FDI inflows being a direct result of the structural adjustment reforms carried out in the 1990s. A concise description and analysis of the phases of FDI promotion and economic development during the post-colonial period is given by Mahembe (2014); Thurlow and Wobst (2004) and Saasa (1996) as summarized in the discussion below.

5.5.2.1. Pre-policy reform period (1964-1983)

This was the immediate period after independence when the Zambian economy was to a large extent centrally planned as most economic activities were directly controlled by the state and protectionism was the overriding trade and investment policy. Firstly, the economy placed copper mining as its mainstay and the resultant export revenues were used to finance agricultural production. Additionally, the government favored import substitution industrialization, heavy protection of ‘infant industries’ (i.e. emerging local firms) from external competition of MNCs by using industrial licenses and other government controls. It was hoped that protectionism would nurture and gradually strengthen the emerging local firms until they reach a point where they could challenge and take over production from MNCs. However, things did not work out according to plan as the global copper prices fell dramatically and the global oil shock in the 1970s caused global stagflation resulting in significant decline of the Zambian economy.

5.5.2.2. The structural adjustment phase (1984-1987)

During the above period the Zambian economy was reeling from a fall in global prices, the global debt crisis and the world recession. Consequently, the country was forced to embrace the IMF and World Bank-inspired SAPs in a bid to bring it back into equilibrium. Part of the SAPs’ prescription was massive deregulation and privatization of the economy. From 1983 to 1987 a large number of state-owned corporations were sold to private investors in a bid to relieve the public debt pressure on its economy and to get the government out of the market. There was also significant removal of exchange controls by the Zambian central bank (i.e. Bank of Zambia) which was followed by massive depreciation of the domestic currency, the Kwacha, against major currencies such as the US dollar and the British Pound Sterling. The loss of value of the domestic currency tremendously increased inflationary pressure on the economy causing the cost
of living to become unbearably high for most poor Zambians. As a result, food riots broke out as the staple food (i.e. maize) prices increased to a very high degree. The general macroeconomic volatility created political instability as riots and industrial wage strikes became too common leading to shrinkage of output and declines in FDI inflows especially in the country’s mining sector (Mahembe, 2014).

5.5.2.3. The policy reversal period (1987-1989)

Saasa (1996) observes that the above period was an era when macroeconomic turbulence was at its peak and the SAPs were biting the majority of poor Zambians hard resulting in country-wide food riots and increased incidences of civil disobedience. The resultant political turmoil forced the Zambian Government to abandon most of the recently implemented free-market policies and revert to more centralized/command macroeconomic policies that discouraged FDI. In a bid to retain a grip on political power, the government tightened the exchange controls, fixed interest rates and imposed a range of price controls on strategic commodities, among others. However, this state intervention in the economy did not improve the macroeconomic situation that much as shortages of food and strategic commodities worsened forcing the government to issue food coupons and to ration many basic essential commodities. During this period inflationary pressures on the economy did not let-up, as the Zambian Kwacha kept on losing value against most hard currencies thus worsening its business and investment climate even further.

5.5.2.4. Liberalization period (1990-1991)

With mounting macroeconomic challenges coupled with agitations for political change from a one-party to a multiparty system of government, the Zambian state authorities were under immense pressure to maintain control over both the economy and on the political front. As such, the government decided to revert to the neo-liberal economic model of market liberalization by loosening exchange and trade controls, restarting of privatization and public sector reform programs which were previously abandoned. But still, the economic situation worsened as the GDP kept shrinking, money supply tightened, real interest rates and inflation levels went up and the exchange rate deteriorated even further. In fact, the economic decline experienced during this period was substantially large so much so that the standards of living (i.e. GDP per capita)
dropped sharply from US$673 in 1980 to US$419 in the early 1990s. Accordingly, the ruling party lost the national elections, ending the one-party system of government and ushered in multiparty democracy in mid-1991 (Mahembe, 2014; Bank of Zambia, 2014).

5.5.2.5. The macroeconomic reform period (1991-present)

In a bid to resolve the macroeconomic challenges and stem the rising civil discontent of the majority of its citizens, the newly elected Government of Zambia intensified market liberalization programs with a view to restructure and steer the economy towards a growth path. At the heart of this persistence to implement SAPs reforms was Zambia’s desire to restore donor and investor confidence necessary to attract the much-needed foreign exchange injections for jump-starting its economic recovery. The reform program included among others: fiscal and monetary stabilization policy actions, trade liberalization, privatization of state-owned assets and corporations, private investment reforms, public sector reforms especially in the civil service, and market-driven agricultural restructuring (Wobst and Thurlow, 2004; Mahembe, 2014).

Even though these restructuring policies initially struggled to yield positive results in the early 1990s as inflation, foreign debts and corruption kept rising plus the continued exchange rate depreciation; but by the late 1990s the country’s macroeconomic situation began to gradually improve. Inflation levels began to come down drastically reaching levels below 10 percent and GDP growth rates were also on the rise, averaging 5-6 percent in the early 2000s. As the Zambian economy was steadily on a recovery path, annual FDI inflows especially in the newly revitalized mining, manufacturing and service sectors also took an upward trajectory averaging around 7 percent of the total GDP in the mid-2000s (Government of Zambia, 2004).

Mwanawina (2007) observes that the Zambian Government has from the early 1990s (i.e. liberalization and macroeconomic reform periods) designed and implemented policies aimed at generating GDP growth and promoting FDI. Some of the most important policies and strategies put in place during this period include: the implementation of National Action Plan (2000-2003); the Public Investment Programs (2000-2003); the Zambia Poverty Reduction Strategy Paper (2002-2004); the Five-year Institutional Strategic Plans; the Sectoral Investment Programs; and Medium-Term Expenditure Framework (MTEF). It was hoped that through these strategies, Zambia would in the medium-term cement its middle-income status by generating and sustaining
inclusive development; and FDI will be one of the main drivers of the process. Other important
development strategies initiated during this period are the Vision 2030 and the Sixth National
Development Plan (SNDP). While the Vision 2030 basically aims at turning Zambia into a
prosperous middle-income country by 2030, the SNDP (2011-2015) principally strives to
achieve sustained economic growth and poverty reduction through infrastructure and human
development. Indeed, the SNDP aims to accelerate GDP growth through investment in priority
sectors such as mining, agriculture, manufacturing, tourism, livestock, fisheries and trade. It
envisages that investment in the above labor-intensive sectors as well as in rural areas will create
productive employment opportunities and reduce poverty hence achieve inclusive growth
objectives of the Vision 2030 plan. In 2013 the SNDP was transformed into the revised SNDP
(R-SNDP) in order to enhance capital investment in sectors that have a bias towards rural
development and job creation. This, therefore, implies that under both the SNDP and R-SNDP,
FDI is seen as a vital complement to the public sector in financing inclusive growth
(Government of Zambia, 2011 and 2014).

On a similar note, Zambia adopted the Investment Code in 2004 with an aim of attracting and
boosting both domestic and foreign investment necessary for sustaining growth of its economy.
This was in addition to the establishment of the Zambian Development Agency (ZDA) in 2006
based on the amended Investment Code in order to spear-head government efforts to stimulate
private sector investment by both foreign and domestic investors (UNCTAD, 2011). It must also
be noted that the government’s private sector-driven growth intent was clearly signaled in 2004
when it designed and implemented the Private Sector Development-Reform Program (PSDRP).
The program had triple aims of cutting the costs of doing business in the country, boosting the
business environment and kick-starting a private sector-led economic growth agenda (OECD,
2011). As if this was not enough, Zambia also established Special Economic Zones (SEZs) to
help domestic and foreign investors with not only setting-up and sustaining their business
operations but also to reduce their investment costs (Alves, 2012).

In a similar vein, the Government of Zambia has also implemented additional economic reforms
aimed at boosting not only its business environment but also its image as a foreign investment-
friendly destination. The reform process zeroed in on removing obstacles that make it difficult
for foreign firms to invest in Zambia. The process has yielded some positive results as Zambia’s ranking on the World Bank’s Doing Business Index greatly improved from position number 90 in 2009 to 76 in 2010. What is more, the country’s Fitch Rating on credit worthiness improved tremendously to a “B+” position as its macroeconomic outlook appeared promising in 2011. It therefore came as no surprise when the OECD (2011) rated Zambia as one of the most open and stable economies in Africa during this period. This simply reflects the fact that the macroeconomic restructuring process which was initiated in the early 1990s only began bearing positive results in the early 2000s as FDI inflows started rising again. Statistical findings by UNCTAD (2013) confirm the upsurge in FDI inflows into Zambia since the early 2000s. Starting with a low value of US$165 million in 2003 foreign investment in the country has increased ten-fold reaching approximately US$2 billion in 2011. The figure below depicts how FDI inflows have grown relative to GDP during the reform period since the early-1980s.

**Figure 5.4: Growth of FDI and GDP in Zambia from 1980 to 2011**

![Figure 5.4: Growth of FDI and GDP in Zambia from 1980 to 2011](source: adapted from UNCTAD (2013) and Mahembe (2014))

In line with the country’s macroeconomic structure, recent Zambian FDI inflows have also largely centered on the mining, manufacturing, telecommunications, and service sectors of the economy. The recently revived foreign-investor interest in the copper and cobalt mining industries has largely been driven by high copper prices on the world market experienced in the 2010-2014 period. Actually, global copper prices averaged around US$8000 per ton in 2012 and reached a record high of US$9500 per ton in 2014. It was expected that recapitalization and expansion of some mining ventures in the Copperbelt region including Lumwana, Konkola and Kansashi will be among the important medium-term investment activities for the Government of
Zambia. This is in addition to the commissioning of other copper and cobalt mining projects such as the First Quantum Trident mine and smelter project (Bank of Zambia, 2014).

5.5.3. Recent developments in Zambia’s Greenfield and Brownfield FDI inflows

As pointed out earlier on; the investment and macroeconomic reforms carried out in the mid-1990s started bearing fruit in towards the end of the 1990s, as Zambia witnessed a significant inflow of both Brownfield and Greenfield FDI. But it must be stated that despite some recent significant inflows into the manufacturing (i.e. light industry and food processing) and service sectors (i.e. telecommunications and hospitality) the majority of the foreign investment has principally gravitated towards the traditional copper and cobalt mining.

The majority of recent Brownfield FDI (i.e. mergers and acquisitions) in Zambia is a direct consequence of the privatization drive mainly targeting state enterprises that was initiated by the government in the early 1990s as part of the structural adjustment agenda. Between 1995 and 2010, Brownfield FDI estimated to be worth of US$ 1 billion has been undertaken in major sectors of the Zambian economy as is illustrated in the table below.

Table: 5.5: Some major Brownfield FDI in Zambia from 2008 to 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Acquired firm</th>
<th>Sector of operation</th>
<th>Acquiring firm</th>
<th>Home-country of acquiring firm</th>
<th>Estimated value in US$ million</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>Zambia Sugar Company</td>
<td>Sugar processing</td>
<td>Tate and Lyle PLC</td>
<td>United Kingdom</td>
<td>14</td>
</tr>
<tr>
<td>1997</td>
<td>Zambia Oxygen</td>
<td>Liquid gas</td>
<td>BOC Group PLC</td>
<td>United Kingdom</td>
<td>60</td>
</tr>
<tr>
<td>1997</td>
<td>Zambia Consolidated Copper Mines</td>
<td>Mining</td>
<td>Copperbelt Energy Consortium</td>
<td>United Kingdom</td>
<td>50</td>
</tr>
<tr>
<td>1997</td>
<td>Maamba Collieries Limited</td>
<td>Mining</td>
<td>Benicon Mining Limited</td>
<td>South Africa</td>
<td></td>
</tr>
<tr>
<td>1997</td>
<td>Zambia Consolidated Copper Mines</td>
<td>Mining</td>
<td>Investor Group</td>
<td>South Africa</td>
<td>18</td>
</tr>
<tr>
<td>1997</td>
<td>Zambia Consolidated Copper Mines</td>
<td>Mining</td>
<td>Cyprus Amax Minerals</td>
<td>United States</td>
<td>28</td>
</tr>
<tr>
<td>1998</td>
<td>NFC Africa Mining PLC</td>
<td>Mining</td>
<td>Foreign engineering and Construction</td>
<td>China</td>
<td>20</td>
</tr>
<tr>
<td>1998</td>
<td>Zambia Consolidated Copper Mines</td>
<td>Mining</td>
<td>Anglovaal Limited</td>
<td>South Africa</td>
<td>50</td>
</tr>
<tr>
<td>2000</td>
<td>Zambia Consolidated Copper Mines</td>
<td>Mining</td>
<td>Glencore International</td>
<td>Switzerland</td>
<td>43</td>
</tr>
<tr>
<td>2001</td>
<td>Cyprus Amax Kanshashi Holdings</td>
<td>Mining</td>
<td>First Quantum Minerals</td>
<td>Canada</td>
<td>53</td>
</tr>
<tr>
<td>2002</td>
<td>Zambian Bottlers Limited</td>
<td>Mining</td>
<td>Zambia Breweries PLC</td>
<td>United Kingdom</td>
<td>22</td>
</tr>
<tr>
<td>2004</td>
<td>Konkola Copper Mines PLC</td>
<td>Mining</td>
<td>Volcan</td>
<td>Bahamas</td>
<td>48</td>
</tr>
<tr>
<td>2005</td>
<td>Zambia Joint Venture</td>
<td>Mining</td>
<td>Equinox Minerals Limited</td>
<td>Australia</td>
<td>13</td>
</tr>
<tr>
<td>2008</td>
<td>Konkola Copper Mines PLC</td>
<td>Mining</td>
<td>Volcan Investment</td>
<td>Bahamas</td>
<td>213</td>
</tr>
<tr>
<td>2010</td>
<td>Maamba Collieries Limited</td>
<td>Mining</td>
<td>Nava Bharat Ventures Limited</td>
<td>India</td>
<td>26</td>
</tr>
<tr>
<td>2010</td>
<td>Zambia Telecommunications</td>
<td>Telecommunications</td>
<td>Libya Africa Investment</td>
<td>Uganda</td>
<td>257</td>
</tr>
</tbody>
</table>

Source: UNCTAD, 2011
Greenfield foreign investment into Zambia has also expanded rapidly since the early 2000s. Even though mining ventures mainly originating from China have been the principal drivers; investment into the electricity generation has also formed a major part of recent Greenfield foreign investment inflows into the country. The table below details some recent greenfield FDI operations in Zambia announced between 2008 and 2010.

Table 5.6: Some major Greenfield FDI in Zambia from 2008 to 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Name of MNC</th>
<th>Home country of MNC</th>
<th>Sector of operation</th>
<th>Total investment (US$ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>Era Group</td>
<td>India</td>
<td>Electricity generation</td>
<td>1 800</td>
</tr>
<tr>
<td>2008</td>
<td>Zambezi Resources Limited</td>
<td>Australia</td>
<td>Mining</td>
<td>169</td>
</tr>
<tr>
<td>2008</td>
<td>Sinohydro</td>
<td>China</td>
<td>Electricity generation</td>
<td>400</td>
</tr>
<tr>
<td>2008</td>
<td>Teal Exploration and Mining</td>
<td>Canada</td>
<td>Mining</td>
<td>215</td>
</tr>
<tr>
<td>2008</td>
<td>Vedanta Resources</td>
<td>United Kingdom</td>
<td>Mining</td>
<td>223</td>
</tr>
<tr>
<td>2008</td>
<td>Liberty Group</td>
<td>South Africa</td>
<td>Real estate</td>
<td>200</td>
</tr>
<tr>
<td>2009</td>
<td>MTN Group</td>
<td>South Africa</td>
<td>Telecommunications</td>
<td>95</td>
</tr>
<tr>
<td>2009</td>
<td>MAN</td>
<td>Germany</td>
<td>Manufacturing</td>
<td>500</td>
</tr>
<tr>
<td>2009</td>
<td>Fraunhofer-Gesellschaft</td>
<td>Germany</td>
<td>Telecommunications</td>
<td>468</td>
</tr>
<tr>
<td>2009</td>
<td>China Nonferrous Metals Mining</td>
<td>China</td>
<td>Mining</td>
<td>400</td>
</tr>
<tr>
<td>2009</td>
<td>China Nonferrous Metals Mining</td>
<td>China</td>
<td>Manufacturing</td>
<td>204</td>
</tr>
<tr>
<td>2009</td>
<td>China Nonferrous Metals Mining</td>
<td>China</td>
<td>Mining</td>
<td>179</td>
</tr>
<tr>
<td>2009</td>
<td>Rezidor Hotel Group</td>
<td>Belgium</td>
<td>Hospitality</td>
<td>129</td>
</tr>
<tr>
<td>2009</td>
<td>Denison Mines</td>
<td>Canada</td>
<td>Mining</td>
<td>118</td>
</tr>
<tr>
<td>2009</td>
<td>Glencore International</td>
<td>Switzerland</td>
<td>Mining</td>
<td>179</td>
</tr>
<tr>
<td>2010</td>
<td>Vedanta Resources</td>
<td>United Kingdom</td>
<td>Mining</td>
<td>117</td>
</tr>
<tr>
<td>2010</td>
<td>Hitachi Construction Machinery</td>
<td>Japan</td>
<td>Manufacturing</td>
<td>69</td>
</tr>
<tr>
<td>2010</td>
<td>Nava Bharat Ventures</td>
<td>India</td>
<td>Electricity generation</td>
<td>399</td>
</tr>
<tr>
<td>2010</td>
<td>Nava Bharat Ventures</td>
<td>India</td>
<td>Renewable energy</td>
<td>108</td>
</tr>
<tr>
<td>2010</td>
<td>Companhia Vale do Rio Doce</td>
<td>Brazil</td>
<td>Mining</td>
<td>400</td>
</tr>
</tbody>
</table>

Source: UNCTAD, 2011

UNCTAD (2015) observes that the 2008 Global Financial Crisis had significant ramifications on the volumes of Greenfield FDI inflows into Zambia. Essentially, from Greenfield FDI worth US$1.332 billion attracted into the country during the pre-crisis years (2005-2007), the global economic meltdown greatly reduced the above inflows to a total of US$747 million between 2008 and 2012. But nevertheless, the country has weathered the above storm remarkably so much so that by 2014 a total of US$2.290 billion worth of Greenfield FDI trickled into its economy.

5.5.4. Constraints facing Zambia in attracting FDI and boosting Inclusive Development

The World Bank (2015) notes that one of the main foreign investment-related macroeconomic challenges facing the Government of Zambia is over-dependence on copper exports which in most times are susceptible to world price fluctuations. This copper price volatility coupled with the country’s over-reliance on fuel imports negatively exposes its economy to global
uncertainties which threaten its GDP growth prospects. In addition to this, the Bank further observes that other significant macroeconomic and FDI-related problems that have historically plagued its economy include: disjointed and inconsistent fiscal and monetary policies, undeveloped and segmented financial markets which hinder financial intermediation, unsustainable fiscal deficits, foreign debt and BOP positions, low saving rates due to low income and lack of saving culture, poor infrastructure, and high levels of corruption. These challenges not only destabilize the country’s macro-economy but also discourage FDI inflows.

On the FDI policy front, Bank of Zambia (2014) observes that lack of a complete and coherent investment policy framework is one of the important hindrances to FDI promotion in the country. Furthermore, the broadness of the Zambia Development Agency (ZDA) and its lack of capacity to carry out the necessary reforms heavily hinder its objectives of effectively promoting and facilitating FDI inflows into the country. This is in addition to other traditional bottlenecks that have constrained Zambia’s FDI policy framework since independence such as: the unprogressive and narrowness of the country’s tax system, unpredictable and inconsistent investment policies, rigid and costly bureaucratic FDI requirements and a general lack of clear incentives for foreign investment.

But more generally, the World Economic Forum (WEF) through its 2015/2016 Global Competitiveness Index conducted surveys aimed at revealing the most problematic factors currently affecting foreign investment in Zambia and Malawi. The table below summarizes results of the surveys whereby the most pressing constraints score the highest among the percentage rankings and vice versa.

