ABSTRACT

The world has become more linked owing to the increased intensity of globalisation across regions. Sub-Saharan Africa (SSA) has become relatively more integrated into the world economy as shown by increasing degree of trade openness (from 55.4% in 1980 – 1984 to 65.3% in 2000 – 2012) and foreign direct investment (from 0.3% in 1980 – 1984 to 2.7% in 2000 – 2012). Over the same period, the quality of life of people in SSA, in terms of access to basic necessities improved marginally (from 49.0% in 1980 – 1984 to 53% 2000 – 2012 for water; 61.0% in 1980 – 1984 to 62.0% in 2000 – 2012 for health care services). Most studies on globalisation revolve around trade openness and foreign direct investment using monetary measures of human welfare. The effects of globalisation on access to basic necessities such as water, sanitation, health care services have however, received little attention. This study therefore investigated the impact of globalisation on human welfare in SSA countries.

This study adopted the endogenous growth theory. Four channels of transmission of impact of globalisation were considered: trade openness, financial and capital flows (foreign direct investment and portfolio investment), labour mobility and access to telephone. Data for 16 countries (selected from four sub-regional groups: two less globalised and two more globalised countries from each sub-region) were sourced from the World Development Indicators for the period. Human welfare was proxied by human development index (HDI-composite of three indicators, namely, life expectancy at birth, mean year of schooling and income per-head), infant mortality rate and the access of people to basic necessities: water, health care services and sanitation. Governance, measured in terms of governance index, was considered as a control variable that stimulates globalisation and human welfare. The feasible Generalised Least Square (GLS) estimator was utilized to estimate the fixed and random effects panel regression models. Hausman test was used to determine the efficient estimator between fixed and random effects. All the estimated coefficients were evaluated at the 0.05 level of significance.

Trade exerted positive and significant impact on HDI (0.04), life expectancy (0.04), access to water (0.08) and access to health services (0.07). A 10.0% increase in trade improved HDI by 0.4%, enhanced access to water and access to sanitation by 0.8% and 0.7% respectively. Foreign direct investment significantly increased HDI (0.59), infant mortality rate (-2.19), life expectancy (0.32), mean year of schooling (0.01), access to water (0.68), access to

sanitation(0.27) and access to health services (0.54). Access to telephone positively and significantly impacted on HDI (0.04), life expectancy (0.02), infant mortality rate (-0.03), access to water (0.02), access to sanitation (0.03) and access to health services (0.05). Labour migration significantly enhanced HDI (0.04), access to sanitation (0.12) and access to health services (0.07). Governance index significantly lowered HDI (-0.04), access to water (-0.09) and access to health services (-0.02).

Globalisation through its various channels, had a positive effect on human welfare indicators in sub-saharan Africa. There is however a need to improve on the quality of governance in the region to enhance the welfare of the people through global interactions.

Keywords: Globalisation, Quality of governance, Human welfare, Sub-Saharan Africa.
Word count: 497

DEDICATION

This thesis is dedicated to the Almighty God the founder and the overseer of the entire universe. I also dedicate this work to my parents, Late SAMUEL ADEJARE MAKU and Mrs. BERNICE OLUREMI MAKU for their parental upbringing, support, prayers and endless love. More importantly to my dad, who struggled to the point of death to ensure that I acquire education. May your soul rest in peace till we meet to part no more.

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Olukayode Emmanuel Maku

CERTIFICATE

I certify that this work was carried out by Mr. **OLUKAYODE EMMANUEL MAKU** under my supervision in the Department of Economics, University of Ibadan, Ibadan, Nigeria.

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CHAPTER ONE

INTRODUCTION

1.1 Statement of the Problem

Over the last few decades, the world has become more linked owing to globalisation across all regions. The scope of this global integration in all its ramifications has turned the world to a global village. Globalisation as a process is not limited to its economic perspective, rather it has also profoundly shaped the socio-political, technological and cultural landscapes of countries and regional groups.

Globalisation has brought a lot of benefits such as helping countries and regions by adopting a number of programmes and policies aimed at deriving immense benefits accruable from the rapid and intensive global interactions and interconnections especially with respect to poverty alleviation and improvement in the wellbeing of the people. However, globalisation has also brought with it a variety of problems that have worsened human welfare. How the Sub-Saharan African (SSA) countries have fared in this direction remains controversial among social science scholars and policymakers (UNDP 2012).

The literature on the impact of globalisation on poverty and human welfare points to highly variable outcomes (positive and negative) as well as multiple causalities, channels and mechanisms that link globalisation with human welfare. On the one hand, are those who find that globalisation worsens well-being (Milanovic and Squire, 2005; Ravallion, 2006; Wagle, 2007; Fosu and Mold, 2008). On the other hand, some authors point to evidence of human welfare improvements arising from globalisation (Bhagwati and Srinivasan, 2002; Dollar and Kraay; 2004). Yet, some economists argue that there is no specific link between them (Sylvester, 2005 and Choi, 2006). Thus, there is no consensus on how the integration of developing economies into the global market affects the welfare of their people. Some empirical evidence confirm the submission of this school of thought that "more open economies are more prosperous and experience faster rate of progress (Chan and Dung, 2001; Neutel and Heshmati, 2006; Hammed and Nazir, 2006; Harrison, 2006; Maetens, *et al.,* 2009). On the other hand, the antagonists of globalisation argue that world poverty has been rising and human welfare deteriorating due to the forces unleashed by the same wave of globalisation (Santarelli and Figni, 2002; Khor, 2002; Heshmanti, 2003; Hammoris and Kai, 2004; Guordon, *et al.,* 2006; Gold, 2009).

In spite of the controversies surrounding the impact of globalisation on human welfare, evidence points to a high incidence of poverty in the era of intensive globalisation among the poor nations especially in SSA. People in SSA, as well as those in South Asia, are among the poorest in the world, in terms of real income, wellbeing status and access to social services. About 48.3 per cent of the population of SSA live in poverty with an average life expectancy of 47 years (World Bank Report, 2011).

Since the Second World War, SSA has been relatively more integrated into the world economy, with high trade/GDP ratios (World Bank, 2006). In spite of the increasing degree of openness of the region to the global market, most of her social and human welfare indicators have recorded a downward trend (UNDP, 2008). If more openness stimulates growth, as pro-globalisation advocates claim, such integration should have led to greater sustained growth in the SSA region than in Latin America as well as South and East Asia. These regions have managed to lift their people out of abject poverty, deteriorating human welfare and high income inequality, which the SSA region to a large extent, has not.

This has been blamed on lack of institutional capacity, poor assets distribution, poor governance, persistence of civil strife and diseases, as well as low technological base. All these tend to make SSA unattractive to foreign and domestic investors. In spite of the rapid changes in world trade in the past few decades, SSA is characterised by low value - added exports, especially agricultural commodities and minerals, which it exchanges for manufactured goods. The enclave nature of mineral production in the region, not only accounts for the exposure of the economies to international price fluctuations and adverse effects of technological backwardness, it is also to be blamed for her current status in the global market (UNCTAD, 2006).

The major goals of the economic reforms in the region since the 1980s have been to reduce structural vulnerability by the integration of trade, capital flows and as well as social contacts into the world economy to ensure sustained growth, poverty reduction, and human welfare improvements. Regardless of the long period of economic reforms, in SSA, majority of the region's population are still living in abject poverty. African countries have introduced reforms in more structural matters such as market deregulation, trade liberalisation and public sector restructuring, including privatisation, but all have failed to keep human welfare crises in check (World Bank, 2014).

In spite of several various programmes and policies put in place in the past four decades such as (Structural Adjustment Programmes (SAPs); Poverty Reduction Strategies

(PRSs), Millennium Development Goals, (MDGs); Social Protection, and Pro-poor growth programmes), the level of decline in human welfare in SSA remains very high. For example, 46.4 percent of the people in the region were living below the one dollar per day poverty line in 2004 as against 41.6 per cent in 1981(Chen and Ravallion, 2004). In 2007, the World Bank poverty database put the proportion at 48 per cent. Between 1975 and 2005, Africa recorded an overall decline of about 20 per cent in the consumption of goods and services (UNDP Reports, 2006). Between 1980 and 2006, SSA's private consumption per capita grew at an average of about 1.2 per cent (UNDP, 2007). This was the worst in the world, when compared with other regions such as Latin America and the Carribbean–1.6 per cent, South Asia–2 per cent, East Asia and the Pacific–5.6 per cent (World Bank Report, 2007).

Premised on the above, this study aims to answer the following questions:

(i). What is the effect of globalisation in terms of trade openness on human welfare changes in SSA countries?

(ii). What has been the effect of capital and financial flows in SSA countries on their citizens' wellbeing?

(iii). Has each of labour mobility, and information flows impacted significantly on the wellbeing of people in SSA over the past four decades?

1.2 Objectives of the Study

The broad objective of this study is to investigate the impact of globalisation on human welfare in Sub-Saharan African (SSA) countries. The specific objectives are to determine:

(i) the effect of trade openness on human welfare in SSA countries;

(ii) the effect of net capital and financial flows of SSA countries' on the welfare of the people; and

(iii) the relative effect and significance of the flows of labour and information on the welfare of the people in SSA.

1.3 Justification for the Research

Several studies (Santarelli and Figni, 2002; Hammed and Nazir, 2006; Harrison, 2006; Guordon *et al.*, 2006; Gold, 2009; and Swinnen, 2009) have been carried out on the impact of economic globalisation alone with little or no attention paid to other dimensions, especially social globalisation which equally has serious implications for poverty and

human welfare changes. The neglect of the impact of social globalisation on poverty has hitherto been due to limited data on this aspect. Recently, a number of robust globalisation indices have been developed for example, *Konjunkturforschungsstelle* (KOF) globalisation index (Appendix B), and Centre for the Study of Globalisation and Regionalisation (CSGR) index. These indices have not been extensively employed by earlier empirical studies in analysing the impact of globalisation on human welfare in SSA countries. Few components of the indices have been used in the past to proxy globalisation in SSA countries. This study, employs a number of variables identified by the KOF globalisation index. Clark (2000), Norris (2000), Keohane and Nye (2000), Dreher (2006), Dreher and Gaston (2006), Dreher, *et al.* (2008), Ogwumike and Maku (2012) have used the KOF globalisation index, incorporating developed and a few randomly selected developing countries but not with particular attention to SSA countries.

Conceptually, most studies (Santerelli and Figni, 2002; Heshmati, 2003; Hammoris and Kai, 2004; Neutel and Heshmati, 2006; Jeffery, 2007) have investigated the impact of globalisation on poverty and human welfare using the monetary approach as a poverty measure in terms of number of people living below $1/day and per capita income. These studies did not use broader measures which encompass peoples' access to the basic necessities of life such as access to safe water, basic health services, basic education, sanitation, decency of life and good standard of living. This study incorporates the identified gaps in measuring and quantifying human welfare and how it is affected by globalisation.

Another gap which this study aims to fill is the analytical aspect identified in most earlier empirical studies (Gourdon, *et al*., 2006; Dreher, 2006; Dreher and Gaston, 2006; Dreher, *et al*., 2008). These studies neglected country and region specifics in their econometric analysis of the impact of globalisation on poverty and human welfare. This study therefore, attempts to determine the impact (magnitude and direction) of the major components of globalisation on human welfare in SSA.

1.4 Scope of the Study

The study investigates the impact of globalisation on the level of human welfare of SSA countries between 1980 and 2012. This period was chosen because it is the current phase in the historic three waves of globalisation (1870-1914, 1915-1979 and 1980-date). The period represents the new wave of globalisation. One of the main positive effects of this wave of globalisation is that many developing economies are participating more in

international commerce and have become much more involved in global trading. That is, a large number of developing countries get linked up with the global market. Another feature of the period is that developing countries became increasingly marginalised in the world economy and suffered declining incomes, rising poverty and deteriorating human welfare. In addition, international migration and capital movement, negligible during the first two waves of globalisation, have become more substantial (Khor, 2001).

The region focused on, in this study is the Sub-Saharan Africa (SSA), the part of Africa, south of the Sahara Desert. The region comprises the 47 countries of Africa, not part of North Africa. The region with a population of about 702.6 million and an average life expectancy of 46 years is one of the poorest regions in the world and hosts many of the least developed countries in the world (World Bank, 2013). This study takes a sample of four countries each from the four SSA sub regions on the basis of degree of globalisation (more and less globalised), data availability, and macroeconomic balance status (Appendix C). The sample comprised Benin Republic, Botswana, Cameroon, Central African Republic, Ghana, Kenya, Malawi, Mauritius, Mozambique, Niger, Nigeria, Rwanda, South Africa, Tanzania, and Uganda.

CHAPTER TWO

BACKGROUND TO THE STUDY

2.1 Socio-economic background of Sub-Saharan Africa

Sub-Saharan Africa (SSA) is arguably more vulnerable to changes in the international market than many other regions of the world. This is due to a number of factors, such as the composition and direction of its trade, the size of its aggregate output, its dependence on external financial flows, its low technological base and weak adjustment mechanisms against macroeconomic shocks (UNCTAD, 2005).

It is worth noting that, in spite of the increasing degree of openness of SSA countries to the global market, most of her social and human welfare indicators have remained very low relative to other regions. Table 2.1 presents data on some of the non-monetary indices of poverty. For example, though infant mortality rate in SSA in the last five decades (1960-2012) have declined by 32.2 per cent from 149 between 1960 and 1969 to 101 between 2000 and 2012, the region still recorded the highest infant mortality rate compared to all other regions. Similarly, its life expectancy has remained the lowest in the world and SSA in the last decade (2000-12) was just slightly higher than the 1960-69 level and about the same with the level attained in the 1970s.

Table 2.1 Infant Mortality Rate and Life Expectancy at Birth (years)

	Infant Mortality Rate/ thousand					**Life Expectancy at Birth (years)**				
	1960-69	**1970-79**	**1980-89**	**1990-99**	**2000-12**	**1960-69**	**1970-79**	**1980-89**	**1990-99**	**2000-12**
World	***119***	***93***	***78***	***66***	***57***	***52.5***	***58.1***	***61.4***	***63.7***	***65.4***
Asia	123	96	77	63	54	48.5	56.4	60.4	64.0	67.4
Europe	33	23	17	11	9	69.6	71.0	72.0	72.6	73.3
Latin America and Caribbean	96	75	52	35	26	56.8	60.9	64.9	68.3	71.5
North America	24	16	9	7	7	70.1	71.6	74.3	75.5	77.6
Oceanic	49	43	36	32	9	63.7	65.8	69.3	71.5	74.0
SSA	***149***	***130***	***115***	***107***	***101***	***42.4***	***46.3***	***49***	***47.7***	***45.9***

Source: United Nations Human Development Report, 2013.

2.2 Sub-Saharan Africa and the Global Economy

The region's integration into the global market in the last half of a century has been assessed with mixed reactions. The oil crises in the early 1970s sharply reduced SSA's trade openness (measured by sum of export and imports divided by total GDP). This was probably largely as a result of policies that restricted trade and more widespread use of foreign exchange controls.

Countries in the region have varied degree of factor endowments. Their socio-economic and political structures also differ as a result of the differences in their legacy of colonialism and natural resources endowment. Generally, SSA countries are richly endowed with land and labour which make subsistence and export crop farming major sources of income. To some extent, the region has been more integrated into the global economy in the last three decades (Table 2.2 and 2.3a).

Table 2.2 compares SSA with other global regions in terms of trade openness (market integration) between 1980 and 2012, a period which marks the era of intensive globalisation, not only in SSA countries but globally. The table provides trade openness data covering the period when many SSA countries embarked on economic reforms and programmes. It shows the general trend towards greater openness over the past three decades across all global regions (1980-2012) based on GDP weights. The trend is not uniform, either across regions or over time, this is an important feature. At first sight, openness in SSA is higher than most other regions in almost all years shown, but this is potentially misleading because of region-specific factors (IMF, 2005). Average trade intensity has increased in Africa in line with the overall global increase, but not as rapidly as almost all other low-and middle-income regions.

Table 2.2: Global Comparison of Trade Openness: (X+M/GDP) (US $ estimate)

	1980-84	1985-89	1990-94	1995-99	2000-12
Sub Saharan Africa	***55.4***	***53.0***	***54.8***	***60.1***	***65.3***
Latin America and Caribbean	27.3	29.2	32.0	39.3	43.4
South Asia	19.2	17.8	22.4	27.5	32.6
East Asia	29.2	36.6	50.7	59.8	73.9
East Europe and Central Asia	na	na	59.1	67.3	73.9
Middle East and North Africa	57.6	41.5	59.7	54.0	56.9
World Total	***37.9***	***36.6***	***38.8***	***43.9***	***48.5***

Note na = not available

Source: **World Bank (2013).**

In spite of the increase in trade intensity, Africa's share of total world trade has fallen over the last three decades (Table 2.3b). This confirms the assertion that, relying solely on trade intensity as an indicator of trade liberalisation is problematic and it is a misleading measure of globalisation because there are many factors that may influence the ratio besides liberalisation policies.

Since trade openness as a measure of globalisation has shortcomings, there is the need to look at indicators such as foreign direct investment (FDI). The relative increase in growth of FDI has sometimes been used as another indicator of globalisation (Geda and Shimeless, 2005). Since the early 1990s, many developing countries have enhanced their efforts to attract FDI, and the most successful have been those engaged in exporting fuels and mining products as fast-growing exporters of manufactures (UNCTAD, 2005). Within Africa, as in any of the global regions, there is considerable variance across countries in this regard.

Table 2.3a shows at the regional level, the estimate of FDI flows (inflow and outflow combined) expressed relative to GDP and net inflow as share of total FDI received by developing countries. Since FDI is a relatively volatile measure, the table shows the estimates smoothed as five-year averages, except in 2000 to 2012.

The top panel (a) confirms the marked increase in FDI relative to GDP in SSA countries over the 32-year period and especially in the last 12 years. Sub-Saharan Africa in particular has done better than most other regions; increasing from 0.3% between 1980 and 1984 to 2.74% between 2000 and 2012. The same ratio based on (equal) country weights suggests a greater increase, reflecting the high ratios in some low-income countries. In terms of the regional share of FDI, the estimates are far less favourable for SSA countries.

Table 2.3 Global comparison of Foreign Direct Investment
(a). Foreign Direct Investment: (I+0/GDP).

	1980-84	1985-89	1990-94	1995-99	2000-12
Sub Saharan Africa	0.30	0.50	0.72	2.04	2.74
Latin America and Caribbean	0.83	0.75	1.17	3.26	3.16
South Asia	0.07	0.10	0.23	0.68	0.67
East Asia	0.57	0.90	2.99	3.98	3.13
East Europe and Central Asia	0.06	0.07	0.47	2.22	2.81
Middle East and North Africa	0.46	0.47	0.91	0.76	1.08
World Total	0.54	0.77	0.84	2.00	2.64

Notes: I-Inflow and 0-Out flows
Source: **World Bank (2013) average annual rates**

(b). Foreign Direct Investment: (regional shares of total)

	1980-84	1985-89	1990-94	1995-99	2000-12
Sub Saharan Africa	0.06	0.09	0.04	0.04	0.06
Latin America and Caribbean	0.47	0.42	0.31	0.40	0.34
South Asia	0.01	0.02	0.02	0.02	0.03
East Asia	0.31	0.35	0.51	0.37	0.33
East Europe and Central Asia	0.01	0.02	0.01	0.15	.021
Middle East and North Africa	0.13	0.01	0.04	0.02	0.03

Source: **World Bank (2013) average annual ratio.**

The panel (b) shows that around six per cent of the total net FDI inflow to developing countries accrued to SSA throughout this period. The increase in the share of world FDI received by SSA countries in the 1990s did not significantly impact on Africa: Africa's share fell to 4% of the total during the period (World Bank, 2013).

Table 2.4 shows the comparison of economic and social globalisation indices among the regions in SSA. Comparisons of the world and the SSA region economic and social globalisation are depicted in Figures 2.1 and 2.2 respectively.

Table 2.4: KOF Globalisation Index for SSA (Average)

	ECONOMIC GLOBALISATION				SOCIAL GLOBALISATION			
	1970-79	1980-89	1990-99	2000-12	1970-79	1980-89	1990-99	2000-12
Central Africa	24.07	29.11	32.09	39.93	24.14	23.63	23.12	30.95
East Africa	22.22	24.66	33.18	43.07	31.82	31.80	34.29	43.19
South Africa	48.86	51.63	54.43	59.10	39.97	40.10	42.91	48.68
West Africa	24.16	29.25	35.84	44.16	28.49	28.02	28.78	35.42
SSA	**29.83**	**33.66**	**38.88**	**46.57**	**31.10**	**30.86**	**32.27**	**39.56**
World	**41.09**	**44.26**	**51.33**	**60.48**	**34.61**	**36.72**	**42.26**	**50.15**

Source: *Konjunkturforschungsstelle* (KOF) Swiss Economic Institute Database 2013, ETH Zurich, Germany.

Figures 2.1 and 2.2 reveal that there has been a steady increase in economic globalisation for the SSA region compared to little marginal increase in social globalisation. The two figures show that SSA globalised more through economic links compared to social channels between 1980 and 2012. Figures 2.1 and 2.2 also depict that SSA and the world globalised economically and socially at nearly the same rate.

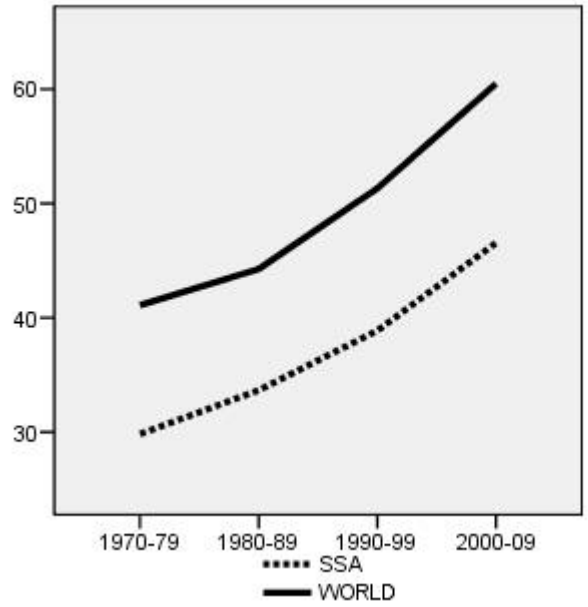

Figure 2.1: Economic Globalisation for SSA and the World

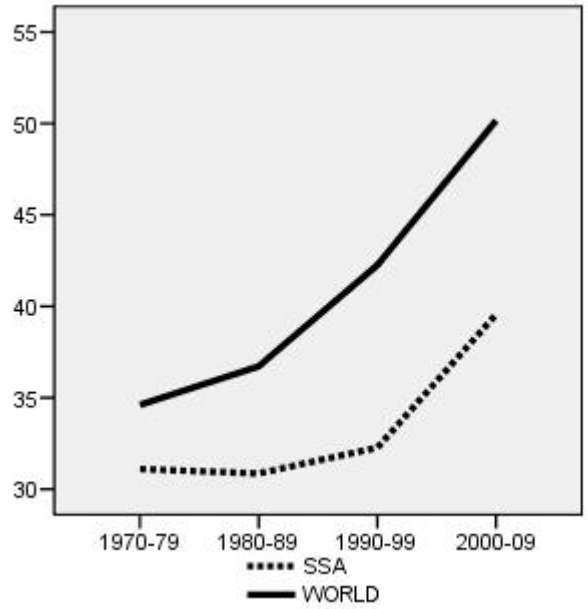

Figure 2.2: Social Globalisation for SSA and the World

2.3 SSA Poverty and Human Welfare in Global Context

Comparing poverty among regions is usually a difficult task because it requires that an appropriate measure is chosen and more often than not all measures have one shortcoming or another.

Since the late 1980s, poverty in SSA, defined by those living on less than $1 per day, increased from 217.2 million in 1987 to 290 million in 2012 which represents over 46 per cent of the total world population (Table 2.5). Within the same period, SSA's share of the world poor rose from less than 20 per cent to close to 25% (World Bank, 2013).

Table 2.5 SSA Poverty in Global Context, 1987-2012

Poverty Indices by Regions	**1987**	**1990**	**1993**	**1996**	**2012**
SSA poor population (millions) living on less than $1 per day (% of world total in brackets)	217.2 (18.4)	242.3 (19)	273.3 (21)	289 (24)	290.0 (24.3)
SSA headcount (%)	46.6	47.7	49.7	48.5	46.3
South Asia headcount (%)	44.9	44	42.4	42.3	40.0
World headcount (%)	28.3	29.0	28.1	24.5	24.0

Source: The World Bank's Poverty Data Base (2013).

Table 2.5 and Figure 2.3 show that the absolute number of people living in abject poverty (that is, less than $1 a day) and the percentage of poor population (or headcount) in SSA increased steadily from 1987 and reached a peak in 1993 after which it declined slightly in spite of the rapid globalisation during this period.

Table 2.6 shows an elaborate comparison of the incidence of poverty in SSA countries vis-à-vis other regions of the world.

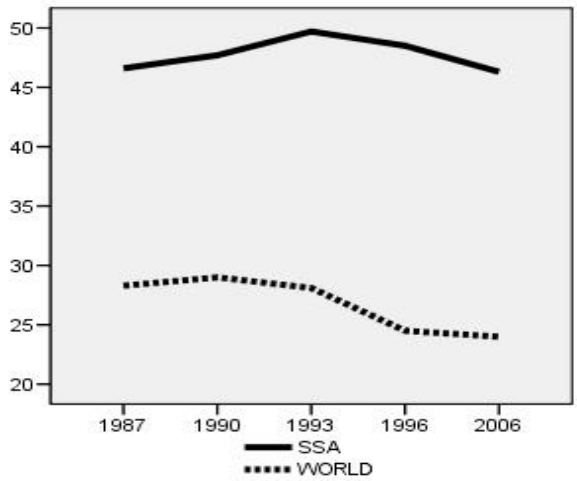

Figure 2.3: Plot of Poverty based on the Headcount (%)

Table 2.6: Global Comparison of Poverty Trend

	[a]Income poverty (headcount ratios)				
	1981	**1987**	**1993**	**1996**	**2012**
Sub Saharan Africa	41.6	46.8	44.1	45.6	46.4
Latin America and Caribbean	9.7	10.9	11.3	10.7	9.5
South Asia	51.5	45.0	40.1	36.6	31.3
East Asia	57.7	28.0	24.9	16.6	14.9
Eastern Europe and Central Asia	0.7	0.4	3.7	4.3	3.6
Middle East and North Africa	5.1	3.2	1.6	2.0	3.4
World total	40.4	28.4	26.3	22.8	21.1
SSA/World (%)	103	165	168	200	220
	[b]Income poverty (numbers in million)				
	1981	**1987**	**1993**	**1996**	**2012**
Sub Saharan Africa	163.6	218.6	242.3	271.4	312.7
Latin America and Caribbean	35.6	45.1	52.0	52.2	49.8
South Asia	474.8	473.3	476.4	461.3	431.1
East Asia	795.6	425.6	415.4	286.7	271.3
Eastern Europe and Central Asia	3.1	1.7	17.5	20.1	17.0
Middle East and North Africa	9.1	6.7	4.1	5.5	7.1
World total	1481.8	1171.2	1207.5	1097.2	1089.0
SSA/World (%)	11	19	2	25	29

Source: World Bank (2013) (a) based on international poverty line ($1.08 1993 PPP)
(b) based on international poverty line ($1.08 1993 PPP).

Table 2.6a shows that, for SSA countries, the estimates are significant with little or no progress over the three decades; the number of the poor increased in this region, almost doubling from about 164 million to 313 million. Over the same period, the world's total fell, largely due to a dramatic reduction in the number of the poor in Asia (China and India in particular). The table shows that the proportion of the world's poor in SSA rose from 11 per cent in 1981 to approximately 29 per cent in 2012. In terms of headcount indices which normalise these poverty estimates to levels of population, the results look somewhat different. For SSA, the incidence of poverty is approximately constant, between 44 and 46 per cent for much of the three decades although a slight rise is perceptible on a year-on-year basis (World Bank, 2013). Using the world headcount ratio as a benchmark, it is evident that the outcome for the SSA region is far worse and poverty incidence increased sharply, the ratio rising from just over 103 per cent in 1981 to 165 per cent in 1987 and 220 per cent in 2012.

Apart from the monetary indices of poverty highlighted above, the social indicators of poverty (with emphasis on infant mortality, life expectancy and access to social infrastructure) on regional basis vis-a-vis the global average are presented in Table 2.7.