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Zambia Percentage ranking</th>
<th>Malawi Percentage ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulties in accessing finance</td>
<td>24</td>
<td>14</td>
</tr>
<tr>
<td>Levels of corruption</td>
<td>9.6</td>
<td>13.8</td>
</tr>
<tr>
<td>Incidences of crime and theft</td>
<td>0.7</td>
<td>10.7</td>
</tr>
<tr>
<td>High rates of taxation</td>
<td>8.5</td>
<td>10.7</td>
</tr>
<tr>
<td>The rate of Inflation</td>
<td>6.7</td>
<td>9.7</td>
</tr>
<tr>
<td>Inefficiencies in government bureaucracy</td>
<td>7.6</td>
<td>7.1</td>
</tr>
<tr>
<td>Instability in government investment policies</td>
<td>6.9</td>
<td>7</td>
</tr>
<tr>
<td>Underdeveloped and inadequate infrastructure</td>
<td>9.6</td>
<td>6.4</td>
</tr>
<tr>
<td>Restrictiveness of foreign currency regulations</td>
<td>2</td>
<td>5.5</td>
</tr>
</tbody>
</table>

Table 5.7: A summary of some of the most problematic factors affecting FDI in Zambia and Malawi
Poor work ethic in labor force & 5.7 & 5  
Scarcity of highly skilled workforce & 4.5 & 3.2  
Complexity of tax regulations & 4.1 & 2.4  
Inadequate capacity to innovate & 5.5 & 1.9  
Incidence of political instability & 0.1 & 1.5  
Low quality of public healthcare & 2.1 & 0.7  
Restrictive labor laws & 2.3 & 0.4  


NB: the higher the percentage ranking the more problematic the factor and vice versa

5.6. Chapter summary and conclusion

The foregoing chapter has chronicled the post-colonial experiences of Zambia and Malawi as far as FDI and economic development is concerned. From the discussion it is clear that real GDP patterns have greatly fluctuated during this period due to a variety of macroeconomic, institutional and external factors such as export commodity price fluctuations, climatic conditions, macroeconomic shocks, macroeconomic mismanagement, and debt-relief, among others. Indeed, the robust growth that both countries experienced between mid-1960s and early 1980s was quickly followed by economic decline in the mid-1980s to late 1990s. Rapid GDP growth rates resumed in the early 2000s up to 2013. Besides, the discussion also noted that economic growth was the main goal of development policy in both countries from 1965 to mid-1990s, while poverty alleviation and inequality reduction only began to receive serious consideration in the late 1990s.

The chapter further observed that FDI inflows have also largely followed the real GDP growth patterns in both countries. In addition, even though FDI attraction has been among the main cornerstones of economic development policy since independence, the two governments only began to aggressively implement FDI-related reforms largely in response to poor macroeconomic performances their countries experienced in the 1980s. On the same note, it was also clear from the foregoing analysis that Greenfield FDI in the primary sectors (i.e. mining and agriculture) has traditionally been a vital component of the two economies while Brownfield FDI has largely had insignificant share in their investment portfolios.
The chapter concludes by pointing out that despite the recent rises in annual volumes of foreign investment inflows coupled with the potential contribution of FDI-driven growth in Zambia and Malawi, significant challenges persist. Among the main constraints to FDI promotion and FDI-driven development include: macroeconomic instability, low human-capital formation, poor infrastructure, corruption, inefficient bureaucracy, poor financial intermediation, policy instability and lack of political will.
CHAPTER SIX
ANALYTICAL FRAMEWORK AND ECONOMETRIC MODELS

6.0. Chapter overview

The following chapter presents the methodology that the study will follow in empirically analyzing the FDI-inclusive growth nexus in Zambia and Malawi. It basically describes the study’s analytical framework and econometric models to be used. In brief, the chapter is categorized into the following subsections: measurement of inclusiveness of growth and its linkage with FDI; and econometric models showing the relationship between FDI, PCI growth and income inequality.


The study follows the seminal contribution by Anand, Mishra and Peiris (2013) to measuring inclusive growth by estimating the following (i) the pace of income growth, and (ii) the distribution and pattern of the resultant income growth. As pointed out in Chapter Three; for economic growth to be sustainable and effective in reducing poverty and socio-economic inequality it must be inclusive. This indicates that economic growth and income distribution analyses have to be conducted simultaneously for any growth and development strategy to be successful in raising welfare and improving equity (Dollar and Kraay, 2002; Berg and Ostry, 2011).

In the context of this study, analyzing the FDI-inclusive growth nexus implies estimating the FDI effect not only on per capita income growth but also on the resultant pattern and distribution of the economic growth. We have seen in Chapter Four that FDI can contribute to boosting economic growth in host countries as illustrated by some modified/extended versions of the Harrod-Domar, Two-gap, and neoclassical growth models. Therefore, the empirical examination of FDI-induced pace of growth simply involves analyzing the effect of FDI in conjunction with...
other macroeconomic factors on per capita income growth in Zambia and Malawi during the whole duration of their post-colonial period.

On the other hand, an examination of the FDI-income distribution nexus requires establishing a linkage between FDI, welfare and income inequality. However, it is very likely that FDI-induced economic growth benefits will not automatically reach all the various sections of society because the conduits of FDI (i.e. multinationals) are primarily concerned with maximizing their return on capital and not developmental issues in the host country. It well-known that most multinationals are only interested in seeking out the best profit opportunities and are not directly concerned with socio-economic problems of such as poverty alleviation and inequality reduction (Todaro and Smith, 2014). As such, redistributive social policies (e.g. cash transfers, social security) by host countries may be necessary to equitably spread the FDI-induced economic benefits and thus ensure that segments of the population that have been made worse-off by growth are compensated. But owing to the non-existence of comprehensive redistributive social strategies in both Malawi and Zambia, a transmission mechanism is required in order to bridge the gap between the pace and distribution of growth and hence achieve inclusive development. For this reason, the study uses employment creation as the transmission mechanism to achieve the above objective. Given the widespread availability of the extended family system in both Zambia and Malawi, just like in many developing countries, it is possible that income earned by a multinational local employee will have some multiplier-effects on the rest of the economy since it will support people beyond the employee’s immediate family. Such a scenario would hold if one takes into consideration the imperfectly-functioning labor markets, no full-employment, and wide-spread poverty that characterizes many developing host-countries. This could have direct and indirect implications on the poverty and income inequality situation in the above host countries. The study will therefore examine the FDI-effect on employment as a way to link the pace and distribution of economic growth.

It is also important to analyze the relationship between FDI and income distribution in both countries in order to ascertain whether FDI-induced economic growth has improved or worsened income inequality across the economy. Apart from comprehensively tackling inclusive growth measurement in the two countries, the above exercise will also help to address the existing
debate in the literature that FDI significantly affects the level of inequality in developing host-
countries (Feenstra and Hanson, 1997 and 2001; Figini and Görg, 2011; Herzer, Hühne and
Nunnenkamp, 2014).

Having set up the above empirical base, therefore, the whole task of the examining the effect of
FDI on inclusive growth in Zambia and Malawi simply reduces to estimating the following
relationships for each of the two countries:

1) The FDI-effect on per capita income (PCI) growth
2) The direction of causality between FDI and PCI growth
3) The FDI-effect on employment growth
4) The relationship between FDI and income inequality

6.2. Modelling and estimating the FDI effect on per capita income growth

In order to estimate the FDI effect on PCI growth the study utilizes an extended version of
neoclassical growth model. As stated in Chapter 4; the original Solow model did not envisage
any role for FDI in the growth process since it assumed a closed economy setting. However, by
extending (opening up) the above model as researchers such as Brems (1970) and others did,
inward FDI can contribute to economic growth by augmenting capital formation and productivity
in the host country. We therefore follow the same reasoning in utilizing the extended
neoclassical model to examine the FDI effect on economic growth in Zambia and Malawi. As is
the tradition, the model takes the form of an aggregate production function in which FDI (as a
form of foreign capital) together with domestic capital and labor are the factors of production
driving growth in the economy. The extended neoclassical growth model takes the following
form:

\[ Y = A \cdot K_d^\alpha \cdot K_f^\rho \cdot L^\beta \]  

Where \( Y \) represents GDP

\( K_d \) is capital stock of domestic origin

\( K_f \) is capital stock of foreign origin
$L$ is labor input

$A$ represents the total factor productivity (TFP)

$\alpha, \varphi, and \beta$ are partial production elasticities with respect to domestic capital, foreign capital and labor, and $\alpha + \varphi + \beta = 1$

GDP growth can be derived the following equation:

$$gY = gA + \alpha gK_d + \varphi gK_f + \beta gL \ldots \ldots \ldots \ldots \ldots (ii)$$

Where $g$ represents growth rate

Growth in per capita income ($gPCI$) can be derived as follows:

$$gPCI = gY - gL$$

This implies that

$$gPCI = gA + \alpha gK_d + \varphi gK_f + \beta gL - gL = gA + \alpha gK_d + \varphi gK_f + (\beta - 1)gL$$

Algebraic manipulation yields the following derived equation:

$$gPCI = gA + \alpha gK_d + \varphi gK_f - (1 - \beta)gL \ldots \ldots \ldots \ldots \ldots (iii)$$

Owing to the well-known difficulties with attempts to estimating capital stock more especially in developing countries, growth rate of capital stock of domestic origin ($gK_d$) will be captured using gross national savings-to-GDP ratio ($\frac{GNS}{GDP}$). Capital stock of foreign origin ($K_f$) which is the study’s main interest, in theory, includes inward FDI, foreign loans/debts and capital aid. However, due to unavailability of reliable data on foreign loans/debts and capital aid for the two countries, we will restrict our approximation of ($gK_f$) to only include FDI-to-GDP ratio ($\frac{FDI}{GDP}$). In addition to this, labor-force growth ($gL$) is approximated by the growth rate of the population ($n$). Therefore equation (iv) transforms to the following expression:

$$gPCI = gA + \alpha \left(\frac{GNS}{GDP}\right) + \varphi \left(\frac{FDI}{GDP}\right) - (1 - \beta)n \ldots \ldots \ldots \ldots \ldots (iv)$$
We also utilize growth in total factor productivity \((gTFP)\) as a proxy of \(gA\). Likewise, by adding a random disturbance term \((\epsilon_{it})\) to capture random factors that influence \(gPCI\) but are outside the model and a regression constant \((\omega_0)\) that covers the model’s exogenous factors that systematically impact on systematically \(gPCI\); the following OLS regression equation to be estimated can be derived as follows:

\[
gPCI_{it} = \omega_0 + \omega_1 gTFP_{it} + \omega_2 \left(\frac{GNS}{GDP}\right)_{it} + \omega_3 \left(\frac{FDI}{GDP}\right)_{it} - \omega_4 (n)_{it} + \epsilon_{it} \quad \ldots\ldots\ldots(v)
\]

Where is \(gPCI_{it}\) per capita income growth for country \(i\) in year \(t\)

The main interest of our study in the econometric analysis that follows is on coefficient \(\omega_3\) which gives FDI-effect on per capita income growth. This growth model will use OLS regression method on annual average time series data for the period 1970 to 2014 to acquire individual country experiences of the FDI-inclusive growth nexus in Zambia and Malawi.

The empirical model’s expected signs also need to be discussed. Theoretically, the regression coefficients for the rate of growth of TFP, growth rate of foreign capital and growth rate of domestic capital are expected to have a positive sign while population growth (representing labor-force growth) is expected to exhibit a negative sign i.e. \((\omega_1 > 0, \omega_2 > 0, \omega_3 > 0, \omega_4 < 0)\). In this research emphasis is mainly on the coefficient of the share of FDI in the GDP i.e. \(\omega_3\).

6.2.1 Determining the direction of causality between FDI and economic growth

Given the possible endogeneity commonly identified in the literature that FDI may generate PCI growth and that sometimes PCI growth may attract FDI, it is important to utilize the Granger causality test to determine the direction of causation between the two variables. In fact, theoretical literature on the FDI-growth nexus indicates that three possibilities may hold as far as ascertaining the direction causality is concerned. Firstly, FDI may ‘Granger-cause PCI’ growth and this scenario is commonly referred to as FDI-led growth. There is also a possibility that PCI growth may Granger-cause FDI and this is called ‘growth-driven FDI’. Finally, there may also exist a bi-directional or feedback relationship between FDI and PCI growth. This is a situation where both variables ‘Granger-cause’ each other.
However, our study is primarily interested in ascertaining the possibility of FDI ‘Granger-causing’ PCI growth (i.e. ‘FDI-led growth’ hypothesis) in Zambia and Malawi. This being so, the study will therefore employ the standard Granger-causality test to accomplish the above test. In undertaking this task, the following simple bi-variate Granger causality equations are used:

\[ \Delta \left( \frac{FDI}{GDP} \right)_{it} = \gamma_0 + \sum_{n=1}^{m} (\gamma_{1n}) \Delta \left( \frac{FDI}{GDP} \right)_{t-j} + \sum_{n=1}^{m} (\gamma_{2n}) \Delta PCI_{t-j} + \eta_{1t} \ldots \ldots \ldots (1) \]

\[ \Delta PCI_{it} = \varphi_0 + \sum_{n=1}^{m} (\varphi_{1n}) \Delta PCI_{t-j} + \sum_{n=1}^{m} (\varphi_{2n}) \Delta \left( \frac{FDI}{GDP} \right)_{t-j} + \eta_{2t} \ldots \ldots \ldots (2) \]

In the above formulations, \( \Delta PCI \) represents change in per capita income growth and \( \Delta \left( \frac{FDI}{GDP} \right) \) is the change in the inward FDI stock to-GDP-ratio. Furthermore, \( \gamma_0 \) and \( \varphi_0 \) are y-intercepts for equations (1) and (2), while \( \eta_{1t} \) and \( \eta_{2t} \) are random disturbance terms or error terms. The Granger-causality between inward FDI and PCI growth can be determined by simply validating the two null hypotheses to be tested given below:

\[ \sum_{n=1}^{m} (\gamma_{2n}) = 0, \text{ indicating that PCI growth does not Granger-cause inward FDI} \ldots \ldots (a) \]

\[ \sum_{n=1}^{m} (\varphi_{2n}) = 0, \text{ indicating that inward FDI does not-Granger-cause PCI growth} \ldots \ldots (b) \]

By testing the above null hypotheses (a and b) using the Wald-test and comparing its F-values against the critical-values at 1% or 5% or 10% level of significance, the direction of causality is ascertained. The above Granger causality hypotheses will help in answering the following questions:

(i) Does a long-run equilibrium relationship exist between inward FDI and PCI growth in Zambia and Malawi?

(ii) Where does the direction of causality between inward FDI and PCI growth run from?

But more generally, determination of the direction of causality in the FDI-economic growth nexus is also vital for policy makers when designing and implementing policies aimed at stimulating inclusive development in host countries such as Malawi and Zambia.
6.3. Modelling and estimating the FDI-effect on employment

Economic growth is an important ingredient in raising material well-being and reducing poverty since it, on average, lifts the income levels of the poor in proportion to the overall growth rate (Dollar and Kraay, 2002; Dollar, Kraay, and Kleineberg, 2013). On the same note, it was pointed out earlier on that inclusive growth contributes to poverty and income inequality reduction by accelerating the pace of economic growth through making full use of segments of the labor force that are trapped in low-productivity activities and hence totally left-out of the growth process. FDI being a key vehicle in generating economic growth is therefore a vital ingredient to fighting poverty in many developing countries. But it must pointed out in passing that on its own FDI will not automatically deal with all dimensions of poverty and neither will it instantly reduce income inequality. This, therefore, implies that transmission mechanisms need to be in place if the fruits of FDI-driven economic growth are to reach large segments of the population trapped in low-productivity activities thereby reducing poverty.

Employment creation by foreign investment has been identified as one such important transmission mechanism necessary for bridging the growth and income distribution gap in host countries. The World Bank’s Commission on Growth and Development (2008) is very vocal in emphasizing that productive employment is the main instrument for achieving inclusive growth in developing countries. The Commission argues that employment growth creates new job opportunities and income for individuals through wages in firms and self-employment. On the other hand, productivity growth increases wages of employed workers and returns to the self-employed. For developing countries such as Zambia and Malawi where there are inadequate and/or non-existent social security programs to cover the poor who have been left out by the growth process; FDI-generated employment opportunities can provide such an important social safety net. Given the existence of imperfectly-functioning labor markets (i.e. no full employment and large informal sectors) in both countries; it is plausible to envisage that the widespread prevalence of extended family systems in the two countries could ensure that income and wages earned from FDI will create some multiplier effects on these economies. This is why apart from generating growth, employment creation is also one of the main desirable outcomes of FDI promotion for host countries (Coniglio, Prato and Seric, 2014; Craigwell, 2006; Fu and Balasubramanyam, 2005).
In fact, economists are broadly agreed that, on average, FDI enhances national welfare by paying higher wages relative to domestic firms in host countries (Blomström, 1983; Aitken, Harrison, and Lipsey, 1996; Girma, Greenaway, and Wakelin, 1999; Lipsey and Sjöholm, 2001; Sjöholm and Lipsey, 2006). This is made possible by the fact that, on average, multinationals have higher productivity compared to domestic firms. Foreign firms may also pay higher wages in order to prevent workers from quitting and joining rival domestic firms and thus prevent the leakage/spillover of knowledge to their local competitors in host countries (Fosfuri, Motta and Ronde, 2001). For Lipsey and Sjöholm (2004), multinationals may pay higher wages compared to domestic firms simply because they lack perfect knowledge/information about labor markets in host countries and as such they may need to offer a wage premium in order to attract high quality workers. Given the imperfect labor market conditions and acute shortages of skilled labor that exists in many developing host-countries one would expect the wage differentials between multinationals and domestic firms to be significant. These higher wages ensure that a sizeable percentage of the FDI-induced income growth is captured by MNCs’ local workers thereby significantly increasing the host-country’s welfare level. In summary therefore, if we assume imperfectly-functioning labor markets (e.g. with no full employment) exists, we can expect that employment creation would allow the fruits of FDI-induced increased welfare (i.e. higher wages) to be enjoyed by a large proportion of the host-country’s population. It is against this background that the study assesses the FDI-effect on employment creation in Zambia and Malawi.

6.3.1. Derivation of the FDI-employment growth model

We commence our modelling by assuming that labor markets do not function perfectly so that there is no full employment in the economy. Indeed, in many developing countries not everybody who is willing and able to work at the market wage rate and who possesses the required human capital attributes needed by the employer finds employment within a given time period. By assuming imperfectly-functioning labor markets and no full employment, our analytical model will therefore assist in assessing how the benefits of FDI-driven growth through employment creation can be can be accessed by large sections of the host economies of Zambia and Malawi.
We therefore begin our analysis by using an extended neoclassical production function of Cobb-Douglas type to clearly capture the effects of foreign and domestic capital on employment creation given as follows:

\[ Y = AK_d^\alpha K_f^\varphi L^\beta \]

Where \( Y \) is national output, \( L \) is labor force, \( K_d \) and \( K_f \) is capital stock of domestic and foreign origin respectively, \( \beta, \alpha, and \varphi \) are partial production elasticities of \( L, K_d \) and \( K_f \) respectively

Factors of production in the economy are rewarded in accordance with their marginal productivities, so that labor and capital are paid their wage rate and interest rate (rental rate of capital) respectively. Therefore, profit maximization would imply equating wage rate with marginal product of labor and interest rate with marginal product of capital as follows:

Wage rate \((w) = \) marginal product of labor \((MP_L) = \frac{\partial Y}{\partial L}\)

But since we have two forms of capital stock (i.e. \( K_d \) and \( K_f \)) it means that there are also different returns to capital as follows:

Interest rate on domestic capital \((r_d) = \) marginal productivity of domestic capital \((MP_{K_d})\)

Interest rate on foreign capital \((r_f) = \) marginal productivity of foreign capital \((MP_{K_f})\)

From theory we expect: \( MP_{K_f} > MP_{K_d} \)

In a standard Solow-world with full employment, \( w \) follows the changes in the marginal productivity of labor \((MP_L)\) so that

\[ MP_L = \frac{\partial Y}{\partial L} = \beta AL^{\beta-1}K_d^\alpha K_f^\varphi = \beta y = \beta AP_L = w \]

However, with the existence of a labor-market failure (i.e. imperfectly-functioning labor markets) it can be expected that there will be no full employment. We therefore follow Löwenstein and Bender (2017) in postulating that \( MP_L \) adjusts to exogenously given changes in \( w \). This would be in line with the proposition that there is unemployment in the economy and that the unemployed people supply their labor fully elastically at the exogenously given wage
rate. Therefore profit-maximization in our economy, characterized by macroeconomic labor-market failure, is achieved by equating \( MP_L \) with the exogenously given wage rate \( (w_0^*) \) as follows:

\[
MP_L = \frac{\partial Y}{\partial L} = \beta AL^{-1}K_d^\alpha K_f^\phi = \beta Y = \beta AP_L = w_0^*
\]

Solving for \( L \) gives the following expression:

\[
[L^{\beta-1}]^{1-\beta^{-1}} = L = L_D = \left[w_0^*, \frac{1}{\beta A} \right]^{1-\beta^{-1}} \cdot K_d^{-\alpha} \cdot K_f^{-\phi}
\]

\[
L_D = \left[w_0^*, \frac{1}{\beta A} \right]^{1-\beta^{-1}} \cdot K_d^{-\alpha} \cdot K_f^{-\phi}
\]

This shows that labor demand \( (L_D) \) is equal to the profit maximizing labor input at an exogenously given wage rate (which signifies the fully-elastic labor supply) and which in turn equals the equilibrium labor quantity hired at \( w_0^* \).

Therefore, the employment-growth function to be estimated can be derived as follows:

\[
gL_D = \theta_0 + \theta_1 gA + \theta_2 gK_d + \theta_3 gK_f - \theta_4 g(w_0^*)
\]

Exogenously triggered growth in the wage rate translates one-to-one into growth of the output per laborer, \( y \), so this can be further simplified to

\[
gL_D = \theta_0 + \theta_1 gA + \theta_2 gK_d + \theta_3 gK_f - \theta_4 gy
\]

As discussed earlier on, \( gA \) will be approximated using growth in total factor productivity \( gTFP \) and \( gK_d \) will be approximated by gross national savings-to-GDP ratio \( \frac{GNS}{GDP} \). Capital stock of foreign origin \( (K_f) \) which is the study’s main interest, in theory, includes inward FDI, foreign loans/debts and capital aid. However, due to unavailability of reliable data on foreign loans/debts and capital aid for the two countries, we will restrict our approximation of \( (K_f) \) to only include inward FDI. This being the case; \( gK_f \) will therefore be captured by inward FDI-to-
GDP ratio \( \left( \frac{FDI}{GDP} \right) \). Therefore growth in employment \( g(L_D)_{it} \) for country \( i \) and time \( t \) can be estimated as follows:

\[
g(L_D)_{it} = \theta_0 + \theta_1 TFP_{it} + \theta_2 \left( \frac{GNS}{FDI} \right)_{it} + \theta_3 \left( \frac{FDI}{GDP} \right)_{it} - \theta_4 y_{it} + \varepsilon_{it}
\]

Where \( \varepsilon_{it} \) is an idiosyncratic error term.

It can be expected that employment growth in this economy rises with an increase in total factor productivity and capital stock (both foreign and domestic capital) but falls with rising wage and output per worker i.e.

\[
\theta_1 > 0, \theta_2 > 0, \theta_3 > 0, \text{and } \theta_4 < 0
\]

6.4. Estimating the relationship between FDI and income inequality

Having analyzed the FDI-effect on economic growth and employment creation, the study proceeds to assess distributional consequences of foreign investment in Zambia and Malawi. Even though considerable empirical work has been done on the FDI-growth nexus in developing countries but the distributional consequences of inward FDI have largely been neglected in the literature (Figini and Görg, 2011). This is despite the fact that inward FDI affects both wage and non-wage income inequality in host countries through the following links: skill-specific technological change and wage bargaining, composition effect and education and training (te Velde, 2003). Firstly, wage inequality may come about if FDI induces faster labor productivity growth in both foreign firms and domestic firms through technology transfers and spillovers respectively. If the productivity growth is skill-biased, then inequality would worsen due the skill-specific technological change. Additionally, FDI may contribute to inequality through skill-specific wage bargaining when skilled workers in foreign firms due to their relatively scarce skills negotiate for higher wages compared to less-skilled workers. On the composition effect, Feenstra and Hanson (1995) argue that since MNCs tend to locate in skill-intensive sectors of the economy, this increases the demand for skilled workers relative to raw/unskilled labor which in turn may increase wage inequality. Furthermore, on-the-job training and education offered by MNCs benefits skilled workers more than unskilled workers thereby widening the wage differentials between these two groups of laborers. Also, given that, on average, multinationals
offer more on-the-job training opportunities to workers relative to local firms, this may raise inequality within sectors and the host country in general (te Velde, 2003).

But apart from the above wage and non-wage drivers of income inequality, it is also important to examine the FDI-equity nexus in developing host-countries such as Malawi and Zambia which are currently grappling with rising public concerns that globalization may widen income disparities between rich and poor sections of their societies. This study therefore addresses the above concerns in the context of Zambia and Malawi by examining the long-run (statistical) equilibrium relationship between FDI and income inequality in the two countries using 

**cointegration techniques.** More specifically, the study uses a *vector correction error model (VECM)* in establishing cointegration.

The VECM will also be useful in empirically assessing the theoretical proposition that inward FDI causes income inequality to increase in the short-run and gradually decline in the long-run (i.e. exhibit *an inverted U-shaped Kuznets curve*). The gist of the above theoretical proposition is that FDI-induced technology transfers increase wage inequality in the short run by raising the wage premium of skilled workers. But overtime, as domestic firms copy the technology and the unskilled workers upgrade their skill levels, wage inequality in the host economy declines (Aghion and Howitt, 1998). This study will utilize impulse response functions (IRFs) calculated by the VECM in illustrating the validity of this the *inverted-U* hypothesis in Zambia and Malawi. Empirical evidence in support of the ‘U-shaped FDI-induced inequality’ has been found by Figini and Görg (1999 and 2011) for Ireland and some developing (non-OECD) countries. More recently, Herzer and Nunnenkamp (2013) also empirically confirmed the above proposition in some European countries and Latin American economies. However, no known study has so far attempted to test this ‘Kuznets inverted-U’ hypothesis in Africa; this study will be the first to do so for Zambia and Malawi.

From the above theoretical framework, it is clear that the host-country’s human capital is an important driver of the FDI-inequality nexus through its influence on not only skill differentials among workers but also learning-by-observing/imitation efforts of domestic firms. In concurrence with this assertion, Figini and Görg (2011) argue that the level of human capital in a host country influences the skill premium of workers by determining workers’ ability to
effectively utilize the newly introduced technology. These researchers further observe that domestic firms may also need to reach a certain threshold of human capital to effectively absorb new technology introduced by multinationals. But it must be pointed out that both wage and non-wage inequality is also heavily influenced by the economic structure which is also linked to a host-country’s level of economic development. This being the case, Choi (2006); Figini and Görg (2011); and Herzer et al., (2014) argue that a host-country’s per capita income (PCI) is an important determinant of the FDI-income inequality relationship. This study therefore follows seminal work on the subject by Figini and Görg (2011); Choi (2006) and Herzer et al., (2014) in specifying the empirical model as follows:

\[
Ineq_{it} = \delta_0 + \delta_1 \left( \frac{FDI}{GDP} \right)_{it} + \delta_n (X)_{it} + \epsilon_{it} \ldots \ldots (i)
\]

Where \( Ineq \) is income inequality in county \( i \) at time \( t \) measured by the Gini coefficient, \( \left( \frac{FDI}{GDP} \right) \) represent inward FDI-to-GDP ratio, \( X \) is a vector of control variables that are correlated with inequality (i.e. human capital and per capita income) and \( \epsilon_t \) is the white noise error term, \( \delta_0 \) is the intercept term capturing trends and country-specific effects, \( \delta_1 \ldots \delta_n \) are coefficients representing the long-run impact of FDI and the control variables on the level of inequality in each of the two countries.

Transforming equation \( (i) \) into a VECM framework incorporating income inequality, FDI and the two control variables (i.e. human capital and PCI) generates the following expression that will be utilized in examining the FDI-inequality nexus in Zambia and Malawi:

\[
\Delta Ineq = \delta_0 + \sum_{i=0}^{n} \delta_1 \Delta Ineq_{t-1} + \sum_{i=0}^{n} \delta_2 \Delta FDI_{t-1} + \sum_{i=0}^{n} \delta_3 \Delta Humcap_{t-1} + \sum_{i=0}^{n} \delta_4 \Delta PCI_{t-1} + \pi_1 ECT_{t-1} + \epsilon_t \ldots \ldots (a)
\]

\[
\Delta FDI = \delta_0 + \sum_{i=0}^{n} \delta_1 \Delta FDI_{t-1} + \sum_{i=0}^{n} \delta_2 \Delta Ineq_{t-1} + \sum_{i=0}^{n} \delta_3 \Delta Humcap_{t-1} + \sum_{i=0}^{n} \delta_4 \Delta PCI_{t-1} + \pi_2 ECT_{t-1} + \epsilon_t \ldots \ldots (b)
\]

Where \( Ineq \) is income inequality measured by Gini coefficient, \( Humcap \) is human capital, \( PCI \) is per capita income, \( FDI \) is inward FDI stocks as ratio of the GDP, \( \Delta \) is a difference operator

\( ECT_{t-1} \) is an error correction term, and \( \pi_1 \) and \( \pi_2 \) are adjustment coefficients of the ECT which contain information on whether past values influence present values in the model and also capture long-run dynamics. According to the Granger representation theorem, if the long-run equilibrium relationship is to hold it is required that at least one of the adjustment coefficients
should have a non-zero value. If adjustments coefficients are significant, then a long-run Granger causality relationship and indeed endogeneity exists between the variables. But if there is insignificance in the adjustment coefficients then long-run Granger non-causality running from the regressor to the regressand exists and hence one would expect weak exogeneity in the relationship (Hall and Milne, 1994).

The main advantage of cointegration methods such as VECMs is that their estimators remain robust even in the face of a variety of estimation problems that affect OLS regression methods such as omitted variables, errors in measurement and endogeneity.

6.4.1. Establishing the direction of causality between FDI and income inequality

Even though the existence of cointegration confirms that causality exists between FDI and income inequality, it is also important to determine the direction of the causality. Herzer and Nunnenkamp (2013) observe that there exists in the literature a considerable level of agreement that there is possible endogeneity between FDI and income inequality; meaning that either variable may statistically influence (‘Granger-cause’) the other. Thus, causality can run from either FDI or income inequality direction. For instance, rising inequality levels may signify a decline in the level of real wages of low-skilled employees. When such a scenario prevails, multinationals may opt to undertake vertical FDI and relocate their low-skilled operations to host countries with high inequality to take advantage of lower wages. But foreign firms may, on the other hand, pull-out of host countries with high income inequality to avoid political instability and social upheaval. Likewise, horizontal FDI may also be harmed by rising inequality which would imply shrinking effective demand arising from declining middle-class population in the host country. From this, therefore, it is clear that rising inequality could be a driver of increased or decreased FDI in host-countries. Against this background, therefore, it is necessary to examine the time-series properties of the data for both Zambia and Malawi to properly deal with the possible endogeneity issue and hence determine the direction of causality. The study therefore employs Granger testing on the VECM to reveal the direction of causality. To achieve the above objective, the study utilizes a conventional bi-variate Granger causality formulation as follows:
\[ \Delta \left( \frac{\text{FDI}}{\text{GDP}} \right)_t = \gamma_0 + \sum_{n=1}^{m} (y_{1n}) \Delta \left( \frac{\text{FDI}}{\text{GDP}} \right)_{t-j} + \sum_{n=1}^{m} (y_{2n}) \Delta \text{Ineq}_{t-j} + \eta_{1t} \quad \ldots \quad (1) \]

\[ \Delta \text{Ineq}_{it} = \varphi_0 + \sum_{n=1}^{m} (\varphi_{1n}) \Delta \text{Ineq}_{t-j} + \sum_{n=1}^{m} (\varphi_{2n}) \Delta \left( \frac{\text{FDI}}{\text{GDP}} \right)_{t-j} + \eta_{2t} \quad \ldots \quad (2) \]

In the above formulations, \( \Delta \text{Ineq} \) represents change in income inequality and \( \Delta \left( \frac{\text{FDI}}{\text{GDP}} \right) \) is the change in the volume of inward FDI as a ratio of GDP. Furthermore, \( \gamma_0 \) and \( \varphi_0 \) are y-intercepts for equations (1) and (2), while \( \eta_{1t} \) and \( \eta_{2t} \) are random disturbance terms or error terms. The Granger- causality between FDI and income inequality can be determined by simply validating the two null hypotheses to be tested given below:

\[ \sum_{n=1}^{m} (y_{2n}) = 0, \text{ indicating that income inequality does not Granger-cause FDI} \ldots \quad (a) \]

\[ \sum_{n=1}^{m} (\varphi_{2n}) = 0, \text{ indicating that FDI does not Granger-cause income inequality} \ldots \quad (b) \]

By testing the above null hypotheses (a and b) using the Wald-test and comparing its F-values against the critical-values at 1% or 5% or 10% level of significance, the direction of causality is established in Zambia and Malawi.

6.5 Chapter summary

In describing the study’s analytical framework, the chapter began by defining the measurement of inclusive growth as comprising of two components: (i) the pace of growth and (ii) distribution of growth. The study identified employment creation as a transmission mechanism for channeling growth benefits to the rest of the host-countries’ population. After this, the relationship between FDI and income inequality was addressed as a way of covering the distributional aspect of inclusive growth. In the final section of the chapter econometric/empirical models were derived to operationalize the statistical estimation of the FDI-inclusive growth nexus.
CHAPTER SEVEN
EMPIRICAL ESTIMATION AND INTERPRETATION OF THE STUDY’S RESULTS

7.0. Chapter overview

This chapter discusses empirical results of the study. It presents empirical findings and interpretations of econometric analyses performed using Stata 12.0 software on annual time-series data for Zambia and Malawi covering the period 1970 to 2014. In conducting our empirical estimations, we will restrict the number of independent variables to those given by our empirical models presented in Chapter 6. Additionally, results of several time series pre-estimation and post-estimation diagnostic tests are also presented to ensure statistical robustness of the study’s findings. By giving an account of econometric estimation and interpretation of the empirical findings, the chapter answers the study’s research objectives which were set out in the introduction, Chapter One. The empirical estimation chapter begins by describing the data used before presenting an econometric analysis of ‘the pace of FDI-led PCI growth’ and concludes by tackling the resultant ‘distribution of FDI-induced growth’ in Zambia and Malawi.

7.1. Description of the data and estimation techniques

As stated earlier on; this research is a country-by-country approach analyzing the impact of FDI on inclusive growth in Malawi and Zambia. As such, the study will comparatively examine time-series data for the two individual countries covering the periods 1970 to 2014. This data was obtained from various international sources as will be elaborated in the discussion that follows. The choice of the sample period has been dictated by the fact that it was in the 1970s and 1980s when Zambia and Malawi like most of their Southern African neighbors began undertaking significant reforms explicitly targeting FDI attraction and promotion. In the above period and later on, the two countries individually but also as part of the SADC and COMESA regional economic groupings, carried out FDI-related macroeconomic reforms. The reforms include: privatization of state enterprises, economic liberalization, establishment of FDI-promoting statutory agencies and rolling out of export and tax incentives to MNCs, among others (Mahembe, 2014).
In this study we use annual growth rate of per capita income \((g_{PCI})\) as a measure of economic growth and its data is obtained from World Development Indicators (WDI) 2015 compiled by the World Bank. This annual percentage growth in the per capita GDP is based on constant US dollars. On a related note, we also utilize PCI as a proxy of annual average incomes in the two countries and this data is also obtained from WDI 2015.

Labor-force growth is calculated from working-age population (WAP) data collected from the WDI database of the World Bank. This data covers the period from 1970 to 2014. The World Bank defines the working population as a population aged between 15 and 64 years as a percentage of the total population.

Additionally, inward FDI-to-GDP ratio approximates rate of growth of capital stock of foreign origin. Even though foreign capital inflows in theory also include foreign debts/loans and capital foreign aid, however the unavailability of credible data on these variables has reduced our measure to only include inward FDI. Data on FDI-to-GDP ratio as a proxy of the rate of growth of capital stock of foreign origin is obtained from UNCTADStat database which is compiled by UNCTAD. Following Nunnenkamp et al. (2012) we utilize FDI stocks instead of FDI flows since stocks are more efficient in capturing inward FDI effectively due to the accumulation of inflows. Furthermore, as is common practice in the literature, using FDI stocks as a percentage of the GDP enables us to control for host-country size.

On the same, growth in capital stock of domestic origin is approximated using gross national savings (GNS)-to-GDP ratio. These series are also obtained from World Bank’s WDI 2015 database. The World Bank calculates gross national savings as GDP data less final consumption expenditure or total consumption.

Employment growth data is obtained from Penn World Tables (PWT) 9.0 data base organized by Feenstra et al. (2015). Penn World Tables define the number of people engaged (employed) as encompassing all people aged 15 years and above who during a given week perform work (even just one hour per week) or those people who are self-employed or are economically engaged.

Also, our study uses growth in total productivity as a proxy for \(gA\). This data is provided by the Conference Board and considers the contributions of labor, physical capital and other intangible
capital to the production of goods and services. Additionally, Conference Board calculates these series as a residual after taking into account the contributions of factor inputs in the growth process of national output (value-added).

Income inequality in our study is approximated using the Gini coefficient. Data on the Gini coefficient is obtained from the Standardized World Income Inequality Database (SWIID) organized by Frederick Solt (2016). Data from the SWIID covers comparable Gini indices of disposable and market income from 192 countries from 1960 to the present and covers aspects of absolute and relative income distribution. Furthermore, the SWIID incorporates income inequality data from several sources including OECD Income Distribution Database, World Bank, Eurostat, CEDLAS, UNECLAC and more importantly, national statistical offices around the globe. This being the case, our SWIID Gini coefficient series are augmented by compilations from National Statistics Office (NSO) in Malawi and the Central Statistical Office (CSO) in Zambia.

Likewise, we estimate the growth in skills of workers using human capital data obtained from Penn World Tables (PWT) 9.0 organized by Feenstra et al. (2015). The Penn World Tables Version 9.0 constructs a human-capital proxy based on the average years of schooling obtained from Barro and Lee (2013) as well an assumed rate of return built on the Mincer-equation estimates from around globe originally developed by Psacharopoulos (1994).

The above data issues are summarized in the table below:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Measurement proxy</th>
<th>Data source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic growth</td>
<td>Annual per capita GDP growth ($gPCT$)</td>
<td>World Bank’s World Development Indicators (WDI) 2015</td>
</tr>
<tr>
<td>Growth in total factor productivity</td>
<td>Growth in total factor productivity ($gTFP$)</td>
<td>Conference Board</td>
</tr>
<tr>
<td>Foreign capital stock</td>
<td>Inward FDI stocks –to-GDP ratio ($FDI_{GDP}$)</td>
<td>UNCTAD database</td>
</tr>
<tr>
<td>Labor force growth</td>
<td>Growth rate of working age population per annum (n)</td>
<td>World Bank’s World Development Indicators (WDI) 2015</td>
</tr>
<tr>
<td>Domestic capital stock</td>
<td>Gross domestic savings-to-GDP ratio ($GNS_{GDP}$)</td>
<td>World Bank’s World Development Indicators (WDI) 2015</td>
</tr>
<tr>
<td>Employment growth</td>
<td>Annual growth rate in the number of laborers engaged ($gl_o$)</td>
<td>Penn World Tables 9.0</td>
</tr>
<tr>
<td>Human capital</td>
<td>A human capital proxy based on years of schooling and returns to education ($Humcap$)</td>
<td>Penn World Tables 9.0</td>
</tr>
</tbody>
</table>
We now discuss sampling and estimation strategies employed by the study. In conducting empirical testing, we utilize time-series data covering the period between 1970 and 2014 in order to adequately examine individual experiences of Zambia and Malawi and hence gain insights into the FDI-inclusive growth dynamics within each country. Our sample period is guided by the availability of data as well as the fact that, it is during the same period that the two host governments have actively promoted FDI to boost their economic development aspirations.

Our study uses the *Ordinary Least Squares (OLS) regression approach and Vector Error Correction Method (VECM)* as its main methods of empirical analysis. The OLS regression method is utilized to analyze the FDI-PCI growth relationship as well as the FDI-employment nexus in the two countries. Moreover, the VECM is used to empirically estimate the FDI-inequality relationship. But it must be stated that *in conducting our empirical estimations we will restrict the number of independent variables to those given by our empirical models as illustrated in Chapter 6*. Finally, we will also perform several diagnostic tests on the time series data in order to ensure robustness of the results and their consequent inferences. These pre-estimation and post-estimation diagnostic tests include tests for unit roots, autocorrelation, heteroscedasticity, multicollinearity and model misspecification.