Each of the regions had an infant mortality rate worse than the global average in the period under review. The East African countries had relatively better infant mortality rate. Also, the life expectancy at birth was worse in each of the regions compared with the world average, with Central African countries having the lowest set of figures for life expectancy at birth. Access to social services in all the regions was also worse than the world average, while the human development index (HDI) in each of the regions fell below the world average (UNDP, 2008). The above trends show that SSA countries have been experiencing an alarming rate of poverty and deteriorating human welfare in the period under review (1981 to 2012).

Table 2.7: Social Indicators of Poverty and Human Welfare (By SSA Region)

	INFANT MORTALITY RATE (PER THOUSAND BIRTHS)			**LIFE EXPECTANCY AT BIRTH (YEARS)**			**% OF POPULATION WITH ACCESS TO SANITATION**		
	1981-1990	**1991-2000**	**2000-2012**	**1981-1990**	**1991-2000**	**2000-2012**	**1981-1990**	**1991-2000**	**2000-2012**
Southern Africa	106	90	80	52	55	41	30	63	68
West Africa	112	92	78	48	50	53	32	63	48
Central Africa	110	100	89	48	49	49	31	53	49
East Africa	95	76	60	53	55	56	56	62	63
SSA (Average)	115	96	81	49	52	53	35	55	60
World (Average)	78	66	57	61	63	65	55	70	81
	% OF PUPULATION WITH ACCESS TO SAFE WATER			**% OF POPULATION WITH ACCESS TO BASIC HEALTH SERVICES**			**HUMAN DEVELOPMENT INDEX (HDI)**		
	1981-1990	**1991-2000**	**2000-2012**	**1981-1990**	**1991-2000**	**2000-2012**	**1981-1990**	**1991-2000**	**2000-2012**
Southern Africa	44	63	71	54	66	53	0.32	0.451	0.437
West Africa	35	63	65	64	57	63	0.336	0.361	0.387
Central Africa	30	53	52	33	42	64	0.306	0.341	0.346
East Africa	51	62	54	72	83	63	0.404	0.346	0.349
SSA (Average)	42	55	60	61	66	62	0.336	0.361	0.387
World (Average)	49	73	82	65	75	85	0.519	0.567	0.597

Sources: World Bank:- African Development Indicators (Various editions); UN:- Human Development Report (Various editions); ADB:- Statistical Division; UNDP Database (Various years)

2.4 Macroeconomic Review of Selected Countries in SSA

The macroeconomic background reviews of selected SSA countries that constituted the sample for the empirical analysis are presented in this subsection.

2.4.1 Benin Republic

Benin Republic is an independent republic, with a democratic government, which lies on the Gulf of Guinea a part of the West African region. The country is a member of the West African Economic and Monetary Union, (WAEMU)which imposes a common external tariff. Benin was also a founding member of the Economic Community of West African States and is engaged in a convergence programme for regional integration within the West African Franc Zone, the Union Economique et Monetaire Ouest-Africaine. Monetary policy is controlled by the regional central bank, BCEAO (UNCTAD, 2006).

Based on the United Nations Statistics (2013) estimate, the country's total population size in 2012 stood at 9.1million, it is projected to grow at an average of 2.7% between 2010 and 2015. Also, the World Bank (2014) indicate that its economically active group in the productivity sector increase from 50.8% in 1980 to 1990 to 53.1% in 2002 to 2012 of the total population size. This implies that, for over three decades, half of the country's population engaged in productive activities in fostering sustainable growth.

Benin is a major exporter of cotton, meat and edible offal, rice, coconuts, non-alloy steel, vegetable fats and oils, light-vessels, bars and rods, palm oil, and cigars. In over two decades, the country's main merchandise exports were to Nigeria, China, India, Chad, Indonesia, Niger, Viet Nam, Togo, Portugal, and Malaysia, thus making the country vulnerable to external shocks from the world economy growth poles. UN COMTRADE (2012) indicate that from 2006 to 2010, exports of Benin increased on average 17.9 per cent each year and amounted to 434.5 mln US$ in 2010. During the same period, imports increased on average 10.5 per cent each year and reached 1.5 billion US$, resulting in a trade deficit of 1.1 billion US$.

In assessing the dimension of globalisation intensity of Benin, the World Bank (2014) reports that the country's average trade openness increased from 50.2% between 1980 and 1990 to 58.1% between 1991 and 2001, and later fell to 46.4% between 2002 and 2012 as a result of shortage in agricultural production for exports. Benin's FDI as a share of GDP was 0.72% between 1980 and 1990 and increased to 2.03% between 1991 and 2001) but declined by 53% to 0.95% over 2002 to 2012 resulting from the engulfed global crises, which suggests that Benin is weakly financially globalised. Also, there is low degree of labour mobility in the country as net migration (as a share of economic active population) stood at 0.48% (1980-1990), 1.06% (1991-2001) and 0.58% (2002-2012). In terms of information and communication dimension of globalisation, the country recorded significant level of integration in the number of connected telephone lines (per 1000 people) as it increased from 2.75 (1980-1990) to 12.6 (2002-2012) accounting for 358.6% growth. Comparatively, during the considered review periods, the growth rate of the country's real GDP declined from 2.9% in 2005 to 2.6% in 2010, brought about by factors such as the global financial and economic turmoil in the mid-2000s, poor climatic condition that significantly lowered agricultural outputs and commodity prices shock. As the country further adopted structural reforms, the real GDP growth rate increased to 3.1% in 2011 (World Bank, 2014).

Also, a robust dimensional composite index by the Swiss Globalisation Institute (KOF, 2010) reports that between 1970 and 2012, the country recorded very low degree of economic (26.7%) and social (20.6) globalisation, but relatively high degree of political openness (47.2%). This indicates that the relatively low degree of economic and social openness of Benin to the global market makes the country one of the least globalised in the West Africa region.

The low degree of openness of the economy is occasioned by the country's low human wellbeing development in the last three decades. According to UNDP (2013) Benin's HDI value for 2012 is 0.436, which is in the low human development category, positioning the country at 166 out of 187 countries and territories. Between 1980 and 2012, Benin's HDI value increased from 0.253 to 0.436, an increase of 72 per cent or average annual increase of about 1.7%. In the 2011 HDR, Benin was ranked 167 out of 187 countries (UNDP, 2013). A review of Benin's progress in each of the HDI indicators

shows that between 1980 and 2012, Benin's life expectancy at birth increased by 11.2 years, mean years of schooling increased by 2.6 years and expected years of schooling increased by 4.9 years. Benin's GNI per capita increased by about 27 percent between 1980 and 2012.

The UNDP (2013) reports that Benin's 2012 HDI is below the average of 0.466 for countries in the low human development group and below the average of 0.475 for countries in Sub-SSA. Within the SSA region, countries close to Benin in 2012 HDI rank and population size are Guinea-Bissau and Rwanda, which have HDI ranking of 176th and 167th position respectively, out of 187 countries.

In Benin, 71.8% of the population lived in multidimensional poverty (the Multidimensional Poverty Index (MPI) 'headcount') while an additional 13.2% were vulnerable to multiple deprivations. The intensity of deprivation, that is, the average percentage of deprivation experienced by people living in multidimensional poverty in Benin was 57.4 percent. The country's MPI value, the share of the population multidimensionally poor, adjusted by the intensity of the deprivations, was 0.412. This indicates that Benin's households (and everyone in it) are multidimensionally poor because the deprivation score is greater than 33.3% as a cut-off weighted set by UNDP.

The income poverty, measured by the percentage of the population living below PPP US$1.25 per day, and multidimensional deprivations in Benin was further compared based on UNDP report (2013). This suggests that monetary measure of poverty only gives partial explanation of the deteriorating human welfare incidence. The multidimensional poverty headcount is 24.5 percentage points higher than income poverty. This implies that individuals living above the income poverty line may still suffer deprivations in education, health and other living conditions. More so, it is evident that the percentage of Benin's population that live in severe poverty is 50% or more and those vulnerable to poverty is about 20 to 30% of the population. The contributions of deprivations in each dimension to overall poverty complete a comprehensive picture of people living in poverty in Benin.

Similarly, the World Bank (2014) report further indicates that 72.4%, 12.2% and 41.7% of the total population between 2002 and 2012 have access to improved water, sanitation and health care services, respectively. This shows the

extent of lowered human welfare and deprivation in the country especially in the areas of sanitation and health care services.

2.4.2 Botswana

Botswana became an independent democratic republic in 1966 after 80 years as a British protectorate. The country is democratically ruled and boasts of a stable political environment. Botswana is the second largest producer of diamonds (by volume) in the world after Australia, and the largest in terms of the output's value. Until the 1990s, it was the fastest growing economy in the world (UNCTAD, 2003). The country had a total population of 2.03million in 2012 projected to grow at an average of 1.1% annually between 2010 and 2015 (United Nations Statistics, 2013). The working age population as reported by the World Bank (2014) stood at 61.5% between 2002 and 2012 which reflects the human resource potentials in the country for fostering economic growth.

Between 2010 and 2012, diamonds, nickel metals, gold, copper ores, carbonates, women's suits, insulated wire, meat of bovine animals, fresh and frozen, and men's suits constituted the major export commodities from Botswana (UN COMTRADE, 2013). The report further indicate that the value of the exports of Botswana in 2012 went up slightly by 1.5% to reach 6.0 billion US$. The last five years showed an average annual increase of 4.8% in exports, while imports registered an average annual growth of 11.4%. In 2012, imports increased by 10.4 percent and reached 8.0 billion US$. This resulted in a trade deficit of 2.0 billion US$ in 2012. The country's major trading partners in terms of exports are United Kingdom, South Africa, Israel, Norway, Belgium, Zimbabwe, Namibia, Switzerland, USA and India. Most of these principal export countries experienced a series of economic and debt crises in the mid-2000s and further reflects the high dependency of the country on the external sector (UN COMTRADE, 2013).

The review of World Bank (2014) estimates for trade openness as an economic dimension of globalisation, reveals that the trade-output ratio for Botswana declined consequently from 177% between 1980 and 1990 to 91% between 1991 and 2001, and then fell further to 87.4% during 2002 to 2012. The decline is attributed to the exponential increase in the size of national output relative to non-proportional growth in trade volume. Botswana recorded slight

growth in the degree of financial openness as FDI-output ratio of 4.45% between 1980 to 1990 increased to 4.7% over the period of 2002 and 2012. The World Bank (2014) further indicates that the country also recorded relative increase in the level of emigrants-to-total active population from 0.7% (1980-1990) to 1.97% (1991-2001), and later declined to 1.4% between 2002 and 2012 as the number of labour emigrant increased. The degree of high labour mobility inflow reflects the attractiveness of the country to the global working population since it is one of the trading hubs in southern Africa. In terms of information and communication dimension of globalisation, the country recorded significant level of integration in the number of connected telephone lines (per 1000 people) as it increased from 10.9 (1980-1990) to 72.8 (2002-2012). As reported by United Nations Statistic (2013), during the considered periods, economic growth measured by real GDP growth rate for Botswana increased from 1.7% in 2005 to 7% in 2010 and fell to 5.7% in 2011. The decline in growth rate was caused by the financial and economic shocks from the global market.

To further assess the economic, social and political dimensions of globalisation in Botswana, the KOF globalisation index by the Swiss Globalisation Institute was considered. The KOF (2013) index indicates a high level of economic (66.9%) and social (46.2%) globalisation, but relatively low degree of political openness (31.8%). This indicates that the high degree of economic and social openness of Botswana to the global market makes the country one of the more globalised in the southern Africa region compared to Malawi and Mozambique in the same sub region.

The review of Botswana's human welfare development status based on the UNDP (2013) estimates indicates that HDI value for 2012 was 0.634 which places the country in the medium human development category, positioning her at 119 out of 187 countries and territories. Between 1980 and 2012, Botswana's HDI value increased from 0.449 to 0.634, an increase of 41% or average annual increase of about 1.1%. The rank of Botswana's HDI for 2011 based on data available in 2012 and methods used in 2012 was 118 out of 187 countries. A review of Botswana's progress in each of the HDI indicators reveals that between 1980 and 2012, Botswana's life expectancy at birth decreased by 7.6 years, mean years of schooling increased by 6.6 years and expected years of

schooling increased by 4.4 years. Botswana's GNI per capita increased by about 298% between 1980 and 2012 (UNDP, 2013).

UNDP (2013) reports that Botswana's 2012 HDI of 0.634 is below the average of 0.64 for countries in the medium human development group and above the average of 0.475 for countries in SSA. From the latter (SSA), countries which are close to Botswana in 2012 HDI rank and population size are Gabon and Namibia, which have HDIs ranked 106 and 128, respectively.

Also, the World Bank (2014) report indicates that 96.2%, 60.2% and 61% of the total population between 2002 and 2012 have quality access to improved water, sanitation and health care services, respectively. This shows the extent of deterioration of human welfare and deprivation in the country especially in the areas of sanitation and health care services.

2.4.3 Cameroon

Cameroon has a huge market access. It is a dominant member of the Central African Economic and Monetary Committee. Its unique status as an officially bilingual (French-English) country offers United Kingdom companies a more favourable climate through which to penetrate the francophone markets of the region. It is also a member of the African Union, (AU), New and Partnership for Africa's Development. It enjoys special trading advantages with the European Union (EU) and benefits from the United States market access initiative - the African Growth and Opportunity Act (AGOA). It is eligible for the Cotonou Agreement for the renegotiation of the partnership treaty between the EU and the African, Caribbean and Pacific countries, the Lomè Convention and the World Trade Organisation (WTO) (UNCTAD, 2006).

In 2012, Cameroon's total population stood at 20million with an average population growth rate of 2.1% annually between 2010 and 2015 (United Nations Statistics, 2013). Also, the World Bank (2014) indicates that its economic active group in the productivity sector increased from 50.8% between 1980 and 1990 to 52.8% during 2002 to 2012 of the total population size. This implies that for over three decades, half of the country's population engaged in productive activities in fostering sustainable growth.

The top ten export commodities between 2009 and 2011 from Cameroon are cocoa beans, crude oil, sawn wood, petroleum oils, wood, cotton, natural

rubber, unwrought aluminium, bananas and coffee. The main exports partners of Cameroon are Netherlands, France, China, Italy, Belgium, Congo, USA, Spain, Germany, and Gabon (UN COMTRADE, 2013). Also, from 2007 to 2011, exports of Cameroon decreased on average by 15.6% each year and amounted to 2.1 billion US$ in 2011, reflecting a decrease of 44.6 percent over 2010. During the same period, imports increased on average by 2.2% each year and amounted to 5.1 billion U$ in 2011. The trade balance recorded a deficit of 2.9 billion US$ in 2011.

In assessing the intensity of economic dimension of globalisation for Cameroon, the World Bank (2014) reports that the country's average trade openness decreased from 49.8% between 1980 and 1990 to 41.3% during 1991 to 2001, and later increased to 56.1% over 2002 to 2012 as a result of trade policy and programmes adopted by the government and supported by WTO. Cameroon's FDI as a share of GDP was 1.02% between 1980 and 1990 and increased to 1.85% between 2002 and 2012 resulting from government concerted efforts boost FDI. Also, the country recorded relative decrease in the level of emigrant-to-total active population from -1.1% between (1980 and 1990) to -0.5% over 2002 to 2012. The degree of high labour mobility inflow reflects the attractiveness of the country to the global working population since it is one of the more globalised countries in the Central Africa sub region. In terms of information and communication dimension of globalisation, the country recorded slight growth in the level of social integration in terms of the number of telephone users (per 1000 people) which increased from 2.73 (1980-1990) to 15.9 (2002-2012).

The United Nations Statistic (2013) reports that Cameroon's economic growth measured by real GDP growth rate increased from 2.3% in 2005 to 3.2% and 4.1% in 2010 and 2011 respectively. The increase in growth rate was accounted for by a boost in FDI flows and trade. A robust dimensional composite index by the Swiss Globalisation Institute (KOF, 2010) reports that between 1970 and 2012, the country recorded very low degree of economic globalisation (28.2%), but relatively high degree of social (27.9%) and political openness (54%). This indicates that the relatively high degree of social and political openness of Cameroon to the global market makes the country one of the more

globalised in the Central Africa region compared to Central Africa Republic and Rwanda.

Cameroon's human welfare development level is assessed based on human development index (HDI) values reported by UNDP (2013). HDI value for 2012 was 0.495 which classified the country in the low human development category placing her at 150th out of 187 countries and territories. Between 1980 and 2012, Cameroon's HDI value increased from 0.373 to 0.495, an increase of 33% or average annual increase of about 0.9%. A review of Cameroon's progress in each of the HDI indicators shows that between 1980 and 2012, Cameroon's life expectancy at birth increased by 0.9 years, mean years of schooling increased by 3.8 years and expected years of schooling increased by 4.0 years. Cameroon's GNI per capita increased by about 26% between 1980 and 2012.

The long-term progress of Cameroon relative to other countries in terms of geographical location and HDI value reveals that, during the period between 1980 and 2012, Cameroon, Zimbabwe and Togo experienced different degrees of progress toward increasing their HDIs. Cameroon's 2012 HDI of 0.495 is above the average of 0.466 for countries in the low human development group and above the average of 0.475 for countries in SSA. From SSA, countries close to Cameroon in 2012 HDI rank and population size are Ghana and Madagascar, which have HDIs that ranked 135 and 151, respectively.

In Cameroon, 53.3% of the population lived in multidimensional poverty (the Multidimensional Poverty Index (MPI) 'headcount') while an additional 19.3% were vulnerable to multiple deprivations. The intensity of deprivation that is, the average percentage of deprivation experienced by people living in multidimensional poverty is 53.9%. The country's MPI value, the share of the population multidimensionally poor adjusted by the intensity of the deprivations, is 0.287. Ghana and Madagascar had MPI values of 0.144 and 0.357, respectively. This indicates that Cameroon's households (and everyone in it) are vulnerable to be multidimensionally poor because the deprivation score is less than 33.3% as a cut-off weighted set by UNDP.

The income poverty, measured by the percentage of the population living below PPP US$1.25 per day, and multidimensional deprivations in Cameroon was further compared based on the UNDP report (2013). It shows that income

poverty only tells part of the story. The multidimensional poverty headcount is 43.7 percentage points higher than income poverty. This implies that individuals living above the income poverty line may still suffer deprivations in education, health and other living conditions. It further shows that the percentage of Cameroon's population that live in severe poverty and vulnerable to poverty is on the high side. The contributions of deprivations in each dimension to overall poverty complete a comprehensive picture of people living in poverty in Cameroon.

World Bank (2014) report reveals that 70.8%, 47.7% and 46.3% of the total population between 2002 and 2012 have access to improved water, sanitation and health care services, respectively. This indicates the extent of lowered human welfare and deprivation in the country especially in the areas of sanitation and health care services.

2.4.4 Central Africa Republic (CAR)

Central African Republic is a member of the Central African States Economic and Monetary Community, which includes Cameroon, Chad, the Republic of Congo, Equatorial Guinea and Gabon. It is also a member of the African Union (AU), New Partnership for Africa's Development, eligible for several preferential trade schemes, such as the generalised system of preferences for the least developed countries, the United States market access initiative for African countries - the AGOA, the EU market access scheme - the Everything But Arms (EBA) Initiative and is signatory to the Cotonou Agreement for the renegotiation of the preferential trade between the Africa, Caribbean and Pacific countries with the EU. Central Africa Republic is a member of the WTO (UNCTAD, 2006).

United Nations Statistics (2013) reports that CAR's total population size in 2012 stood at 4.5 million, it is projected to grow at an average of 2% between 2010 and 2015. The country's economic active group in the productivity sector increased slightly from 55.4% between 1980 and 1990 to 55.8% between 2002 and 2012 of the total population size. This implies that for over three decades half of the country's population engages in productivity activities in fostering sustainable growth (World Bank, 2014).

According to UN COMTRADE (2013), CAR principal export commodities are diamonds, sapwood, sawn wood, cotton, gold, coffee, self-propelled bulldozers, tractors, machinery, and motor vehicles, while her major export countries are France, Japan, Cameroon, China, Germany, South Africa, Netherlands, United Kingdom, Spain, and United Arab Emirates. From 2007 to 2011, exports of CAR decreased on average by 5.6% each year and amounted to 103.9 mln US$. During the same period, imports increased on average by 2.1 percent each year to 214.7 mln US$. The trade balance recorded a significant deficit of 110.8 mln US$ in 2011.

On the basis of the estimates reported by the World Bank (2014), the economic, financial, labour mobility and information dimensions of globalisation were assessed for CAR. Trade openness as an economic dimension of globalisation reveals that trade-output ratio declined by 22% from 52% between 1980 and 1990 to 40.4% between 1991 and 2001, and then further fell to 34.8% over 2002 to 2012. The decline is attributed to the decline in trade volume. Also, from 2003 to 2008, CAR was confronted with a civil war, which devastated the country's economy and was faced with the policy task of addressing drawbacks of a fragile and post-conflict state, low domestic revenue mobilisation, weak capacity and institutions, and unsettled political contexts. According to IMF (2011), CAR is a fragile state confronted with weak administrative capacity and institutions, which negatively affect economic management and constrain resource absorption. Another characteristic of fragility lies in the CAR vulnerability to shocks; the economy is prone to setbacks, which have the potential to reverse the progress achieved, as experienced in 2010. Such drawbacks often lead to a vicious circle with further freezing of planned foreign aid, when most needed.

Similarly, CAR recorded slight growth in the degree of financial openness as FDI-output ratio of 0.56% between 1980 and 1990 increased to 3.73% during 2002 to 2012. Also, the country recorded relative increase in the level of emigrant-to-total active population as net value (as a share of working age group) declined from 2.2% (1980-1990) to 0.03% (2002-2012) as the number of labour emigrant increased, thus resulting in the loss of labour for the economy. The degree of high labour mobility outflow reflects the unattractiveness of the country to the global working population since it was

confronted with episodic war. In terms of information and communication dimension of globalisation, the country recorded insignificant increase in the level of integration in terms of the number of connected telephone lines (per 1000 people) as it increased from 1.31 (1980-1990) to 1.79 (2002-2012). This implies that CAR is less globalised. As reported by United Nations Statistics (2013), during the considered periods, economic growth measured by real GDP growth rate for CAR increased from 2.4% in 2005 to 3.0% and 53.3% in 2010 and 2011, respectively. The recorded slight growth in the late 2000s is attributed to the effect of post-war policy programmes.

To further assess the economic, social and political dimensions of globalisation in the CAR, the KOF globalisation index by the Swiss Globalisation Institute was considered. KOF (2013) index indicates very low level of economic (26%) and social (21.6%) globalisation, but relatively high degrees of political openness (41.3%) above the regional average of 38.8%. This indicates that the very low degree of economic and social openness of the CAR to the global market makes the country less globalised and the least in the Central African sub region.

Human Development Index (HDI) as a measure of human welfare development is considered to assess the human wellbeing status of the CAR. According to the UNDP (2013), CAR's HDI value for 2012 is 0.352—in the low human development category—positioning the country at 180 out of 187 countries and territories. Between 1980 and 2012, Central African Republic's HDI value increased from 0.285 to 0.352, an increase of 24% or average annual increase of about 0.7 percent. The rank of CAR's HDI for 2011 based on available data in 2012 and methods used in 2012 was 179 out of 187 countries.

A review of CAR's progress in each of the HDI indicators reveals that between 1980 and 2012, the life expectancy at birth increased by 0.3 years, mean years of schooling increased by 2.5 years and expected years of schooling increased by 1.7 years. CAR's GNI per capita decreased by about 25% between 1980 and 2012. Also, the long-term progress of the country is assessed relative to other countries–both in terms of geographical location and HDI value. The comparative analysis indicates that between 1980 and 2012, the CAR, Congo DR and Gambia experienced different degrees of progress towards increasing their HDIs. CAR's 2012 HDI of 0.352 is below the average of 0.466 for

countries in the low human development group and below the average of 0.475 for countries in SSA. From SSA, countries close to the CAR in 2012 HDI rank and population size are Gambia and Liberia, which have HDIs ranked 165 and 174, respectively.

The World Bank (2014) report further indicates that 66%, 31% and 32.1% of the total population between 2002 and 2012 have access to improved water, sanitation and health care services, respectively. This reveals the extent of lowered human welfare and deprivation in the country especially in the areas of sanitation and health care services.

2.4.5 Gabon

Gabon has been ranked as the fastest growing economy in Central Africa for over a decade now and is the second least populated country in the sub region. Gabon is also a strong member of the regional integration schemes in Africa and other international market access arrangements. It is a member of the Communaute economique et monetaire de l'Afrique centrale, New Partnership for Africa's Development and the AU. It is an eligible member of the United States' market access initiative for African countries – the AGOA, the Cotonou Agreement for the renegotiation of the trade links between the EU and the African, Caribbean and Pacific countries - the Lomé convention and the EBA Initiative. It is also a member of the WTO. This is to increase its outreach to the world and expand trading opportunities (UNCTAD, 2006).

The country had a total population of 1.53million in 2012, it is projected to grow at an average of 1.9% annually between 2010 and 2015 (United Nations Statistics, 2013). The working age population as reported by the World Bank (2014) stood at 55.3% between 2002 and 2012, this reflects the human resource potentials in the country for fostering economic growth. Between 2007 and 2009, the UN COMTRADE (2013) reports that Gabon’s main export commodities are crude petroleum oils, sapwood, manganese ores and concentrates, sheet for veneering, non-crude petroleum oils, wood sawn, natural rubber, spacecraft, tobacco substitutes, and appliances for pipes (e.g. taps, cocks, valves and boiler shells). These products were predominantly traded with USA, China, Spain, France, Malaysia, Netherlands, United Kingdom, Republic of Korea, Congo, and South Africa. Also, UN COMTRADE (2013) report reveals

that after reaching a peak of 9.6 billion US$ in 2008, the value of the exports of Gabon dropped in 2009 by 44.0% to 5.4 billion US$. Imports also decreased in 2009 by 2.4% and amounted to 2.5 billion US$. The trade balance recorded a surplus of 2.9 billion US$ in 2009.

According to IMF (2011), Gabon's overall macroeconomic situation has improved significantly since 1999, recovering from the breakdown of financial management resulting in fiscal imbalances in 1998 that hindered the growth of the economy. The country is also confronted with critical governance, judiciary and economic issues for fighting corruption, fostering investor confidence and promoting the rule of law. IMF (2011) further enumerated that the country has mainly been concerned since May 2000, with formulation of strategic structural reforms agenda centered on the privatisation of five major public enterprises in the key sectors of telecommunications, transport, agribusiness, and wood processing, while pending the formulation of a comprehensive poverty reduction strategy.

According to the World Bank (2014) report, Gabon's average trade openness slightly declined from 95.1% over 1980 to 1990 to 92.8% between 1991 and 2001, and later increased to 94.4% during 2002 to 2012 due to high openness to the global market among other countries in the region. Gabon recorded significant growth in the degree of financial openness as FDI-output ratio of 1.8% between 1980 and 1990 increased to 2.8% from 2002 to 2012. Also, the country recorded slight changes in the level of labour mobility. There is an increase in the level of emigrant-to-total active population as the net value (as a share of working age group) declined from 1.79% (1980-1990) to 0.8% (2002-2012) as the number of labour emigrant increased, resulting in the loss of labour for the economy. The degree of relatively low labour outflow reflects the shift in the global workforce as the country battles with youth unemployment. In terms of the information and communication dimension of globalisation, the country recorded slight increase in the level of integration in the number of connected telephone lines (per 1000 people) as it increased from 16.4 (1980-1990) to 22.7 (2002-2012).

As reported by the United Nations Statistics (2013), during the same period, the country's average real GDP growth rate remained the same at 5.6% between 2005 and 2010 and increased slightly to 5.8% in 2011 as a reflection of

the global financial and economic turmoil in the mid-2000s, and oil price shocks. Also, the Swiss Globalisation Institute (KOF, 2010) with robust dimensional composite index indicate that Gabon globalised socially compared to its economic and political dimension of globalisation as reported between 1970 and 2012. The country has recorded a considerable average degree of social (51.6%) and political (50.8%) globalisation, but relatively low degree of trade openness (42.8%) though, above the regional average of 30.6%. This indicates that the relatively high degree of economic, social, and political openness of the country to the global world makes the country the most globalised in the Central Africa region compared to the Democratic Republic of Congo and CAR.

The review of Gabon's human welfare development status based on the UNDP (2013) estimates indicates that HDI value for 2012 is 0.683 which ranks it in the medium human development category, positioning the country at 106 out of 187 countries and territories. Between 1980 and 2012, Gabon's HDI value increased from 0.526 to 0.683, an increase of 30% or average annual increase of about 0.8%. A review of Gabon's progress in each of the HDI indicators ascertained that between 1980 and 2012, Gabon's life expectancy at birth increased by 8.2 years, mean years of schooling increased by 5.2 years and expected years of schooling increased by 0.6 years. Gabon's GNI per capita decreased by about 18% between 1980 and 2012.

Gabon's 2012 HDI of 0.683 is above the average of 0.64 for countries in the medium human development group and above the average of 0.475 for countries in SSA. From SSA, countries close to Gabon in 2012 HDI rank and population size are Namibia and Botswana, which have HDIs ranked 128 and 119, respectively. Also, World Bank (2014) report indicates that 87.1%, 33.5% and 64.6% of the total population between 2002 and 2012 had quality access to improved water, sanitation and health care services, respectively. This shows the extent of lowered human welfare and deprivation in the country, especially in the area of sanitation.

2.4.6 Ghana

Ghana is also a member of a number of integration schemes that include the AU, New Partnership for Africa's Development and is an eligible member of the United States' market access initiative for African countries - the AGOA

and the Cotonou Agreement for the renegotiation of the partnership between the African, Caribbean and Pacific countries and the EU. Ghana is a member of the Multilateral Investment Guarantee Agency and the WTO (UNCTAD, 2006). The country had a total population of 24.9million in 2012, projected to grow at an average of 2.3% annually between 2010 and 2015 (United Nations Statistics, 2013). The working age population as reported by the World Bank (2014) stood at 57% between 2002 and 2012, this reflects the human resource potentials in the country for fostering economic growth.

According to UN COMTRADE (2013), Ghana is a major exporter of gold, crude petroleum oils, cocoa beans, coconuts, manioc, arrowroot, sweet potatoes, non-crude oil petroleum, manganese ores, wood sawn and unused postage. The country's major principal exports' countries are South Africa, India, United Arab Emirates, France, Viet Nam, Italy, Switzerland, Togo, Netherlands, and China. In 2012, Ghana's exports increased by 2.0%, which amounted to 18.8 billion US$. Imports showed a similar development and increased by 3.2% to reach 14.0 billion US$ in 2012. The trade balance recorded a surplus amounting to 4.7 billion US$. Compared to exports, imports were diversified across partners: in 2012, 19 major partners accounted for 80% of imports compared to ten major partners for exports (UN COMTRADE, 2013).

In assessing the dimension of globalisation intensity of Ghana, the World Bank (2014) reports that the country's average trade openness increased significantly from 27% between 1980 and 1990 to 73.7% over 1991 to 2001, it later increased to 85.1% from 2002 to 2012. Ghana's FDI as a share of GDP was 0.2% between 1980 and 1990 and increased to 2% (during 1991 to 2001) and further increased to 5.4% between 2002 and 2012. This is attributed to the Free Zone Act (FZA) enacted by the Ghanaian Parliament in 1995 which created attractive packages of incentives for hassle-free business operation for exporting firms. These incentives amplify business in what is already a centre for international business. Also, the level of immigrant-to-total active population as net value (as a share of working age group) declined from 2.1% (1980-1990) to 0.5% (2002-2012) The degree of relatively high labour mobility inflow reflects the economic opportunities in the country. In terms of information and communication dimension of globalisation, the country recorded slight increase in the level of integration in the number of connected telephone lines (per 1000

people) as it increased from 3.07 (1980-1990) to 12.9 (2002-2012). Comparatively, during the review periods, the country's real GDP growth rate increased from 6.2% in 2005 to 6.6% in 2010. As the country further adopted structural reforms, the real GDP growth rate increased significantly to 15.1% in 2011. Also, a robust dimensional composite index by the Swiss Globalisation Institute (KOF, 2013) report that between 1970 and 2012, the country recorded very low degree of economic globalisation (27.2%), but relatively high degree of social (29%) and political openness (76.5%). This indicates that the relatively low degree of trade openness of Ghana to the global market makes the country one of the least globalised in terms of trade flows but more globalised in terms of social and political interactions in the West Africa region.

Ghana's HDI value for 2012 is 0.558—in the medium human development category—positioning the country at 135 out of 187 countries and territories. Between 1980 and 2012, Ghana's HDI value increased from 0.391 to 0.558, an increase of 43% or average annual increase of about 1.1%. The rank of Ghana's HDI for 2011 based on data available in 2012 and methods used in 2012 was– 135 out of 187 countries.

A review of Ghana's progress in each of the HDI indicators indicates between 1980 and 2012, life expectancy at birth increased by 11.5 years, mean years of schooling increased by 3.4 years and expected years of schooling increased by 4.1 years. Ghana's GNI per capita increased by about 71% between 1980 and 2012.

The long-term progress of Ghana relative to other countries in terms of geographical location and HDI value indicates that between 1980 and 2012 Ghana, Zambia and Cameroon experienced different degrees of progress towards increasing their HDIs. Ghana's 2012 HDI of 0.558 is below the average of 0.64 for countries in the medium human development group and above the average of 0.475 for countries in SSA. From SSA, countries close to Ghana in 2012 HDI rank and population size are Kenya and Cameroon, which have HDIs ranked 145 and 150, respectively.

In Ghana, 31.2% of the population lived in multidimensional poverty (the MPI 'head count') while an additional 21.6% were vulnerable to multiple deprivations. The intensity of deprivation, the average percentage of deprivation experienced by people living in multidimensional poverty – in Ghana was

46.2%. The country's MPI value, the share of the population multidimensionally poor adjusted by the intensity of the deprivations, was 0.144, Kenya and Cameroon had MPI values of 0.229 and 0.287 respectively. This indicates that Ghana's households (and everyone in it) are vulnerable to be multidimensionally poor because the deprivation score is less than 33.3% as a cut-off weighted set by UNDP.

The income poverty, measured by the percentage of the population living below PPP US$1.25 per day, and multidimensional deprivations in Ghana was further compared based on UNDP report (2013). This suggests that monetary measure of poverty only gives partial explanation of the deteriorating human welfare incidence. The multidimensional poverty headcount is 2.6 percent is higher than income poverty. This implies that individuals living above the income poverty line may still suffer deprivations in education, health and other living conditions. Also, it is evident the percentage of Ghana's population that live in severe poverty (deprivation score is 50% or more) and vulnerable to poverty (deprivation score is between 20 and 30 percent). The contributions of deprivations in each dimension to overall poverty complete a comprehensive picture of people living in poverty in Ghana.

World Bank (2014) report further indicates that 81.6%, 12.3% and 66.6% of the total population between 2002 and 2012 have access to improved water, sanitation and health care services, respectively. This reveals the extent of lowered human welfare and deprivation in the country, especially in the area of sanitation.

2.4.7 Kenya

Kenya has increased its outreach to the global economy, and was an active participant in the work of a framework for regional cooperation that led to a treaty for the establishment of the East African Community, launched in 2001. It is also a member of the AU, New Partnership for Africa's Development, Common Market for eastern and southern Africa countries, Indian Ocean Rim Association for Regional Cooperation, the Intergovernmental Authority on Drought and Development and eligible for the United States' market access initiative for African countries - the AGOA; and the EU and African, Caribbean and Pacific countries' Cotonou Agreement for renegotiation of the Lomé

Convention. The country is committed to the Multilateral Investment Guarantee Agency, and a member of the WTO (UNCTAD, 2006).

Kenya has been one of the leading emerging economies in Africa and ranked as one of the top economies amid averagely developed populace of a total size of 41.6million in the Eastern Africa for 2011. The country's total population size is projected to grow at an average of 2.7 between 2010 and 2015 (United Nations Statistics, 2013). The working age population as reported by the World Bank (2014) stood at 54.6% between 2002 and 2012, this reflects the human resource potentials in the country for fostering economic growth.

Between 2010 and 2012, Kenya's major exports commodities are tea, cut flowers and flowers buds, crude petroleum oils, other vegetables, carbonates, portland cement, cigars, non-alloy steel, and article for packing of goods. These products were mainly traded with Uganda, United Kingdom, United Republic of Tanzania, Netherlands, USA, United Arab Emirates, former Sudan, Egypt, Pakistan, and Somalia (UN COMTRADE, 2013). From 2006 to 2010, Kenya's exports increased on average by 10.2% each year and amounted to 5.2 billion US$. During the same period, imports increased on average by 13.7% each year to 12.1 billion US$. This resulted in a trade deficit of 6.9 billion US$ in 2010, compared in the 5.7 billion US$ for the previous year. In a recent IMF (2012) report, since the beginning of 2011, Kenya has been hard hit by the drought in the Horn of Africa, creating a humanitarian emergency. At the same time, higher international commodity prices and continued strong domestic demand have boosted inflation and swelled the current account deficit, creating additional balance of payments risks, and with consequential deteriorating human welfare that the country has been long suffering from amidst fiscal instability, low investment for climatic change, constitutional problems, and tax policy management.

The review of World Bank (2014) estimates for trade openness reveals that trade-output ratio for Kenya increased from 56.4% between 1980 and 1990 to 58.4% over 1991 to 2001, and rose further to 64.3% between 2002 and 2012. The increase is attributed to the exponential increase in the size of trade volume relative to non-proportional growth in national output size. Kenya recorded slight growth in the degree of financial openness as FDI-output ratio of 0.45% between 1980 and 1990, 0.68% in 2002 and 2012. Also, the country recorded

relative increase in the level of emigrant-to-total active population from 0.44% (1980-1990) to 0.29% (1991-2001), and later declined to -0.4% during 2002 to 2012 as the number of labour emigrants increased. The degree of high labour mobility outflow reflects the unattractiveness of the country to the global working population. In terms of information and communication dimension of globalisation, the country recorded a slight increase in the number of connected telephone lines (per 1000 people) as it rose from 5.97 (1980-1990) to 10.2 (2002-2012). As reported by the United Nations Statistics (2013), during the considered periods, economic growth measured by real GDP growth rate for Kenya declined from 5.9% in 2005 to 4.4% in 2011. The decline in growth rate was caused by the global financial and economic shocks from the global market as well as the macroeconomic challenges confronting the economy as described by IMF (2011).

Also, the Swiss Globalisation Institute (KOF, 2013) with robust dimensional composite index indicates that Kenya globalised politically compared to its economic and social dimension of globalisation as reported between 1970 and 2012. The country recorded a low degree of social (24.9%) and economic (31.5%) globalisation, but high degree of political openness (65.8%) above the regional average of 38.2%. These reflect the constitutional issue and tax policy management that have been the major concern for a decade. This indicates that the high degree of political openness of the country to the global world makes it the most politically globalised in the East Africa region compared to Tanzania and Ethiopia.

The review of Kenya's human welfare development status based on the UNDP (2013) estimates indicate that Kenya’s HDI value for 2012 is 0.519, classified in the low human development category, positioning her at 145 out of 187 countries and territories. Between 1980 and 2012, Kenya’s HDI value increased from 0.424 to 0.519, an increase of 22% or average annual increase of about 0.6%. In the 2011 HDR, Kenya was ranked 143 out of 187 countries. A review of Kenya’s progress in each of the HDI indicators indicates that between 1980 and 2012, Kenya’s life expectancy at birth showed the same value as in 1980 though there were some increases and decreases in—between. Mean years of schooling increased by 4.3 years and expected years of schooling increased

by 1.8 years. Kenya's GNI per capita increased by about 15% between 1980 and 2012.

The long-term progress assessment relative to other countries in terms of geographical location and HDI value reveals that between1980 and 2012 Kenya, Lesotho and Zambia experienced different degrees of progress towards increasing their HDIs. Kenya's 2012 HDI of 0.519 is above the average of 0.466 for countries in the low human development group and above the average of 0.475 for countries in SSA. From SSA, countries close to Kenya in 2012 HDI rank and population size are Cameroon and Tanzania (United Republic of), which have HDIs ranked 150 and 152, respectively.

In Kenya, 47.8% of the population lived in multidimensional poverty (the MPI 'headcount') while an additional 27.4% were vulnerable to multiple deprivations. The intensity of deprivation, the average percentage of deprivation experienced by people living in multidimensional poverty – in Kenya was 48%. The country's MPI value, the share of the population multidimensionally poor adjusted by the intensity of the deprivations, was 0.229. Cameroon and Tanzania (United Republic of) had MPI values of 0.287 and 0.332, respectively. This indicates that Kenya's households (and everyone in it) are multidimensionally poor because the deprivation score is greater than 33.3% as a cut-off weighted set by UNDP.

The income poverty, measured by the percentage of the population living below PPP US$1.25 per day, and multidimensional deprivations in Kenya was further compared based on UNDP report (2013). The multidimensional poverty headcount is 4.4 percent points higher than income poverty. This implies that individuals living above the income poverty line may still suffer deprivations in education, health and other living conditions. Also, it is evident that the percentage of Kenya's population that live in severe poverty (deprivation score is 50% or more) and vulnerable to poverty (deprivation score between 20 and 30%). The contributions of deprivations in each dimension to overall poverty complete a comprehensive picture of people living in poverty in Kenya.

The World Bank (2014) further reports that 57.7%, 28.5% and 54.6% of the total population between 2002 and 2012 have access to improved water supply, sanitation and health care services, respectively. This reveals the extent

of lowered human welfare and deprivation in the country especially in the areas of sanitation and health care services.

2.4.8 Malawi

Malawi is the second fastest growing emerging economy in southern Africa after South Africa and with an average annual output growth rate of 4% between 1980 and 2012. The country is a member of the International Convention for the Settlement of Investment Disputes and joined the Multilateral Investment Guarantee Agency in 1986. Malawi is a member of the Southern African Development Community, the Common Market for eastern and southern Africa, New Partnership for Africa's Development and the AU. Malawi benefits from the EU's duty-free, quota-free, access for all products because of its status as a least developed country - the EBA initiative, as well as the United States' market access initiative for African countries - the AGOA. In addition, it is a member of the WTO (UNCTAD, 2006).

Close to a decade now, Malawi has experienced tremendous growth as a reflection of sound macroeconomic policies and less debt reliance (IMF, 2011). The country has also been recognised at the international arena as one of Africa's poorest countries despite outstanding growth performance. The country has a total population of 15.4million in 2012, projected to grow at an average of 3.2% annually between 2010 and 2015 (United Nations Statistics, 2013). The working age population as reported by the World Bank (2014) stood at 51% between 2002 and 2012, this reflects the human resource potentials in the country for fostering economic growth.

Malawi major exports commodities between 2009 and 2011 comprises unmanufactured tobacco, beet sugar, tea, uranium, maize, dried leguminous, cotton, groundnuts, flours and meals of oil seeds, and article for conveyance or packing of goods. According to UN COMTRADE (2013), from 2007 to 2011, Malawi's exports increased on average by 13.2% each year and amounted to 1.4 billion US$, despite a drop of 10.2% in 2010. During the same period, imports increased on average by 15.2% each year to reach 2.4 billion US$ in 2011. The trade deficit decreased to 1.0 billion US$ in 2011. The country's major export trading partners in 2011 were Canada, Zimbabwe, South Africa, United Kingdom, Belgium, USA, Kenya, Egypt, China and Spain.

The review of World Bank (2014) estimates for trade openness as an economic dimension of globalisation reveals that trade-output ratio for Malawi increased from 54.3% between 1980 and 1990 to 58.4% during 1991 to 2001, and subsequently to 69.1% between 2002 and 2012. The increase is attributed to the initiative taken by Malawi to create an investor friendly environment and attract more FDI. According to UNCTAD (2006), Malawi instituted generous incentive package for investment and growth. This includes the corporate taxation policy and the special taxation for export-oriented manufacturers. Malawi signed double taxation treaties with eight countries: the United Kingdom, the Netherlands, France, Denmark, South Africa, Norway, Sweden and Switzerland. According to World Bank (2014), Malawi recorded significant growth in the degree of financial openness as FDI-output ratio of 0.61% over 1980 to 1990 increased to 2.73% between 2002 and 2012.

The country recorded relative decrease in the level of emigrant-to-total active population from -3.9% (1980-1990) to -4.4% (1991-2001), and later declined to 1.3% between 2002 and 2012 as the number of labour immigrant increased. The degree of high labour mobility changes reflects the investment attractiveness of the country to the global working population. In terms of information and communication dimension of globalisation, the country recorded slight increase in the level of integration in the number of connected telephone lines (per 1000 people) as it increased from 2.65 (1980-1990) to 9.35 (2002-2012). As reported by United Nations Statistics (2013), during the considered periods, economic growth measured by real GDP growth rate for Malawi increased from 3.3% in 2005 to 6.7% in 2010 and fell to 4.5% in 2011. The decline in growth rate was caused by the financial and economic shocks from the global market. Also, IMF (2011) iterated that Malawi's seven-year period of uninterrupted growth—even amid a global recession—reflects the benefits of generally sound macroeconomic policies and of debt relief from the Heavily Indebted Poor Countries (HIPCs) initiative. Buoyed by several bumper harvests for tobacco, the principal cash crop, and maize, premised on good rainfall and the distribution of subsidised fertilizer, Malawi's agriculture-based economy weathered well the global economic storms.

The Swiss Globalisation Institute (KOF, 2013) with robust dimensional composite index indicated that Malawi globalised economically compared to its

social and political dimension of globalisation as reported between 1970 and 2012. The country's recorded a low degree of social (31.4%) and political (40.9%) globalisation, but relative high degree of economic openness (45.3%) though, below the regional average of 53.0%. The economic openness reflects the extent of macroeconomic policies geared towards trade development. Although low, Malawi still recorded higher degree of political openness above the regional average of 37.8%, this indicates that the country's degree of political cum economic openness to the global world in the southern Africa region is low compared to South Africa, Namibia and Botswana.

The review of Malawi's human welfare development status based on the UNDP (2013) estimates indicates that HDI value for 2012 is 0.418 which is in the low human development category, positioning the country at 170 out of 187 countries and territories. Between 1980 and 2012, Malawi's HDI value increased from 0.272 to 0.418, an increase of 54% or average annual increase of about 1.4%. A review of Malawi's progress in each of the HDI indicators reveals that between 1980 and 2012, Malawi's life expectancy at birth increased by 10.4 years, mean years of schooling increased by 2.4 years and expected years of schooling increased by 5.6 years. Malawi's GNI per capita increased by about 23% between 1980 and 2012.

The long-term progress assessment relative to other countries in terms of geographical location and HDI value reveals that between 1980 and 2012, Malawi, Rwanda and Gambia experienced different degrees of progress towards increasing their HDIs. Malawi's 2012 HDI of 0.418 is below the average of 0.466 for countries in the low human development group and below the average of 0.475 for countries in SSA. From SSA, countries close to Malawi in 2012 HDI rank and population size are Zambia and Mali, which have HDIs ranked 163 and 182 respectively.

In Malawi, 66.7% of the population lived in multidimensional poverty (the MPI "headcount") while an additional 23.4% were vulnerable to multiple deprivations. The intensity of deprivation, the average percentage of deprivation experienced by people living in multidimensional poverty – in Malawi was 50.1%. The country's MPI value, the share of the population multidimensionally poor adjusted by the intensity of the deprivations, was 0.334. Zambia and Mali had MPI values of 0.328 and 0.558, respectively. This indicates that Malawi's

households (and everyone in it) are multidimensionally poor, because the deprivation score is greater than 33.3% as a cut-off weighted set by UNDP.

The income poverty, measured by the percentage of the population living below 1.25 (PPP US$) per day, and multidimensional deprivations in Malawi was further compared based on UNDP report (2013). The multidimensional poverty headcount is 7.2 percentage points lower than income poverty. This implies that individuals living below the income poverty line may have access to non-income resources. Also, it is evident that the percentage of Malawi's population that live in severe poverty (deprivation score is 50% or more) and that are vulnerable to poverty (deprivation score between 20 and 30%) are substantial. The contributions of deprivations in each dimension to overall poverty complete a comprehensive picture of people living in poverty in Malawi.

Similarly, the World Bank (2014) report further indicates that 76%, 50.2% and 49.1% of the total population between 2002 and 2012 have access to improved water supply, sanitation and health care services, respectively. This reveals the extent of lowered human welfare and deprivation in the country, especially in the areas of sanitation and health care services.

2.4.9 Mauritius

Mauritius is actively engaged in regional cooperation and a number of trade and investment initiatives. The enactment of the African Growth and Opportunity Act (AGOA) has given a new impetus to the textiles and clothing sector as it provides duty free and quota free access to Mauritius for the United States market. Mauritius aspires to emerge as the textile hub of the region, actively promoting the setting up of spinning units to enable companies satisfy the rules of origin criteria. Enterprises engaged in spinning benefit from a package of incentives, which includes tax benefits and concessionary utilities rates. Mauritius is a member of the AU, New Partnership for Africa's Development, the common market for the eastern and southern Africa countries and the Southern African Development Community (UNCTAD, 2006).

The country has a total population of 1.3million in 2012, projected to grow at an average of 0.5% annually between 2010 and 2015 (United Nations Statistics, 2013). The working age population as reported by the World Bank

(2014) stood at 70% between 2002 and 2012, this reflects the human resource potentials in the country relative to other SSA countries for fostering economic growth.

According to UN COMTRADE (2013), Mauritius is a major exporter of preserved fish, T-shirts, singlets and other vests, beet sugar, men's and boy's shirts, men's and boy's suits, jerseys, pullovers, frozen fish, diamonds, article of jewellery, and women's or girls' suits. After a sharp decrease of 26.5% in 2009, the value of Mauritius's exports has shown steady growth to amount to 2.3 billion US$ in 2012. Imports showed a similar development and amounted to 5.8 billion US$ in 2012, reflecting an increase of 11.9% from 2011. The trade deficit increased from 2.9 billion US$ in 2011 to 3.5 billion US$ in 2012. The country's major exports trading partners in 2012 were United Kingdom, France, USA, South Africa, Spain, Madagascar, Italy, Belgium, Germany and Netherlands.

In assessing the dimension of globalisation intensity of Mauritius, the World Bank (2014) reports that the country average trade openness increased slightly from 114% between 1980 and 1990 to 119% over 2002 to 2012. The increase is attributed to the exponential increase in trade volume relative to national output size. Mauritius's FDI as a share of GDP was 0.67% between 1980 and 1990 and increased to 1.03% (1991-2001) and further increased to 2.34% during 2002 to 2012. This is attributed to effective policy implementation from 1994 that placed no restrictions on capital account transactions and foreign investors do not require the approval of the Bank of Mauritius for carrying out FDI activity under the "Non-Citizens Property Restriction Act". Also, there is an increase in the level of immigrant-to-total active population as the net value (as a share of working age group) increased from -2.9% (1980-1990) to -1.7% (2002-2012) as the number of labour immigrant increased, resulting to gain of quality labour for the economy from the global workforce.

The degree of relatively high labour mobility inflow reflects the economic opportunities in the country. In terms of information and communication dimension of globalisation, the country recorded highly significant increase in the level of integration in the number of connected telephone lines (per 1000 people) as it increased from 38.5 (1980-1990) to 282 (2002-2012). Comparatively, during the review periods, the country's real GDP

growth rate increased from 1.8% in 2005 to 4.1% in 2011. Also, the KOF (2013) composite index reports that between 1970 and 2012, the country recorded high degree of economic (41.5%), social (57.4%) and political openness (38.3%) globalisation compared to the regional average. This indicates that the country is more globalised in terms of all dimensions in the East Africa Sub region.

According to UNDP (2013), Mauritius's HDI value for 2012 is 0.737—in the high human development category—positioning the country at 80 out of 187 countries and territories. Between 1980 and 2012, Mauritius's HDI value increased from 0.551 to 0.737, an increase of 34% or average annual increase of about 0.9%. The rank of Mauritius's HDI for 2011 based on data available in 2012 and methods used in 2012 was– 79 out of 187 countries. In the 2011 HDR, Mauritius was ranked 77 out of 187 countries. Also, a review of Mauritius's progress in each of the HDI indicators indicates that between 1980 and 2012, Mauritius's life expectancy at birth increased by 6.4 years, mean years of schooling increased by 2.7 years and expected years of schooling increased by 4.4 years. Mauritius's GNI per capita increased by about 265% between 1980 and 2012.

The long-term progress assessment relative to other countries in terms of geographical location and HDI value reveals that between 1980 and 2012, Mauritius, South Africa and Gabon experienced different degrees of progress towards increasing their HDIs. Mauritius's 2012 HDI of 0.737 is below the average of 0.758 for countries in the high human development group and above the average of 0.475 for countries in SSA. From SSA, countries close to Mauritius in 2012 HDI rank and population size are Gabon and Botswana, which have HDIs ranked 106 and 119 respectively. Similarly, the World Bank (2014) report further indicates that 99.6%, 90.2% and 83% of the total population between 2002 and 2012 have access to improved water supply, sanitation and health care services, respectively. This reveals the extent of enhanced human welfare development in the country compared to other countries in the East Africa region and SSA.

2.4.10 Mozambique

Since the end of the civil war in 1992, good relations have been forged by Mozambique with the United States, Japan and most European countries.

Mozambican foreign policy is now largely focused on South Africa, other members of the Southern African Development community, the common market for eastern and southern Africa, the AU and New Partnership for Africa's Development. The country has been growing nexus of ties in trade, investment, tourism, migration and security with South Africa. Mozambique is an eligible member of a number of trade and investment initiatives including, the United States' market access initiative for African - the AGOA, the EU's EBA initiative, and the EU-African, Caribbean and Pacific partnership agreement for the renegotiation of the Lomé Convention - the Cotonou Agreement. Mozambique is signatory to the Multilateral Investment Guarantee Agency and a member of the WTO (UNCTAD, 2006).

The country has a total population of 23.9million in 2012, projected to grow at an average of 2.2% annually between 2010 and 2015 (United Nations Statistics, 2013). The working age population as reported by the World Bank (2014) stood at 51.8% between 2002 and 2012, this reflects the human resource potentials in the country for fostering economic growth. Also, UNCTAD's (2013) report indicates that Mozambique's major exports commodities are unwrought aluminium, aluminium bars, electrical energy, petroleum gages and other gaseous hydrocarbons, wood sawn, bananas, titanium ores and concentrates and crustaceans. In 2011, the value of the exports of Mozambique increased by 60.7% to amount to 3.6 billion US. Similarly, imports increased by 76.9% to reach 6.3 billion US$. This resulted in a trade deficit of 2.7 billion US$ in 2011, more than double the 2010 deficit of 1.3 billion US$. This deficit came largely from trade with SSA (-1.5 billion US$) and Western Asia (-0.7 billion US$). Trade, however, recorded a surplus with developed Europe (+0.6 billion US$). Exports were more concentrated among partners than imports. In 2011, nine major partners accounted for 80% of exported goods compared to 10 major partners for imports. The country's major exports partners are Netherlands, South Africa, United Kingdom, China, Iran, Malaysia, Zimbabwe, Switzerland, India, and Spain.

In assessing the dimension of globalisation intensity of Mozambique, the World Bank (2014) reports that the country average trade openness increased significantly from 33% between 1980 and 1990 to 51.1% over 1991 to 2001, and later increased to 76.1% during 2002 to 2012. Mozambique's FDI as a share

of GDP was 0.11% between 1980 and 1990 and increased significantly to 8.1% between 2002 and 2012. The country has a separate code for petroleum and mining industries. The *Centro de Promocao de Investmentos* (CPI) which has been in existence since the new law on investments was passed in 1993, it offers a comprehensive service in support of foreign investors wishing to invest anywhere in the country. Also, as a means of boosting private sector activities and investment, Mozambique has made significant efforts to upgrade the existing infrastructure. The massive effort in the Maputo corridor is an important project, given the close economic ties between Mozambique and South Africa and the potential benefits of improved bilateral transport links.

The ratio of emigrants-to-total active population increased from -3.3% (1980-1990) to -0.2% (2002-2012) as the number of labour emigrant increased, resulting in loss of quantity labour for the economy. The degree of relatively high labour mobility reflects the macroeconomic challenges confronting the country. In terms of information and communication dimension of globalisation, the country recorded slight increase in the level of integration in the number of connected telephone lines (per 1000 people) as it increased from 2.96 (1980-1990) to 3.67 (2002-2012). Comparatively, during the review periods, the country's real GDP growth rate declined from 8.4% in 2005 to 6.8% in 2011. As the country further adopted structural reforms, the real GDP growth rate increased slightly to 7.1% in 2012. Also, a robust dimensional composite index by the Swiss Globalisation Institute (KOF, 2013) report that between 1970 and 2012, the country recorded very low degree of economic (46.5%), social (33.3%) and political (35.8%) globalisation compared to the regional average. This indicates that the country is one of the least globalised in the southern Africa Sub region.