### 7.2. Empirical analysis of the pace of FDI-induced economic growth

#### 7.2.1. FDI-PCI growth relationship: Empirical evidence from Malawi

Before OLS regression is empirically carried out, the study performs unit root tests to check for stationarity of the time series and thus avoid running a spurious regression. Most economic time-series data is non-stationary in levels and therefore increases the likelihood of spurious regression results i.e. falsely inferred linear relationships. Augmented Dickey-Fuller (ADF) test is therefore utilized to test for unit roots (i.e. non-stationarity of the time series). The ADF basically tests the hypothesis that a stochastic trend (i.e. random long-term variable movements)
exist in the time series against the alternative hypothesis that there is no stochastic trend. In other words, the hypothesis that there is unit root against the proposition of no unit roots in the time series (Stock and Watson, 2007). Results of the ADF test for Malawi are given in Table 7.2 below.

Table 7.2: Unit root Test results for Malawi

<table>
<thead>
<tr>
<th>Name of variable</th>
<th>Malawi</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADF test statistic in levels</td>
<td>ADF test statistic after 1st differencing</td>
</tr>
<tr>
<td>$gPCI$</td>
<td>-3.792***</td>
</tr>
<tr>
<td>$\frac{FDI}{GDP}$</td>
<td>-1.539</td>
</tr>
<tr>
<td>$\frac{GNS}{GDP}$</td>
<td>-1.657</td>
</tr>
<tr>
<td>$n$</td>
<td>-1.551</td>
</tr>
<tr>
<td>$gTPF$</td>
<td>-3.657***</td>
</tr>
</tbody>
</table>

* indicates significance at 10% level of significance  
** indicates significance at 5% level of significance  
*** indicates significance at 1% level of significance  
Source: author’s secondary data analysis using Stata

From the above table the data is non-stationary in levels (i.e. before differencing) indicating the presence of unit roots in the case of Malawi. Table 7.2 also reveals that most of the data for Malawi becomes stationary after first differencing at 5 percent and 10 percent levels of significance. This indicates that the above time series are integrated at order one i.e. $I(1)$.

Since ADF results confirmed the existence of stationarity and long-run relationships, it therefore implies that non-spurious regression can be run on the data and credible inferences can also be made from the same. The exercise that follows below involves the presentation of regression results on the relationship between growth in per capita income ($gPCI$), inward FDI-to-GDP ratio ($\frac{FDI}{GDP}$), savings-to-GDP ratio ($\frac{GNS}{GDP}$), growth in working-age population ($n$), and growth in total factor productivity ($gTPF$) in Malawi as estimated by Stata and the results are presented in Table 7.3 below. But before regression coefficients are made and conclusions drawn from the same, we will first apply time-series post-estimation tests to ensure robustness of the results.
Table 7.3: Estimating the FDI-PCI growth relationship for Malawi

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>( g_{PCI} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>constant</td>
<td>0.799</td>
</tr>
<tr>
<td>( g_{TFP} ) growth in total factor productivity</td>
<td>0.997***</td>
</tr>
</tbody>
</table>

Standardized coefficient for \( g_{TFP} \) 0.945

\[
\left( \frac{GNS}{GDP} \right) \text{ domestic savings to GDP ratio} 0.265***
\]

Standardized coefficient for \( \left( \frac{GNS}{GDP} \right) \) 0.526

\[
\left( \frac{FDI}{GDP} \right) \text{ Inward FDI to GDP ratio} 1.713***
\]

Standardized coefficient for \( \left( \frac{FDI}{GDP} \right) \) 0.870

\( n \) growth in working age population \(-1.653**\)

Standardized coefficient of \( n \) \(-0.329\)

\[
R^2 \quad 0.854
\]

\[
F - \text{value} \quad 27.69
\]

\[
\text{Breusch – Pagan/Cook – Weisberg Chi}^2 \quad 0.73
\]

\[
(P > \text{Chi}^2) \quad (0.3936)
\]

\[
\text{Breusch – Godfrey Chi}^2 \quad 0.505
\]

\[
(P > \text{Chi}^2) \quad (0.7770)
\]

\[
\text{Ramsey RESET } F \quad 4.60
\]

\[
(P > F) \quad (0.1176)
\]

\[
\text{Mean Variance Inflation Factor (VIF)} \quad 8.11
\]

| Total number of observations | 205 |

Source: Author’s secondary analysis using Stata

NB: The dependent variable in the regression for Malawi is the growth rate of per capita income while the independent variables are FDI-to-GDP ratio, Savings-to-GDP ratio, and growth rate of working-age population. The period is under consideration is 1970-2014. The estimation method is OLS regression.

***Significant at the 1 percent level. **Significant at the 5 percent level. *Significant at the 10 percent level.

From the above table, it is evident that all the independent variables have the expected signs in line with growth theory. Furthermore, the regression shows that the coefficient of variation \( R^2 \) has a value of 0.854 which implies that 85.4 percent of variations in the dependent variable (regressand) can be explained by changes in the independent variables (regressors). This
indicates that the regression has a high explanatory value or goodness of fit. In addition to this, the F-statistic value is statistically significant indicating that the regressors are significantly different from zero and hence the regression model has some validity in fitting the data.

We now perform diagnostic tests on the time series to ensure robustness of the empirical estimates before interpreting the OLS results. In general, time-series regression diagnostic tests refer to procedures performed on the data with the aim of detecting violations of the classical OLS regression assumptions. Regression diagnostics also gauge the severity of the violations and enable the researcher to implement the appropriate remedial measures to address the challenges. However, in deciding which diagnostic tests to perform it is important to balance the practical significance of the tests against their statistical importance. The same is also true when evaluating results of OLS regression. This is so because not all violations of OLS assumptions lead to failure of the BLUE (Best Linear Unbiased Estimator) property of regression. Against this background, therefore, this study employs some standard diagnostic tests to detect serious regression problems such as heteroscedasticity, autocorrelation, multicollinearity and incorrect functional form of the model.

Our post-estimation diagnostic testing begins with the Breusch-Pagan/Cook-Weisberg Test for homoscedasticity. Classical OLS regression assumes that stochastic error terms are constant for all observations in the time series (i.e. homoscedasticity). Violation of this assumption (i.e. heteroscedasticity) results in larger than minimum variance values of the coefficients (i.e. inefficiency) and biased and incorrect standard error estimates as well as confidence intervals. This invalidates the error term values and thus contradicts the BLUE property of OLS (Gujarati and Porter, 2010). The Breusch-Pagan/Cook-Weisberg Test checks for homoscedasticity of the error term in a fitted regression by comparing its chi-square value against a given level of significance. If the probability value \( P > \chi^2 \) exceeds 0.05 (significance level) then the null hypothesis of constant variance is accepted while heteroscedasticity is present if the probability value is less than 0.05 (Gujarati, 2003). Since the \( P > \chi^2 \) value (0.3936) in Table 7.3 above is greater than 0.05, then the null hypothesis of constant variance (i.e. homoscedasticity) of the error terms is accepted.
We proceed to test for autocorrelation using the Breusch-Godfrey Test. Basically, autocorrelation or serial correlation occurs when one stochastic disturbance term in a time period is positively correlated with an error term in another time period. This common occurrence in time-series data results into biased standard errors, incorrect statistical tests and confidence intervals as BLUE properties of OLS regression are violated. The Breusch-Godfrey or Lagrange Multiplier (LM) Test is a common autocorrelation diagnostic test which simply compares the probability value against its significance level of 5 percent to detect serial correlation of error terms (Kirchgassner and Wolters, 2007). Stata executes the above test by testing a null hypothesis that there is no serial correlation in error terms up to lag $p$. If the p-value i.e. $(P > \text{Chi}^2)$ is greater than 0.05 then there is no autocorrelation but if the p-value is less than the 5 percent level of significance serial correlation is present. Table 7.3 indicates that there is no autocorrelation in time series of Malawi since the p-value (0.7770) is greater than 0.05. Therefore, the null hypothesis of no autocorrelation is accepted at 5 percent level of significance.

Furthermore, it can be recalled that multicollinearity principally refers to a situation where two or more independent variables are highly correlated thereby making it difficult to isolate the individual effects of these regressors on the dependent variable. In this case, the estimated regression coefficients may exhibit wrong signs and statistical insignificance even in the presence of a high $R^2$ (Salvatore and Reagle, 2001). One of the commonest tests for multicollinearity in OLS is the variance inflation factor (VIF). The VIF basically indicates the magnitude of the variance of the coefficient estimate is being inflated due to the presence of multicollinearity (Gujarati, 2003). Using Stata, Chen et al. (2003) postulates that as ‘a rule of thumb’ multicollinearity is present when the mean VIF has a value of more than 10. By employing the same logic; empirical results in our Table 7.3 indicate that no serious multicollinearity is present among explanatory regression variables since the mean VIF value is below 10 (i.e. 8.11).

To test for the likelihood of incorrect model specification, that is, whether the model has omitted certain variables, has incorrect functional form, or there is correlation between explanatory variables and the residuals, the Ramsey Regression Error Specification Test (RESET) is normally used. The Ramsey RESET is basically an F-test that measures the effect that non-linear combinations of fitted values have on the dependent variable. It assesses the null hypothesis that
the regression model is correctly specified against an alternative hypothesis of incorrect specification by simply validating the probability value against a given significance level (Gujarati, 2003). In Stata; a probability value \( P > 0.05 \) indicates correct model specification while that less than 0.05 shows that the regression model is incorrectly specified. From Table 7.3 it is clear that the probability value 0.1176 is greater than the level of significance (0.05). Therefore, the null hypothesis that the regression model is correctly specified and contains no omitted variables is accepted for Malawi. This result ensures that the slopes will be unbiased and robust conclusions can be generated from coefficients of the OLS model for Malawi.

Having successfully performed the diagnostic tests on the time series, we now interpret the estimated regression coefficients. To begin with, it can be seen from Table 7.3 that a 1 percent increase in inward FDI-to-GDP ratio causes a 1.713 percent increase in the level of PCI growth and this result is statistically significant at all levels of significance (i.e. 10, 5, 1 percent). This suggests that inward FDI exerts a positive effect on per capita economic growth in Malawi. The above empirical findings seem to agree with growth theory that inward FDI boosts GDP growth of a host country by contributing to capital formation.

Furthermore, the above OLS results also indicate that a 1 percentage point surge in gross national savings-to-GDP ratio causes a 0.265 percentage point increase in PCI growth over time in Malawi. This is in line with growth theory which states that increased savings contribute to capital formation which in turn accelerates income growth over time. On the same, a study by Chipeta and Mkandawire (1991) also found that domestic savings have a positive albeit weak effect on economic growth in Malawi. However, when the standardized coefficients are compared in Table 7.3 it is clear that the FDI-to-GDP ratio has a larger positive effect (0.870) on PCI growth relative to the savings-to-GDP ratio (0.526). This suggests that external growth impulses from FDI through foreign capital additions are larger than growth impulses emanating from domestic capital (in form of savings). From the above findings, therefore, one can conclude that globalization (in form of inward FDI) boosts PCI growth in Malawi.
Table 7.3 also shows that growth in the working-age population has negative and significant effect on PCI growth in Malawi. In particular, a 1 percentage point increase in working-age population reduces PCI growth by 1.653 percentage points. This result seems to support neoclassical growth theory that rapid population growth over time reduces capital per worker which in turn depresses productivity and per capita GDP growth. Studies done by House and Zimalirana (1992), Lea and Hamner (2009), and Ricker-Gilbert, Jumbe and Chamberlain (2014) also found that rapid population growth is one of the important factors that depress PCI growth in Malawi.

Additionally, results of the above OLS regression also indicate a 1 percent rise in total factor productivity causes 0.997 percent surge in PCI growth in Malawi. This result is statistically significant at all levels of significance (10, 5 and 1 percent). This suggests that factor productivity positively affects economic growth in the country.

### 7.2.2. FDI-PCI growth relationship: Empirical evidence from Zambia

We now examine the FDI-PCI growth relationship for Zambia. As before, we begin by examining the presence of unit roots in the time series. From the table below, it is evident that unit roots are present in the data. But the data becomes stationary (i.e. unit roots are eliminated) after first differencing implying that the time series are integrated of order one i.e. I(1).

#### Table 7.4: Unit root test results for Zambia

<table>
<thead>
<tr>
<th>Name of variable</th>
<th>ADF test statistic in levels</th>
<th>ADF test statistic after 1st differencing</th>
<th>Order of integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>gPCI</td>
<td>-1.718</td>
<td>-6.984***</td>
<td>I(1)</td>
</tr>
<tr>
<td>GNS</td>
<td>-0.778</td>
<td>-5.880***</td>
<td>I(1)</td>
</tr>
<tr>
<td>GDP</td>
<td>-1.546</td>
<td>-3.799**</td>
<td>I(1)</td>
</tr>
<tr>
<td>FDI</td>
<td>-1.218</td>
<td>-4.376***</td>
<td>I(1)</td>
</tr>
<tr>
<td>GDP</td>
<td>-1.783</td>
<td>-3.376**</td>
<td>I(1)</td>
</tr>
</tbody>
</table>

* indicates significance at 10% level of significance  
** indicates significance at 5% level of significance  
*** indicates significance at 1% level of significance  
Source: author’s secondary data analysis using Stata

Since the above ADF test results confirmed the existence of stationarity in the differenced data, it therefore implies that non-spurious regression can be run on the time series and credible
inferences can also be made from the same. The exercise that follows below involves the presentation of regression results on the relationship between growth in per capita income ($gPCI$), foreign capital approximated by $\left(\frac{FDI}{GDP}\right)$, domestic capital approximated by $\left(\frac{GNS}{GDP}\right)$, growth in working-age population ($n$) and growth in total factor productivity ($gTFP$) in Zambia as estimated by Stata and the results are presented in Table 7.5. But as is the tradition in OLS estimation; we perform diagnostic tests on the data before interpretations of the regression coefficients can be made.

From the table below, it can be deciphered that all the independent variables (i.e. regressors) in the regression have the expected signs which conform to economic theory. In addition to this, the F-statistic value (3.52) is statistically significant at 5 percent level of significance. The OLS regression also has an $R^2$ value of 0.453 indicating that 45.3 percent of the variations in the regressand (dependent variable) are explained by changes in the regressors (independent variables). This is a reasonable measure of goodness-of-fit and hence the model has some explanatory power.
Table 7.5: Estimating the FDI-PCI growth relationship for Zambia

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>$g_{PCI}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>constant</td>
<td>$-3.463$</td>
</tr>
<tr>
<td>$g_{TFP}$ growth in total factor productivity</td>
<td>$0.117$</td>
</tr>
</tbody>
</table>

**Standardized coefficient for $g_{TFP}$**

- **Domestic savings to GDP ratio** ($\frac{GNS}{GDP}$) = $0.160^{**}$
- **Inward FDI to GDP ratio** ($\frac{FDI}{GDP}$) = $0.639^{*}$
- **Growth in working age population** = $-0.117$

**Standardized coefficient**

- $R^2$ = $0.453$
- $F$ value = $3.520$
- Breusch – Pagan/Cook – Weisberg Chi$^2$ ($P > \text{Chi}^2$) = $5.91$ ($0.2060$)
- Breusch – Godfrey Chi$^2$ ($P > \text{Chi}^2$) = $1.979$ ($0.3717$)
- Ramsey RESET $F$ ($P > F$) = $1.29$ ($0.4703$)
- Mean Variance Inflation Factor (VIF) = $6.34$
- Total number of observations = $205$

Source: Author’s secondary analysis using Stata

NB: The dependent variable in the regression for Zambia is the growth rate of per capita income while the independent variables are FDI-to-GDP ratio, gross national savings-to-GDP ratio, and growth rate of working-age population. The period is under consideration is 1970-2014. The estimation method is OLS regression.

***Significant at the 1 percent level. **Significant at the 5 percent level. *Significant at the 10 percent level.

Before interpreting the study’s empirical results, we first perform post-estimation diagnostic on the time series to ensure robustness of the results. From the above table, it can be deduced that there is no heteroscedasticity in the data for Zambia since the ($P > \text{Chi}^2$) value ($0.2060$) is greater than the significance level ($0.05$). One can therefore accept the null hypothesis of homoscedasticity.
After testing for autocorrelation, the Breusch-Godfrey test results indicate that no serial correlation is present in our model since the \( P > \chi^2 \) value (0.3717) is greater than 0.05. Stata results of the Breusch-Godfrey autocorrelation test are given in Table 7.5.

We also check for the possible existence of very high correlation between the variables (i.e. multicollinearity). Empirical results from the above table indicate that no high degree of correlation is present since none of the variables has a mean variance inflation factor (VIF) of more than 10. Actually, our regression model in Table 7.5 shows a mean VIF value of 6.34. We therefore conclude that multicollinearity is not present among the explanatory variables.

Likewise, we also assess the possibility that our regression model is incorrectly specified, has omitted some important variables, or has incorrect functional form. To do this we apply the Ramsey RESET test on the time series. Results of the test show that none of the important regressors has been omitted; the model has correct specification and functional form since the \( P > F \) value (0.4703) is larger than the significance level (0.05).

Successful performance of the post-estimation diagnostic tests on the time series now gives us license to interpret the OLS regression coefficients. From OLS results in Table 7.5 a 1 percentage point increase in the level of FDI triggers a corresponding increase of 0.639 percentage points in PCI growth. But this result is only significant at 10 percent level of significance. This suggests that FDI has a positive but statistically weak effect on the level of economic growth in Zambia at 10 percent significance level. One possible explanation for this result could be found in the type or motive of the FDI that flows into Zambia. As already pointed out in the discussion; the majority of Zambia’s inward foreign investment is resource-seeking FDI that gravitates towards its mining sector. But as Nunnenkamp and Spatz (2004) argued; resource-seeking FDI, in many cases, has a limited growth-generating effect on the host country because it has limited scope for linkages with the local host-economy. On a related note, resource base theorists such as Baldwin (1956) and Binswanger (1994) also argue that FDI inflows in extractive sectors such as mining are likely to contribute less to economic growth due to not only lacking meaningful forward and backward linkages with the domestic economy (local product and labor markets) but also because the ‘enclave character’ of the FDI renders its profits prone to embezzlement or looting by corrupt local elites.
Table 7.5 also shows that a 1 percentage point increase in domestic savings-to-GDP ratio drives up PCI growth by 0.160 percentage points and this result is statistically significant at 5 percent level of significance. This indicates that domestic capital has had a positive effect on Zambia’s economic growth process in the post-colonial period. A study by Simeo (2004) agrees with the above findings by revealing that domestic capital through savings ‘Granger-causes’ GDP growth in Zambia; thus, indicating that indeed domestic capital and economic growth are positively related. However, from the standardized coefficients in Table 7.5 it is clear that growth impulses emanating globalization (in form of FDI-to-GDP ratio) (0.359) are smaller than growth impulses originating from domestic sources (in form of domestic savings-to-GDP ratio) (0.526) in Zambia. Thus, globalization (in form of inward FDI-to-GDP ratio) appears to generate smaller PCI growth in the Zambian economy relative to domestic capital (in form of savings-to-GDP ratio).

On the other hand, Table 7.5 shows that growth in working-age population has a statistically insignificant effect on per capita income growth in Zambia. This suggests that population growth may not be an important determinant of per capita economic growth in Zambia. In concurrence, a recent study on sources of economic growth in Zambia done by Chirwa and Odhiambo (2016) also found that population growth and other macroeconomic factors (e.g. inflation and real exchange-rate depreciation) have no significant effect on the growth rate of per capita GDP.

Furthermore, the above regression coefficients of equation also indicate that growth in total factor productivity has an insignificant effect on PCI growth in Zambia.

7.3. Empirical examination of the long-run (statistical) equilibrium relationship between FDI-to-GDP ratio and PCI growth (i.e. cointegration testing)

Having successfully performed diagnostic tests and hence eliminated the possibility of spurious correlation in the time series as well as interpreted the coefficients, the analysis proceeds to establish the existence of a long-run relationship among the variables (i.e. cointegration) using the standard Engle-Granger cointegration test. Generally, the basic idea behind cointegration is that sometimes even though variables may not have unit roots but their linear combinations could contain unit roots. In this case, estimating regression of cointegrating variables in levels may still be meaningful even though the variables are non-stationary. Besides, cointegration is more prudent relative to differencing because it preserves long-run information which would otherwise
be lost if for instance, differencing was to be utilized (Gujarati and Porter, 2010). The Engle-Granger cointegration approach basically involves two steps: running OLS, obtaining residuals and performing ADF (Augmented Dickey-Fuller) test on the residuals (Stock and Watson, 2007). Results of the Engle-Granger method for Malawi that are depicted in Table 7.6 indicate that cointegration exists between $\frac{FDI}{GDP}$ and $gPCI$ variables since the test statistic value is greater than the critical values at all percent levels of significance (i.e. 10, 5, and 1 percent).

Table 7.6: Engle-Granger cointegration test result for Malawi

<table>
<thead>
<tr>
<th></th>
<th>Test statistic</th>
<th>1% critical value</th>
<th>5% critical value</th>
<th>10% critical value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$Z(t)$</td>
<td>-4.061</td>
<td>-3.634</td>
<td>-2.952</td>
<td>-2.610</td>
</tr>
<tr>
<td>MacKinnon p-value for $Z(t)$</td>
<td></td>
<td></td>
<td>-0.0011</td>
<td></td>
</tr>
</tbody>
</table>

Source: author’s secondary data analysis using Stata

On the same, Table 7.7 indicates that cointegration exists between the regression variables in Zambia since the test-statistic value (-3.226) is statistically significant at all levels of significance and on top of this, the MacKinnon p-value for $Z(t)$ of 0.0185 also confirms this significance.

Table 7.7: Engle-Granger cointegration test result for Zambia

<table>
<thead>
<tr>
<th></th>
<th>Test statistic</th>
<th>1% critical value</th>
<th>5% critical value</th>
<th>10% critical value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$Z(t)$</td>
<td>-3.226</td>
<td>-3.634</td>
<td>-2.952</td>
<td>-2.610</td>
</tr>
<tr>
<td>MacKinnon p-value for $Z(t)$</td>
<td></td>
<td></td>
<td>0.0185</td>
<td></td>
</tr>
</tbody>
</table>

Source: author’s secondary data analysis using Stata

The above results confirm the existence of a long-run equilibrium relationship between FDI-to-GDP ratio and PCI growth in both Zambia and Malawi. Thus, the hypothesis that the ‘pace of PCI growth’ is influenced by inward stock of FDI-to-GDP ratio is supported by the above cointegration results. The results also reinforce empirical results found by Mahembe (2014) who found a strong relationship between FDI-to-GDP ratio and PCI growth in the two countries even though the above researcher used panel data econometrics. The authors’ panel cointegration results on a group of sub-Saharan African countries, of which Malawi and Zambia were part of, found a strong homogenous linkage between the two variables.
7.4. Determining the direction of causality between FDI-to-GDP ratio and PCI growth (i.e. Granger-causality testing)

Having successfully established cointegration the study proceeds to perform Granger causality testing to ascertain the direction of causality between FDI-to-GDP ratio and PCI growth. Theoretical literature on the subject commonly identifies the existence of endogeneity between the two variables in many developing host-countries i.e. FDI may generate growth and that sometimes PCI growth may attract FDI. Indeed, in theory, three hypotheses are commonly identified in the literature namely: FDI may ‘Granger-cause’ PCI growth (i.e. FDI-led growth) or PCI growth may ‘Granger-cause’ FDI (i.e. growth-driven FDI) or there may be a bi-directional/feedback relationship between the two variables (Choe, 2003; Al Nasser, 2010; Lund, 2010). This therefore makes it imperative to establish the direction of causality between FDI-to-GDP ratio and PCI growth in Malawi and Zambia, as well. But it must be clearly stated that the main interest of our study is to empirically ascertain the existence of the ‘FDI-led growth hypothesis’ in the two host countries.

Basically, Granger causality test is utilized to determine how much present values of a dependent variable, Y are explained/predicted by past values of an independent variable, X and to check whether addition of lagged values of X improves the prediction. More technically, Granger causality theorem states that if two variables are cointegrated and are individually non-stationary then a unidirectional or bidirectional causality relationship exists among them (Granger, 1981). In Stata, therefore, our Granger causality testing simply involves testing the null hypothesis that ‘FDI-to-GDP ratio does not Granger-cause PCI growth’ against an alternative hypothesis that ‘FDI-to-GDP ratio Granger-causes PCI growth’. If the probability value ($P > \chi^2$) is greater than 0.05 (level of significance) then the null is accepted and vice versa. A final determination of the direction of causality is reached by testing a reverse scenario in a similar manner.

For Malawi, it is clear from the Table 7.8, which is given below, that the null hypothesis that ‘FDI-to-GDP ratio does not Granger-cause PCI growth’ is rejected in both cases i.e. both the ($P > \chi^2$) values (0.039 and 0.013) are statistically significant at 5 percent significance level. We
therefore conclude that a bi-directional or feedback relationship exists between inward FDI-to-GDP ratio and per capita income growth.

Table 7.8: Granger causality tests for FDI-to-GDP ratio and PCI growth in Malawi

<table>
<thead>
<tr>
<th>Equation</th>
<th>Excluded</th>
<th>$\chi^2$</th>
<th>Df</th>
<th>P&gt;Chi$^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>gPCI</td>
<td>19.112</td>
<td>3</td>
<td>0.039</td>
</tr>
<tr>
<td>FDI</td>
<td>ALL</td>
<td>19.112</td>
<td>3</td>
<td>0.039</td>
</tr>
</tbody>
</table>

$H_0$: FDI does not Granger cause gPCI

<table>
<thead>
<tr>
<th>Equation</th>
<th>Excluded</th>
<th>$\chi^2$</th>
<th>Df</th>
<th>P&gt;Chi$^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>gPCI</td>
<td>FDI</td>
<td>22.522</td>
<td>3</td>
<td>0.013</td>
</tr>
<tr>
<td>gPCI</td>
<td>ALL</td>
<td>22.522</td>
<td>3</td>
<td>0.013</td>
</tr>
</tbody>
</table>

$H_0$: gPCI does not Granger cause FDI

Source: author’s secondary data analysis using Stata

NB: FDI represents inward stock of $\frac{FDI}{GDP}$

In the case of Zambia, the null hypothesis that ‘FDI-to-GDP ratio does not Granger cause PCI growth’ is rejected and the null hypothesis that ‘FDI-to-GDP ratio Granger-causes PCI growth’ is accepted in the reverse scenario. This is so since the $(P > Chi^2)$ value is only significant in the reverse scenario. Thus, we find a unidirectional causality running from the ratio of FDI and GDP to PCI growth and no evidence of reverse causality. We therefore conclude that inward FDI-to-GDP ratio is a cause but not a consequence of PCI growth in Zambia. This suggests that the ‘FDI-led growth hypothesis’ may be accepted for Zambia.

Table 7.9: Granger causality tests for FDI and PCI growth in Zambia

<table>
<thead>
<tr>
<th>Equation</th>
<th>Excluded</th>
<th>$\chi^2$</th>
<th>Df</th>
<th>P&gt;Chi$^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>gPCI</td>
<td>5.065</td>
<td>3</td>
<td>0.167</td>
</tr>
<tr>
<td>FDI</td>
<td>ALL</td>
<td>5.065</td>
<td>3</td>
<td>0.167</td>
</tr>
</tbody>
</table>

$H_0$: FDI does not Granger cause gPCI

<table>
<thead>
<tr>
<th>Equation</th>
<th>Excluded</th>
<th>$\chi^2$</th>
<th>Df</th>
<th>P&gt;Chi$^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>gPCI</td>
<td>FDI</td>
<td>19.866</td>
<td>3</td>
<td>0.000</td>
</tr>
<tr>
<td>gPCI</td>
<td>ALL</td>
<td>19.866</td>
<td>3</td>
<td>0.000</td>
</tr>
</tbody>
</table>

$H_0$: gPCI does not Granger cause FDI

Source: author’s secondary data analysis using Stata

NB: FDI represents inward stock of $\frac{FDI}{GDP}$

From the aforementioned Engle-Granger cointegration results, FDI and PCI growth appear to have a statistically positive equilibrium relationship in both countries. However, since the Granger causality results for Zambia indicate a unidirectional causal relationship running from FDI to PCI growth holds, this suggests that attraction of inward FDI boosts its economic growth
prospects. However, PCI growth seems not to attract inward FDI into Zambia. On the other hand, since the bi-directional/feedback causality relationship between FDI and PCI growth appears to hold for Malawi, this suggests that Malawi may be justified in pursuing policies aimed at boosting economic growth simultaneously with FDI promotion strategies. Harnessing the synergy between FDI promotion and PCI expansion in Malawi would maximize the benefits of FDI accruing to the country. Indeed, the Granger causality results suggests pursuing the two policies in isolation would likely lead to sub-optimal growth outcomes for Malawi.

7.5. Empirical Analysis of the FDI-Employment Growth Relationship

7.5.1. FDI-employment growth relationship: Empirical evidence from Malawi

We begin our analysis of the FDI-employment growth nexus for Malawi by conducting unit root tests in order to check the stationarity of the time series. From the table below, it is clear that the data is non-stationary in levels but becomes stationary after first differencing, thus unit roots are eliminated.

Table 7.10: Unit root test results for employment growth for Malawi

<table>
<thead>
<tr>
<th>Name of variable</th>
<th>Malawi</th>
<th>ADF test statistic in levels</th>
<th>ADF test statistic after 1st differencing</th>
<th>Order of integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>$g_L$</td>
<td>Malawi</td>
<td>-2.912**</td>
<td>-6.657***</td>
<td>I(1)</td>
</tr>
<tr>
<td>$FDI$</td>
<td>Malawi</td>
<td>-2.412</td>
<td>-7.508***</td>
<td>I(1)</td>
</tr>
<tr>
<td>$GDP$</td>
<td>Malawi</td>
<td>-1.991</td>
<td>-5.689***</td>
<td>I(1)</td>
</tr>
<tr>
<td>$GNS/GDP$</td>
<td>Malawi</td>
<td>-4.488***</td>
<td>-7.759***</td>
<td>I(1)</td>
</tr>
<tr>
<td>$g_TFP$</td>
<td>Malawi</td>
<td>-3.098**</td>
<td>-5.494***</td>
<td>I(1)</td>
</tr>
</tbody>
</table>

* indicates significance at 10% level of significance
** indicates significance at 5% level of significance
*** indicates significance at 1% level of significance

Source: author’s secondary data analysis using Stata

Having successfully conducted unit root tests we now proceed to run the OLS regression model and interpret its empirical results. We begin by defining the variables under consideration. Growth in employment ($g_L$) is the dependent variable (i.e. the regressand). On the other hand, growth in total factor productivity ($g_{TFP}$), savings-to-GDP ratio ($GNS/GDP$), FDI-to-GDP ratio ($FDI/GDP$), and growth in output per worker ($g_T$) are the independent variables or the regressors. But we will first perform diagnostic test on the time series before the regression results can be interpreted.
From the empirical results presented below in Table 7.11 all the variables have the expected signs and hence are in line with standard economic theory. Furthermore, the F-statistic value is statistically significant at 5 percent level of significance indicating that the regression coefficients are significantly different from zero and hence the model has some explanatory power. The $R^2$ (0.414) shows that 41.4 percent of the changes in the dependent variable are explained by variations in the independent variables. This value suggests that the model has a reasonable goodness of fit.

**Table 7.11: Estimating the FDI-employment growth relationship for Malawi**

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>$g_{L_D}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>constant</td>
<td>0.035</td>
</tr>
<tr>
<td>$g_{TFP}$ growth in total factor productivity</td>
<td>0.097**</td>
</tr>
</tbody>
</table>

**Standardized coefficient for $g_{TFP}$**

<table>
<thead>
<tr>
<th>$(\frac{GNS}{GDP})$</th>
<th>0.225</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic savings to GDP ratio</td>
<td>0.128</td>
</tr>
<tr>
<td>$(\frac{GNS}{GDP})$</td>
<td>0.309</td>
</tr>
<tr>
<td>Inward FDI to GDP ratio</td>
<td>1.140**</td>
</tr>
<tr>
<td>$(\frac{FDI}{GDP})$</td>
<td>0.604</td>
</tr>
<tr>
<td>Growth in output per worker</td>
<td>$-0.034^{**}$</td>
</tr>
</tbody>
</table>

**Standardized coefficient of $g_y$**

<table>
<thead>
<tr>
<th>$R^2$</th>
<th>0.414</th>
</tr>
</thead>
<tbody>
<tr>
<td>$F$ - value</td>
<td>3.36</td>
</tr>
<tr>
<td>Breusch - Pagan/Cook - Weisberg $\chi^2$ ($P &gt; \chi^2$)</td>
<td>1.71 (0.8833)</td>
</tr>
<tr>
<td>Breusch - Godfrey $\chi^2$ ($P &gt; \chi^2$)</td>
<td>0.937 (0.3330)</td>
</tr>
<tr>
<td>Ramsey RESET $F$ ($P &gt; F$)</td>
<td>0.61 (0.7809)</td>
</tr>
<tr>
<td>Mean Variance Inflation Factor (VIF)</td>
<td>8.59</td>
</tr>
<tr>
<td>Total number of observations</td>
<td>205</td>
</tr>
</tbody>
</table>

Source: Author’s secondary analysis using Stata
The dependent variable in the regression for Malawi is the growth rate of employment while the independent variables are FDI-to-GDP ratio, gross national savings-to-GDP ratio, and growth rate of output per worker. The period is under consideration is 1970-2014. The estimation method is OLS regression.

***Significant at the 1 percent level. **Significant at the 5 percent level. *Significant at the 10 percent level.

Next, we perform some post-estimation tests on the time series to ensure robustness of the empirical results for Malawi. In line with classical OLS assumptions, we check for heteroscedasticity in our data by performing the Breusch-Pagan/Cook-Weisberg heteroscedasticity test. Results of this test which are shown in the above table indicate that no heteroscedasticity exists in the time series since the \( p > \text{Chi}^2 \) value (0.8833) is larger than the level of significance (0.05).

We also test for auto-correlation or serial correlation in the time series by performing the Breusch-Godfrey autocorrelation test. Results shown in Table 7.11 above indicate that the null hypothesis of ‘no autocorrelation’ is accepted at 5 percent level of significance since the \( p > \text{Chi}^2 \) value (0.3330) is greater than 0.05. This indicates that no serial correlation is present in the time series. On the same note, since all the coefficients have the expected signs this also seems to support the hypothesis of no serial correlation.

On the same note, a multicollinearity test is also performed on the data to detect the presence of very high correlation between the variables which can make it difficult to isolate individual effects of the regressors on the regressand. In order to detect multicollinearity we utilize the variance inflation factor (VIF). The VIF basically indicates the magnitude of the variance of the coefficient estimate is being inflated due to the presence of multicollinearity in the time series (Gujarati, 2003). Since our mean VIF value (i.e. 8.59) in Table 7.11 is less than 10 we conclude that multicollinearity is not a serious problem among our explanatory variables.

We conclude our post-estimation diagnostic tests by performing the Ramsey RESET test in order to detect for any omitted variables, model misspecification or wrong function form. Results of the test which are shown in Table 7.11 suggest that our OLS regression model has no omitted variables and is correctly specified since the \( p > F \) value (0.7809) is greater than the p-value (0.05).
Having performed regression diagnostic tests on the time series we are now ready to interpret the OLS regression coefficients. From the empirical results in Table 7.11 we can deduce that a 1 percent increase in FDI-to-GDP ratio causes a 1.140 percent increase in employment growth in Malawi and the result is statistically significant at all significance levels (i.e. 10, 5, and 1 percent). This suggests that increased foreign capital inflows create employment opportunities in Malawi. The result is not unexpected considering that the majority of Malawi’s inward FDI is less skill-intensive and tends to gravitate towards its primary agricultural sector that is coincidentally labor-intensive. It is therefore not surprising that the inward FDI can create low-skilled jobs for this labor-abundant host country. Moreover, when the standardized coefficients are compared one can decipher from Table 7.11 that the employment-creation impulse from globalization (in form of inward FDI-to-GDP ratio) (i.e. 0.604) is almost twice that of domestic capital (in form of savings-to-GDP ratio) (i.e. 0.309) in Malawi. Thus, FDI appears to be a vital driver of employment growth in the aforementioned host country.

On the other hand, Table 7.11 illustrates that 1 percent expansion in the savings-to-GDP ratio (as a proxy of the domestic capital) triggers a 0.128 percent surge in employment growth, but this result is statistically insignificant at 5 percent level of significance. This suggests that domestic capital has not been a significant creator of jobs in Malawi during the post-colonial era. This is not surprising considering that Malawi’s formal sector is very small and local firms currently employ only 11 percent of the country’s labor force (African Development Bank, 2015).

Furthermore, a 1 percent increase in output per laborer growth reduces employment growth by 0.034 percent and the result is statistically significant at 5 percent level of significance. Given that output per worker growth \((gy)\) is a proxy of the wage growth \((gw)\), it can therefore be argued that increases in the wage rate reduce employment-creation opportunities in Malawi. This suggests that as the wage-rate increases, firms in the country (both foreign and domestic) will be hiring less and less of additional Malawian workers.

In contrast, Table 7.11 shows that a 1 percent expansion in total factor productivity causes an increase in employment growth of 0.097 percent in Malawi. This suggests total factor productivity growth creates jobs in Malawi.
7.5.2. FDI-Employment growth relationship: Empirical evidence from Zambia

As is the tradition in time-series analysis, we launch our empirical analysis by testing for stationarity in the data to remove the possibility of unit roots and hence conduct non-spurious regression. From the empirical results presented in Table 7.12 below, most of the time series have unit roots in levels. However, first differencing makes the data stationary and hence removes unit roots.

<table>
<thead>
<tr>
<th>Name of variable</th>
<th>ADF test statistic in levels</th>
<th>ADF test statistic after 1st differencing</th>
<th>Order of integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>$gL_B$</td>
<td>-3.082</td>
<td>-6.604***</td>
<td>I(1)</td>
</tr>
<tr>
<td>$gT_{FP}$</td>
<td>-1.666</td>
<td>-5.689***</td>
<td>I(1)</td>
</tr>
<tr>
<td>$gS_{GDP}$</td>
<td>-2.064</td>
<td>-8.226***</td>
<td>I(1)</td>
</tr>
<tr>
<td>$gF_{PID}$</td>
<td>-1.212</td>
<td>-3.985***</td>
<td>I(1)</td>
</tr>
</tbody>
</table>

* indicates significance at 10% level of significance  
** indicates significance at 5% level of significance  
*** indicates significance at 1% level of significance  
Source: author’s secondary data analysis using Stata

Successful conduction of unit root tests gives license to the study to run the OLS regression in order to empirically examine the FDI-employment nexus in Zambia. In our empirical analysis growth in employment ($gL_B$) is the dependent variable. On the other hand, growth in total factor productivity ($gT_{FP}$), savings-to-GDP ratio ($\frac{gS_{GDP}}{GDP}$), FDI-to-GDP ratio ($\frac{gF_{PID}}{GDP}$) and growth in output per worker ($gy$), are the independent variables or the regressors. OLS regression results of the model are given in Table 7.13 below. But before interpreting the empirical results, we will first run diagnostic tests on the time series.

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>$gL_B$</th>
</tr>
</thead>
<tbody>
<tr>
<td>constant</td>
<td>1.024**</td>
</tr>
<tr>
<td>$gT_{FP}$ growth in total factor productivity</td>
<td>0.011</td>
</tr>
<tr>
<td>Standardized coefficient for $gT_{FP}$</td>
<td>0.027</td>
</tr>
<tr>
<td>$\left(\frac{gS_{GDP}}{GDP}\right)$ domestic savings to GDP ratio</td>
<td>0.033**</td>
</tr>
</tbody>
</table>

143
Source: Author's secondary analysis using Stata

NB: The dependent variable in the regression for Zambia is the growth rate of employment while the independent variables are FDI-to-GDP ratio, gross national savings-to-GDP ratio, and growth rate of output per worker. The period is under consideration is 1970-2014. The estimation method is OLS regression.

***Significant at the 1 percent level. **Significant at the 5 percent level. *Significant at the 10 percent level.

From the above table, all the independent variables have the expected signs in line with growth theory. Moreover, the above table shows that the model has a high $R^2$ value with 76.5 percent of variations in the regressand being explained by variations in the regressors. Additionally, the statistical significance of the F-statistic indicates that the regression coefficients are significantly different from zero thus suggesting that the model has high explanatory power.