Mozambique's HDI value for 2012 is 0.327 indicating a low human development category, positioning the country at 185 out of 187 countries and territories. Between 1980 and 2012, Mozambique's HDI value increased from 0.217 to 0.327, an increase of 51% or average annual increase of about 1.3%. A review of Mozambique's progress in each of the HDI indicators indicates that between 1980 and 2012, Mozambique's life expectancy at birth increased by 7.9 years, mean years of schooling increased by 0.5 years and expected years of

schooling increased by 3.9 years. Mozambique's GNI per capita increased by about 106% between 1980 and 2012.

The long-term progress assessment relative to other countries in terms of geographical location and HDI value reveals that between 1980 and 2012, Mozambique, Burundi and Benin experienced different degrees of progress towards increasing their HDIs. Mozambique's 2012 HDI of 0.327 is below the average of 0.466 for countries in the low human development group and below the average of 0.475 for countries in SSA. From SSA, countries close to Mozambique in 2012 HDI rank and population size are Côte d'Ivoire and Congo (Democratic Republic of the), which have HDIs ranked 168 and 186, respectively.

In Mozambique, 79.3% of the population lived in multidimensional poverty while an additional 9.5% was vulnerable to multiple deprivations. The intensity of deprivation, the average percentage of deprivation experienced by people living in multidimensional poverty in Mozambique was 64.6%. The country's MPI value, the share of the population multidimensionally poor adjusted by the intensity of the deprivations, was 0.512. Côte d'Ivoire and Democratic Republic of Congo had MPI values of 0.353 and 0.392, respectively. This indicates that Mozambique's households are multidimensionally poor because the deprivation score is greater than 33.3% as a cut-off weighted set by UNDP.

The income poverty, measured by the percentage of the population living below PPP US$1.25 per day, and multidimensional deprivations in Mozambique was further compared based on UNDP report (2013). This suggests that monetary measure of poverty only gives partial explanation of the deteriorating human welfare incidence. The multidimensional poverty headcount is 19.7 percent higher than income poverty. This implies that individuals living above the income poverty line may still suffer deprivations in education, health and other living conditions. Also, it is evident that the percentage of Mozambique's population that live in severe poverty (deprivation score is 50% or more) and vulnerable to poverty (deprivation score between 20 and 30 percent) are substantial. The contributions of deprivations in each dimension to overall poverty complete a comprehensive picture of people living in poverty in Mozambique. Likewise, the World Bank (2014) report further indicates that

45%, 17.2% and 45.2% of the total population between 2002 and 2012 have access to improved water supply, sanitation and health care services, respectively. This reveals the extent of lowered human welfare and deprivation in the country.

2.4.11 Niger

Niger's membership in integration schemes provides it with wide access to regional and international markets. It is a member of WAEMU, Economic Community of West African States, Union économique et monétaire ouest-Africaine, Franc Zone, African, Caribbean and Pacific countries' preferential trade and aid links with the EU, Comité permanent inter-Etats de lutte contre la sécheresse dans le Sahel, the AU, New Partnership for Africa's Development and is eligible for the EBA initiative by the EU and the United States' market access initiative for African countries - the AGOA (UNCTAD, 2006).

The country has a total population of 16.1million in 2012, projected to grow at an average of 3.5% annually between 2010 and 2015 (United Nations Statistics, 2013). The working age population as reported by the World Bank (2014) stood at 53.5% between 2002 and 2012, this reflects the human resource potentials in the country for fostering economic growth.

The UN COMTRADE (2013) trade review indicates that in 2011, the value of the exports of Niger grew by 101.4% and reached 973.8 mln US$. The last five years shows an average annual increase of 11.6% in exports, while imports registered an average annual growth of 18.8%. In 2011, imports went down by 16.9% to 1.9 billion US$, this resulted in a trade deficit of 0.9 billion US$ in 2011, lower than the 2010 deficit of 1.8 billion US$. By regions, Niger trade recorded deficits with Eastern Asia (-0.5 billion US$) and SSA (-0.2 billion US$). Contrary to imports, exports were concentrated among a few partners: four major partners accounted for 80% of exports (compared to 13 major partners for imports). From 2009 to 2011, Niger’s major export commodities are uranium, gold, live bovine animals, live sheep and goats, onions, warm clothing, woven fabrics of cotton, crude petroleum oils, dried leguminous vegetables, and self-propelled bulldozers. Also, the country’s major exports’ partners are France, Switzerland, Nigeria, USA, Ghana, China, Japan, Spain, Netherlands, and Cote d’Ivoire.

In assessing the dimension of globalisation intensity of Niger, the World Bank (2014) reports that the country average trade openness increased slightly from 48.7% over 1980 to 1990 to 56.3% between 2002 and 2012. Niger's FDI as a share of GDP was 1.75% from 1980 to 1990, it increased significantly to 6.9% between 2002 and 2012. This is attributed to the adopted investment code in Niger that guarantees equal treatment to foreign investors regardless of nationality. Total foreign ownership of businesses is permitted in all sectors except those few restricted for national security purposes, such as arms and ammunitions and private security forces, which require special arrangements. Residents and non-residents may hold foreign exchange accounts with the approval of the Central Bank of West African states.

The degree of relatively high labour mobility outflow reflects the macroeconomic challenges confronting the country. In terms of information and communication dimension of globalisation, the country recorded insignificant increase in the level of integration in the number of connected telephone lines (per 1000 people) as it increased from 1.16 (1980-1990) to 3.55 (2002-2012). Similarly, during the review periods, the country's real GDP growth rate increased from 7.4% in 2005 to 8.2% in 2010. As the country was further engulfed by global economic crises, the real GDP growth rate declined significantly to 2.3% in 2011. Also, KOF composite index of Globalisation reported that between 1970 and 2012, the country recorded very low degree of economic (26.7%) and social (16.6%) globalisation, but relatively high degree political openness (53.4%) greater than the political regional average of 50.8%. This indicates that the country is one of the least globalised in terms of actual income flows and social interactions in the West Africa region.

The low degree of openness of the economy is occasioned by the country's low human wellbeing development for last three decades. According to UNDP (2013), Niger's HDI value for 2012 is 0.304 which falls in the low human development category placing the country at 186 out of 187 countries and territories, the rank is shared with Congo (Democratic Republic of the). Between 1980 and 2012, Niger's HDI value increased from 0.179 to 0.304, an increase of 70% or average annual increase of about 1.7%. The rank of Niger's HDI for 2011 based on data available in 2012 and methods used in 2012 was– 187 out of 187 countries.

A review of Niger's progress in each of the HDI indicators indicates that between 1980 and 2012, Niger's life expectancy at birth increased by 15.6 years, mean years of schooling increased by 0.9 years and expected years of schooling increased by 3.3 years. Niger's GNI per capita decreased by about 24% between 1980 and 2012. The long-term progress assessment relative to other countries in terms of geographical location and HDI value reveal that between 1980 and 2012, Niger, Mali and Mozambique experienced different degrees of progress towards increasing their HDIs. Niger's 2012 HDI of 0.304 is below the average of 0.466 for countries in the low human development group and below the average of 0.475 for countries in SSA. From SSA, countries close to Niger in 2012 HDI rank and population size are Chad and Burkina Faso, which have HDIs ranked 184 and 183, respectively.

In Niger 92.4% of the population lived in multidimensional poverty (the MPI 'head count') while an additional 4% were vulnerable to multiple deprivations. The intensity of deprivation, the average percentage of deprivation experienced by people living in multidimensional poverty in Niger was 69.4%. The country's MPI value, the share of the population multidimensionally poor adjusted by the intensity of the deprivations, was 0.642. Chad and Burkina Faso had MPI values of 0.344 and 0.535 respectively. This indicates that Benin's households (and everyone in it) are multidimensionally poor because the deprivation score is greater than 33.3% as a cut-off weighted set by UNDP.

The income poverty, measured by the percentage of the population living below PPP US$1.25 per day, and multidimensional deprivations in Niger was further compared based on UNDP report (2013). It shows that income poverty only tells part of the story. The multidimensional poverty headcount is 48.8 percentage points higher than income poverty. This implies that individuals living above the income poverty line may still suffer deprivations in education, health and other living conditions. It is also evident that the percentage of Niger's population that live in severe poverty (deprivation score is 50% or more) and vulnerable to poverty (deprivation score between 20 and 30 percent) are substantial. The contributions of deprivations in each dimension to overall poverty complete a comprehensive picture of people living in poverty in Niger. Likewise, the World Bank (2014) report further indicates that 47.5%, 8.9% and 51.8% of the total population between 2002 and 2012 have access to improved

water supply, sanitation and health care services, respectively. This reveals the extent of lowered human welfare and deprivation status in the country.

2.4.12 Nigeria

Nigeria joined a number of African regional integration schemes as a way of boosting size of market, for manufactured goods and other processed items. Nigeria is currently a member of the Economic Community of West African States (ECOWAS), the African Union (AU) and New Partnership for Africa's Development. ECOWAS has as its principal objective to establish a customs union and a common market to promote the free movement of goods and people within West Africa. The AU carries forward the aims of the OAU, which included the creation of an African Economic Community, in accordance with the Lagos Plan of Action, drawn up in 1980. In 2000, Nigeria and five other countries, The Gambia, Ghana, Guinea, Liberia and Sierra Leone signed an agreement to create a second monetary union in the region. Nigeria is eligible for the African Growth and Opportunity Act (AGOA), by the United States. It is also a signatory to international conventions such as the Multilateral Investment Guarantee Agency and the WTO (UNCTAD, 2006).

In the West Africa region, Nigeria is the most populous country and indeed, in Africa and seventh in the World after Pakistan, preceding Bangladesh with a total size of 162.5million in 2011 based on United Nations Statistics (2013) estimate. Nigeria is one of the poverty entrapped economies in the world with poor human welfare status. The working age population as reported by the World Bank (2014) stood at 48.1% between 2002 and 2012. This indicates that Nigeria has abundant potential economic active group to contribute productively towards sustainable growth if strong and sound human capital framework is instituted. In spite of the human capital potentials, the country is still confronted with alarming high unemployment, which IMF (2011) labelled as “Y2K youth unemployment”. This has caused economic and social displacements in the activities of the youths especially in the last three decades resulting in a level of menaces than expected.

Over the last two decades, Nigeria has mainly specialised at the international market in the exports of crude petroleum oils, non-crude petroleum oils, petroleum gages, natural rubber, cocoa beans, leather, tanned hides, oil

seeds, light-vessels and crustaceans, while major partners in 2011 included United States, India, Brazil, United Kingdom, Spain, France, Italy, Australia, Algeria, and Barbados. This makes the country highly exposed to external shocks as reflected in its deteriorating foreign exchange rates with its trading partners, depleted external reserves, and high recorded current account deficits (UN COMTRADE, 2013). Also, from 2007 to 2011, Nigeria's exports increased on average by 23.5% each year and amounted to 125.6 billion US$. During the same period, imports increased on average by 18.6% each year to 64.0 billion US$. The trade surplus increased from 42.3 billion US$ in 2010 to 61.7 billion US$ in 2011. Significant surpluses were recorded with developed Europe (+19.5 billion US$), developed North America (+18.6 billion US$) and southern Asia (+10.1 billion US$). Trade recorded deficits with eastern Asia (-7.1 billion US$) and western Asia (-2.1 billion US$). In 2011, exports were concentrated among fewer partners than imports: 13 major partners accounted for 80% of exports compared to 16 major partners for imports. In 2011, imports were composed of 31.6% machinery and transport equipment, 28.7% food, live animals, beverages and tobacco and 11.9% manufactured goods (UN COMTRADE, 2013). IMF (2011) contends that the high food imports is caused by the low industrial output and agriculture development in the country. This consequently resulted in poor macroeconomic performance amidst high inflation rate and fiscal deficits without appreciable infrastructural development.

Following the World Bank (2014) estimates, the dimension of globalisation intensity of Nigeria indicates that the country average trade openness increased significantly from 44.5% between 1980 and 1990 to 72.1% over 2002 to 2012. Nigeria’s FDI as a share of GDP was 1.75% during 1980 to 1990 and increased to 3.49% from 2002 to 2012. This is attributed to the incentives provided investors which include tax relief, legislative provisions pertaining to taxes and repatriation of foreign capital investment at any time of capital appreciation of the investment. No import or export licenses are required and up to 100% foreign ownership of enterprises is allowed in Nigeria (UNCTAD, 2006).

World Bank (2014) estimates further reveals that there is an increase in the level of emigrant-to-total active population as the net value (as a share of working age group) declined from -0.2% (1991-2001) to -0.3% (2002-2012) as

the number of labour emigrant increased, resulting to loss of labour from the economy to the greener pastures. The degree of relatively high labour outflow reflects the economic challenges confronting the country. In terms of information and communication dimension of globalisation, the country recorded slight increase in the level of integration in the number of connected telephone lines (per 1000 people) as it increased from 2.34 (1980-1990) to 7.52 (2002-2012). During the review periods, the country's real GDP growth rate increased from 6.5% in 2005 to 7.8% in 2010. As the country becomes more engulfed with economic crisis, the real GDP growth rate declined slightly to 7.4% in 2011. Also, a robust dimensional composite index by the Swiss Globalisation Institute (KOF, 2013) report that between 1970 and 2012. The country recorded low degree of social (26%) and economic globalisation (35%), but very high degree of political openness (75.5%) above the regional average of 50.7%. The economic openness which is slightly above the regional average of 32.5% reflects the extent of macroeconomic policies geared towards trade development with less reliance on crude oil and long inflicted structural adjustment programme (SAP). Nigeria's high degree of political openness to the global world above the regional average underscores the country's political awareness and participation in several international institutions compared to Benin and Ghana in the same sub-region.

According to UNDP (2013), Nigeria's HDI value for 2012 is 0.471 categorised in the low human development division, positioning the country at 153 out of 187 countries and territories. Between 2005 and 2012, Nigeria's HDI value increased from 0.434 to 0.471, an increase of 9% or average annual increase of about 1.2%. The rank of Nigeria's HDI for 2011 based on data available in 2012 and methods used in 2012 was– 154 out of 187 countries.

A review of Nigeria's progress in each of the HDI indicators indicates that between1980 and 2012, Nigeria's life expectancy at birth increased by 6.8 years, mean years of schooling increased by 0.2 years and expected years of schooling increased by 2.4 years. Nigeria's GNI per capita increased by about 34% between 1980 and 2012.

The long-term progress assessment relative to other countries–both in terms of geographical location and HDI value reveals that between 1980 and 2012, Nigeria, Togo and Senegal experienced different degrees of progress

towards increasing their HDIs. Nigeria's 2012 HDI of 0.471 is above the average of 0.466 for countries in the low human development group but marginally below the average of 0.475 for countries in SSA. From SSA, countries close to Nigeria in 2012 HDI rank and population size are Ethiopia and Congo (Democratic Republic of the), which have HDIs ranked 173 and 186 respectively.

In Nigeria, 54.1% of the population lived in multidimensional poverty (the MPI "headcount") while an additional 17.8% were vulnerable to multiple deprivations. The intensity of deprivation, the average percentage of deprivation experienced by people living in multidimensional poverty in Nigeria is 57.3%. The country's MPI value, the share of the population multidimensionally poor adjusted by the intensity of the deprivations was 0.31. Ethiopia and Congo (Democratic Republic of the) had MPI values of 0.564 and 0.392, respectively. This indicates that Nigeria's households are multidimensionally poor because the deprivation score is higher than 33.3% as a cut-off weighted set by UNDP.

The income poverty, measured by the percentage of the population living below PPP U$1.25 per day, and multidimensional deprivations in Nigeria was further compared based on UNDP report (2013). This suggests that monetary measure of poverty only gives partial explanation of the deteriorating human welfare incidence. The multidimensional poverty headcount is 13.9 percent lower than income poverty. This implies that individuals living below the income poverty line may have access to non-income resources. Also, it is evident that the percentage of Nigeria's population that live in severe poverty (deprivation score is 50% or more) and vulnerable to poverty (deprivation score between 20 and 30 percent) are quite high. World Bank (2014) report further indicates that 59%, 32.1% and 47.5% of the total population between 2002 and 2012 have access to improved water supply, sanitation and health care services, respectively. This reveals the extent of lowered human welfare and deprivation in the country.

2.4.13 Rwanda

Rwanda is one of the countries in Central Africa inclusive of Gabon, Cameroon, and Central Africa Republic (CAR). Based on the United Nations Statistics (2013) estimate, the country's total population size in 2011 stood at

10.94million, projected to grow at an average of 2.9% between 2010 and 2015. Also, the World Bank (2014) indicates that its economic active group in the productivity sector increased from 48.4% between 1980 and 1990 to 52.9% over 2002 to 2012 of the total population size. This implies that for over three decades, about half of the country's population engages in productivity activities in fostering sustainable growth.

According to UN COMTRADE (2013), Rwanda main export commodities in the last two decades are tin ores, coffee, tea, niobium, non-crude petroleum oils, tungsten, wheat, foot wear, and chromium ores, while the major export partners are United Republic of Tanzania, Democratic Republic of the Congo, Kenya, Uganda, Sudan, Burundi, Switzerland, USA, Belgium, and France. Rwanda's macroeconomic performance is vulnerable to regional economic shocks compared to external because her major partners are within the Africa region. Also, report further indicates that in 2012, Rwanda's exports increased by 21.2% and reached 505.7 mln US$. During the same year, imports increased by 19.7% and amounted to 1.6 billion US$. In 2012, trade balance was at a deficit of 1.1 billion US$ compared to a 0.9 billion US$ deficit in 2011. The largest deficit was recorded with developed Europe at 286.1 mln US$. Trade with eastern and western Asia recorded deficits of 250.3 and 168.9 mln US$, respectively. Exports were much more concentrated among partners than imports. In 2012, four major partners accounted for 80% of exports compared to 17 major partners for imports.

In assessing the dimension of globalisation intensity of Rwanda, the World Bank (2014) reports that the country average trade openness increased from 30% between 1980 and 1990 to 33.3% over 1991 to 2001, and later rose slightly to 38.5% between 2002 and 2012. As a result of decline in trade volume relative to national output. Rwanda's FDI as a share of GDP was 0.94% during 1980 to 1990 and declined to 0.21% (in 1991-2001) but later increased by 450% to 1.16% between 2002 and 2012 because of the friendly investment environment policy and programmes adopted in the 2000s. Also, the country recorded relative decrease in the level of immigrant-to-total active population from 12.4% (1991-2001) to -0.9% (2002-2012) as the number of labour emigrant increased. In terms of information and communication dimension of globalisation, the country recorded insignificant level of integration as the

number of connected telephone lines (per 1000 people) increased from 0.93 (1980-1990) to 2.9 (2002-2012).

As reported by United Nations Statistics (2013), during the considered periods, economic growth measured by real GDP growth rate for Rwanda declined from 9.3% in 2005 to 7.2% in 2010 and rose to 8.6% in 2011. The decline in growth rate was caused by the financial and economic shocks from the global market. Also, a robust dimensional composite index by the Swiss Globalisation Institute (KOF, 2013) reports that between 1970 and 2012, the country recorded very low degree of economic (19.9%), social (17%), and political (37.8%) globalisation. This indicates that Rwanda is a less globalised country in the Central Africa region compared to Cameroon.

The review of Rwanda's human welfare development status based on the UNDP (2013) estimates indicates that HDI value for 2012 is 0.434—in the low human development category—positioning the country at 167 out of 187 countries and territories. Between 1980 and 2012, Rwanda's HDI value increased from 0.277 to 0.434, an increase of 57% or average annual increase of about 1.4%. The rank of Rwanda's HDI for 2011 based on data available in 2012 and methods used in 2012 was– 167 out of 187 countries. In the 2011 HDI, Rwanda was ranked 166 out of 187 countries. A reviews Rwanda's progress in each of the HDI indicators reveals that between 1980 and 2012, Rwanda's life expectancy at birth increased by 7.5 years, mean years of schooling increased by 2.2 years and expected years of schooling increased by 6.2 years. Rwanda's GNI per capita increased by about 40% between 1980 and 2012.

The long-term progress assessment relative to other countries in terms of geographical location and HDI value reveals that between 1980 and 2012, Rwanda, Gambia and Malawi experienced different degrees of progress towards increasing their HDIs. Rwanda's 2012 HDI of 0.434 is below the average of 0.466 for countries in the low human development group and below the average of 0.475 for countries in SSA. From SSA, countries close to Rwanda in 2012 HDI rank and population size are Togo and Guinea, which have HDIs ranked 159 and 178, respectively.

In Rwanda 69% of the population lived in multidimensional poverty (the MPI "headcount") while an additional 19.4% were vulnerable to multiple deprivations. The intensity of deprivation – the average percentage of

deprivation experienced by people living in multidimensional poverty – in Rwanda was 50.8%. The country's MPI value, the share of the population multidimensionally poor adjusted by the intensity of the deprivations, was 0.35. Togo and Guinea had MPI values of 0.284 and 0.506, respectively. This indicates that Rwanda's households (and everyone in it) are multidimensionally poor because the deprivation score is higher than 33.3 percent as a cut-off weighted set by UNDP.

The income poverty, measured by the percentage of the population living below PPP US$1.25 per day, and multidimensional deprivations in Rwanda was further compared based on UNDP report (2013). The multidimensional poverty headcount is 5.8 percentage points higher than income poverty. This implies that individuals living above the income poverty line may still suffer deprivations in education, health and other living conditions. Also, it is clear that the percentage of Rwanda's population that live in severe poverty (deprivation score is 50% or more) and that are vulnerable to poverty (deprivation score between 20 and 30%) are high. The contributions of deprivations in each dimension to overall poverty complete a comprehensive picture of people living in poverty in Rwanda. Likewise, the World Bank (2014) report further indicates that 68.3%, 56.4% and 53% of the total population between 2002 and 2012 have access to improved water supply, sanitation and health care services, respectively. This reveals the extent of lowered human welfare and deprivation in the country, especially in the areas of sanitation and health care services.

2.4.14 South Africa

Most African countries, particularly those on the southern tip of the region seek close relationship with South Africa as an outlet and source of materials products. Meanwhile, South Africa had intensified effort to integrate into the global economy, starting with the region. The country now has warm relations with almost all the countries of the world. South Africa actively engages its African neighbours at both the political and commercial levels, as well as in bilateral trade relatives. She is a bigtime player in regional bodies such as the AU, Southern African Customs Union and the Southern African Development Community. The government won the approval of the Organisation of African Unity (OAU) conference in Lusaka to present the

Millennium Africa Plan, now renamed as the New Partnership for Africa's Development. South Africa also has strong ties with the United States, the country is eligible for the United States' market access for African countries - AGOA (UNCTAD, 2006).

South Africa is one of the most internationally recognised nations in SSA after Nigeria and Ghana, and one of the fastest-growing emerging economies in the world that grows at an annual average of 3.7% for over three decades. The country had a total population of 50.5million in 2012 it is projected to grow at an average of 0.5% annually between 2010 and 2015 (United Nations Statistics, 2013). The working age population as reported by the World Bank (2014) stood at 64.9% between 2002 and 2012, this indicates the high potential human capital dominated in South Africa compared to other regional countries. This has resulted in increased productive economic activities and further reflected by the prudent macroeconomic performance recorded in the last two decades. IMF (2011) reports that South Africa's sound macroeconomic performance is attributed to the effective structural policies agenda and significant achievement in ending apartheid in the last one and a half decades ago. Despite these, the country still suffers from the impact of its first economic recession in 1992 that devastated the macroeconomic balances.

According to UN COMTRADE (2013), South Africa's main export commodities are platinum, iron ores, coal, gold, Ferro-alloys, motor cars, centrifuges, diamonds, motor vehicles, and non-crude petroleum oils, her major export partners were China, USA, Japan, Germany, India, United Kingdom, Netherlands, Zambia and Zimbabwe between 2010 and 2012. Also, South Africa's exports increased on average by 4.1% per year for the past five years, while amounted to 86.7 billion US$ in 2012. Similarly, imports grew by 3.8% each year and reached 101.6 billion US$. This resulted in a trade deficit of 14.9 billion US$ in 2012. Most of these principal export destination countries experienced a series of economic and debt crises in the mid-2000s, which impacted on South Africa economy adversely, underscoring the high dependency on the country on the external sector.

The review of World Bank (2014) estimates for trade openness reveals that trade-GDP ratio for South Africa declined from 51.8% between 1980 and 1990 to 46.2% over 1991 to 2001, and then rose to 60% during 2002 to 2012.

The decline is attributed to the exponential increase in the size of trade volume relative to non-proportional growth in national output. South Africa recorded significant growth in the degree of financial openness as FDI-output ratio of 0.003% between 1980 and 1990, it increased to 1.45% during 2002 to 2012. The growth in FDI inflow is attributed to the tax agreements that South Africa has with several foreign countries. Moreso, the government does not require approval for investment and foreign investors in most cases are subject to the same laws as domestic investors. Non-residents may invest directly through a resident company, branch or partnership. The 1973 Companies Act permits the establishment of a private or public limited liability company to invest freely. The Close Corporation Act of 1984 (Act 69) created a third legal form for corporations, which is well suited to small businesses (UNCTAD, 2006).

The country recorded relative increase in the level of immigrant-to-total active population from 1.43% (1980-1990) to 1.9% (2002-2012) as the number of labour immigrants increased. The degree of high labour mobility inflow reflects the attractiveness of the country to the global working population since it is the fastest growing economy in southern Africa. In terms of information and communication dimension of globalisation, the country recorded significant level of integration in the number of connected telephone lines (per 1000 people) as it increased from 72 (1980-1990) to 93 (2002-2012). As reported by the United Nations Statistics (2013), during the periods, economic growth measured by real GDP growth rate for South Africa declined from 5.3% in 2005 to 2.9%, it then increased to 3.1% in 2012. The decline in growth rate was caused by the financial and economic shocks from the global market. Also, it was earlier reported by IMF (2011) that South Africa enjoyed a buoyant economy in the mid-2000s. A favourable external environment and strong domestic demand helped raise growth to 5% on average from 2004 to 2007, which lowered the unemployment rate by five percent points. Notably, the global financial crisis of late 2008 sharply changed the outlook for an already growing economy. South Africa experienced its first recession in 1992, which informed new priorities for macroeconomic policy.

Also, the composite index of globalisation indicates that South Africa globalised economically compared to its social and political dimensions of globalisation as reported between 1970 and 2012. The country recorded low

degree of social (39.6%) and political (45.5%) globalisation, but very high degree of trade openness (56.0%) above the regional average of 53.0%. The political openness, slightly above the regional average of 45.5% indicates the country's level of international participation and institutional interactions compared to Botswana and Namibia in the same Subregion

The review of South Africa's human welfare development status based on the UNDP (2013) estimates indicates that HDI value for 2012 is 0.629 classified in the medium human development category, positioning the country at 121 out of 187 countries and territories. The rank is shared with Indonesia and Kiribati. Between 1980 and 2012, South Africa's HDI value increased from 0.57 to 0.629, an increase of 10% or average annual increase of about 0.3%. The rank of South Africa's HDI for 2011 based on data available in 2012 and methods used in 2012 was– 122 out of 187 countries.

A review of South Africa's progress in each of the HDI indicators reveals that between 1980 and 2012, life expectancy at birth decreased by 3.5 years, mean years of schooling increased by 3.7 years and expected years of schooling increased by 2.0 years. South Africa's GNI per capita increased by about 14% between 1980 and 2012. South Africa's 2012 HDI of 0.629 is below the average of 0.64 for countries in the medium human development group and above the average of 0.475 for countries in SSA. From SSA, countries close to South Africa in 2012 HDI rank and population size are Namibia and Congo, which have HDIs ranked 128 and 142, respectively.