Having estimated the OLS model we now proceed to check the robustness of its empirical results by performing some major time-series diagnostic tests. We first carry out the Breusch-Pagan/Cook-Weisberg Test to ascertain the homoscedasticity (i.e. minimum variance) of the error term in a fitted regression by comparing its chi-square value against a given level of significance. Results of the above test which are shown in Table 7.13 indicate that the probability value (0.3746) exceeds 0.05 (significance level). We therefore accept the null hypothesis of
‘constant variance’ implying that the model’s error terms are homoscedastic. In other words, no heteroscedasticity is present in the time series.

In order to test for the presence of autocorrelation or serial correlation which occurs when one stochastic disturbance term in a time period is positively correlated with an error term in another time period, we utilize the Breusch-Godfrey or Lagrange Multiplier (LM) Test. Stata results of the test presented in Table 7.13 above, show that the null hypothesis of ‘no auto-correlation’ is accepted since the \( P > \text{Chi}^2 \) value (i.e. 0.8692) is greater than the p-value (i.e. 0.05). With no autocorrelation, we expect standard errors to be unbiased and the BLUE (Best Linear Unbiased Estimator) properties of OLS regression to be satisfied.

Another important time-series diagnostic test performed on the data is the multicollinearity test. This above test simply involves checking whether two or more independent variables (regressors) are highly correlated thereby making it difficult to isolate their individual effects on the dependent variable. Since our mean VIF value (i.e. 6.11) is less than 10, we follow Chen et al. (2003) in concluding that no serious multicollinearity exists between the explanatory variables. In this case, we can expect that the estimated regression coefficients will exhibit correct signs and statistical significance even in the presence of a high \( R^2 \) value.

We also employ the Ramsey RESET test on the fitted model with an aim testing for the likelihood of incorrect model specification, that is, whether the model has omitted some fundamental variables, has incorrect functional form, or there is correlation between explanatory variables and the residuals. Empirical results of the above test obtained from Stata presented in Table 7.13 reveal that our regression model has not omitted important variables and is correctly specified since the \( p > F \) value (i.e. 0.4427) is greater than 0.05 (i.e. the p-value).

Having applied post-estimation diagnostic tests on the time series we are now ready to interpret the OLS regression coefficients. From Table 7.13 it is clear that a 1 percent increase in domestic savings-to-GDP ratio generates a 0.033 percentage expansion in employment growth in Zambia. The result is statistically significant at 5 percent level of significance. This suggests that domestic capital (approximated by savings-to-GDP ratio) boosts job-creation in the Zambian
economy. Moreover, one can also see from the standardized coefficients in Table 7.13 that the employment-creation impulse of domestic savings-to-GDP ratio (0.413) is approximately twice that of the FDI-to-GDP ratio (0.224). This suggests that globalization (in form of inward FDI) has had a smaller employment-creation effect in Zambia during the post-colonial era relative to internal sources such as domestic savings-to-GDP ratio.

In the same vein, a 1 percent surge in FDI-to-GDP ratio triggers a 0.105 percent expansion in employment growth in Zambia. However, the result is only statistically significant at 10 percent level of significance and on top of this; it has a smaller standardized coefficient relative to domestic capital (approximated by savings-to-GDP ratio). This suggests that FDI-to-GDP ratio has had a positive but relatively weak effect on employment generation in Zambia at 5 percent significance level. This result seems to reflect the theoretical proposition by Nunnenkamp and Spatz (2004) that, in general, natural resource-seeking FDI has limited forward and backward linkages with local product and labor markets in the host economy. This ‘enclave character’ of the FDI reduces employment-creation potential of the foreign investment. Given that the bulk of Zambia’s inward FDI is resourcing-seeking flowing into the copper and cobalt mining sector, one can expect that its ‘enclave nature’ could limit the amount of jobs created. On the same, te Velde (2003) observes that FDI in extractive sectors, more especially mining, is usually capital-intensive and thus requires only limited number of skilled and semi-skilled workers (in certain instances, a few expatriates) to perform relatively complex extraction methods and operate extraction machinery. This therefore implies that a limited number of low-skilled jobs are created by the FDI.

In addition to this, Table 7.13 further illustrates that a 1 percent increase in output per worker growth reduces employment growth in Zambia by 0.154 percent. This result is statistically significant at 5 percent significant level. Given that output per worker growth \((gy)\) is a proxy of the wage growth \((gw)\), one can therefore argue that increases in the wage rate reduce employment growth Zambia since firms will reduce their demand for more laborers in response to increased wage rates.

Furthermore, Table 7.13 also indicates that total factor productivity growth has had statistically insignificant effect on employment growth in Zambia during the post-colonial period.
7.6. Analyzing the FDI-effect on income inequality in Zambia and Malawi

As pointed out throughout the course of the discussion; inclusive growth also involves improving income distribution (i.e. equity) as a way of ensuring that poor sections of society benefit from economic growth. It is therefore necessary to examine the relationship between FDI and income inequality to determine the distribution of FDI-driven growth in Zambia and Malawi. The study employs cointegration techniques to analyze the FDI-inequality nexus.

7.6.1. Unit root tests

Before applying cointegration techniques on the data it is necessary to test for unit roots to ensure that the data are stationary and that the likelihood of spurious regression is eliminated. In achieving this endeavor, the study applies the standard Augmented-Dickey Fuller (ADF) test on the time series. ADF test results for the two countries are presented in Table 7.14 below.

Table 7.14: Unit root test results for Malawi and Zambia

<table>
<thead>
<tr>
<th>Name of variable</th>
<th>Malawi</th>
<th>Zambia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ADF test statistic in levels</td>
<td>ADF test statistic after 1st differencing</td>
</tr>
<tr>
<td>Gini</td>
<td>-1.392</td>
<td>-1.827</td>
</tr>
<tr>
<td>FDI</td>
<td>-0.632</td>
<td>-2.354</td>
</tr>
<tr>
<td>GDP</td>
<td>-1.809</td>
<td>-3.039**</td>
</tr>
<tr>
<td>PCI</td>
<td>-1.220</td>
<td>-1.401</td>
</tr>
<tr>
<td>Humancap</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* indicates significance at 1% level of significance  
** indicates significance at 5% level of significance  
*** indicates significance at 10% level of significance  
Source: author’s secondary data analysis using Stata

From the above table it is clear that most of the time series for both Malawi and Zambia has unit roots in levels but after differencing the data becomes stationary. Confirmation of stationarity will enable meaningful conclusions to be drawn from the ensuing VECMs.
7.6.2. Lag selection

Analysis of the effect of previous period values (i.e. lags) on current values is very important in econometrics, more so in VECM analysis. Practically, the inclusion of too many lags has the potential to generate errors in estimation and too few lags, on the other hand, could exclude important short and long-run information in the time-series analysis (Stock and Watson, 2007). It is therefore important to select an optimal lag-length to ensure accuracy and efficiency of time-series models. Four of the most commonly used techniques for determining optimal lag length (i.e. information criterion procedures) are: Akaike information criterion (AIC), Akaike’s Final Prediction Error (FPE), Schwarz’s Bayesian information criterion (SBIC) and the Hannan and Quinn information criterion (HQIC). Using Stata software; determination of optimal lag length is easily executed by choosing the lag value where most of the four criteria agree i.e. are statistically significant as is shown in the table below.

Table 7.15: Information selection criteria for Zambia and Malawi

<table>
<thead>
<tr>
<th>lag</th>
<th>Zambia</th>
<th>Malawi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prob</td>
<td>FPE</td>
</tr>
<tr>
<td>1</td>
<td>0.000</td>
<td>0.061494</td>
</tr>
<tr>
<td>2</td>
<td>0.000</td>
<td>0.042734</td>
</tr>
<tr>
<td>3</td>
<td>0.000</td>
<td>0.033873**</td>
</tr>
<tr>
<td>4</td>
<td>0.003</td>
<td>0.40991</td>
</tr>
</tbody>
</table>

** indicates optimal lag length at 5% level of significance
Source: author’s secondary data analysis using Stata

For both Zambia and Malawi, most of the four criteria (AIC, FPE, SBIC, and HQIC) choose lag 2 and 3 respectively as the optimal lag lengths at 5 percent significance level. Consequently, the rest of the econometric tests will employ lag 2 and 3 respectively in their analyses. Choice of the above optimal lag lengths will enable the consistent testing of cointegration (i.e. long-run equilibrium relationships) among variables in the section that follows below.

7.6.3. Cointegration tests for FDI and income inequality

Having eliminated unit roots and hence the possibility of spurious correlation in the data and chosen optimal lag length, the analysis proceeds to establish the existence of long-run relationship among the variables (i.e. cointegration) using the Johansen Maximum Likelihood Test. Generally, the basic idea behind cointegration is that sometimes even though variables may
not have unit roots but their linear combinations could contain unit roots. In this case, estimating regression of cointegrating variables in levels may still be meaningful despite the fact that the variables are non-stationary. Besides, cointegration is more efficient relative to differencing because it preserves long-run information which would otherwise be lost if for instance, differencing was to be utilized. The Johansen Maximum Likelihood Test is a non-parametric test that compares the trace statistic (i.e. Johansen statistic) against the critical value at a given level of significance to establish the presence of long-run relationship among variables. If the trace statistic is greater than the Eigen value then cointegration exists and vice versa (Gujarati, 2003).

Results of cointegration tests for the two countries are given below.

Table 7.16: Johansen Maximum Likelihood results for Zambia and Malawi

<table>
<thead>
<tr>
<th></th>
<th>Zambia</th>
<th>Malawi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum rank Eigen value Trace statistic Critical value at 5% significance level</td>
<td>Eigen value Trace statistic Critical value at 5% significance level</td>
</tr>
<tr>
<td>0</td>
<td>0.51235  53.1617  47.21</td>
<td>83.5559  47.21</td>
</tr>
<tr>
<td>1</td>
<td>0.47984  29.4628**  29.68</td>
<td>0.77313  34.6044  29.68</td>
</tr>
<tr>
<td>2</td>
<td>0.40324  7.8936**  15.41</td>
<td>0.34593  17.5641  15.41</td>
</tr>
<tr>
<td>3</td>
<td>0.01192  0.3959**  3.76</td>
<td>3.5540**  3.76</td>
</tr>
<tr>
<td>4</td>
<td>0.01192  0.10210</td>
<td></td>
</tr>
</tbody>
</table>

** indicates the presence of cointegrating equations at 5 per cent level of significance
Source: author’s secondary data analysis using Stata

For both countries the JML test confirms the presence of cointegration between FDI and income inequality. The JML shows that three cointegrating equations are present in the case of Zambia (i.e. trace statistic value greater than its critical value); while Malawi has one cointegrating equation (i.e. test-statistic value is greater than its critical value on all levels of significance). The presence of cointegration in both countries indicates that a long-run equilibrium relationship exists between FDI and income inequality and hence meaningful interactions between the two variables can be further examined.

7.6.4. Determination of causality in the FDI-income inequality nexus

The study first establishes the direction of causality in the FDI-income inequality nexus before determining whether this causality is a short term (transitory) or long term (persistent) phenomenon. In the analysis that follows, Granger-causality tests are presented first before VECM results are examined.
Table 7.17: Granger causality tests for FDI and Income inequality in Malawi

<table>
<thead>
<tr>
<th>Equation</th>
<th>Excluded</th>
<th>Chi²</th>
<th>Df</th>
<th>P&gt;Chi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>Income inequality</td>
<td>4.4612</td>
<td>4</td>
<td>0.347</td>
</tr>
<tr>
<td>FDI</td>
<td>ALL</td>
<td>4.4612</td>
<td>4</td>
<td>0.347</td>
</tr>
</tbody>
</table>

H₀: FDI does not Granger cause Income inequality

<table>
<thead>
<tr>
<th>Equation</th>
<th>Excluded</th>
<th>Chi²</th>
<th>Df</th>
<th>P&gt;Chi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income inequality</td>
<td>FDI</td>
<td>17.931</td>
<td>4</td>
<td>0.001</td>
</tr>
<tr>
<td>Income Inequality</td>
<td>ALL</td>
<td>17.931</td>
<td>4</td>
<td>0.001</td>
</tr>
</tbody>
</table>

H₀: Income inequality does not Granger cause FDI

Source: author’s secondary data analysis using Stata

NB: FDI represents inward stock of \( \frac{FDI}{GDP} \)

Table 7.18: Granger causality tests for FDI and Income inequality in Zambia

<table>
<thead>
<tr>
<th>Equation</th>
<th>Excluded</th>
<th>Chi²</th>
<th>Df</th>
<th>P&gt;Chi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>Income inequality</td>
<td>3.704</td>
<td>4</td>
<td>0.442</td>
</tr>
<tr>
<td>FDI</td>
<td>ALL</td>
<td>3.704</td>
<td>4</td>
<td>0.442</td>
</tr>
</tbody>
</table>

H₀: FDI does not Granger cause Income inequality

<table>
<thead>
<tr>
<th>Equation</th>
<th>Excluded</th>
<th>Chi²</th>
<th>Df</th>
<th>P&gt;Chi²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income inequality</td>
<td>FDI</td>
<td>9.6726</td>
<td>4</td>
<td>0.046</td>
</tr>
<tr>
<td>Income Inequality</td>
<td>ALL</td>
<td>9.6726</td>
<td>4</td>
<td>0.046</td>
</tr>
</tbody>
</table>

H₀: Income inequality does not Granger cause FDI

Source: author’s secondary data analysis using Stata

NB: FDI represents inward stock of \( \frac{FDI}{GDP} \)

From the above tables, when the p-values \( (P > \text{Chi}^2) \) are compared against the 0.05 level of significance, the null hypothesis that ‘income inequality does not Granger-cause inward FDI’ is accepted in both the Zambian and the Malawian case. Then again, the alternative hypothesis that ‘inward FDI Granger-causes income inequality’ is also accepted in the reverse case scenario. It can therefore be concluded that the direction of causality runs from inward FDI to income inequality in both countries. This suggests that inward FDI is a cause and not a consequence of income inequality in the two host countries. Thus, our results indicate a clear unidirectional causality running from inward FDI to income inequality in both countries and as such, there is no evidence suggesting reverse causality.

Having established the direction of causality, we would also like to investigate it is also whether the FDI-induced inequality is a long-term or short-term phenomenon. The study accomplishes this task by running VECM and analyzing its results. The table below presents VECM results for the two countries.
From the above table it is evident that the error correction term ($\Delta ECT_{t-1}$) is negative and significant for Zambia with a coefficient value of -0.323 and p-value of 0.000. This means that lagged values of human capital, per capita income and inequality Granger-cause income inequality in the long-run period. More technically, this represents deviations from the long-run equilibrium relationship between the variables. Furthermore, apart from per capita income, all the short-run coefficients are insignificant in Zambia. Additionally, Table 7.19 also indicates that previous levels of income inequality ($\Delta Gini_{t-1}$) do not have a significant short-run effect on present inequality in Zambia. This implies that even though all the dependent variables Granger-cause income inequality in the long-run, but it is only changes in per capita income that significantly influence income inequality in both the short-run and long-run time periods in Zambia. Thus FDI-induced income inequality is a long-run and hence a persistent phenomenon in Zambia.

In the case of Malawi, FDI together with the other independent variables (e.g. lagged changes in human capital, and per capita income) do not Granger-cause income inequality in the long run since the value of the $\Delta ECT_{t-1}$ is positively insignificant. But in the short run, FDI significantly influences the country’s level of income inequality. This shows that the FDI-induced income inequality is only a short-run phenomenon in Malawi. On the same, the above table also indicates that previous levels of inequalities ($\Delta Gini_{t-1}$) do not have a significant effect on present inequality in Malawi both in short-run and long-run periods. Confirmation of Granger-
causality in the two countries supports findings by Coniglio, Prota and Seric (2014) who found that inward FDI contributes to inequality in the two countries by paying a wage premium to skilled workers only. The study also found that foreign firms paid higher wages relative to domestic firms in Zambia and Malawi and other selected sub-Saharan African countries and hence exacerbated wage inequalities in these host countries.

7.6.5. Stability of the VECM

VECM analysis also allows for testing for stability of the regression models and hence minimization of estimation errors which may be caused by random nature of the stochastic error term, incorrect model specification, and biased parameters, among others. In order to test for stability of the VECM, a dynamic matrix of Eigen values is computed. For a stable and efficient model the Eigen values range between +1 and -1 i.e. the modulus of one. Table 7.20 below presents dynamic matrices for Zambia and Malawi.

Table 7.20: Dynamic VECM stability matrix for FDI and income inequality in Malawi and Zambia

<table>
<thead>
<tr>
<th></th>
<th>Malawi</th>
<th></th>
<th>Zambia</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Eigenvalue</td>
<td>Modulus</td>
<td>Eigenvalue</td>
<td>Modulus</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>0.846767</td>
<td>0.846767</td>
<td>0.6583473</td>
<td>0.658347</td>
<td></td>
</tr>
<tr>
<td>-0.6451502</td>
<td>0.64515</td>
<td>0.4505679</td>
<td>0.450568</td>
<td></td>
</tr>
<tr>
<td>-0.1484083</td>
<td>+0.5405977i</td>
<td>-0.3807097</td>
<td>-0.38071</td>
<td></td>
</tr>
<tr>
<td>-0.1484083</td>
<td>+0.5405977i</td>
<td>-0.2965838</td>
<td>-0.296584</td>
<td></td>
</tr>
<tr>
<td>0.5226001</td>
<td>0.5226</td>
<td>0.1537783</td>
<td>0.153778</td>
<td></td>
</tr>
</tbody>
</table>

Each of the two VECM specifications impose 3 unit moduli

Source: author’s secondary data analysis using Stata

From the above table it is clear that all the Eigen values for both Zambia and Malawi lie within a range of +1 and -1 (i.e. lie within the the unit circle). This indicates that the VECMs are stable and hence their predictions are efficient. Confirmation of the above situation is also depicted by Figures 7.1 and 7.2. From the diagrams below, all the values are inside the circle indicating that the VECMs for both countries are stable.
7.6.6. Impulse Response Functions (IRFs): Reaction of income inequality to changes (shocks) in inward FDI

To test the robustness of the causality between FDI and income inequality in Zambia, impulse response functions (IRFs) from the VECM residuals are computed using the Cholesky variance-decomposition technique in Stata. The above technique basically measures the reaction of a variable in response to an exogenous shock caused by another variable. IRFs offer an intuitive way of analyzing interactions among variables in vector autoregressive models (VARs) and VECMs. In a system of variables, the above technique goes beyond analyzing Granger-causality by explaining the reaction of a variable to shocks (impulses) in another variable. Technically, the Cholesky variance-decomposition method captures these impulses of a variable in response to standard deviation changes of another (Lütkepohl, 2008). This study therefore applies the IRF concept to track the response/reaction of income inequality to changes in inward FDI in Zambia and Malawi over time. On top of this, the IRFs are also be utilized to graphically examine the validity of the proposition made by Aghion and Howitt (1998) that income inequality exhibits an ‘inverted u-shaped Kuznets curve’, over time, in response to inward FDI in host countries.

In the context of this research, the Cholesky variance decomposition test orders change in income inequality first and changes in inward FDI last. As illustrated in Figures 7.3 and 7.4 shown below; the IRF graphs indicate the responses of income inequality to standard deviation shocks in inward FDI and vice versa over an 8-year period in Zambia and Malawi.
Figure 7.3: Impulse response functions for FDI stock and income inequality in Malawi

Source: author’s secondary data analysis using Stata

Figure 7.4: Impulse response functions for FDI stock and income inequality in Zambia

Source: author’s secondary data analysis using Stata
The bottom-right graph in Figure 7.3 shows that a one standard-deviation impulse in the FDI first produces a rapid increase in income inequality and the level of inequality reaches its peak after a year. Once the one-year period elapses the level of income inequality stabilizes permanently in response to a unit standard-deviation shock in FDI. This pattern of the impulse responses is in line with the earlier VECM results which suggested that inward FDI has a significant inequality-increasing effect in the short-run but not in the long run period in Malawi.