Similarly, a comparative review of South Africa with other countries with rapidly emerging economies reveals that the number of such countries is large and varied but it is better to concentrate on three groups - BRICS (Brazil, Russia, India, China and South Africa) and its subgroup IBSA (India, Brazil, and South Africa), and CIVETS (Colombia, Indonesia, Vietnam, Egypt, Turkey and South Africa). The average HDI for BRICS countries is 0.655, for IBSA it is 0.588, and for CIVETS it is 0.661. South Africa performs better than the average IBSA country but worse than the average BRICS and CIVETS mainly because of its poor life expectancy. In South Africa, 13.4% of the population lived in multidimensional poverty (the MPI "headcount") while an additional 22.2% were vulnerable to multiple deprivations. The intensity of deprivation – the average percentage of deprivation experienced by people living in

multidimensional poverty – in South Africa was 42.3%. The country's MPI value, the share of the population multidimensionally poor adjusted by the intensity of the deprivations, was 0.057. Namibia and Congo had MPI values of 0.187 and 0.208 respectively. This indicates that South Africa's households are vulnerable to be multidimensionally poor because the deprivation score is less than 33.3% as a cut-off weighted set by UNDP.

The income poverty, measured by the percentage of the population living below PPP US$1.25 per day, and multidimensional deprivations in South Africa was further compared based on UNDP report (2013). The multidimensional poverty headcount is 0.4 percent lower than income poverty. This implies that individuals living below the income poverty line may have access to non-income resources. Also, it is evident that the percentage of South Africa's population that live in severe poverty (deprivation score of 50% or more) and vulnerable to poverty (deprivation score of between 20 and 30%) are relatively low. The contributions of deprivations in each dimension to overall poverty complete a comprehensive picture of people living in poverty in South Africa. Similarly, the World Bank (2014) report further indicates that 90%, 72.3% and 49.7% of the total population between 2002 and 2012 have access to improved water supply, sanitation and health care services, respectively. This reveals the extent of less lowered human welfare and deprivation in the country but intense deprivation in the area of health care services.

2.4.15 Tanzania

Tanzania is one of the least developed economies in the eastern Africa region with annual average growth of 5%, also, its stand to be one of the relatively most populated in the region, estimated at 46.2million in 2011 higher that Kenya's size, with a far worse human development status (World Bank, 2014). Based on the United Nations Statistics (2013), the population size is projected to grow at an average of 3.1% between 2010 and 2015. Also, the World Bank (2014) indicates that its economic active group in the productivity sector increase from 51% during 1980 to 1990 to 52.2% between 2002 and 2012 of the total population size.

Tanzania possesses significant deposits of a range of minerals including nickel, iron and coal, in addition to gold, diamonds and various gemstones. With

the exception of gold, these are largely unexploited, although some coal is mined in the south-west of the country, and large soda ash deposits in Lake Natron are used for the production of caustic soda. Gold and diamonds together accounted for about 63% of mineral exports, with gemstones contributing 36%. The country is a member of the AU, East African Community, the Southern African Development Community and is an eligible member of the United States' market access initiative for African countries - the AGOA and Cotonou Agreement for the renegotiation of the trade and aid links between the African, Caribbean and Pacific countries with the EU. Tanzania is also a member of WTO, the International Centre for the Settlement of Investment Disputes and Multilateral Investment Guarantee Agency (UNCTAD, 2006).

UN COMTRADE (2013) indicates that Tanzania major exports commodities are gold, precious metal ores, manganese ores, coffee, coconuts, Brazil nuts, cashew nuts, fish fillets, copper ores, dried leguminous vegetables and cotton, the major exports partners are South Africa, Switzerland, China, India, Kenya, Japan, Germany, Democratic Republic of the Congo, Belgium, and Netherlands between 2010 and 2012. In 2012, the value of exports of United Republic of Tanzania grew by 17.2% to reach its peak of 5.5 billion US$. Similarly, imports increased by 4.8% and amounted to 11.7 billion US$. This resulted in a trade deficit of 6.2 billion US$ in 2012, slightly below the 2011 deficit of 6.4 billion US$. Trade was in deficit with trading partners in nearly all regions. The largest deficits were recorded with western Asia (-2.4 billion US$), developed Europe (-1.5 billion US$) and eastern Asia (-0.8 billion US$). In 2012, trade was well-diversified across partners: 13 major partners accounted for 80% of exports compared to 16 major partners for imports.

The review of World Bank (2014) estimates for trade openness as an economic dimension of globalisation reveals that trade-output ratio for Tanzania increased from 32.9% between 1980 and 1990 to 48.1% from 1991 to 2001, and further rose to 59.2% over 2002 to 2012. The increase is attributed to the exponential increase in the size of trade volumes relative to non-proportional growth in national output. Tanzania recorded slight growth in the degree of financial openness as FDI-output ratio of 0.03% between 1980 and 1990 increased to 4.24% over 2002 to 2012. IMF (2011) iterates that strong investment in Tanzania’s abundant resources has spurred a robust expansion in

exports, while domestic policy buffers shielded the country from the worst effects of the global financial crisis.

Also, there is an increase in the level of immigrant-to-total active population as net value (as a share of working age group) declined from 1.22% (1980-1990) to -0.9% (2002-2012) as the number of labour emigrant increased, resulting to loss of quality labour for the economy from the global workforce. The degree of relatively high labour mobility outflow reflects the economic challenges confronting the country. In terms of information and communication dimension of globalisation, the country recorded a slight increase in the level of integration in the number of connected telephone lines (per 1000 people) as it increased from 2.41 (1980-1990) to 3.83 (2002-2012). In addition, during the review periods, the country's real GDP growth rate declined from 7.4% in 2005 to 7.0% in 2010. As the country further faced more economic problems, the real GDP growth rate further decreased to 6.4% in 2011. Also, a robust dimensional composite index by the Swiss Globalisation Institute (KOF, 2013) reports that between 1970 and 2012, the country recorded a very low degree of social (20.1%) and economic (24.4%) globalisation, below the regional average of 34.6% and 29.8%, respectively, but relative high degree of political openness (42.7%) though below the regional average of 53.0%. The political openness reflects the country progressive effects of peaceful elections and stable power transition that gained international recognition and also, enables the country to participate in economic, political and institutional forum across the globe.

The review of Tanzania's (United Republic of) human welfare development status based on the UNDP (2013) estimates indicates that HDI value for 2012 is 0.476 categorised in the low human development, positioning the country at 152 out of 187 countries and territories. Between 1990 and 2012, Tanzania's HDI value increased from 0.353 to 0.476, an increase of 35% or average annual increase of about 1.4%. The rank of Tanzania's HDI for 2011 based on data available in 2012 and methods used in 2012 was– 153 out of 187 countries.

Based on (UNDP, 2013) report, a review of Tanzania's progress in each of the HDI indicators between 1980 and 2012 indicates that country's life expectancy at birth increased by 8.4 years, mean years of schooling increased

by 2.6 years and expected years of schooling increased by 2.1 years. Tanzania's GNI per capita increased by about 69% between 1990 and 2012.

The long-term progress assessment relative to other countries in terms of geographical location and HDI value reveals that between 1980 and 2012, Tanzania, Mauritania and Côte d Ivoire experienced different degrees of progress towards increasing their HDIs. Tanzania's 2012 HDI of 0.476 is above the average of 0.466 for countries in the low human development group and above the average of 0.475 for countries in SSA. From SSA, countries close to Tanzania in 2012 HDI rank and population size are Uganda and Côte d'Ivoire, which have HDIs ranked 161 and 168, respectively.

In Tanzania 65.6% of the population lived in multidimensional poverty (the MPI "headcount") while an additional 21% were vulnerable to multiple deprivations. The intensity of deprivation – the average percentage of deprivation experienced by people living in multidimensional poverty – in Tanzania was 50.7%. The country's MPI value, the share of the population multidimensionally poor adjusted by the intensity of the deprivations was 0.332. This indicates that Tanzania's households are multidimensionally poor because the deprivation score is higher than 33.3% as a cut-off weighted set by UNDP.

The income poverty, measured by the percentage of the population living below PPP US$1.25 per day, and multidimensional deprivations in Tanzania was further compared based on UNDP report (2013). It shows that income poverty only tells part of the story. The multidimensional poverty headcount is 2.3 percentage points lower than income poverty. This implies that individuals living below the income poverty line may have access to non-income resources. Also, it is evident that the percentage of Tanzania's population that live in severe poverty (deprivation score of 50% or more) and vulnerable to poverty (deprivation score of between 20 and 30 percent) are quite high. The contributions of deprivations in each dimension to overall poverty complete a comprehensive picture of people living in poverty in Tanzania. Also, World Bank (2014) report further indicates that 53.8%, 10.7% and 55.6% of the total population between 2002 and 2012 have access to improved water supply, sanitation and health care services respectively. This reveals the extent of lowered human welfare and deprivation in the country. IMF (2011) establishes that in Tanzania, poverty affects one-third of the entire population and the

country is highly dependent on foreign aid. This implies that despites the country growth potentials and human capital capacity, the economy is still engulfed with multidimensional deprivations.

2.4.16 Uganda

In addition to East African Community, Uganda is a member of the AU, New Partnership for Africa's Development and common market for eastern Africa. Uganda is also a member of the African, Caribbean and Pacific countries partnership agreement, the Cotonou Agreement for the renegotiation of the preferential trade and aid links with the EU and is eligible for the EU's EBA initiative and the United States' market access initiative for SSA- the AGOA. Uganda has also acceded to the WTO and is signatory to the International Centre for the Settlement of Investment Disputes and Multilateral Investment Guarantee Agency (UNCTAD, 2006).

Based on the United Nations Statistics (2013) estimate, the country's total population size in 2011 stood at 34.5million, projected to grow at an average of 3.1% between 2010 and 2015. Also, the World Bank (2014) indicates that its economic active group in the productivity sector declined from 50% from 1980 to 1990 to 48.4% between 2002 and 2012 of the total population size. This implies that for over three decades less than half of the country's population engages in productivity activities in fostering sustainable growth.

According to UN COMTRADE (2013), Uganda's main export commodities in the half a decade are coffee, electrical apparatus, non-crude petroleum oils, Portland cement, fish fillets, beet sugar, tea, cotton, unmanufactured tobacco, and mushroom spawn, the major export partners are Sudan, Kenya, Democratic Republic of the Congo, Rwanda, United Arab Emirates, Switzerland, Netherlands, Germany and United Kingdom. Uganda's macroeconomic performance is vulnerable to external economic shocks compared to domestic because her major partners are outside the Africa region. Also, the report further indicates that on average, Uganda's exports increased by 8.1% each year from 2008 to 2012 and reached 2.4 billion US$ in 2012. During the same period, imports also increased by 7.5% each year, which amounted to 6.0 billion US$. This resulted in a trade deficit of 3.7 billion US$ in 2012. This

deficit was largely accounted for by trade with southern Asia which recorded a deficit of 1.3 billion US$. Trade also recorded a deficit of 767.3 mln US$ with western Asia and 755.2 mln US$ with eastern Asia. Uganda's trade was relatively diversified across partners.

In assessing the dimension of globalisation intensity of Uganda, the World Bank (2014) reports that the country average trade openness increased from 29.1% during 1980 to 1990 to 32.3% between 1991 and 2001, and later rose slightly to 48% over 2002 to 2012 as a result of decline in trade volume relative to national output. Uganda's FDI, as a share of GDP was 0.06% between 1980 and 1990 and increased significantly to 5% from 2002 to 2012. The increase is attributed to the UNCTAD (2006) earlier report that investor interest in Uganda remains high, particularly strong from continental Europe and South Africa. The profile of prospective investors is diverse, ranging from small agricultural and agro-processing companies run by individuals to medium-sized, family-owned manufacturing companies operating in niche markets, and worldwide organisations employing thousands of employees.

World Bank (2014) estimates further reveal that the country recorded relative decrease in the level of emigrant-to-total active population from -0.5% (1991-2001) to -0.7% (2002-2012) as the number of labour emigrant increased. The degree of high labour mobility outflow reflects the unattractiveness of the country to the global working population since is one of the least developed countries in East Africa. In terms of information and communication dimension of globalisation, the country recorded insignificant level of integration as the number of connected telephone lines (per 1000 people) increased from 1.63 (1980-1990) to 5.81 (2002-2012).

As reported by United Nations Statistics (2013), during the reviewed periods, economic growth measured by real GDP growth rate for Uganda declined from 10% in 2005 to 6.3% in 2010 and fall further to 4.1% in 2011. The decline in growth rate was caused by the financial and economic shocks from the global market. Also, a robust dimensional composite index by the Swiss Globalisation Institute (KOF, 2013) reports that between 1970 and 2012, the country recorded very low degree of economic (27.5%) and social (20.6%) globalisation because they are below the regional average. But, the country recorded high level of political (48.4%) openness above the regional average.

This indicates that Uganda is a less globalised country in the East Africa region, economically and socially.

Uganda's HDI value for 2012 is 0.456 places her in the low human development category, positioning the country at 161 out of 187 countries and territories. The rank is shared with Haiti. Between 1985 and 2012, Uganda's HDI value increased from 0.3 to 0.456, an increase of 52% or average annual increase of about 1.6%. The rank of Uganda's HDI for 2011 based on data available in 2012 and methods used in 2012 was– 161 out of 187 countries. A review of Uganda's progress in each of the HDI indicators between1980 and 2012 indicated that Uganda's life expectancy at birth increased by 4.4 years, mean years of schooling increased by 2.8 years and expected years of schooling increased by 7.2 years. Uganda's GNI per capita increased by about 125% between 1985 and 2012.

The long-term progress assessment relative to other countries in terms of geographical location and HDI value reveals that between 1980 and 2012, Uganda, Rwanda and Congo DR experienced different degrees of progress towards increasing their HDIs. Also, UNDP (2013) reports that Uganda's 2012 HDI of 0.456 is below the average of 0.466 for countries in the low human development group and below the average of 0.475 for countries in SSA. From SSA, countries close to Uganda in 2012 HDI rank and population size are Madagascar and Tanzania, which have HDIs ranked 151 and 152 respectively.

In Uganda 69.9% of the population lived in multidimensional poverty (the MPI 'head count') while an additional 19% was vulnerable to multiple deprivations. The intensity of deprivation – the average percentage of deprivation experienced by people living in multidimensional poverty – in Uganda was 52.5%. The country's MPI value, the share of the population in multidimensional poverty adjusted by the intensity of the deprivations was 0.367. This indicates that Uganda's households (and everyone in it) are in multidimensional poverty because the deprivation score is higher than 33.3% as a cut-off weighted set by UNDP.

The multidimensional poverty headcount is 18.4 percentage points higher than income poverty. This implies that individuals living above the income poverty line may still suffer deprivations in education, health and other living conditions. Also, it is evident that the percentage of Uganda's population

that live in severe poverty (deprivation score of 50% or more) and vulnerable to poverty (deprivation score of between 20 and 30%). The World Bank (2014) report further indicates that 68.2%, 33.6% and 50.1% of the total population between 2002 and 2012 have access to improved water supply, sanitation and health care services, respectively. This reveals the extent of lowered human welfare and deprivation in the country, especially in the areas of sanitation and health care services.

CHAPTER THREE

LITERATURE REVIEW

3.1 Conceptual and Measurement Issues

Precise definitions of globalisation are elusive but it is usually interpreted as an increase in integration and interaction between countries manifested through an increase in the movement of commodities, labour, capital (financial and physical capital), communication, information and technology. Yashin (2002) defines globalisation as an economic revolution of the new millennium in information and communication technology (ICT). Clark (2000), Norris (2000) and Keohane and Nye (2000) define globalisation to be the process of creating networks of connections among actors at multi-continental distances, mediated through a variety of flows including people, information and ideas, as well as capital and goods. According to KOF Swiss Economic Institute (2010), globalisation is conceptualized as a process that erodes national boundaries, integrates national economies, cultures, technologies and governance as well as produces complex relations of mutual interdependence.

In terms of scope and dimension of globalisation, opinion varies from one scholar to another. Haveen (2002) identifies four processes in the current globalisation which he considers analytically separate but interrelated. The first is the convergence of ideas, norms and values, the second is the propagation of industrial organisation, the third is the emergence of one global market while the fourth is the erection of super national institution with a global legitimacy and reach. Musa (2000) identifies three basic forces driving globalisation as technology, preference and public policy while the United Nations Institute for Social Development (UNRISD) lists six key trends of globalisation as the spread of liberal democracy; the dominance of market forces; the integration of global economy; the transformation of the product system and labour market; the speed of technological change and media revolution (UNRISD, 1995).

This study examines the impact of major components of the 2010 KOF index of globalisation on human welfare. The index was introduced in 2002 by the Economic Research Institute *Konjunkturforschungsstelle* at ETH Zurich, Germany, it is reviewed annually. It provides the overall index which covers economic, social and political dimensions of globalisation. The index conceptualises globalisation as a process that erodes national boundaries, integrate national economies, cultures, technology and governance with complex relations of mutual interdependence. The three dimensions of the index are:-

(i) Economic globalisation – characterised as long distance flow of goods, capital and services as well as information and perceptions that accompany market changes;

(ii) Social globalisation – which expresses the spread of ideas, information, images and people; and,

(iii) Political globalisation – characterised by diffusion of government policies.

This study shall be limited to the components in economic dimension (total trade, foreign direct investment (FDI), and portfolio investment) and social dimension (telephone traffic, and labour migration) due to their relative impact on human welfare (Heinrich, 2009) and weights attached to them in the KOF globalisation index. The KOF globalisation index is found suitable for classifying countries into different degrees of globalisation status because it

provides globalisation indices on more than 40 Sub-Saharan Africa (SSA) countries, updated on yearly basis. More importantly, indices and variables used for its computation are simple and some of the selected variables are available for almost all the SSA countries (Appendix B). Also, since SSA countries are not evenly globalised, the KOF globalisation index was employed to classify countries into more and less globalised economies. Countries with average composite index greater than the sub regional average were grouped into the more globalised bloc, while SSA countries with average composite index below the sub regional average were considered as less globalised economies (Appendix D).

Poverty and human welfare are closely related concepts. Poverty is not only blessed with rich vocabulary, it is a multidimensional concept that has been subjected to different definitions and interpretations. There is no universally acceptable definition of poverty and there is no objective way of measuring how people are poor (Afonja and Ogwumike, 2003). Nonetheless, there are three major broad concepts in poverty. These are absolute poverty (lack of resources to buy bundle of goods and services); relative poverty (which compares the welfare of those with lowest amount of resources with others in the society); and subjective poverty (which require individuals including the poor to define what they consider to be decent or minimally adequate standard of living) Afonja and Ogwumike (2003).

World Bank (1990) defines poverty as the inability to attain a minimal standard of living as well as the lack of adequate income to purchase or command the basic goods for subsistence living. Watts (1997) refers to poverty as a lack of command over basic consumption needs, in other words, there is an inadequate level of consumption giving rise to insufficient food, clothing and shelter. Generally, poverty is measured based on income or consumption level. A group of people is considered poor if their consumption or level of income falls below some minimal level necessary to meet basic needs. The minimum level is usually referred to as poverty line, defined by the Poverty Guidelines and Federal References of the United Nations as the minimum level of income deemed necessary to achieve adequate standard of living.

The dictionary meaning of welfare is “satisfactory state, of health and prosperity, wellbeing, usually of person and society”. Welfare is a function of

goods and services, changes in the quality and quantity of goods and services, as well as how their distribution among individuals in the society will affect the wellbeing of the individuals and, through them, aggregate social welfare.

Human welfare embraces the performance of social indicators which may be positive or negative. The latter includes degree of hunger and malnutrition as a component of poverty, infant mortality and prevalence of child labour. While the former includes life expectancy at birth, access to basic social needs (sanitation, health, water, etc.), and human development index (Todaro and Smith, 2003). Hunger and under nutrition retard education, human development, productivity and life expectancy. The inability of parents to provide children with their needs make them susceptible to child labour while infant mortality has been one of nature's cruel mechanism for keeping motherhood in great sorrow and grief. An increase in these negative indicators have the tendency to worsening the incidence of poverty.

Measurement of poverty has not only been difficult, it has equally being controversial. The monetary approach is the most commonly used. It identifies poverty with a shortfall in consumption (or income) from some poverty line. The approach faces the problem of how to appropriately determine the basic income level. The capability approach to the measurement of poverty, pioneered by Sen (1985, 1999), rejects monetary income as its measure of wellbeing. Hence, this study adopts the use of Human Development Index (HDI) as proxy for human welfare, a composite of people's wellbeing, incidence of poverty, human development, and access to basic necessities of life. This decision is in line with evidence in the literature, for example, Henrich, (2009).

The HDI is the value for each country's journey covered towards the maximum possible value of one and how far it has to go to attain certain goals: an average life span of 85 years, access to education for all, decent standard of living, etc. Developed by the United Nations Development Programme (UNDP) as a composite of three dimensions-health, education and standard of living-and four indicators-life expectancy at birth, mean years of schooling, expected years of schooling, and Gross National Income (GNI) per capita. In the past, the HDI dimensions weight has been seriously questioned, this serves as its short comings. However, the HDI has been reworked and assigned equal weight to all the three dimension indices (HDR, 2010). The choice of HDI in measuring

human welfare in a broader scope has also been justified by Noorkbakhsh (1998), Riley (2005), Decanq and Lungo (2009), and Maddison (2010).

3.2 Theoretical Review

The trade openness and growth theories found relevant to this study are briefly reviewed in this subsection as follows:

3.2.1 Absolute and Comparative Advantage Theories

Adam Smith's absolute cost advantage theory states clearly that mutual trade relations could exist between countries if participating countries produce and specialise in commodities in which they have absolute advantage and thus, generate more specialisation and exchange among countries. Smith's theory supports globalisation in terms of trade relations between and among nations of the world, his argument seems convincing but shallow. Hence, Torrens and Richardo produced stronger and more subtle argument of the benefits from trade openness, contained in the theory of comparative advantage.

Richardo did not object to Smith's analysis but his concern is for a situation in which one country is more productive or has greater absolute advantage in all lines of production. Would it still benefit the countries to trade? Richardo's answer is yes, provided the other country is not equally less productive in all lines of production. He posits that comparative advantage should be considered as the underlying principle for mutual trade relations. He asserts that the more efficient country should specialise in the production and export of commodities for which it has comparative cost advantage and then the less efficient country should produce and export the commodities for which its comparative disadvantage is less. In order to foster mutual relations and guarantee global interaction in trade, comparative advantage is considered in trade openness rather than absolute advantage.

3.2.2 Static Allocation Efficiency Theory

This theory suggests that more openness yields unambiguously better economic performance in terms of a higher level of output or income even if not in terms of a higher longrun rate of growth. This is because the removal of trade barriers expands the feasible set of consumption possibilities by providing more

efficient technology to transform domestic resources into goods and services (Martin, 1992). It also reduces the cost of a less open trade regime such as dead weight losses arising from domestic monopolies, cost arising from scale inefficiency or X-inefficiency and cost of rent seeking and unproductive activities.

3.2.3 Hecksher Ohlin Trade Theory

Hecksher (1991) and Ohlin (1933) laid the groundwork for substantial development in the theory of international trade by focusing on the relationship between the composition of countries' factor endowments and commodity trade patterns as well as the consequence of free trade for functional distribution of income within countries. The theorem states that countries export those productive factors found totally in relative abundance in their domain. According to the theory, even if the international mobility of factors of production is ruled out by national frontiers, free trade in commodities helps even out disparities in demand relative to supply of factors and diminish the discrepancy between factor returns among countries.

3.2.4 The Stopler-Samuelson Theorem

Stopler and Samuelson (1941) began the analysis of the effect of protection on real wages, a landmark contribution to the modern theory of international trade. The known Stopler-Samuelson theorem posit that "international trade necessarily lowers the real wages of the scarce factor expressed in terms of any good." Earlier analyses on the effect of free trade on real wages had emphasised the implications of trade for productive efficiency. In the long run, free trade would increase demand for a country's comparative advantage good, thereby shifting employment towards the domestic industries where labour is most productive.

The general equilibrium trade theory introduced by Eli Hecksher and Bertil Ohlin opened a new line of inquiry focusing on differences in relative factor intensity across industries and differences in relative factor abundance across countries. Stopler and Samuelson adopted this approach and coined the new standard terminology, "Heckscher-Ohlin theorem" to refer to the proposition that "each country will export those commodities which are

produced with its relatively abundant factors of production, and will import those in the production of which its relatively scarce factors are important''. Formalising the logic of the Heckscher-Ohlin model, Stopler and Samuelson (opicit) assumed two homogeneous goods produced under constant returns to scale using labour and capital, and the two factors were assumed fixed in total supply and freely mobile between two industries in the country. Their proposition signals a transnational debate among international economists concerning welfare, enhanced through real wage increase brought about by efficient use of labour in the most productive industry (McCulloch, 2005).

3.2.5 Poverty of Globalisation Theory

The poverty of globalisation theory is based on the claim that in recent years there has been a reduction in poverty in the global order, and that this development is a product of nation states adopting "globalisation-friendly" policies (DFID, 2012; World Bank, 2002a). The World Bank argues that globalization generally reduces poverty because more integrated economies tend to grow faster and this growth is usually widely diffused. This is because reduction in world barriers to trade could accelerate growth, provide stimulus to new forms of productivity-enhancing specialisation and lead to a more rapid pace of job creation and poverty alleviation around the world.

This claim is explicitly made by the World Bank (2002b), was which is the latest of numerous attempts to establish a causal relationship between globalization-friendly (including structural adjustment) economic growth and poverty reduction. Given that world poverty may not have been falling as globalisation has increased, there is good reason to immediately question this contention, but again, the bank attempts to establish a causal relationship, for specific "more globalised" countries. The distinction between more and less globalised countries is based on changes in the ratio of trade to GDP between 1977 and 1997. The countries in the top third are designated as more globalised, and the bottom two-thirds as less globalised. The more globalised are presumed to have had faster economic growth and poverty reduction than the less globalised.

Evidence from developing countries that include a large number of very poor nations dependent on the export of a few primary commodities, and which

have had very low and sometimes negative rates of growth (UNCTAD, 2002) have raised serious controversies on the World Bank claims. An exaggeration of the relation between high growth and growing openness is also apparent when evidence from China and India are examined critically. The World Bank (2002b) concludes that, the claim on the causal relationship between globalisation and welfare improvement through growth is not straightforward in the case of developing countries.

3.2.6 The Endogenous Growth Theory

An endogenous growth model is one in which the long run growth rate of output per worker is determined by variables within the model, not by an exogenous rate of technological progress as is the case in a neoclassical growth model. The influential early endogenous growth models were by Romer (1986), Lucas (1988), and Rebelo (1991). The endogenous growth theory ended most of the exogenous controversies by the neoclassical economists. Romer (1986) argues that the rate of investment and rate of return on capital may increase rather than decrease with an increase in capital stock. In Romer's model, knowledge is taken as an input in the production function and new knowledge, the ultimate determinant of long run growth, is the investment in research technology which exhibits diminishing returns. The theory suggests that a higher long run rate of growth in output can be the result of more openness especially when technology and knowledge diffuse freely among the participating countries. The theory does not however, predict any positive link between openness and growth, that is, the direction of the openness-growth relationship is not theoretically given.

3.3 Empirical Review

Many studies exist on the linkage between globalisation and various macroeconomic issues (Appendix A), but only a few have focused on the precise linkage between globalisation, poverty and welfare changes. Some of the empirical literature closely related to this study which used panel data analysis are reviewed next.

Santarelli and Figni (2002), using descriptive techniques and an unrestricted linear regression model, investigated whether globalisation reduces or escalates

poverty in selected developing countries, including Nigeria. They found that financial openness, though not statistically significant, is positively linked to poverty, while trade openness tends not to significantly affect relative poverty, financial openness does.

Heshmati (2003) investigated the relationship between income inequality and globalisation in selected developing economies using a multiple classical regression model, he observes that the low rank of the globalisation process is due to political and personal factors which developing countries have limited possibility to affect. He posits that globalisation indices explain 7 to 11% of income inequality among the developing countries.

Hammoris and Kai (2004) addressed the precise relationship between globalisation, financial deepening and inequality for the entire SSA region between 1980 and 2002 using the unbalanced panel regression technique. The study reveals that globalisation reduces inequalities in income and its effects depend on the level of development of the country. Also, globalisation adversely affects the equalizing effects of financial depth, although it helps reduce inequality in SSA.

Guordon, Maystre and Melo (2006) follow the path of Hammoris and Kai (2004) methodologically, they also challenge other earlier empirical studies on developing countries such as Santarelli and Figni (2002) and Heshmati (2003), using panel data regression analysis to establish the link between openness, inequality and poverty for selected developing countries. The analysis reveals consistent evidence that the conditional effects of trade liberalisation on inequality are correlated with relative factor endowment.