As can be seen from the graph the IRF does not depict a clear ‘inverted U-shaped pattern’. This suggests that the proposition by Aghion and Howitt does not hold for Malawi since inward FDI appears to have persistent negative income distribution-effects on the economy. This may reflect low absorption-capacity of the Malawi economy that prevents its domestic firms and workers from effectively adopting and adapting foreign technology. Poor quality of human capital as illustrated by high levels of illiteracy, for instance, may be a significant factor that impedes both learning-by-doing efforts and equalization of wage differentials between skilled and skilled workers in the above country. However, these results corroborate findings by Aitken et al., (1996) Feenstra and Hanson (1997 and 2001); and Herzer, Hühne and Nunnenkamp (2014) that inward FDI generally increases the level of inequality in host countries by raising the skill premium. According to the above researchers FDI more especially the vertical type may adversely affect wage and job prospects of less-skilled workers in both the source and host-countries. This could happen if MNCs’ offshoring operations primarily involve relatively skilled-labor intensive activities in the host country even though the production activities may be deemed unskilled labor-intensive by home-country standards. Against predictions of the Hecksher-Ohlin trade model, inward FDI would therefore deepen wage inequality in developing host-countries such as Malawi.

In the Zambian case as can be observed in Figure 7.4, the bottom-right graph shows that a one standard-deviation impulse in the FDI first produces a rapid increase in income inequality and the level of inequality reaches its peak after a year. Once the one-year period elapses, income inequality begins to decline rapidly and permanently in response to a unit standard-deviation impulse in FDI. The above impulse-response pattern and the empirical results are also in line with findings by Aghion and Howitt (1998); Figini and Görg (1999 and 2011); and Herzer and Nunnenkamp (2013) which suggest that the FDI-effect on income inequality exhibits an
‘inverted U-shaped Kuznets curve pattern’ of initially rising and then gradually falling. The basic argument is that inward FDI fuels increases in income inequality in the short run as domestic firms absorb new foreign technologies. Inequality rises as long as the skill premium increases due to learning-by-doing resulting in increased demand for scarce skilled labor. But overtime, inequality gradually declines as the supply of skilled laborers increases due to learning or skills-upgrading efforts of the domestic firms or the workers on their own. The above results seem to suggest that Zambian domestic firms and workers are relatively more efficient in absorbing foreign technology (introduced by FDI) relative to their Malawian counterparts.

7.6.7. Robustness check for autocorrelation in the VECMs

In order to ensure that the efficiency and reliability of the VECM results the Lagrange Multiplier (LM test) autocorrelation test was run on the data for the two countries. The results reveal that autocorrelation is not present in the case of both Malawi and Zambia. As the table below illustrates; both $P > \text{Chi}^2$ values are greater than the p-value (0.05) for all lags 1, 2 and 3.

<table>
<thead>
<tr>
<th>Lag</th>
<th>Chi$^2$</th>
<th>Df</th>
<th>P&gt;Chi$^2$</th>
<th>Chi$^2$</th>
<th>Df</th>
<th>P&gt;Chi$^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20.0397</td>
<td>16</td>
<td>0.21844</td>
<td>12.1413</td>
<td>16</td>
<td>0.73420</td>
</tr>
<tr>
<td>2</td>
<td>8.1139</td>
<td>16</td>
<td>0.94540</td>
<td>15.2992</td>
<td>16</td>
<td>0.50284</td>
</tr>
<tr>
<td>3</td>
<td>5.2467</td>
<td>16</td>
<td>0.71132</td>
<td>17.9021</td>
<td>16</td>
<td>0.33461</td>
</tr>
</tbody>
</table>

Source: author’s secondary data analysis using Stata

7.7. Chapter conclusion

The foregoing chapter has empirically estimated econometric models developed in the methodology and interpreted their results to address the study’s objective of comparatively examining the impact of inward FDI on inclusive growth in Zambia and Malawi. To accomplish this, the chapter began by analyzing the relationship between inward FDI and PCI growth in Zambia and Malawi by running OLS regression using annual data covering the period 1970 to 2014. Granger causality testing was also conducted to investigate causal relationships between inward FDI and PCI growth and hence determine the direction of causality between the two variables in the aforementioned host-countries. Additionally, the relationship between inward FDI and employment growth was also empirically examined using OLS regression as a way of transmitting the fruits of FDI-induced PCI growth to the majority of the two host-countries’ population. Furthermore, our empirical analysis also utilized VECMs in order to examine the
distributional effects of inward FDI on income inequality in both countries. Likewise, we performed robustness checks on the time series to ensure robustness of our empirical results. In particular, these diagnostic tests detected, and remedied problems commonly associated with time-series data such as unit roots, autocorrelation, multicollinearity, heteroscedasticity, omitted variables, and model misspecification.

In the next chapter we will provide a concise summary of the study’s empirical findings as a way of addressing the research objectives which were set out in Chapter One and hence conclude our analysis. Finally, the chapter will close by suggesting some policy recommendations and directions for further research based on the empirical findings that have been unearthed.
CHAPTER EIGHT

CONCLUSIONS, POLICY RECOMMENDATIONS AND DIRECTIONS FOR FURTHER RESEARCH

8.1 Summary of the study’s empirical findings

We now conclude our analysis by presenting a summary of the empirical findings that were unearthed by the study. These research findings will also address the study’s research objectives which were set in Chapter One. A summary of these empirical results is given below.

First and foremost, our study finds that, in general, FDI-to-GDP ratio has had a positive effect on PCI growth in the two countries, suggesting that globalization (in form of inward FDI) has accelerated the ‘pace of economic growth’ of the above host countries in the post-colonial era. However, the size of the effect of FDI-to-GDP ratio on PCI growth varies markedly in the two host countries. Indeed, an increase in FDI-to-GDP ratio by 1 percentage point leads to an increase in PCI growth by 1.713 percentage points in Malawi and 0.639 percentage points in Zambia, respectively. The result for Malawi is significant at 5 percent level while that for Zambia is significant at 10 percent level. Moreover, standardized coefficients for the effect of FDI-to-GDP ratio on PCI growth in the two countries are 0.870 for Malawi and 0.359 for Zambia. Thus, the results indicate that the effect of the FDI-to-GDP ratio on PCI growth in Malawi has been larger and statistically more significant than that of Zambia during this period. This seems to suggest that inward FDI generates differing growth effects in an agro-based host economy (Malawi) and mining-dependent host economy (Zambia).

The positive effect of the FDI-to GDP ratio on PCI growth is supported by our direction of causality tests where FDI-to-GDP ratio is found to ‘Granger-cause’ PCI growth in Zambia. From the empirical results, it is clear that a unidirectional causality relationship runs from FDI (as a ratio the GDP) to PCI growth. Thus, we found no evidence of a reverse causality running from PCI growth to FDI-to-GDP ratio in Zambia. This suggests that that ‘FDI-led growth hypothesis’ holds in Zambia and hence inward FDI is a cause but not a consequence of economic growth. On the other hand, our empirical results indicate that both FDI-to-GDP ratio and PCI growth
‘Granger-cause’ each other in Malawi. This suggests that there is a ‘feedback/bi-directional causality relationship’ between inward FDI stock-to-GDP ratio and PCI growth implying that FDI-to-GDP ratio is both a cause and consequence of PCI growth in Malawi. The above results were also supported by cointegration tests which revealed that a long-run equilibrium relationship exists between FDI-to-GDP ratio and PCI growth in both countries. As such, the study’s empirical results appear to be robust to the choice of different estimation techniques.

Furthermore, as a way of linking the growth effects of FDI with the distribution of its benefits to different segments of the society, the study utilized employment creation as its main inclusive-growth transmission mechanism. In both countries, inward FDI is found to have caused employment growth during the post-colonial era. However, when the two countries’ FDI-employment creation effects are compared, Malawi appears to have experienced a higher and more significant effect compared to Zambia. To be exact, a 1 percentage point increase in inward FDI-to-GDP ratio leads to an increase in employment growth of 1.140 percentage points in Malawi and 0.105 percentage points in Zambia. The results for Malawi and Zambia are statistically significant at 5 percent and 10 percent level, respectively. Likewise, standardized coefficients for the effect of FDI-to-GDP ratio on employment growth for the two host counties are 0.604 for Malawi and 0.224 for Zambia, respectively. We argue that the above positive but relatively smaller FDI-induced employment-creation effect experienced in Zambia may have emanated from the ‘enclave character’ of the majority of its inward FDI which largely flows into the mining sector. This seems to render support to pioneering findings on the subject by Nunnenkamp and Spatz (2004); Isham et al. (2005); and Auty (1993) who postulate that resource-seeking inward FDI into the primary sector, more especially mining, has limited forward and backward linkages with labor and factor markets in the host economies. As such, it has a relatively limited job-creation and growth-generating effect on the host economy.

We also examined distributional effects of foreign investment to comprehensively examine the FDI-inclusive growth nexus in Zambia and Malawi. To achieve this, we applied cointegration and causality techniques on the time series in order to assess the long-run effect of inward FDI on income inequality in the two host-countries. The cointegration analysis reveals that inward FDI has had a significant and positive long-run relationship with income inequality. Furthermore, our Granger-causality test results indicate that FDI ‘Granger-causes’ income
inequality in both host countries, thus the causality runs from FDI to income inequality. Moreover, the long-run causality appears to be unidirectional, suggesting that the FDI-induced rising inequality is a consequence but not a cause of inward FDI. In other words, our empirical results suggest that inward FDI has had negative distributional consequences on income levels in both countries during the post-colonial period.

In concurrence with the above empirical findings, impulse response functions (IRFs) illustrated that FDI appears to exert both a short and long-run significant effect on the level income inequality in the aforementioned countries. For instance, in Malawi inward FDI seems to have increased the level of inequality both in the short-run and long-run periods. For Zambia, though the level income inequality seems to marginally decline overtime after an initial increase in response to an expansion in the level of inward FDI, but on the overall the Gini coefficient still appears to be rising. With this, therefore, we deduce that globalization (in form of inward FDI stock-to GDP-ratio) may, on the overall, have had a deleterious effect on different income groups in the two host-economies. These findings suggest that the gains from FDI may have benefited skilled and/or educated workers more than the less-skilled and/or less-educated workers in terms of wages thereby worsening income gaps in the two countries.

Against this background, therefore, we conclude that inward FDI has, on the overall, not led to inclusive growth in the two countries during the post-colonial era since it has only increased the ‘pace of PCI growth’ but worsened the ‘distribution of the resultant growth through its inequality-widening effect. Considering these empirical findings, it may be plausible to conclude that that much as inward FDI may have been beneficial for economic growth and employment creation in Zambia and Malawi, the two host governments need to do more to improve its impact on income distribution and more especially on poor sections that are adversely affected by it. The implication of the above findings is that the governments of Zambia and Malawi may be justified in continuing their FDI-driven growth and employment creation policies since the empirical results appear to confirm the positive role of inward FDI in accelerating the pace of economic growth. However, income distribution reforms may have to be implemented in light of the FDI-driven rising income inequality so that the fruits of the economic growth are equitably shared by the majority of their citizens.
8.2. Policy recommendations

After summarizing the main results that transpired from the research, the study proceeds to suggest some policy actions that Zambia and Malawi can implement to enhance the positive effect of inward FDI on PCI growth and employment creation as well as improve income distribution (i.e. reducing FDI-induced inequality) and thus achieve inclusive growth. A discussion of these recommendations is given below.

To begin with, given that study seems to empirically endorse the thesis that ‘inward FDI fosters PCI growth and employment creation in Zambia and Malawi’, the two host governments may be justified to take a pro-active approach towards promoting foreign investment, in particular in attracting MNCs to locate in sectors with a promising growth and job-creation potential. These host governments can provide both incentives and prescribe mandatory requirements to foreign investors to accomplish the above objective. FDI incentives are basically inducements or economic advantages given by host governments to foreign firms aimed at encouraging these enterprises to act in a desired way so that they can contribute to economic development of the host country. These include fiscal incentives (e.g. tax breaks) and financial incentives (e.g. government guarantees, credits, and equity participation). For instance, Zambia and Malawi can offer multinationals fiscal and financial incentives to entice these firms to locally source inputs, train local laborers, transfer productivity-enhancing technology and know-how to local firms, or to establish local R&D capacity in the host economies. On the other hand, mandatory measures could basically involve rules and regulations aimed at increasing the growth and employment contribution of FDI in the above host countries. These mandatory measures could prescribe to multinational corporations what they should do to; for example, raise local employment levels; train local workers or transfer technology and know-how to spur PCI growth

From the empirical results it is also evident that domestic capital plays a key role in fostering economic growth in both Zambia and Malawi. This suggests that it may be prudent for the two host countries to strengthen linkages between foreign capital (FDI) and domestic capital in order to maximize the growth benefits emanating from both globalization and domestic resources. One possible way to achieve this is the promotion of joint ventures between foreign multinationals and domestic investors. Such joint ventures have the potential to enhance transfers of technology and skills to the host economy and in the process strengthen the positive effects of inward FDI
on the two economies. On the same, empirical research by UNIDO (2011) shows that joint ventures in many sub-Saharan African countries tend to be larger, employ more host-country laborers and are also more productive relative to enterprises that are wholly-owned by either foreign firms or domestic firms. Additionally, Zambia and Malawi can also implement targeted economic incentives and policies aimed at encouraging multinationals to source their inputs locally. This will go a long way in enhancing linkages between FDI and domestic capital. On the same, UNCTAD (2001b) identifies several advantages of sourcing inputs locally. For instance, by sourcing factor inputs domestically, multinationals can increase the number of jobs created since the sourced inputs represent new production. Additionally, local input-sourcing could also enhance technological and managerial expertise transfers from MNCs to local suppliers thereby enhancing productivity and output growth in the two host economies. The practice can also assist in adapting production technologies introduced by MNCs to local conditions since the local suppliers in Zambia and Malawi are more likely to use labor-intensive processes. Moreover, local input-sourcing can also encourage local suppliers in the two host countries to form clusters that can in the long run support innovation and upgrading which in turn may boost productivity and growth.

On a related note, the study has suggested that resource-seeking FDI in primary sectors such as mining has a relatively smaller growth and employment-creating potential due to its ‘enclave’ character of the foreign investment that limits the formation of meaningful linkages with the local host economy. As significant recipients of inward FDI in primary sectors, therefore, Zambia and Malawi need to take a pro-active role in encouraging multinationals to form significant forward and backward linkages with their local economies to increase the contribution of FDI towards increased productivity, growth, employment creation and technology transfer. One important way of promoting these linkages is for the two host governments to take a leading role in coordinating and bridging the information gaps among the various stakeholders such as the MNCs, local suppliers, the government itself, the private sector and academic institutions. More specifically, the host governments can achieve the above objective by firstly, matching MNCs and local suppliers through link-promotion forums thereby reducing information asymmetry among the players in the investment endeavor. Secondly, the Zambian and Malawian authorities can provide technical and managerial/organization training programs targeting both local suppliers and MNCs and this would enhance labor market linkages
between the above stakeholders. Finally, the two host countries can implement deliberate policies aimed at removing obstacles to access of financing for small domestic firms. Government investment agencies such as the Zambia Investment Development Agency (ZDA) and the Malawi Investment and Trade Centre (MITC) should lead these coordination efforts. Implementation of such initiatives would go a long way in promoting backward linkages between inward FDI and the local economies in Zambia and Malawi and hence assist in effectively dealing with the ‘enclave’ nature of FDI inflows in their primary sectors.

Having seen the pivotal role that labor plays in the FDI-inclusive growth nexus in the two host-countries, it is important to improve the quality and quantity of human capital. This entails, firstly, raising the basic level of education of the labor force of Zambia and Malawi which would enhance not only the employability of domestic workers but also their productivity thereby contributing to growth. Furthermore, specialized skills should be provided by building on the two host countries’ existing competences rather than upgrading skill levels just to suit the short-term needs of a particular multinational or a few multinational corporations. Basic public health infrastructure also needs to be put in place to boost the health-status of the workforce. This together with educational upgrading will boost the two countries’ human capital levels and thus enhance the effectiveness of FDI in catalyzing economic development.

Education could also act as a potent tool for reversing or slowing down inequality-enhancing effect of inward FDI in Zambia and Malawi. Indeed, increased educational attainment can reduce the skill differentials between skilled and less-skilled workers thereby leading to reduced wage inequality as wage premium between workers in the two host countries diminish. Given the two host countries’ acute scarcity in skilled labor, one would, from the theoretical point of view, expect FDI inflows to worsen wage inequality. However, if the two host governments significantly invest in education and vocation training of their labor force, inward FDI could overtime lead to a reduction in inequality as the skills differential between workers reduce and thus allowing the host countries to smoothly embrace FDI-induced technological change. To borrow the words of Aghion and Howitt (1998) increased education levels in the long-run would enable workers and firms in Malawi and Zambia to smoothly “transition to a new technological paradigm” meaning that it would not only improve their absorption of foreign technologies but also enhance their adaptation to technological changes brought about by inward FDI.
Social protection programs are another possible solution to dealing with the negative effects of FDI-induced rising inequality in the two host countries. However, for host countries with low-revenue mobilization capacity such as Zambia and Malawi, financing such social protection programs may be difficult to achieve. But nevertheless, in the past decade donor-financed social-cash transfer (SCT) schemes targeting the poorest and most vulnerable have spread across Zambia and Malawi. As such, if political will is present, it is possible for the governments of the two host countries to scale-up and formalize these pilot social protection programs over time since the long-term sustainability of donor-funded social-cash-transfer schemes is doubtful. Barrientos and Hulme (2008) suggest that these countries can do so by firstly, accelerating the pace of economic growth which could generate additional resources to finance the programs. Secondly, by switching expenditure from poorly performing poverty budget allocations and improving their tax collection efficiency, Zambia and Malawi can generate additional resources necessary to scale-up their social protection programs which are currently in their infancy stage. In the end this can assist in compensating the poor who oftentimes bear the full brunt of the negative effects of globalization (in form of rising FDI-induced inequality) in the two host countries.

9.3. Limitations of the study and suggestions for further research

A number of data limitations were noted throughout the course of the study. The main challenge of which was the use of aggregated data on the FDI and other inclusive growth variables. This came about as result of the unavailability of sectoral data more especially for inward FDI in both Zambia and Malawi. But as stated throughout the course of this study; heterogeneity exists across countries as regards to the FDI-effect on economic growth. This heterogeneity is also expected to be found across different host-country sectors to which inward foreign investment gravitates. This therefore indicates that the use of aggregated FDI data may prevent a thorough analysis of the impact of foreign investment on different growth-generating segments of the economy such as primary, manufacturing, and service sectors. The foregoing study may, therefore, have suffered from the above challenge.

Additionally, since the study only used annual time series observations because of unavailability of monthly or quarterly data in both countries, there is a possibility that this reduced the
efficiency of the VECM estimation methodology. As a matter of fact, VECMs are data-intensive hence require longer time series. On the contrary, if disaggregated or sectoral data was available it would increase the frequency of the variables and thus greatly enhance the estimation and prediction capabilities of the VECM.

But as sectoral or disaggregated data is slowly being collected by statistical offices in these two countries, researchers interested in further examination of the above topic in the future should consider exploring how FDI-effects on inclusive growth vary across different sectors of the Zambian and Malawian economies. Moreover, a sectoral analysis would unearth deeper insights into the effectiveness of industrial policies of the two countries with respect to FDI promotion and maximising the growth-benefits from the same.

Another challenge that this study encountered is to do with use of employment data obtained from Penn World Tables version 9.0. Given that this data does not distinguish between formal sector workers and informal sector workers, one can clearly see that it is primarily built on the neoclassical assumption of the existence of smoothly-functioning labor markets. However, we have pointed out in this study that in host developing countries such as Zambia and Malawi there is macroeconomic labor market failure, with no full employment and a large informal sector. This being the case, one can, therefore, conclude that employment data from Penn Word Tables does not provide a more realistic picture of the macroeconomic labor market in these two host countries. Against this background, therefore, we suggest that further research on the FDI-inclusive growth nexus in the aforementioned countries should consider generating or utilizing employment data that adequately reflects the existence of such macroeconomic labor-market failure in the above countries.