Heinrich (2009) estimated the effect of national symbols and globalisation on the wellbeing of 88 selected developing countries. The finding reveals that conventional determinants of production affect national wellbeing measured as the HDI. The effects of national symbols on HDI are unstable while those of globalisation are strong with social globalisation having the strongest effects. Appendix A provides a summary of the empirical studies reviewed.

3.4 Transmission Mechanism

The globalisation-human welfare nexus is complex, it involves many different channels (Nissanke and Thorbecke, 2006). Globalisation means more

economic integration manifested through increased openness via numerous transmission mechanisms such as trade and investment liberalisation; movements of capital, labour migration across borders and within countries; the nature of technological change and diffusion of knowledge and technology; worldwide information flow; and institutional environments. The most important of these mechanisms is the growth (*Globalisation-Growth-Human Welfare)* channel as the intermediary agent that transmits the globalisation effect on human welfare. Other channels operate through changes in relative prices of factors of production (labour and capital) and commodities, movement of capital and labour migration across borders and within countries, and the nature of technological change and diffusion. To analyse and understand the impact of openness on human welfare, the *globalisation-openness-growth-human welfare* causal chain has to be scrutinised link by link as schematically illustrated in Figure 3.1.

3.4.1 The Globalisation-Trade Openness-Growth-Human Welfare Causal Chain

For the trade openness-growth-human welfare link, Figure 3.1 shows that openness through trade (import and export), transfer of technology, skills and management know how, investment, financial liberalisation mechanisms increase the flow of goods and capital across national borders and can contribute significantly to economic growth. The positive openness-growth link is neither automatically guaranteed nor universally observable.

In short, human welfare improvement requires a combination of high growth rate and a more pro-poor distribution of the gains from growth.

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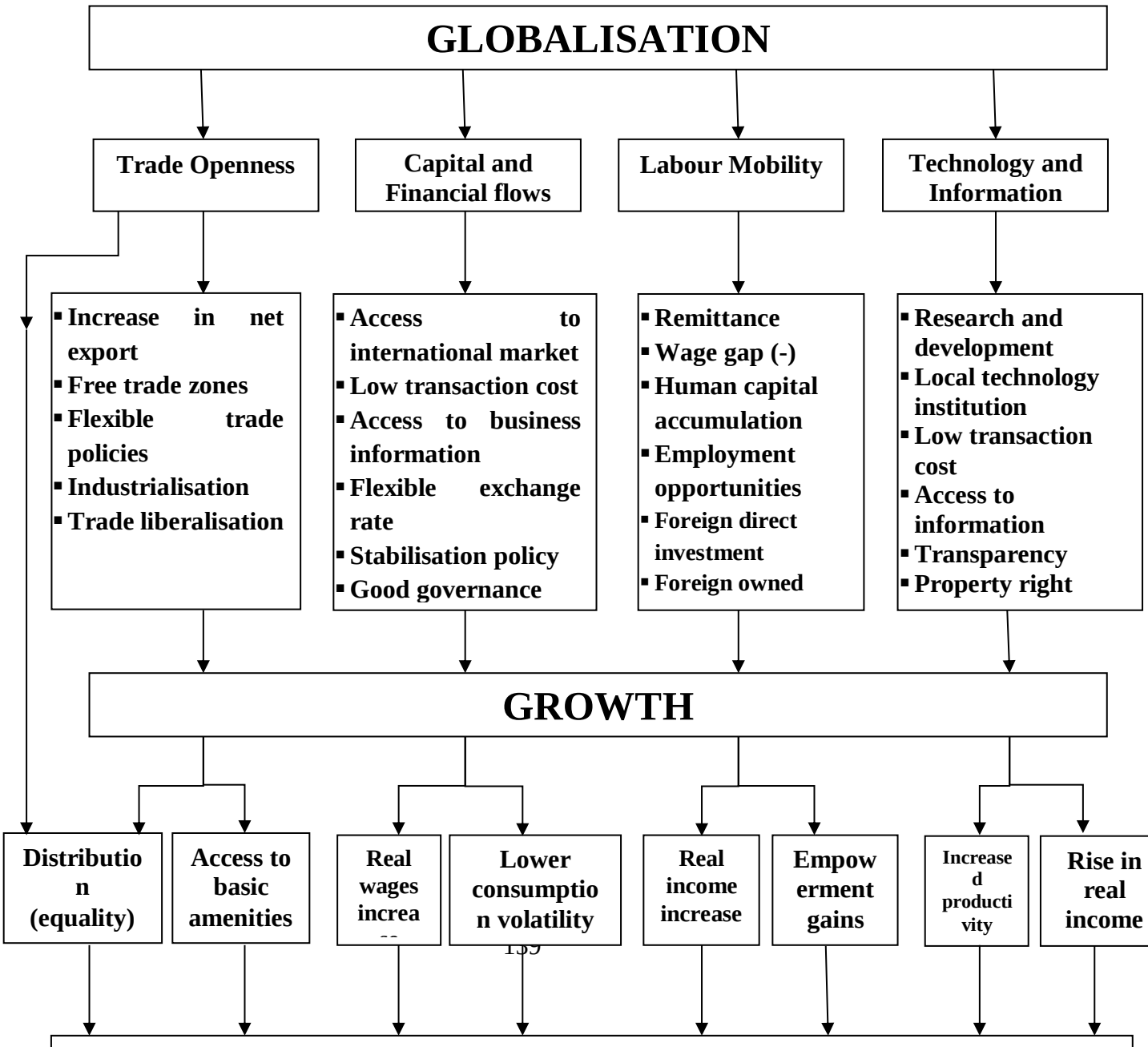
GLOBALISATION
Trade Openness
Capital and Financial flows
Labour Mobility
Technology and Information
▪ Increase in net export
▪ Free trade zones
▪ Flexible trade policies
▪ Industrialisation
▪ Trade liberalisation
▪ Access to international market
▪ Low transaction cost
▪ Access to business information
▪ Flexible exchange rate
▪ Stabilisation policy
▪ Good governance
▪ Remittance
▪ Wage gap (-)
▪ Human capital accumulation
▪ Employment opportunities
▪ Foreign direct investment
▪ Foreign owned
▪ Research and development
▪ Local technology institution
▪ Low transaction cost
▪ Access to information
▪ Transparency
▪ Property right
GROWTH
Distribution (equality)
Access to basic amenities
Real wages increa
Lower consumption volatility
Real income increase
Empowerment gains
Increased productivity
Rise in real income
HUMAN WELFARE

Source: Adapted from Nissanke and Thorbecke, 2006.
Figure 3.1: **Globalisation-Openness Channels-Growth-Human Welfare Nexus**

3.4.2 The Globalization-Capital Flows-Growth-Human Welfare

Another avenue through which globalisation could affect the welfare of the poor is through financial liberalisation, which has increased the growth for capital flow to developing countries (Harrison, 2006). In theory, openness to capital flows (financial globalisation) could enhance human welfare state and alleviate poverty through several channels. If enhanced financial integration contributes to more growth by expanding access to capital and new technology, stimulate domestic financial sector development, reducing transaction cost, and access to international capital markets should allow countries to smooth consumption shocks, reduce consumption volatility and increase real wages through output and investment growth. The expectation is that such growth should enhance human welfare. This channel is illustrated in Figure 3.1.

Prasad *et al*. (2004) begin by examining the relationship between financial integration and growth, they find no clear relationship between the two. This suggests that the impact of financial integration on human welfare-via possible growth effects- is likely to be small. They also explore another link whether financial integration has smoothed or exacerbated output and consumption volatility. They note that more macroeconomic volatility probably increases human welfare deterioration, particularly when there are financial crises. Since the poor are likely to be hurt in periods of consumption volatility, real income

smoothening made possible by financial integration could be beneficial to the poor.

Prasad et. al (2004) argue that if financial globalisation is approached with the right set of complementary policies, it is likely to be growth-promoting and also less likely to lead to high-consumption volatility. These policies include the use of flexible exchange rate, macroeconomic stabilisation policies, good governance and the development of strong institutions.

3.4.3 The Globalisation-Growth-Labour Mobility-Human Welfare Channel

Economic theory posits that the impact of globalisation on developing countries well-endowed with unskilled labour should lead to an increase in human welfare through increased demand for skilled labour, while unskilled labour in developed countries would lose out with an adverse effect on equity. The empirical evidence reveals that wage gaps between skilled and unskilled labour have been increasing in many developing countries resulting in labour migration (Nissanke and Thorbecke, 2008).

The nature of technical progress and new technology is heavily biased in favour of skilled and educated labour, as technical change emanates from research and development activities in developed countries in response to local conditions. Hence, technical change tends to be labour-saving and skill-biased, and new technology is complementary to capital increase and skilled labour, while it is a substitute for unskilled labour and tends to deteriorate human welfare in developed and developing countries, therefore necessitating labour migration with the hope of enhancing welfare. But the decision to migrate is dependent on growth-pull factors. Nissanke and Thorbecke (2010) posit that globalisation acts on labour migration through the growth of international remittance, human capital accumulation, employment opportunities, foreign-owned firms, FDI and wage differential as pull factors. The wage gap is the only negative indicator among other growth factors that necessitate increase in human welfare through real income and empowerment gains of labour migration. This interactive mechanism is depicted in Figure 3.1.

3.4.4 The Globalisation-Technology-Growth-Human Welfare Channel

The nature of technical progress and technological diffusion can be a further channel through which globalisation affects income distribution and human welfare. Nissanke and Thorbecke (2008) indicate that technological change tends to be highly capital-and skill-intensive and unskilled labour-saving, as befits the resources endowment of the rich industrialised countries where most innovations originate.

Although, most new technology does not conform to the resources endowment of poor countries, the potential exists for globalisation to confer significantly higher food productivity and rural incomes growth on developing countries via the mechanism of technology transfer, information and knowledge development. To realise the potential positive effects of technological transfer on human welfare, the public and private sectors must establish institutions with local capacity for technology innovation and adaption, reduce transaction costs in the process of international technological transfer; provide standardisation, transparency, and access to information for property rights over technologies. Clupper (2002) earlier posits that technical change emanates predominantly from research and development (R&D) activities in response to conditions typical of their own resource endowment.

CHAPTER FOUR

METHODOLOGY AND THEORETICAL FRAMEWORK

4.1 Theoretical Framework

The relevant theoretical framework for this study is rooted in the endogenous growth theory developed for accounting for long term steady growth rate exogenously determined. The endogenous growth theory is applicable in overcoming the shortcoming that arises in building macroeconomic models out of microeconomic foundations. The theory suggests that a higher long run rate of growth of output and improvement in social welfare can result from increased openness. This can occur either through favourable impact of openness on technological change or expansion in the size of the market for exports thereby raising returns to innovation which enhances the country's specialisation. The Solow (1956) endogenous growth model version was adopted in formulating the empirical model for this study as employed by Heinrich (2009), to formulate an empirical model for estimating the effects of national symbols and globalisation on the wellbeing of the people of 88 countries. Rao and Vadlamannati (2010) investigate the precise link between globalisation and growth in low-income African countries with extreme deteriorating human welfare.

The Solow (1956) endogenous growth model version was adopted for a number of reasons. First, the Solow model is easy to extend and estimate compared to a variety of endogenous growth models which need complex nonlinear dynamic specifications and estimation of unobservable parameters like the intertemporal elasticity of consumption substitution and the risk aversion rate, Bernanke and Gürkaynak (2002) and Greiner *et al*. (2004) have formulated such endogenous growth models, to estimate the permanent growth effects of variables like the savings rate and Research and Development (R&D) expenditure. They had to make some assumptions about one or more crucial parameters to get plausible results. Second, there is no convincing evidence that endogenous growth models, with increasing returns, empirically perform better than the Solow model, such as Jones (1995), Korcherlkota and Yi (1996), Parente (2001) and Solow (2000)]. Solow (2000) observes that "The second wave of runaway interest in growth theory— the endogenous growth literature, sparked by Romer and Lucas in the 1980s, following the neoclassical wave of the 1950s and 1960s— appears to be dwindling to a modest flow of normal science. This is not a bad thing." Finally Bernanke and Gürkaynak (2002) note that the Solow growth model is also useful in evaluating other types of growth models if they have a balanced growth path.

The extended Solow model may be called the Solow model with an endogenous framework. Our extension differs from the well-known extension to the Solow model of Mankiw *et al*. (1992). While our model directly estimates the permanent growth effects of variables, this approach as employed by Heinrich (2009) and Rao and Vadlamannati (2010) is more appropriate for estimating the permanent level effects of globalisation on human welfare following the human capital composition approach as modelled in earlier version of Romer's (1986) "learning by doing" model. In our extension, we estimate the non-observable steady state level of growth rate (SSGR) using the estimated parameters of the production function as follows. Let the intensive form of the Cobb-Douglas production function with the constant returns be integrated in the long run steady state composition.

To quantify the impact of globalisation on the level of human welfare changes in SSA, the human development index (HDI) is used to proxy the level of human wellbeing as a composite measure of the poverty index and access to basic necessities of life. The HDI is preferable to per capita GDP as a broader measure of welfare changes because it measures human socio-economic development. This includes the knowledge (education) of the population (H_1), the health (life-expectancy) of the population (H_2), and the per capita material condition of the population (Y), as in Clark and McGillivray (2007).

Following Heinrich (2009) and Rao and Vadlamannati (2010), based on Myrdal (1968), Blaug (1970), Cohen (1979), Schultz (1981), and Becker (1996), H_1 as one of the components that will determine endogenous long run steady state level of growth rate, and H_2 are elements of the human capital (H) component of the economically-active population (N). Thus, human welfare indexed by N can be stated as

$$\left[N \cdot \ell^{HDI}\right] = \left(H_1 + H_2\right)^{\pi_1} Y^{\pi_2} \tag{1}$$

Where $H = H_1 + H_2$

$$\left[N \cdot \ell^{HDI}\right] = H^{\pi_1} Y^{\pi_2} \tag{2}$$

Since the key assumption of the endogenous growth model is that human capital development (*H, Y*) is subject to diminishing returns. We then hold that:

$$\pi_1 + \pi_2 < 1 \tag{3}$$

in the short run, in that the rate of growth slows as diminishing returns takes effect and human wellbeing converges to a constant "steady-state" rate of growth, that is constant returns. For the long run steady growth, we then claim that

$$\pi_1 + \pi_2 \leq 1, \tag{4}$$

Where: π_1 and π_2 are weights. Moreover, Heinrich (2009) argues that basing H on the quality of labour (L) alone overestimates its importance. Also, Solow (1959) postulates that the long run steady growth rate (alternatively and preferably measured as HDI) is exogenously determined by a set of factors. Therefore, we rather specify,

$$H = f(X) \tag{5}$$

such that we can claim,

$$H = \ell^{\phi \ln q} N \tag{6}$$

Where: q is a vector of globalisation transmission mechanism forces schematically illustrated in the previous section and attributable to N. Now from equation (2), we assume that the material conditions (Y) of growth evolve according to the Cobb-Douglas transformation as modelled by the endogenous growth theorist. This is expressed as

$$Y = (AL)^{\rho} K^{1-\rho} \tag{7}$$

Where: A= multi-factor productivity or technological progress, L= labour, and K= physical capital, and that L grows exogenously at the rate *n* equal to the rate of growth of output, noted in the Solow growth model as:

$$L_{(t)} = nL_{(t)} = \ell^{nt} N,\ n \geq 0$$

(8)

Then, substituting (6), (7) and (8) into (2) gives

$$\left[N \cdot \ell^{HDI}\right] = \left[\ell^{\phi \ln q} N\right]^{\pi_1} \left[(AL)^{\rho} K^{1-\rho}\right]^{\pi_2}$$

(9a)

Simplifying,

$$\left[N \cdot \ell^{HDI}\right] = \left[\ell^{\phi \ln q} N\right]^{\pi_1} \left[\left(A\ell^{nt} N\right)^{\rho} K^{1-\rho}\right]^{\pi_2}$$

(9b)

$$\left[N \cdot \ell^{HDI}\right] = \left[\ell^{\pi_1 \phi \ln q} N^{\pi_1}\right]\left[\left(A^{\pi_2 \rho} \ell^{\pi_2 \rho nt} N^{\pi_2 \rho}\right) K^{\pi_2 (1-\rho)}\right]$$

$$\left[N \cdot \ell^{HDI}\right] = A^{\pi_2\rho} K^{\pi_2(1-\rho)} \ell^{\pi_1\phi \ln q + \pi_2\rho nt} N^{\pi_1+\pi_2\rho}$$

(10)

Set $A^{\pi_2\rho} = A_0$, $\pi_2(1-\rho) = \beta$, $\pi_1\phi = \eta$, $\pi_2\rho = \delta$ and $\pi_1 + \delta = 1$ to intensify the expression for estimation purposes, then

$$\left[N \cdot \ell^{HDI}\right] = A_0 K^{\beta} \ell^{\eta \ln q + \delta nt} N$$

(11)

Then, dividing equation (11) by N, gives

$$\ell^{HDI} = A_0 K^{\beta} \ell^{\eta \ln q + \delta nt}$$

(12)

Equation (12) represents the theoretical model for this study to investigate the effect of globalisation on human welfare changes.

4.2 Model Specification

The model adapted for this study emanates from the theoretical formulated equation (12). From equation (12), *q* is a vector of transmission mechanism sub-channels that explains the globalisation-growth-human welfare nexus (as shown in Figure 3.1), exogenously determined. We then consider trade (TRD), portfolio investment (PFI), foreign direct investment (FDI), labour migration (LBM), and information and communication technology (ICT) as trade openness, capital flow, technology and labour mobility transmission channels as noted by Nissanke and Thorbecke (2008; 2010) and used in Heinrich (2009) to proxy national symbols and global interactions. Nissanke and Thorbecke (2006) argue that transfer of technology and knowledge (skills and management know-how) are assumed to accompany FDI, not necessarily automatic or guaranteed in the globalisation-growth-human welfare transmission mechanism cycle (as shown in Figure 3.1).

Meanwhile, Prasad *et al*. (2004) and Harrisson (2006) identified good governance as a significant factor that determines the capital flow-growth-human welfare channel. Therefore, on the basis of the foregoing arguments and objectives of this study, each of the transmission channel components, and good governance index (GGI) are taken as one of the vector *q* components that influence human welfare changes.

Equation (12) is extended as

$$\ell^{HDI} = A_0 K^{\beta} \ell^{\sum \eta \ \ln(TRD, PFI, FDI, LBM, GGI) + \delta nt}$$

(13)

From equation (13), where *t=1*, *n* is used to proxy as population growth rate of social welfare, presumed to be equal to the exogenous growth rate of labour, and *K* is taken as the percentage share of fixed capital formation (FCF) from GDP. We then have,

$$\ell^{HDI} = A_0 FCF^{\beta} \ell^{\sum \eta \ \ln(TRD, PFI, FDI, LBM, ICT, GGI) + \delta n}$$

(14)

Therefore, equation (14) forms the exponential growth model for analysing the impact of globalisation on human welfare in SSA.

For estimation, equation (14) is linearly specified in a panel model form to capture the cross-country and time observation by taking the natural logarithm of both sides, this leads to:

$$HDI_{it} = a_{i,0} + \beta \ln FCF_{it} + \eta_1 \ln TRD_{it} + \eta_2 \ln PFI_{it} + \eta_3 \ln FDI_{it} + \eta_4 \ln LBM_{it}$$
$$\eta_5 \ln ICT_{it} + \eta_6 \ln GGI_{it} + \delta n_{it} + u_{1t}$$

(15)

Where: $a_0 = \ln A_0 = \pi_2 \rho \ln A$

Note: The human welfare index and indices of access to basic necessities shall be regressed on the basic components of globalisation. The specified panel regression equation (15) is estimated for SSA (pool of all selected countries in SSA), and for each region (pool of selected countries in each of Southern Africa, Central Africa, East Africa and West Africa) as well as for the comparison between the less and more globalised countries.

The SSA countries comprise Central Africa (10 countries), East Africa (11 countries), Southern Africa (10 countries) and West Africa (15 countries). Four (4) countries are selected from each region (Southern Africa, Central Africa, East Africa and West Africa). This is to ensure balance across regions, because the panel models will be analysed on subregional basis after the general analyses for the entire region (SSA) are made. The list of selected countries and the basis for selection are presented in Appendix C. Also, countries with average KOF composite index higher than the regional average were grouped into the

more globalised bloc, while SSA countries with average KOF composite index below the regional average were considered as less globalised economies (Appendix D).

Secondary data documented in the World Development Indicators (WDI) CD-ROM, January, 2014 by the World Bank were sourced and used for this study.

4.3 Estimation Techniques

A pool of cross-section and time series data is best suited to study dynamic changes and detect unobserved effects in complex behavioural models. The use of panel data analysis allows the expansion of sample size, it is also very useful when analysing dynamic effects in a region such as SSA where poverty, welfare changes and degree of integration differ substantially across countries compared to other developed regions. The ***fixed effects estimation technique*** was adopted for estimating the specified panel models in this study. The choice of this technique is because it assumes that the unobserved effects vary between countries (i.e. heterogeneous) rather than a random term as assumed using the random effects technique. The *cross section weights (a feasible GLS specification assuming the presence of cross-section heteroskedasticity)* shall be taken to correct for cross-section heteroskedasticity and autocorrelation of idiosyncratic disturbance, this is to ensure that the fixed estimator is efficient and consistent for analysing this study as used by earlier empirical studies (Hammoris and Kai, 2004; Guordon *et al.*, 2006; and Heinrich, 2009). To precisely ensure the efficiency of the fixed effects estimator, the Hausman test is used to determine the best efficient estimator between fixed and random effects.

4.4 Data Requirements and Sources

The data required for the analysis is classified into two namely the dimensions of globalisation and the indices or measures of human welfare. The dimensions of globalisation include Trade Openness (TRD), Foreign Direct Investment (FDI), Portfolio Investment (PFI), Labour Migration (LBM), and Access to Telephone (TEL). The measures of human welfare are Human Development Index (HDI), Access to basic necessities (Sanitation, Health

Services and Water), Life Expectancy at Birth (LEI), Mean Year of Schooling (MYS) and Infant Mortality Rate (IMR).

TRD is the sum of exports and imports of goods and services as a share of gross domestic product. The data is sourced from World Bank National Accounts data and OECD National Accounts data files

FDI is the net inflows of investment to acquire a lasting interest. It is the sum of equity capital, reinvested earnings, other long term capital and short term capital as shown in the balance of payment. The FDI net inflow (% of GDP) was sourced from International Monetary Fund supplemented by data from the United Nations Conference on Trade and Development and official national sources (Various editions).

PFI refers to the portfolio investment (% of GDP). It excludes liabilities constituting foreign authorities reserves in equity securities and debt securities. The data is sourced from International Monetary Fund, Balance of Payment Statistics Year book and data files (Various editions).

LBM is the Net Labour Migration per 10,000 populations. It is the number of labour immigrants minus the number of labour emigrants, including citizens and non-citizens. The data is sourced from the United Nations Population Division; World Population prospects (Various editions).

TEL is the proportion of people that are connected to telephone per thousand data of a given population. Integrated services digital network channels and fixed wireless subscribers are included. The data is sourced from the International Telecommunication Union, World Telecommunication/ICT Development Report and database and the World Bank estimates.

Access to basic necessities of life (water, sanitation and health care) is measured in terms of the percentage of the population that have access to water, sanitation and healthcare respectively. The data are sourced from the World Health Organisation, United Nations Children's Fund and Joint Measurement Programme (JMP).

HDI is a composite index measuring average achievement in three basic dimensions of human development – a long and healthy life, knowledge and a decent standard of living in terms of per – capita income. The data are sourced from UNESCO Institute for Statistics (2013) and World Bank data base.

Life expectancy at births (years) is the number of years a new born infant could expect to live if prevailing pattern of age specific mortality rates at the birth stay the same throughout the infant's life. Data is sourced from United Nations Data Base.

The Mean Year of Schooling (years) is the average number of years of education received by people age 25 and older, converted from education attainment levels using official duration of each level. The data is sourced from the UNESCO Institute for Statistics data.

Infant Mortality Rate (IMR) is the number of deaths (below age 1) recorded per 1,000 live birth in a given year. The data is sourced from the World Health Organisation and United Nation Children's Fund.

The Good Governance Index (GGI) is the incorporated control variable into the model. It reflects the perceptions of the quality of public services, the quality of civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, adherence to the rule of law, transparency and credibility of government's commitment to such policies. The required data was sourced from the Worldwide Governance Indicators (Various editions)

Detailed description of the data, measurement and sources is presented in Appendix F.

CHAPTER FIVE
EMPIRICAL ANALYSIS

5.1 Introduction

This section of the study presents the empirical results on the relationship between the dimensions of globalisation and human welfare indicators based on the formulated panel models in the previous chapter. The results of the human welfare indicator and indices of access to basic necessities models and dimension of globalisation indicator for the considered pooled Sub-Saharan Africa (SSA) countries and each regional pooled country are presented and discussed. This section further covers the comparative analysis between the more and less globalised countries in the SSA region. Also, the presentation of results is aligned with stated objectives in the first chapter. Likewise, the policy implications and discussion of findings of the empirical results on the human welfare effect of globalisation from the concluding part of this chapter.

5.2 Summary Statistics

The descriptive characteristics of the pooled and subregional data employed in the estimation of the panel regression models for dimensions of globalisation, human welfare indices and indices of access to basic necessities are shown on Tables 5.1 and 5.2, respectively. Appendix E presents some of the raw data described in this section while Appendix G shows the trend analysis. The summary statistics of the pooled data for SSA countries shown on Table 5.1 indicate the average, maximum, minimum and standard deviation of the welfare indices and components of globalisation between 1980 and 2012. The mean value of human development index (HDI), life expectancy index (LEI), infant mortality rate (IMR, per 1,000 live births), and mean year of adult schooling (MYS) stood at 40.4%, 53.1%, 82.5% and 3.09 years, respectively. This reflects the low human welfare status of SSA countries. Also, the average value of percentage of people with access to improved sanitation (SAN), water (WAT) and health care services (HCS) respectively stood at 31.7%, 61.2%, and 49.9%. The estimates reveal that majority of people in SSA countries lack adequate access to basic necessities of life.

The mean value of trade flows (TRD) as share of GDP is 61.1%. Among SSA countries, trade openness (TRD) as a measure of actual flow of economic globalisation peaked at 137.11% in 1990 for Mauritius and off-peaked at 6.32% in 1982 for Ghana (United Nation Commodity Trade Database, 2013). This indicates that SSA countries are relatively globalised in terms of TRD. Also, the mean value of working population (POP, as proportion of total population size) stood at 53.6%, while it peaked at 71.5% in 2012 for Mauritius and off-peaked at 47% in 1981

for Kenya (United Nation Commodity Trade Database, 2013). These indicate that SSA countries are dominated with active working age population size and reflect the human resource capacity of the region especially in the southern and eastern part of Africa.

Table 5.1: Descriptive Statistics for SSA Pooled Data

	Mean	Maximum	Minimum	Std. Dev.	Obser vations	Cross sections
Human Development Index (HDI)	40.38	73.70	16.35	13.48	528	16
Life Expectancy Index (LEI)	53.05	74.52	26.76	7.65	528	16
Infant Mortality Rate (IMR)	82.52	169.60	12.80	34.69	528	16
Mean Year of Schooling (MYS)	3.09	8.90	0.50	2.04	528	16
Access to Sanitation (SAN)	31.67	92.14	3.16	22.53	528	16
Access to Water (WAT)	61.15	99.80	25.22	19.44	528	16
Health Care Service (HCS)	49.94	84.40	18.22	11.81	528	16
Trade Openness (TRD)	61.09	137.11	6.32	26.88	528	16
Share of Working Age Population (POP)	53.63	71.45	47.00	4.89	528	16
Foreign Direct Investment (FDI)	1.81	20.12	-8.59	2.78	528	16
Port Folio Investment (PFI)	-0.10	101.07	-102.38	7.29	528	16
Fixed Capital Formation (CFC)	17.62	46.10	-0.06	8.27	528	16
Access to Telephone (TEL)	23.25	298.42	0.63	50.10	528	16
Labour Migration (LBM)	-0.03	52.21	-46.54	6.28	528	16
Good Governance Index (GGI)	-27.47	105.65	-176.37	57.10	528	16

Source: Author's computation

The mean values of foreign direct investment (FDI) and portfolio investment (PFI) as share of gross domestic product (GDP) are 1.81% and -0.10%, respectively. Among SSA countries, FDI as a share of GDP (FDI) and a measure of capital flow of globalisation peaked at 20.12% in 2012 for Niger and off-peaked at -8.59%% in 1996 for Gabon (United Nation

Commodity Trade Database, 2013). This indicates that SSA countries are relatively less globalised in terms of capital flows. Similarly, PFI as a share of GDP and a proxy for financial flow of globalisation peaked at 101.1% in 2010 for Mauritius and off-peaked at -102.4% in 2012 for Mauritius (United Nation Commodity Trade Database, 2013). This suggests that SSA countries are less financially globalised during the reviewed periods. Also, the mean value of gross fixed capital formation (CFC) as a share of GDP and proxy of domestic capital formation stood at 17.6%, while it peaked at 46.1% in 1986 for Gabon and off-peaked at -0.06% in 1997 for Nigeria with the least domestic capital formation between 1980 and 2012. These indicate that SSA countries have fairly mobilised domestic capital for investment especially in the southern and eastern parts of Africa endowed with non-oil natural resources.

The mean values of labour mobility (LBM, proxied by net labour migration as a share of working age population), and information and technology penetration rate (TEL, proxied by telephone line density per 1000 people) are -0.03% and 23.25% respectively. The mean value of labour mobility indicates the loss of quality in productive workforce in the SSA region as the level of emigrant-to-total active population as net value (as a share of working age group) is greater than the share of immigrants. Among SSA countries, net migration LBM as a component of social globalisation peaked at 52.21% in 1997 for Rwanda, and off-peaked at -46.54% in 1992 for Rwanda reflecting the post and pre-war periods in the country (United Nation Population Union, 2013).

Similarly, information flow as a channel of social globalisation proxied by numbers of telephone line users (TEL) per 1000 people peaked at 298.42 lines in 2010 for Mauritius and off-peaked at 0.63 lines in 1981 for Rwanda (International Communication Union, 2013). This suggests that SSA countries are less socially globalised via telephone connectivity as a means of information flow within the reviewed periods. Also, the mean value of governance performance rate (GGI) stood at -27.5%, while it peaked at 105.7% in 1997 for South Africa and off-peaked at -176.4% in 1997 for Central Africa Republic. These indicate that SSA countries have poor governance performance and ineffective governance system.

Among the regions in the SSA, the East Africa region has the highest mean of HDI, LEI, and MYS followed by Southern Africa. Southern Africa has the highest proportion of people that have access to basic necessities such as improved sanitation, water supply, and health care services compared to other subregions. This reflects the huge infrastructural investment in the considered Southern Africa countries which are Botswana, South Africa, Malawi, and Mozambique.

The average economic active population as a share of total population size (POP) for Central, East, Southern and West Africa stood at 53.6%, 54.7%, 55.1%, and 52.2% respectively. This reveals that Southern and East Africa regions have the highest productive workforce compared to other SSA subregions.

Table 5.2: Descriptive Statistics for Regional Pooled Data

	Central Africa	East Africa	Southern Africa	West Africa	Obser vations	Cross sections
HDI	40.38	44.49	42.48	34.43	132	4
LEI	53.05	57.48	51.58	51.73	132	4
IMR	82.52	64.01	82.96	97.65	132	4
MYS	3.09	4.39	3.26	2.08	132	4
SAN	31.67	36.74	41.35	14.09	132	4
WAT	61.15	61.19	65.98	53.53	132	4
HCS	49.94	56.38	48.09	48.29	132	4
TRD	61.09	65.71	66.84	56.92	132	4
POP	53.63	54.69	55.08	52.20	132	4
FDI	1.81	-0.56	0.08	-0.12	132	4
PFI	-0.10	1.60	2.27	2.35	132	4
CFC	17.62	19.17	20.50	12.75	132	4
LBM	-0.03	-0.59	0.04	0.05	132	4
TEL	23.25	43.60	35.52	5.22	132	4
GGI	-27.47	-15.20	10.45	-29.25	132	4

Source: Author's computation

The Southern Africa is the most globalised region in SSA, followed by East Africa region. West Africa region which consists of Benin, Ghana, Niger, and Nigeria is the least globalised region in SSA in terms of trade flows. Also, Cameroon, Central African Republic, Gabon, and Rwanda that make up the Central Africa sampled countries are relatively less globalised compared to the Eastern and Southern Africa.

Comparatively, the regional descriptive statistics indicate that regions with the highest share of working age population (POP) also have better human welfare development, access to basic necessities, and they are more economically integrated through trade flows compared to regions with less economic active population.

The results further reveal that Southern Africa and East Africa are more economically globalised compared to other regions. A plausible inference from the descriptive analysis is that SSA subregions that are more economically globalised (Southern and Eastern Africa) are less

engulfed with deteriorating human welfare development and inadequate access to basic necessities of life.

The mean value of FDI-GDP ratio as a component of globalisation that Central Africa followed by Southern Africa are the most globalised regions in SSA in terms of capital flow. The East Africa region which consists of Kenya, Mauritius, Tanzania, and Uganda is the least globalised region in SSA in terms of capital flow. Also, in terms of PFI as a share of GDP, proxy for financial channel of globalisation, its mean average value stood at -0.10%, 1.6%, 2.27%, and 2.35% for Central, East, Southern and West Africa regions, respectively. This suggests that West Africa and Southern Africa are the most financially globalised region in SSA countries compared to the East Africa region in which the financial system constitutes a very marginal portion of their channels of globalisation, while Central Africa is the least financially globalised in the SSA region. This indicates that, the region lacks a vibrant financial structure and system to expand and attract PFIs for human welfare development.

Also, in assessing the extent of domestic capital formation for investment deepening in SSA, the mean of gross capital formation (as a share of GDP) for Central, East, Southern and West Africa regions correspondingly stood at 17.6%, 19.2%, 20.1% and 12.8%. This shows that Southern and East Africa had the most productive domestic capital for investment expansion during 1980-2012 being reviewed.

An inference that can be deduced from this analysis is that high domestic capital formation attracts huge capital inflows and enhanced access to improved sanitation, water and health care services, while low domestic capital deepening attracts low foreign PFI, thus it resulted in grave incidence of human welfare deterioration.

Comparatively, the relatively high financial globalised regions (East and Southern Africa) recorded better human welfare development and adequate access to basic necessities of sustenance, while the highly capital globalised region (Central Africa) is characterised by grave incidence of deteriorating human welfare development and lack of access to basic necessities of life.

The mean value of net LBM as a component of social globalisation stood at -0.03%, -0.59%, 0.04% and 0.05% for Central, East, Southern and West Africa regions, respectively. This indicates that lot of active work flow out of Central and East Africa; while more working emigrants entered Southern and West Africa in the SSA region. East Africa region that consists of Kenya, Mauritius, Tanzania, and Uganda, is the least socially globalised region in SSA in terms of net LBM. Also, in terms of telephone line users per 1000 people (TEL) as a proxy for information flows of globalisation, its mean average value stood at 23.25, 43.60, 35.52, and

5.22 for Central, East, Southern and West Africa regions, respectively. This suggests that East and Southern Africa are the most socially globalised region in SSA countries compared to Central and West Africa regions with respect to information flows. This contradicts the descriptive outcome of LBM for East Africa. Likewise, the mean value of governance index as an institutional control variable of globalisation and human welfare development for Central, East, Southern and West Africa regions respectively stood at -27.5%, -15.2%, 10.5%, and -29.3%. This reveals that Southern Africa is the only region with good governance performance compared to other regions in the SSA.

An inference that can be deduced from this analysis is that high level of social globalisation via labour inflow complements evidence of deteriorating human development and limited access to HCS in West Africa, while high access of people to telephone facilities enhanced the development of human welfare changes as evidenced in Southern and East Africa.

5.3 Panel Unit Root and Cointegration Analyses

The study employed pre and post-estimation diagnostic test to determine the robustness of the panel regression model for the human welfare and globalisation nexus in the SSA region. The Levin, Lin and Chu (LLC) panel unit root test (homogenous technique) and Im, Pesaran and Chin (IPS) unit root test (heterogeneous technique) were the considered pre-estimation diagnostic tests to examine the stationary properties of considered time series variables across countries in the SSA region. Also, the Kao cointegration test as a post-panel regression model estimation test was employed to determine the long run relationship between globalisation dimensions and human welfare development indicators considered in this study. The full description of each of the diagnostic test is reported in **appendix H.**

Table 5.3: Pooled Unit Root Test Results

Pool Series	Levin, Lin and Chu Test			Im, Pesaran and Shin Test		
	t-statistic	Prob.	*d(I)*	W-Statistic	Prob.	*d(I)*
HDI	-8.82251[a]	0.0000	0	-6.93412[a]	0.0000	0
LEI	-5.42521[c]	0.0000	2	0.01767[a]	0.5070	Exp
IMR	-16.3558[a]	0.0000	0	-10.3059[a]	0.0000	0
MYS	-7.75531[b]	0.0000	0	-2.64041[b]	0.0041	0

SAN	-16.3639[a]	0.0000	0	-22.4470[a]	0.0000	0
WAT	-15.7388[a]	0.0000	0	-9.26975[a]	0.0000	0
HCS	-2.44673[a]	0.0072	0	-2.55029[a]	0.0054	0
TRD	-3.82624[a]	0.0001	0	-4.00005[a]	0.0000	0
POP	-1.95751[a]	0.0251	1	-7.02224[a]	0.0000	0
PFI	-5.44221[c]	0.0000	0	-3.24503[a]	0.0006	0
FDI	-4.60669[a]	0.0000	0	-4.96776[a]	0.0000	0
CFC	-2.70742[a]	0.0034	0	-2.42700[a]	0.0076	0
LBM	-10.7767[a]	0.0000	0	-8.50055[a]	0.0000	0
TEL	-4.32817[a]	0.0000	1	-8.79654[a]	0.0000	1
GGI	-4.61585[a]	0.0000	1	-11.9362[a]	0.0000	1

Note on Test Equation: a = Individual effects, individual linear trends; b = Individual effects; c = none; EXP = explosive series

Source: Author's computation (2014)

The panel unit root test results for the incorporated panel series were shown on Table 5.3. The LLC and IPS unit root tests results indicate that human welfare pooled indicators such as HDI, IMR, MYS, SAN, WAT, HCS, and globalisation indices: TRD, FDI, CFC, PFI, LBM rejects the null hypothesis "existence of common and individual unit root" at 5% significant level. This implies that those panel series have long run equilibrium convergence stationarity process; those series are integrated of order zero while TEL and GGI are integrated of order 1.

Also, the LLC test result indicates that we do not reject the null hypothesis "common unit root" for LEI and economic active population size (POP) pooled series at level. But the second difference series of life expectancy index (LEI) and first difference series of working age population (POP) for SSA region were found stationary. These results were contrary to the findings reported using heterogeneous panel (IPS) unit root test that assumes stationarity differential across country. The IPS test result indicates that LEI pooled series was found explosive, while the nominal level of working population size for SSA region was found stationary at 5% significant level.

It is noted from econometric literature that regressing stationary series on another non-stationary series might be problematic and lead to spurious regression that can render panel regression estimates inefficient and biased for drawing policy inference. On this basis, homogenous panel cointegration test was conducted to determine the long run convergence of the linear combination of the pooled series that exhibit different stationarity process. The residual based Kao cointegration test was employed, the results for each considered measures of human welfare development were reported on Table 5.4.

Similarly, the LLC and IPS panel unit root tests' techniques indicate that we do not reject the null hypothesis "existence of common and individual unit root" at 5% significant level for telephone line users per 1000 people (TEL) as a proxy for information flow of globalisation, and governance effectiveness index (GGI). But, the difference of telephone line users per 1000 people (TEL) and governance effectiveness index (GGI) indicate the rejection of the null hypothesis, this implies that the first difference of the series were stationary and integrated of order one.

Table 5.4: Kao Test Results

Dependent	t-Statistic	Prob.
HDI	-1.679352**	0.0465
LEI	-2.507101***	0.0061
IMR	-3.987379***	0.0000
MYS	-3.000219***	0.0013
WAT	-1.405885*	0.0799
SAN	-1.834613**	0.0333
HCS	-1.566823*	0.0586
Independent Variables: CFC, TRD, PFI, FDI, LBM, GGI, TEL, POP		

*****; ** and * represent 1%, 5% and 10% sig. level respectively**

Source: Author's Computation (2014)

The cointegration test results reveal that at 1% significance level, the null hypotheses that "there is no cointegration between "LEI and globalisation dimensions in SSA"; "IMR and globalisation dimensions in SSA"; and "MYS and globalisation dimensions in SSA" were rejected.

Also, Table 5.4 indicates that at 5% significance level, the null hypotheses of no cointegration between "HDI and globalisation dimensions in SSA"; and "SAN and globalisation dimensions in SSA" were rejected.

The results presented in the table further reveal that the null hypotheses of no cointegration between "WAT and globalisation dimensions in SSA" and "HCS and globalisation dimensions in SSA" were rejected at 10% significance level.

The entire result on Table 5.4 suggests that there is long run relationship between human welfare development measures and globalisation dimensions in SSA between 1980 and 2012. Next, the cointegrating estimates were reported, interpreted and discussed in the subsequent sections.

5.4 Human Welfare and Trade Openness Nexus

5.4.1 Estimated Panel Regression Results: Sub-Saharan Africa (SSA)

The fixed and random effects' methods were employed in estimating the panel regression models that examined the impact of TRD on human welfare, other welfare measures and access to basic necessities. The estimated coefficients between the fixed and random effects' models were compared using the Hausman test with the null hypothesis "random effects are uncorrelated with the explanatory variables".

The Hausman test result presented in Table 5.5 reveals that we do reject the null hypotheses for all the considered models at different (1%, 5% and 10%) significance levels based on the calculated Chi-Square values. The fixed effect model was found more consistent and efficient for the purpose of this study. Also, two forms of estimated panel regression models were reported. First, the augmented theoretical model [1] that incorporates human welfare development effects of fixed capital stock, TRD, portfolio investment, FDI, net labour migration, good governance index (GGI), telephone access, and working population growth rate (n). The second model [2] is the main theoretical baseline model that captures the effect of TRD on human welfare development indicators while controlling for incorporated theoretical factors such as fixed capital stock and economic active population growth rate (n).

The fixed regression results of human welfare, other welfare measures and access to basic necessities models were reported on Table 5.5. The estimated aggregated [1] and disaggregated model [2] indicate that TRD as economic dimension of globalisation has positive effect on HDI, LEI, access to improved WAT, and HCS in SSA between 1980 and 2012. These effects in terms of signs conform with theoretical expectations.

Table 5.5.: Fixed Effects Regression of Human Welfare and Transmission Channels of Trade Globalisation

	Human Welfare		**Other Welfare Measures**						**Access to Basic Necessities**					
	HDI		**LEI**		**IMR**		**MYS**		**WAT**		**SAN**		**HCS**	
	1	**2**	**1**	**2**	**1**	**2**	**1**	**2**	**1**	**2**	**1**	**2**	**1**	**2**
Constant	-7.286 (-6.79***)	-32.20 (-33.4***)	71.177 (87.58***)	65.20 (80.7***)	139.647 (47.12***)	162.48 (-73.3***)	-1.112 (-54.61***)	-1.158 (-70.9***)	-76.888 (-48.65***)	-89.58 (-71.9***)	-67.229 (-62.84***)	-85.05 (-99.9***)	63.717 (46.31***)	41.98 (29.50***)
CFC	0.131 (16.51***)	0.248 (27.7***)	0.090 (16.05***)	0.122 (19.9***)	-0.826 (-28.38***)	-1.047 (-34.2***)	0.005 (27.84***)	0.005 (30.7***)	0.222 (17.25***)	0.200 (14.3***)	0.150 (27.23***)	0.167 (28.23***)	0.165 (19.36***)	0.252 (25.99***)
TRD	0.044 (15.18***)	0.059 (17.5***)	0.043 (22.94***)	0.055 (26.6***)	-0.099 (-11.00***)	-0.146 (-14.8***)	-0.001 (-11.47***)	-0.00003 (-0.507)	0.082 (16.50***)	0.165 (30.9***)	-0.051 (-20.71***)	-0.047 (-18.6***)	0.068 (22.00***)	0.103 (28.81***)
PFI	-0.006 (-2.01**)		-0.014 (-8.22***)		-0.013 (-1.39)		0.0004 (5.74***)		0.029 (4.54***)		0.015 (2.57**)		-0.010 (-3.84***)	
FDI	0.586 (41.99***)		0.316 (31.03***)		-2.192 (-41.52***)		0.011 (28.15***)		0.676 (26.83***)		0.268 (22.19***)		0.540 (35.35***)	
LBM	0.041 (4.54***)		0.009 (1.151)		0.184 (4.99***)		-0.0003 (-1.7*)		-0.056 (-5.63***)		0.123 (10.58***)		0.067 (5.62***)	
GGI	-0.037 (-33.08***)		0.004 (5.26***)		0.075 (24.68***)		-0.001 (-46.56***)		-0.088 (-48.08***)		-0.015 (-19.49***)		-0.022 (-18.01***)	
TEL	0.044 (42.35***)		0.022 (35.55***)		-0.033 (-10.66***)		0.0001 (6.252***)		0.019 (9.22***)		0.028 (15.89***)		0.045 (43.963***)	
N	0.738 (36.142***)	1.205 (67.6***)	-0.435 (-27.61***)	-0.329 (-21.4***)	-0.554 (-9.750***)	-0.980 (-23.9***)	0.028 (71.95***)	0.029 (92.7***)	2.332 (76.96***)	2.557 (107.9***)	1.824 (88.93***)	2.175 (136.2***)	-0.437 (-16.51***)	-0.051 (-1.9*)
Adj. R^2	0.957	0.925	0.952	0.866	0.926	0.890	0.937	0.933	0.927	0.943	0.982	0.984	0.952	0.870
S.E of Reg.	3.562	4.057	3.580	3.771	14.758	15.965	0.102	0.121	7.417	8.391	4.529	4.667	5.108	5.455
F-Statistic	8112.6***	5767.9	7261.4***	3025.5	4574.4***	3798.9	5483.0***	6500.2	4673.4***	7730.3	20596.9***	28785.1	7331.7***	3138.1
Hausman Test	25.653***	3.010	56.741***	36.54***	32.187***	4.845	16.333**	0.455	17.683**	1.386	22.675***	2.446	42.870***	18.40***
Obs	528	528	528	528	528	528	528	528	528	528	528	528	528	528
Cross-Section	16	16	16	16	16	16	16	16	16	16	16	16	16	16

Note: [1]. Model 1 is the augmented theoretical model with control variables; [2]. Model 2 is the theoretical baseline model. [3]. *** denotes significant at 1%; ** denotes significant at 5%.; * denotes significant at 10%. [4]. Absolute t-statistics are in parentheses. [5]. All regressions use the fixed cross-section effects cross-section weights standard errors and covariance (d.f. corrected) [6]. Hausman test is based on Chi-square Statistics

Source: - Author's Computation

On the basis of the impact intensity, 10% increase in TRD respectively enhanced human welfare development, access to improved water and health care services by 0.44%, 0.82% and 0.68% for the augmented theoretical model [1]; and by 0.59%, 1.65%, and 1.03% for the theoretical model controlled for trade integration only. The corresponding t-statistic values indicated that at 1% significance level, trade openness was found to significantly enhance human welfare development, access to improved water and health care services in SSA region.

Also, TRD was found to exert negative effect on IMR (per 1,000 live births), MYS, and access to improved SAN as reported for the estimated augmented theoretical model [1] and theoretical baseline model [2]. These effects are not in tandem with the theoretical expectations excluding IMR. For the effect size, 10% increase in percentage share of total trade openness to GDP, lowered access to improved sanitation by -0.51% and -0.47%, while it reduced IMR as a welfare measure by -0.99% and -1.46% in SSA for model [1] and [2] respectively. The reported t-statistics indicate that trade openness at 1% critical level significantly reduced IMR and access to improved SAN in SSA between 1980 and 2012 as reported for model [1] and model [2]. The lowered effect of TRD on mean year of adult schooling was insignificant at the theoretical baseline model [2], though significant at 1% critical level for the aggregated model [1].

The percentage share of working population from total population size (n) as one of the theoretical baseline factors was found to enhance SSA's HDI, mean year of adult schooling, access to improved WAT and SAN in the estimated augmented theoretical model [1] and theoretical baseline model [2] as shown on Table 5.5. These effects conform with the *a priori* expectations and statistically significant at 1% critical level. The value of the estimates indicated that for 1% increase in the share of economic active population, HDI, MYS, access to improved WAT and SAN increased by 0.74%, 0.03%, 2.33%, and 1.82% for model [1]; and by 1.21%, 0.03%, 2.56%, and 2.18% for model [2], respectively. Also, changes in working age population (n) was found to significantly reduce IMR at 1% significance level and this conforms with the theoretical expectations. For a 10% change in working population share (n), IMR declined by -5.54% and -9.80% for estimated model [1] and [2], respectively (Table 5.5).

In non-conformity with the theoretical expectations and at 1% significant critical level, percentage share of economic active population of total population size (n) exert negative effect on LEI and access to improved HCS in SSA region between 1980 and 2012 [see models 1 and 2]. For 10% change in working age population share (n), LEI and access to improved HCS declined by -4.35% and -4.37% for model [1] and by -3.29% and -0.51% for model [2] respectively.

Moreover, the comparative degree of variation in human welfare development explained between the augmented and baseline theoretical models indicated that the adjusted R-squared values are relatively close. This indicates that TRD is a significant determinant of human welfare development in the SSA region between 1980 and 2012. Trade openness was found to account for over 92.5%, 89.6%, and 93.2% variation in the HDI, other measures of human welfare (LEI, IMR, and MYS respectively), and access to basic necessities (WAT, SAN, and HCS) in SSA countries between 1980 and 2012 as reported by the theoretical baseline model [2] on Table 5.5. (Average R^2 for each category of dependent variable).

5.4.2 Discussion of Findings

Trade openness was found to be positive and significant in relation to key dimensions of human welfare (such as human development index (HDI), life expectancy index (LEI), access to improved water (WAT), and health care services (HCS)) in Sub-Saharan Africa (SSA) countries. Though, the intensity of effect is relatively low compared to the expected, in terms of magnitude. This finding is consistent with the apriori expectation as globalisation via trade oriented growth channel is expected to be human welfare enhancing in terms of reduction in income inequality and poverty. This is expected to improve LEI, reduce IMR, and enhance access to people's basic necessities of life. The result is in line with the empirical conclusions of Bhajwati and Srinivasan (2002), Dollar and Kraay (2004), Lee and Vivarelli (2006) and Harrison (2006) that trade fosters economic growth, enhances poverty alleviation and welfare development. Moreso, this result not agree with Hai, Minhaj, Ahmed and Mujahid (2006), Osabuohien (2007), Gold (2009), Obadan and Elizabeth (2012), Maetens, Colen and Swinnen (2009), Igberaese and Diania (2012), and Oduh (2012) which established a strong link and reported that globalisation through trade relations is an effective means of generating employment, enhancing human welfare, reducing poverty, and income inequality. Using the fixed effect method like ours, Karras (2003) established positive relationship between TRD and per capita income (PCI) growth rate for 105 and 56 panel countries respectively between 1960 and 1997, and from 1951 to 1998. In a study of 38 African countries as sample by Yeboah *et al.* (2012), TRD is found to enhance growth rate of per capita GDP as a measure of income inequality.

For region specific outcomes, (Table 5.11 and 5.10) TRD is found to enhance human welfare changes in Southern Africa and East Africa in SSA region. This supports a country level study in Pakistan by Shahbaz (2012) using real GDP per capita as a measure of welfare changes. Jalil (2012) reports similar findings in China using the Gini coefficient as a measure

of income inequality. Also, in Kenya from the East Africa region, Kumar and Pacheco (2012) using the Solow growth model framework find total factor productivity as a proxy of economic expansion is positively related to TRD. Likewise, for a sample of 66 developing countries and using remittance for welfare developmental projects as a proxy for human welfare changes, Beine *et al.* (2012) report positive and significant relationship between remittance and TRD. These empirical findings do not support the TRD deteriorating effect on human welfare changes in SSA region, Central Africa and West Africa. Also, these empirical submissions are contrary to our empirical outcome that addresses the first objective of this study "to determine the impact of trade openness on human welfare in SSA countries."

Actually, some of the studies that reported contrary findings to our study that TRD as a channel of globalisation enhances human welfare, life expectancy, and access to improved water and health care services in SSA, include Milanovic and Squire (2005), Ravillion (2006), Neutel and Heshmati (2006), Guordon, Maystre and Melo (2006), Wagle (2007), Fosu and Mold (2008), and Afaha and Njogo (2012). Also, in a single equation analysis, Heshmati (2003) finds that the trade globalisation index explains 7 to 11% human welfare deterioration among developing countries. However, this study establishes that in a much higher magnitude using the same disaggregated approach, TRD explains 93% of changes in human welfare development and lack of access to infrastructure facilities like HCS in the SSA region. In addition, using national symbols and TRD as globalisation measure simultaneously, Heinrich (2009) reveals strong negative effect of economic globalisation via trade flows on human well-being (proxied by the human development index).

Similarly, using PCI as a different proxy for human welfare, Hammed and Nazir (2006) show that trade liberalisation has worsened human welfare and also exacerbated income inequality. In the SSA specific study, Sidikat et. al's (2006) pooled multiple regression analysis report that international trade has impacted negatively on human development in the SSA region.

Gries and Redlin (2012) considered selected SSA countries and other developing countries to make a panel of 158 samples between 1970 and 2012 to examine the link between TRD and income inequality proxy by per capita output growth rate. Also, contrary to our study with the same measure of trade channel of globalisation, they reported a negative but significant relationship. A complementary link was established by Benarroch and Pandey (2012) for 119 countries between 1972 and 2000, and employed government investment for infrastructure provisions as a proxy for human welfare development. The difference between their studies

and our empirical outcome is owed to the composition of their sample that favours more medium-high income North Africa countries.

The conclusion of Bardhan (2005), Blouin *et al.* (2009), Neculita and Neculita (2012) explains the trade enhancing effect on human welfare development in SSA countries, as well as in West Africa, and Central Africa sub regional groups as a subset of Sub Sahara Africa. Neculita and Moga (2012) conclude that the main driving force for a better economic prosperity in trade flows across countries is through technological progress, information, communication and transport, and institutional progress. In an earlier study, Bardhan (2005) indicates that globalisation can not only cause many hardships for the poor, but it can also open up some opportunities which some countries can utilise and others do not, depending on their domestic political and economic institutions. This submission by Bardhan (2005) further gave an insight to the fact that trade integration is beneficial for human welfare growth for those regions (such as Southern and East Africa) with a high level of political globalisation, compared to less politically globalised regions (Central and West Africa) in the SSA region. While the empirical difference on the effect of TRD on human welfare changes in Africa is associated with the plausible explanation of Blouin *et al.* (2009), they indicate that the reforms of many countries have not translated into enhanced economic expansion because complementary policies are needed. Trade liberalisation and openness are associated with increased wage inequality and raised economic insecurity all of which have the tendency to deteriorate human welfare.

5.5 Human Welfare and Transmission Channel of Capital and Financial Globalisation

5.5.1 Estimated Panel Regression Results: Sub-Saharan Africa (SSA)

The fixed regression results of human welfare, other welfare measures and access to basic necessities models are reported on Table 5.6. The estimated aggregated [1] and disaggregated [2] models indicate that gross fixed capital stock (as a measure of domestic capital) and FDI as foreign capital dimension of globalisation have positive effect on the HDI,

LEI, MYS, access to improved WAT, SAN, and HCS, while it exerts negative effect on IMR in SSA between 1980 and 2012. These effects are in agreement with the theoretical expectations and statistically significant at 1% critical level based on the reported t-statistic values.

In terms of effect size, 10% change in gross fixed capital stock as a measure of domestic capital enhanced HDI, LEI, reduction in the IMR, MYS, access to improved WAT, SAN, and HCS by 0.13%, 0.9%, -8.26%, 0.05%, 2.22%, 1.50%, and 1.65% for estimated theoretical augmented models [1]; and by 2.05%, 1.55%, -10.6%; 0.05%, 3.15%, 0.80%, and 2.76% for estimated theoretical baseline models [2] respectively. Also a 10% change in FDI as capital channel of globalisation improved HDI, LEI, reduction in IMR, MYS, access to improved WAT, SAN, and HCS by 5.86%, 3.16%, -21.92%, 0.11%, 6.76%, 2.68%, and 5.40% for estimated theoretical augmented models [1]; and by 6.37%, 3.48%, -20.34%, 0.07%, 6.62%, 2.73%, and 6.55% for estimated theoretical baseline models [2] respectively.