Lastly, the inability to analyze the FDI-effect on poverty in both Zambia and Malawi was another important constraint that this research faced. This was mainly caused by the unavailability of reliable poverty data for long periods of time in the two host countries. But as pointed out in preceding chapters; poverty alleviation is an important channel to achieving inclusive growth in developing countries. Therefore, future research on the topic should consider examining the FDI-poverty nexus in Zambia and Malawi. This would help in revealing the direct and indirect channels through which FDI influences inclusive growth and development. Future
prospects for conducting such an analysis look promising as international organizations such as World Bank and UNDP are currently upgrading their poverty databases to cover many developing countries.
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APPENDICES

Appendix A: Descriptive statistics for Malawi

<table>
<thead>
<tr>
<th>Variable</th>
<th>Observations (No. of years)</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>$g_{L,D}$</td>
<td>44</td>
<td>3.028</td>
<td>2.397</td>
<td>-2.067</td>
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<td>$g_{PCI}$</td>
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<td>1.064</td>
<td>5.029</td>
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<td>$GNS$</td>
<td>45</td>
<td>8.249</td>
<td>6.656</td>
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<td>$FDI$</td>
<td>45</td>
<td>1.079</td>
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<td>$g_{FP}$</td>
<td>25</td>
<td>1.359</td>
<td>4.984</td>
<td>-11.1</td>
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<td>$n$</td>
<td>45</td>
<td>2.952</td>
<td>1.486</td>
<td>-0.035</td>
<td>6.911</td>
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<td>$gy$</td>
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<td>0.602</td>
<td>7.62</td>
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<tr>
<td>Gini coefficient</td>
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<td>0.5068</td>
<td>0.0766</td>
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<td>0.617</td>
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<td>Human capital</td>
<td>35</td>
<td>1.518999</td>
<td>0.1549052</td>
<td>1.34077</td>
<td>1.840814</td>
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</tbody>
</table>

Source: Author’s own calculation using Stata

Appendix B: Descriptive statistics for Zambia

<table>
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<tr>
<th>Variable</th>
<th>Observations (No. of years)</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>$g_{L,D}$</td>
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<td>2.378</td>
<td>1.103</td>
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<td>3.993</td>
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<td>$g_{PCI}$</td>
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<td>$FDI$</td>
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<td>$g_{FP}$</td>
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<td>2.710</td>
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<td>Gini coefficient</td>
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<td>2.004472</td>
<td>0.2357806</td>
<td>1.567693</td>
<td>2.443176</td>
</tr>
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</table>

Source: Author’s own calculation using Stata
Appendix C: A summary of some important empirical studies on the FDI-growth nexus

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Type of Data</th>
<th>Countries and Time Period</th>
<th>Empirical Approach</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blomström et al., (1994)</td>
<td>Cross-section and panel data</td>
<td>78 developing countries 1960-85</td>
<td>OLS Regressions</td>
<td>FDI has positive effect on growth for only higher income developing countries</td>
</tr>
<tr>
<td>Balasubramanyam et al., (1996)</td>
<td>Cross-section</td>
<td>46 developing countries 1970-1985</td>
<td>OLS regressions</td>
<td>FDI has positive effect only for export promoting countries</td>
</tr>
<tr>
<td>Borensztein et al., (1998)</td>
<td>Cross-section</td>
<td>69 developing countries 1970-1989</td>
<td>Regression estimations using SUR technique</td>
<td>FDI has positive effect but its magnitude depends on human capital in host country</td>
</tr>
<tr>
<td>Kentor (1998)</td>
<td>Panel data</td>
<td>79 developed and developing countries 1938-1990</td>
<td>OLS regressions</td>
<td>Countries with high dependence on FDI have slower economic growth</td>
</tr>
<tr>
<td>De Mello (1999)</td>
<td>Panel data and time series</td>
<td>32 developed and developing countries 1970-1990</td>
<td>Stationarity tests</td>
<td>Only weak evidence for FDI effects on economic growth</td>
</tr>
<tr>
<td>Nair-Reichert and Weinhold (2001)</td>
<td>Panel data</td>
<td>24 developing countries 1971-1995</td>
<td>Mixed fixed and random coefficient approach</td>
<td>FDI on average has a significant impact on growth but the relationship is heterogeneous across countries</td>
</tr>
<tr>
<td>Zhang (2001)</td>
<td>Time series</td>
<td>11 developing countries in East Asia and Latin America, varying time periods between 1957-1997</td>
<td>Analysis of causality between FDI and economic growth using Granger causality tests</td>
<td>Evidence of growth enhancement from FDI in more open countries</td>
</tr>
<tr>
<td>Carkovic and Levine (2002)</td>
<td>Cross-section and panel data</td>
<td>72 developed and developing countries</td>
<td>Regression analysis using OLS as well as GMM</td>
<td>FDI inflows do not exert a robust, independent influence on economic growth</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Data Format</td>
<td>Sample Description</td>
<td>Econometric Method</td>
<td>Conclusion</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
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<td>------------</td>
</tr>
<tr>
<td>Campos and Kinoshita (2003)</td>
<td>Panel data</td>
<td>25 transitional, Central and Eastern European economies</td>
<td>System-GMM regression</td>
<td>FDI has a significant positive effect on economic growth</td>
</tr>
<tr>
<td>Alfaro (2003)</td>
<td>Cross-section and panel data</td>
<td>47 developing countries 1981-1999</td>
<td>OLS regressions</td>
<td>Negative effect in primary sector, a positive one in manufacturing, and the service sector was found to be ambiguous</td>
</tr>
<tr>
<td>Choe (2003)</td>
<td>Panel data and time series</td>
<td>80 developed and developing countries, 1971-1995</td>
<td>Analysis of causality between FDI and economic growth using Granger causality test of Holtz-Eakin</td>
<td>FDI Granger causes economic growth and vice versa but the effects are more common from growth to FDI</td>
</tr>
<tr>
<td>Bengoa and Sanchez-Robles (2003)</td>
<td>Panel data and time series</td>
<td>18 Latin American countries 1970-1999</td>
<td>Regression analysis, fixed and random effects</td>
<td>FDI has positive effect on growth but it depends on level of human capital, economic stability, and liberalized capital markets.</td>
</tr>
<tr>
<td>Alfaro (2004)</td>
<td>Time series</td>
<td>71 developed and developing countries 1975-1995</td>
<td>OLS Regressions and IV technique</td>
<td>FDI has positive effect if country has well developed financial markets</td>
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<tr>
<td>Durham (2004)</td>
<td>Panel data</td>
<td>80 countries 1979-1998</td>
<td>IV estimation with 2SLS</td>
<td>FDI has positive effect only when country has developed financial markets and strong institutional development</td>
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<tr>
<td>Griffiths and Sapsford (2004)</td>
<td>Time series</td>
<td>Mexico 1970-1999</td>
<td>OLS regressions</td>
<td>Two-period lag of FDI was found significant in the</td>
</tr>
<tr>
<td>Author</td>
<td>Methodology</td>
<td>Data</td>
<td>Period</td>
<td>Findings</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------------------------</td>
<td>-----------------------------------------------</td>
<td>---------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Selvanathan (2005)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Li and Liu (2005)</td>
<td>Panel data and time series</td>
<td>21 developed and 63 developing 1970-1999</td>
<td>OLS regressions</td>
<td>There is a complementary connection between FDI and economic growth. Positive interaction with human capital and negative interaction with technological gap in developing countries</td>
</tr>
<tr>
<td>Chakraborty and</td>
<td>Panel data and time series</td>
<td>India 1987-2000</td>
<td>Granger causality tests</td>
<td>Bidirectional causality in manufacturing, no causal relationship in primary, and temporary FDI to growth effect in the service sector</td>
</tr>
<tr>
<td>Nunnenkamp (2006)</td>
<td></td>
<td></td>
<td>within a panel cointegration framework</td>
<td></td>
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<tr>
<td>Vu et al., (2006)</td>
<td>Time series</td>
<td>China and Vietnam 1985-2004</td>
<td>Feasible generalized least squares</td>
<td>FDI had a positive effect directly and indirectly with its interaction with labor on growth in the industrial sector. Other sectors gained very little growth benefit from sector specific FDI</td>
</tr>
<tr>
<td>Ali-Iriani and Al-</td>
<td>Panel data</td>
<td>Bahrain, Kuwait, Oman, Saudi Arabia, and United Arab Emirates 1970-2004</td>
<td>Analysis of causality</td>
<td>Bidirectional causality between FDI and economic growth</td>
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<tr>
<td>Shamsi (2007)</td>
<td></td>
<td></td>
<td>between FDI and economic growth using Granger causality test of Holtz-Eakin</td>
<td></td>
</tr>
<tr>
<td>Khaliq and Noy (2007)</td>
<td>Time series</td>
<td>Indonesia 1998-2006</td>
<td>OLS fixed effects</td>
<td>Negative effect on growth in the mining and quarrying sector. The only sector with a significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>regression</td>
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</tr>
<tr>
<td>Study</td>
<td>Type of Data</td>
<td>Study Period</td>
<td>Methodology / Model</td>
<td>Summary</td>
</tr>
<tr>
<td>------------------------------</td>
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<tr>
<td>Sakar (2007)</td>
<td>Panel and time series data</td>
<td>51 lesser developed countries 1970-2002</td>
<td>OLS fixed and random effects regressions. Autoregressive distributive Lag approach</td>
<td>In the majority of cases there is no long term relation between FDI and economic growth</td>
</tr>
<tr>
<td>Ayanwale (2007)</td>
<td>Time series</td>
<td>Nigeria, 1970-2002</td>
<td>OLS and 2 SLS technique</td>
<td>Non-extractive has a positive but insignificant effect on economic growth</td>
</tr>
<tr>
<td>Elboiashi, et al., (2009)</td>
<td>Time series</td>
<td>Egypt, Morocco and Tunisia, 1970-2006</td>
<td>VECM and Granger causality tests</td>
<td>There is evidence of a bi-directional causality between FDI and GDP in Tunisia. However, a unidirectional causality from FDI to GDP is existent for Egypt. While Tunisia has a unidirectional relationship running from GDP to FDI.</td>
</tr>
<tr>
<td>Esso (2010)</td>
<td>Panel data</td>
<td>10 Sub-Saharan African countries, 1970-2007</td>
<td>Pesaran, et al. (2001), and Toda and Yamamoto (1995) co-integration methodologies.</td>
<td>FDI Granger causes economic growth in only three of the sampled countries. There is also no long-run relationship between the two variables in the remaining 7 countries.</td>
</tr>
<tr>
<td>Majagaiya and Gu (2010)</td>
<td>Time series</td>
<td>Nepal, 1980-2006</td>
<td>OLS and Granger causality tests</td>
<td>There is evidence of a uni-directional relationship between the two variables running from FDI to GDP</td>
</tr>
<tr>
<td>Muhamad et al., (2011)</td>
<td>Time series</td>
<td>Portugal, 1975-2008</td>
<td>Sinder-ECM and other co-integration tests</td>
<td>FDI and public investments have positive and significant effect on GDP growth</td>
</tr>
<tr>
<td>Asheghian (2011)</td>
<td>Time series</td>
<td>Canada, 1976-2008</td>
<td>Granger causality tests</td>
<td>No evidence of causality between FDI and economic growth</td>
</tr>
<tr>
<td>Juma (2012)</td>
<td>Time series</td>
<td>43 Sub-Saharan African countries from 1980-2009</td>
<td>Country fixed-effects OLS</td>
<td>FDI has a positive effect of GDP growth after exclusion of outliers in the time series</td>
</tr>
<tr>
<td>Study</td>
<td>Data type</td>
<td>Sample</td>
<td>Methodology</td>
<td>Findings</td>
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<td>--------------------------------------------------------------</td>
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<tr>
<td>Forrero-Perez (2012)</td>
<td>Time series</td>
<td>Colombia and Chile, 1970-2007</td>
<td>OLS, co-integration and Granger causality tests</td>
<td>FDI only Granger causes economic growth at sector level but not aggregate level</td>
</tr>
<tr>
<td>Acaravci and Ozturk (2012)</td>
<td>Panel data</td>
<td>10 new EU countries, 1994-2008</td>
<td>ARDL and Granger causality tests</td>
<td>FDI only Granger-causes GDP growth in 4 out of the 10 sampled countries</td>
</tr>
<tr>
<td>Roy and Mandal (2012)</td>
<td>Panel data</td>
<td>Selected Asian countries, 1975-2010</td>
<td>Co-integration tests</td>
<td>There is evidence of existence of long-run and positive relationship between FDI and output expansion in the majority of the selected countries.</td>
</tr>
<tr>
<td>Lo et al., (2013)</td>
<td>Time series</td>
<td>Haiti, 1980-2010</td>
<td>Simultaneous equations and 2SLS</td>
<td>FDI has no significant impact on output growth during the period under consideration.</td>
</tr>
<tr>
<td>Suleiman et al., (2013)</td>
<td>Panel data</td>
<td>Southern African Customs Union-SACU countries (South Africa, Lesotho, Swaziland, Botswana, and Namibia) 1980-2010</td>
<td>Dynamic Ordinary Least Squares (DOLS) regression</td>
<td>Positive and significant impact of FDI on economic growth for all SACU countries</td>
</tr>
<tr>
<td>Abala (2014)</td>
<td>Time series data</td>
<td>Kenya, 1970-2010</td>
<td>OLS</td>
<td>FDI has a positive and significant effect on growth. GDP growth drives FDI inflows</td>
</tr>
<tr>
<td>Mahembe (2014)</td>
<td>Panel data</td>
<td>Southern African Development Community (SADC) countries,</td>
<td>Dynamic panel Vector Auto-regression, ECM and Granger causality tests</td>
<td>FDI Granger causes GDP growth in all the countries. However, evidence for existence of a long-run positive and significant effect is only found in middle-income countries and not low-income ones.</td>
</tr>
<tr>
<td>Girma et al., (2014)</td>
<td>Cross-section data</td>
<td>China</td>
<td>Stable Unit Treatment Value Assumption (SUTVA) method</td>
<td>FDI encourages output expansion through enhanced firm productivity.</td>
</tr>
<tr>
<td>Mehraral, et al., (2014))</td>
<td>Panel data</td>
<td>57 developing countries, 1980-2008</td>
<td>Panel vector error correction model (VECM)</td>
<td>FDI Granger causes GDP growth only in the short-run. However, there is evidence of a bi-directional causality relationship between FDI and GDP growth</td>
</tr>
</tbody>
</table>
Appendix D: Some major multinational corporations operating in Malawi

<table>
<thead>
<tr>
<th>Name of multinational</th>
<th>Home country of multinational</th>
<th>Sector of operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illovo Sugar Malawi Limited</td>
<td>South Africa</td>
<td>Sugarcane growing and processing</td>
</tr>
<tr>
<td>Transglobe Exports Produce Limited</td>
<td>Mali</td>
<td>Food processing</td>
</tr>
<tr>
<td>Metro Cash and Carry Malawi Limited</td>
<td>Germany</td>
<td>Retail trading</td>
</tr>
<tr>
<td>Valmore Paints Malawi Limited</td>
<td>United Kingdom</td>
<td>Paint manufacturing</td>
</tr>
<tr>
<td>Limbe Leaf Tobacco Company</td>
<td>United States of America</td>
<td>Tobacco processing</td>
</tr>
<tr>
<td>G4S Security Services Malawi Limited</td>
<td>United Kingdom</td>
<td>Security and courier services</td>
</tr>
<tr>
<td>Paladin Africa Limited</td>
<td>Australia</td>
<td>Mining</td>
</tr>
<tr>
<td>DHL</td>
<td>Germany</td>
<td>Logistics</td>
</tr>
<tr>
<td>Maersk Malawi Limited</td>
<td>Denmark</td>
<td>Logistics</td>
</tr>
<tr>
<td>Kwalazhi Estates Company</td>
<td>United Kingdom</td>
<td>Agriculture exports</td>
</tr>
<tr>
<td>Dimon Malawi Limited</td>
<td>United States of America</td>
<td>Tobacco processing</td>
</tr>
<tr>
<td>CFAO Malawi Limited</td>
<td>France</td>
<td>Automotive services</td>
</tr>
<tr>
<td>BIC Malawi</td>
<td>France</td>
<td>Business services</td>
</tr>
<tr>
<td>Macmillan Malawi Limited</td>
<td>United Kingdom</td>
<td>Publishing services</td>
</tr>
<tr>
<td>Monsanto Malawi</td>
<td>United States</td>
<td>Agricultural Seed production</td>
</tr>
<tr>
<td>Portland Malawi</td>
<td>France</td>
<td>Cement manufacturing</td>
</tr>
<tr>
<td>Sarah Lee Corporation</td>
<td>United States of America</td>
<td>Special trading contractors</td>
</tr>
<tr>
<td>Aventis Crop science Malawi</td>
<td>Germany</td>
<td>Agricultural processing</td>
</tr>
<tr>
<td>Lipton Tea Malawi</td>
<td>United Kingdom</td>
<td>Tea processing</td>
</tr>
<tr>
<td>Price Waterhouse and Coopers</td>
<td>United States of America</td>
<td>Legal and financial advisory services</td>
</tr>
<tr>
<td>Continental Discount House Limited</td>
<td>Mauritius</td>
<td>Financial services</td>
</tr>
<tr>
<td>The Cold Chain Limited</td>
<td>Zimbabwe</td>
<td>Retail trading</td>
</tr>
<tr>
<td>Compass Group</td>
<td>United Kingdom</td>
<td>Business advisory services</td>
</tr>
</tbody>
</table>

Source: UNCTAD (2011)

Appendix E: Some major multinational corporations operating in Zambia

<table>
<thead>
<tr>
<th>Name of multinational</th>
<th>Home country of multinational</th>
<th>Sector of operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toyota Zambia Limited</td>
<td>Japan</td>
<td>Automobile sales and servicing</td>
</tr>
<tr>
<td>Reckitt And Colman</td>
<td>United Kingdom</td>
<td>Home detergents</td>
</tr>
<tr>
<td>Sandvik Tamrock Zambia Ltd</td>
<td>Netherlands</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>National Milling Corporation Limited</td>
<td>United States of America</td>
<td>Agricultural milling</td>
</tr>
<tr>
<td>Securicor (Zambia) Ltd</td>
<td>United Kingdom</td>
<td>Security and courier services</td>
</tr>
<tr>
<td>Tredcor Zambia Limited</td>
<td>Mauritius</td>
<td>Automotive products</td>
</tr>
<tr>
<td>Galaun Holdings Ltd</td>
<td>India</td>
<td>Miscellaneous</td>
</tr>
<tr>
<td>Norconsult Z Ltd</td>
<td>Norway</td>
<td>Business consulting</td>
</tr>
<tr>
<td>Commins Diesel Services</td>
<td>United Kingdom</td>
<td>Electronics</td>
</tr>
<tr>
<td>Barloworld Plascon Zambia Limited</td>
<td>South Africa</td>
<td>Construction</td>
</tr>
<tr>
<td>Crown Cork Company (Zambia) Ltd</td>
<td>United States of America</td>
<td>Business advisory</td>
</tr>
<tr>
<td>Hitachi Construction Machinery</td>
<td>Japan</td>
<td>Construction and manufacturing</td>
</tr>
<tr>
<td>Caltex Oil Zambia Ltd</td>
<td>United States of America</td>
<td>Petroleum</td>
</tr>
<tr>
<td>Tata Zambia Limited</td>
<td>India</td>
<td>Automobile sales and servicing</td>
</tr>
<tr>
<td>Northern Breweries 1995 Plc</td>
<td>South Africa</td>
<td>Food and beverage processing</td>
</tr>
<tr>
<td>British American Tobacco</td>
<td>United Kingdom</td>
<td>Tobacco processing</td>
</tr>
<tr>
<td>CFAO Zambia Limited</td>
<td>France</td>
<td>Automobile sales and servicing</td>
</tr>
<tr>
<td>Zambia Sugar Plc</td>
<td>Ireland</td>
<td>Sugar processing</td>
</tr>
<tr>
<td>Mpungwe Development Company Ltd</td>
<td>United Kingdom</td>
<td>Real estate</td>
</tr>
<tr>
<td>Philips Electrical Zambia Ltd</td>
<td>Netherlands</td>
<td>Electronics</td>
</tr>
<tr>
<td>Consolidated Contractors Company</td>
<td>Kuwait</td>
<td>Construction</td>
</tr>
<tr>
<td>Khal Amazi Ltd</td>
<td>United Kingdom</td>
<td>Business advisory</td>
</tr>
<tr>
<td>Amiran Ltd</td>
<td>United Kingdom</td>
<td>Agro-machinery manufacturing</td>
</tr>
</tbody>
</table>

Source: UNCTAD (2011)
Curriculum Vitae

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- Social policies and social protection for developing countries
- Energy economics
- Private sector development and competitiveness
- International migration and remittances