The PFI which is a proxy for financial dimension of globalisation was found to exert negative effect on the HDI, LEI, IMR, and access to improved HCS in the SSA subregion for the aggregated [1] and disaggregated [2] models. These effects with the exception of IMR in terms of signs do not conform with the *a priori* expectations but were statistically significant at 1% critical level. The value of estimates indicated that a 10% change increase in PFI, deteriorates HDI, LEI, IMR, and access to improved HCS by -0.06%, -0.14%, -0.13%, and -0.10% for the theoretical augmented models [1]; and by -0.13%, -0.20%, -0.13%, and -0.18% for the theoretical baseline models [2] respectively.

Also, in conformity with the theoretical expected signs, PFI as a financial channel of globalisation had a positive impact on MYS, improved access to clean water, and sanitation in the SSA subregion between 1980 and 2012. These effects were found to be statistically significant at 1% critical level. In magnitude terms, a 10% change in PFI enhanced MYS,

Table 5.6: Fixed Effects Regression of Human Welfare and Transmission Channel of Capital and Financial Globalization

	Human Welfare		Other Welfare Measures						Access to Basic Necessities					
	HDI		LEI		IMR		MYS		WAT		SAN		HCS	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Constant	-7.286 (-6.79***)	-32.20 (-33.4***)	71.177 (87.58***)	65.20 (80.7***)	139.647 (47.12***)	162.48 (-73.3***)	-1.112 (-54.61***)	-1.158 (-70.9***)	-76.888 (-48.65***)	-89.58 (-71.9***)	-67.229 (-62.84***)	-85.05 (-99.9***)	63.717 (46.31***)	41.98 (29.50***)
CFC	0.131 (16.51***)	0.248 (27.7***)	0.090 (16.05***)	0.122 (19.9***)	-0.826 (-28.38***)	-1.047 (-34.2***)	0.005 (27.84***)	0.005 (30.7***)	0.222 (17.25***)	0.200 (14.3***)	0.150 (27.23***)	0.167 (28.23***)	0.165 (19.36***)	0.252 (25.99***)
TRD	0.044 (15.18***)	0.059 (17.5***)	0.043 (22.94***)	0.055 (26.6***)	-0.099 (-11.00***)	-0.146 (-14.8***)	-0.001 (-11.47***)	-0.00003 (-0.507)	0.082 (16.50***)	0.165 (30.9***)	-0.051 (-20.71***)	-0.047 (-18.6***)	0.068 (22.00***)	0.103 (28.81***)
PFI	-0.006 (-2.01**)		-0.014 (-8.22***)		-0.013 (-1.39)		0.0004 (5.74***)		0.029 (4.54***)		0.015 (2.57**)		-0.010 (-3.84***)	
FDI	0.586 (41.99***)		0.316 (31.03***)		-2.192 (-41.52***)		0.011 (28.15***)		0.676 (26.83***)		0.268 (22.19***)		0.540 (35.35***)	
LBM	0.041 (4.54***)		0.009 (1.151)		0.184 (4.99***)		-0.0003 (-1.7*)		-0.056 (-5.63***)		0.123 (10.58***)		0.067 (5.62***)	
GGI	-0.037 (-33.08***)		0.004 (5.26***)		0.075 (24.68***)		-0.001 (-46.56***)		-0.088 (-48.08***)		-0.015 (-19.49***)		-0.022 (-18.01***)	
TEL	0.044 (42.35***)		0.022 (35.55***)		-0.033 (-10.66***)		0.0001 (6.252***)		0.019 (9.22***)		0.028 (15.89***)		0.045 (43.963***)	
N	0.738 (36.142***)	1.205 (67.6***)	-0.435 (-27.61***)	-0.329 (-21.4***)	-0.554 (-9.750***)	-0.980 (-23.9***)	0.028 (71.95***)	0.029 (92.7***)	2.332 (76.96***)	2.557 (107.9***)	1.824 (88.93***)	2.175 (136.2***)	-0.437 (-16.51***)	-0.051 (-1.9*)
Adj. R^2	0.957	0.925	0.952	0.866	0.926	0.890	0.937	0.933	0.927	0.943	0.982	0.984	0.952	0.870
S.E of Reg.	3.562	4.057	3.580	3.771	14.758	15.965	0.102	0.121	7.417	8.391	4.529	4.667	5.108	5.455
F-Statistic	8112.6***	5767.9	7261.4***	3025.5	4574.4***	3798.9	5483.0***	6500.2	4673.4***	7730.3	20596.9***	28785.1	7331.7***	3138.1
Hausman Test	25.653***	3.010	56.741***	36.54***	32.187***	4.845	16.333**	0.455	17.683**	1.386	22.675***	2.446	42.870***	18.40***
Obs	528	528	528	528	528	528	528	528	528	528	528	528	528	528
Cross-Section	16	16	16	16	16	16	16	16	16	16	16	16	16	16

Note: [1]. Model 1 is the augmented theoretical model with control variables; [2]. Model 2 is the theoretical baseline model. [3]. *** denotes significant at 1%; ** denotes significant at 5%.; * denotes significant at 10%. [4]. Absolute t-statistics are in parentheses. [5]. All regressions use the fixed cross-section effects cross-section weights standard errors and covariance (d.f. corrected) [6]. Hausman test is based on Chi-Square Statistic

Source: - Author's Computation

improved access to clean WAT, and SAN by 0.004%, 0.29%, and 0.15% for the aggregated models [1]; and by 0.002%, 0.26%, and 0.10% for the disaggregated models, [2] respectively.

The comparative analysis indicated that domestic and foreign capital flows enhance human welfare development and access to improved basic necessities, while financial flow of globalisation mostly worsen key human welfare indicators (HDI, LEI, and HCS). The degree of variation in human welfare development explained between the augmented and baseline theoretical models indicated that the adjusted R-squared values are relatively similar. This indicates that unlike PFI as a financial channel of globalisation, FDI a capital dimension of openness is a significant determinant of human welfare development in SSA region between 1980 and 2012. Capital and financial channels of globalisation (PFI and FDI) were found to account for 93.6%, 91.8%, and 93.1% variation in the HDI, other measures of human welfare (LEI, IMR, and MYS), and access to basic necessities (WAT, SAN, and HCS) in SSA countries between 1980 and 2012 as reported by the theoretical baseline model [2] on Table 5.6. (Average R^2 for each category of dependent variable).

5.5.2 Discussion of Findings

The combined effect of capital and financial flows as channel of globalisation on human wellbeing in SSA captured the second specific objective of this thesis. The reported results indicate that PFI and FDI as proxies of financial and capital globalisation respectively have significant and positive effect on HDI, LEI, MYS, and access to WAT, SAN and HCS in the region. These empirical outcomes which cover the second specific objective in this study clearly shows that FDI as capital dimension of globalisation is specifically significant and effective in enhancing human wellbeing, reducing IMR, and improving the access of people to basic amenities. Domestic capital formation and FDI as measures of capital flows give a more satisfactory result in terms of complementing the theoretical nexus and magnitude size; this measure as share of GDP was found to have gained its popularity as an index of capital and financial globalisation in several empirical studies. From regional evidences, capital globalisation (via FDI) is positively related to human welfare changes in East, Southern, and West Africa (Tables 5.10, 5.11 and 5.12) while it is negatively related to welfare changes in Central Africa (Table 5.9). Also, a positive relationship between PFIs and human welfare development was found in Southern Africa alone among other subregions in SSA. (Table 5.11)

The positive effects do conform with the *a priori* expectation. It also supports the empirical findings such as Niyongabo (2005), Roine *et al.* (2009), Shahbaz (2012), Atoyebi *et*

al. (2012), Faber and Gerritse (2012), and Kumar and Pacheco (2012). Santarelli and Figni (2002) established that financial openness tends to be positively related to human welfare development in selected developing countries. Also, Hammoris and Kai (2004) report that financial flow has equalising effect on income distribution and improves human wellbeing in the entire SSA region. These outcomes are in consonance with the result of Harrison (2006) using FDI as a measure of international capital flows of globalisation.

Other studies such as Niyongabo (2005) using a panel of 102 countries that constitutes 30 SSA between 1970 and 2000 indicated that private investment as a proxy for financial globalisation has positive effect on real GDP per capita growth rate. A similar finding using the same proxies was reported in a single country analysis in Nigeria by Oduh (2012). Also, from East Africa, Kumar and Pacheco (2012) reported human welfare enhancing effect of FDI as a component of globalisation in Kenya. Likewise, using a long run analysis in Pakistan, Shahbaz (2012) reports that financial openness has positive effect on real GDP per capita growth. These findings complement Roine *et al.* (2009) a sample of 16 developing countries and also Beine *et al.* (2012) that employed remittance funds as a measure of welfare development for 66 developing countries.

Some studies whose empirical outcomes refute the enhancing effect of financial globalisation on human welfare development in SSA countries include Obadan and Elizabeth (2012), Yeboah *et al.* (2012), and Ahmad (2014). Using a GMM estimator for a panel of 21 SSA countries, Ahmad (2014) reports negative effect of financial openness on economic growth. This divergence in empirical outcomes emanates from the considered proxy for human welfare development. Although, the negative effect of financial development (via PFI) on GDP per capita growth rate as a measure of income distribution in a single country study in Nigeria such as Obadan and Elizabeth (2012) and Jalil (2012) in China which employed the Gini coefficient as a measure of income inequality complement our findings for Central, East and West Africa. (Table 5.9, 5.10 and 5.12)

5.6 Human Welfare and Transmission Channel of Labour Mobility and Information Flow

5.6.1 Estimated Panel Regression Results: Sub-Saharan Africa (SSA)

The estimated theoretical augmented models [1] on Table 5.7 indicate that at 1% critical level, good governance effectiveness index as a control institutional variable exerted positive and significant effects on LEI and IMR, while it also exerted negative and significant effect on HDI, MYS, access to improved WAT, SAN, and HCS in SSA subregion between 1980 and 2012. These effects were not in line with the theoretical expectations except for LEI. The reported estimates indicate that a 10% increase in the quality of GGI (increase in governance ineffectiveness) deteriorates HDI, MYS, WAT, SAN, and HCS by -0.37%, -0.01%, -0.88%, -0.15%, and -0.22% respectively and increases LEI and IMR by 0.041% and 0.75% respectively. This reflects that improvement in governance is weak in SSA countries which has deteriorating effect on human welfare, other welfare measures and access to basic necessities.

Net LBM that indicates the difference between labour immigration and emigration, and also serves as a channel of globalisation was found to have positive impact on HDI, LEI, IMR, access to improved SAN and HCS, while it exerted negative effects on MYS, and access to improved WAT in SSA subregion over the same set of periods as reported by the estimated models ([1] and [2]). The reported effects were in tandem with theoretically expected signs except the nexus for MYS and access to improved water. In magnitude terms, a 10% increase in net LBM enhanced HDI, IMR, SAN, HCS and reduced IMR, MYS and WAT respectively by: 0.41%, 1.84%, 1.86%, 0.67%, and 1.84%, 0.003% and 0.56% respectively. More so, a 10% decrease in net LBM enhanced MYS and access to improved WAT correspondingly by: -0.003% and -0.56% for model [1]; and -0.01% and -0.62% for model [2].

The LBM human welfare nexus in SSA between 1980 and 2012 indicated that net LBM is more human welfare enhancing though lowered basic primary schooling for adults and hinders improved access to WAT in the region.

The effect of information flow proxied by access to telephone network (TEL) on human welfare, other welfare measures, and access to basic necessities in SSA between 1980 and 2012 was discussed in this subsection base on the estimates reported on Table 5.8 for the theoretical augmented [1] and baseline [2] models.

Table 5.7: Fixed Effects Regression of Human Welfare and Transmission Channel of Labour Mobility Flow of Globalization

	Human Welfare		Other Welfare Measures						Access to Basic Necessities					
	HDI		LEI		IMR		MYS		WAT		SAN		HCS	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Constant	-7.286 (-6.79***)	-32.20 (-33.4***)	71.177 (87.58***)	65.20 (80.7***)	139.647 (47.12***)	162.48 (-73.3***)	-1.112 (-54.61***)	-1.158 (-70.9***)	-76.888 (-48.65***)	-89.58 (-71.9***)	-67.229 (-62.84***)	-85.05 (-99.9***)	63.717 (46.31***)	41.98 (29.50***)
CFC	0.131 (16.51***)	0.248 (27.7***)	0.090 (16.05***)	0.122 (19.9***)	-0.826 (-28.38***)	-1.047 (-34.2***)	0.005 (27.84***)	0.005 (30.7***)	0.222 (17.25***)	0.200 (14.3***)	0.150 (27.23***)	0.167 (28.23***)	0.165 (19.36***)	0.252 (25.99***)
TRD	0.044 (15.18***)	0.059 (17.5***)	0.043 (22.94***)	0.055 (26.6***)	-0.099 (-11.00***)	-0.146 (-14.8***)	-0.001 (-11.47***)	-0.00003 (-0.507)	0.082 (16.50***)	0.165 (30.9***)	-0.051 (-20.71***)	-0.047 (-18.6***)	0.068 (22.00***)	0.103 (28.81***)
PFI	-0.006 (-2.01**)		-0.014 (-8.22***)		-0.013 (-1.39)		0.0004 (5.74***)		0.029 (4.54***)		0.015 (2.57**)		-0.010 (-3.84***)	
FDI	0.586 (41.99***)		0.316 (31.03***)		-2.192 (-41.52***)		0.011 (28.15***)		0.676 (26.83***)		0.268 (22.19***)		0.540 (35.35***)	
LBM	0.041 (4.54***)		0.009 (1.151)		0.184 (4.99***)		-0.0003 (-1.7*)		-0.056 (-5.63***)		0.123 (10.58***)		0.067 (5.62***)	
GGI	-0.037 (-33.08***)		0.004 (5.26***)		0.075 (24.68***)		-0.001 (-46.56***)		-0.088 (-48.08***)		-0.015 (-19.49***)		-0.022 (-18.01***)	
TEL	0.044 (42.35***)		0.022 (35.55***)		-0.033 (-10.66***)		0.0001 (6.252***)		0.019 (9.22***)		0.028 (15.89***)		0.045 (43.963***)	
N	0.738 (36.142***)	1.205 (67.6***)	-0.435 (-27.61***)	-0.329 (-21.4***)	-0.554 (-9.750***)	-0.980 (-23.9***)	0.028 (71.95***)	0.029 (92.7***)	2.332 (76.96***)	2.557 (107.9***)	1.824 (88.93***)	2.175 (136.2***)	-0.437 (-16.51***)	-0.051 (-1.9*)
Adj. R^2	0.957	0.925	0.952	0.866	0.926	0.890	0.937	0.933	0.927	0.943	0.982	0.984	0.952	0.870
S.E of Reg.	3.562	4.057	3.580	3.771	14.758	15.965	0.102	0.121	7.417	8.391	4.529	4.667	5.108	5.455
F-Statistic	8112.6***	5767.9	7261.4***	3025.5	4574.4***	3798.9	5483.0***	6500.2	4673.4***	7730.3	20596.9***	28785.1	7331.7***	3138.1
Hausman Test	25.653***	3.010	56.741***	36.54***	32.187***	4.845	16.333**	0.455	17.683**	1.386	22.675***	2.446	42.870***	18.40***
Obs	528	528	528	528	528	528	528	528	528	528	528	528	528	528
Cross-Section	16	16	16	16	16	16	16	16	16	16	16	16	16	16

Note: [1]. Model 1 is the augmented theoretical model with control variables; [2]. Model 2 is the theoretical baseline model. [3]. *** denotes significant at 1%; ** denotes significant at 5%.; * denotes significant at 10%.. [4]. Absolute t-statistics are in parentheses. [5]. All regressions use the fixed cross-section effects cross-section weights standard errors and covariance (d.f. corrected) [6]. Hausman test is based on Chi-Square Statistic

Source: - Author's Computation

Access to telephone (TEL) as a channel of information dimension of globalisation and at 1% critical level was found to exert positive and significant effect on HDI, LEI, improved access to SAN, and HCS, while it exerted negative effect on IMR in SSA subregion as reported for model [1] and [2] during the review periods. These effects conform with the *a priori* expectations. The result indicates that a 10% increase in telephone access (TEL) enhanced HDI, LEI, SAN, HCS, and reduction in IMR respectively by: 0.44%, 0.22%, 0.28%, 0.45%, and -0.33% for model [1]; and 0.34%, 0.24%, 0.20%, 0.41%, and -0.13% for model [2].

Table 5.8: Fixed Effects Regression of Human Welfare and Transmission Channel of Information and Technology Flow of Globalization

	Human Welfare		Other Welfare Measures						Access to Basic Necessities					
	HDI		LEI		IMR		MYS		WAT		SAN		HCS	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Constant	-7.286 (-6.79***)	-32.20 (-33.4***)	71.177 (87.58***)	65.20 (80.7***)	139.647 (47.12***)	162.48 (-73.3***)	-1.112 (-54.61***)	-1.158 (-70.9***)	-76.888 (-48.65***)	-89.58 (-71.9***)	-67.229 (-62.84***)	-85.05 (-99.9***)	63.717 (46.31***)	41.98 (29.50***)
CFC	0.131 (16.51***)	0.248 (27.7***)	0.090 (16.05***)	0.122 (19.9***)	-0.826 (-28.38***)	-1.047 (-34.2***)	0.005 (27.84***)	0.005 (30.7***)	0.222 (17.25***)	0.200 (14.3***)	0.150 (27.23***)	0.167 (28.23***)	0.165 (19.36***)	0.252 (25.99***)
TRD	0.044 (15.18***)	0.059 (17.5***)	0.043 (22.94***)	0.055 (26.6***)	-0.099 (-11.00***)	-0.146 (-14.8***)	-0.001 (-11.47***)	-0.00003 (-0.507)	0.082 (16.50***)	0.165 (30.9***)	-0.051 (-20.71***)	-0.047 (-18.6***)	0.068 (22.00***)	0.103 (28.81***)
PFI	-0.006 (-2.01**)		-0.014 (-8.22***)		-0.013 (-1.39)		0.0004 (5.74***)		0.029 (4.54***)		0.015 (2.57**)		-0.010 (-3.84***)	
FDI	0.586 (41.99***)		0.316 (31.03***)		-2.192 (-41.52***)		0.011 (28.15***)		0.676 (26.83***)		0.268 (22.19***)		0.540 (35.35***)	
LBM	0.041 (4.54***)		0.009 (1.151)		0.184 (4.99***)		-0.0003 (-1.7*)		-0.056 (-5.63***)		0.123 (10.58***)		0.067 (5.62***)	
GGI	-0.037 (-33.08***)		0.004 (5.26***)		0.075 (24.68***)		-0.001 (-46.56***)		-0.088 (-48.08***)		-0.015 (-19.49***)		-0.022 (-18.01***)	
TEL	0.044 (42.35***)		0.022 (35.55***)		-0.033 (-10.66***)		0.0001 (6.252***)		0.019 (9.22***)		0.028 (15.89***)		0.045 (43.963***)	
N	0.738 (36.142***)	1.205 (67.6***)	-0.435 (-27.61***)	-0.329 (-21.4***)	-0.554 (-9.750***)	-0.980 (-23.9***)	0.028 (71.95***)	0.029 (92.7***)	2.332 (76.96***)	2.557 (107.9***)	1.824 (88.93***)	2.175 (136.2***)	-0.437 (-16.51***)	-0.051 (-1.9*)
Adj. R^2	0.957	0.925	0.952	0.866	0.926	0.890	0.937	0.933	0.927	0.943	0.982	0.984	0.952	0.870
S.E of Reg.	3.562	4.057	3.580	3.771	14.758	15.965	0.102	0.121	7.417	8.391	4.529	4.667	5.108	5.455
F-Statistic	8112.6***	5767.9	7261.4***	3025.5	4574.4***	3798.9	5483.0***	6500.2	4673.4***	7730.3	20596.9***	28785.1	7331.7***	3138.1
Hausman Test	25.653***	3.010	56.741***	36.54***	32.187***	4.845	16.333**	0.455	17.683**	1.386	22.675***	2.446	42.870***	18.40***
Obs	528	528	528	528	528	528	528	528	528	528	528	528	528	528
Cross-Section	16	16	16	16	16	16	16	16	16	16	16	16	16	16

Note: [1]. Model 1 is the augmented theoretical model with control variables; [2]. Model 2 is the theoretical baseline model. [3]. *** denotes significant at 1%; ** denotes significant at 5%.; * denotes significant at 10%.. [4]. Absolute t-statistics are in parentheses. [5]. All regressions use the fixed cross-section effects cross-section weights standard errors and covariance (d.f. corrected) [6]. Hausman test is based on Chi-Square Statistic

Source: - Author's Computation

Differential effects were reported between estimated models [1] and [2]. The reported estimates indicate that at 1% critical level, telephone access (TEL) effects on MYS and access to improved water were positive and significant in model [1] and negative but significant in model [2]. It was only the reported signs in model [1] that conform with the theoretical expectations. In magnitude terms, a 10% increase in TEL, enhanced MYS and access to improved WAT by 0.001% and 0.19% in model [1]; and lowered by 0.002% and 0.09% respectively in model [2].

The overall analyses indicate that access to information via telephone connectivity (as a dimension of globalisation) enhanced human welfare, other welfare measures and access to basic amenities in SSA subregion between 1980 and 2012.

5.6.2 Discussion of Findings

Nissanke and Thorbecke (2005) note that there are different channels and transmission mechanisms through which the process of globalisation affects different aspects and dimensions of poverty in the developing world. These include labour mobility and information and technology channels of globalisation which equally exerted influence on human welfare indicators.

In a more extensive analysis of human welfare effects of other measures of globalisation such as labour mobility and information flows, as stated in the third specific objective, only very few empirical studies[1] (Khor, 2002; Niyongabo, 2005; Popkin, 2006; Dreher, 2006; Dreher and Gaston, 2006; Dreher *et al.*, 2008; Abbott and Coenen, 2008; Maertens *et al.*, 2009; Ogwumike and Maku, 2012; Yeboah *et al.*, 2012; Shahbaz, 2012; Hismmangolu, 2012; and Elgin *et al.*, 2013) were found to explore related dimensions of this globalisation component

The empirical outcomes of this thesis conform with the theoretical expectations. It was found that information flow via access to telephone network has been a significant factor that enhances human welfare development, reduces the incidence of IMR and improves peoples' access to basic necessities of life. This outcome complements the argument of Khor (2002) that technical changes are a major determinant of human welfare in a highly populated and poor developing country like Bangladesh, that SSA countries shared similar characteristics with. Also, information flow was found to enhance human welfare significantly in the SSA region

[1] Some of these studies employed composite index of globalisation that incorporates all other dimensions of globalisation excluding trade and capital flows. This kind of indices was mainly used in recent empirical studies (such as Dreher, 2006; Dreher and Gaston, 2006; Dreher, Gaston and Martens, 2008; Ogwumike and Maku, 2012). But, this study employed specific measures of the other dimensions rather than the entire index.

for all of its proxies such as HDI, LEI, IMR, MYS, and access to basic amenities like WAT, SAN and HCS. Recent empirical studies (Dreher, 2006; Dreher and Gaston, 2006; Dreher, Gaston and Martens, 2008; Ogwumike and Maku, 2012) show that information flow as a component of KOF social globalisation index enhance growth and human wellbeing in developing countries.

A sample of 184 cross-country analyses by Dekimpe *et al.* (2000) reveal that cellular telephone enhanced welfare growth rate. Also, in a survey of 30 SSA countries, Niyongabo (2005) notes that telephone users have significant and positive effect on GDP per capita growth rate as a proxy of human welfare development between 1970 and 2000. Later Abbott and Coenen (2008) reveal that globalisation and advances in information and communication technology (ICT) brings about innovation and opportunities in health care delivery as a measure of human welfare. In a single country study of China, Segal (2008) indicate that science and technology enhance income equality. In another study on the impact of globalisation and information technology on language education policy in Turkey, Hismmangolu (2012) contends that ICT flow exerted positive effect on English Language development as a measure of educational development that constitute a component of human welfare development in Turkey. This was supported by empirical evidence for the SSA region in this study. Similarly, Neculita and Moga (2012) demonstrated that the main driving force for better human welfare development across countries is through technological progress, information, communication and transport.

Labour mobility channel of globalisation is found to establish its effect on human welfare changes in terms of HDI, LEI, MYS, IMR, access to improved WAT, SAN, and HCS in SSA region. On the basis of high prevalence of labour emigrant over immigrant, labour mobility was found to exert negative effect on human welfare changes in SSA region, Central, Southern and West Africa. (Tables 5.9, 5.11, 5.12) This conforms with the theoretical expectation, because net negative labour migration flow (i.e. emigrant is more than immigrant) will discourage provision of infrastructural facilities for human welfare development. This equally reduces productive capacity in labour abundant economies of SSA countries.

Labour flow proxied as net LBM was found to deteriorate human welfare development, hinders peoples' access to improved WAT and HCS in the SSA region. This outcome contradicts the findings of Osabuohien (2007), Maertens *et al.* (2009), and Shahbaz (2012) that globalisation through labour market participation has a positive welfare impact. Also, Gindling and Terrell (2010) examined the nexus among minimum wage, globalisation, and poverty in Honduras and report that high minimum wages will alleviate poverty. This is corroborated by

the findings reported for the Central and West Africa subregions. Also, Shahbaz (2012) reports that skilled labour has significant effect on real GDP per capita growth rate in Pakistan.

A plausible explanation for the contradiction in the findings is the small sample size and difference in adopted proxy for labour flow. In recent time, the effectiveness of governance and rule of law have been found to be significant determinants of welfare. This has been documented in recent empirical studies (such as Dreher and Gaston, 2006; Dreher, Gaston and Martens, 2008; Ogwumike and Maku, 2012) considering the high extent of global political participation of developing countries. Thus, they argue that SSA countries are more globalised politically and less globalised economically. Similarly, this study reveals that low level of GGI is one of the most significant factors in terms of statistical properties and magnitude that lowered human welfare development, life expectancy index, IMR and limits the access of people to basic necessities of life in the SSA region. Notably, to the best knowledge of this researcher, no single globalisation-related study that adopts a non-composite governance index was found relevant to the outcomes as this is novel to documented studies. Complementary findings were reported by studies that adopted a composite political globalisation index for selected developing countries in recent decades.

5.7 Estimated Panel Regression Results on Regional Basis

This section of the analysis is based on the sub-regional groups that make up the sub-Saharan Africa. The rationale for this is to examine whether there is conformity in the pooled regional analysis (SSA) and the sub-regional groups. It is also meant to verify if the pooled analysis for the SSA is influenced by any of the Sub regional data.

5.7.1 Estimated Panel Regression Results: Central Africa

The fixed effect regression results of human welfare, other welfare measures, and access to basic necessities models for Central Africa region that constitute Cameroon, Central Africa Republic, Gabon, and Rwanda were presented in Table 5.9. The results reveal that trade openness as economic dimension of globalisation was found to exert negative effect on HDI, LEI, MYS, access to improved WAT, SAN, and HCS, while it showed positive effect on only IMR in Central Africa region between 1980 and 2012. These effects are not in tandem with theoretical expectations. In terms of effect size, 10% change in TRD lowered HDI, LEI, IMR, access to improved WAT, SAN, and HCS by 0.72%, 0.33%, 3%, 4.3% 0.47%, respectively while increasing IMR by 2.52%. At 1% significance level, TRD as a channel of globalisation was found to statistically and significantly worsen human welfare, other welfare measures (LEI,

and MYS), and access to basic necessities (WAT, SAN and HCS) in Central Africa region in the three decades under review

Table 5.9: Fixed Effects Regression of Human welfare and Transmission Channel of Globalization in Central Africa

	HDI	LEI	IMR	MYS	WAT	SAN	HCS
Constant	-126.7	25.80	412.9	-3.602	-140.3	-181.6	-110.1
	-39.45**	7.61**	55.65**	-43.05**	-29.95**	-30.85**	-21.35**
CFC	0.017	-0.037	-0.168	0.001	0.028	0.102	0.122
	1.05	-2.64**	-5.64**	1.49	0.97	3.49**	5.11**
TRD	-0.072	-0.033	0.253	-0.005	-0.300	-0.430	-0.047
	-10.44**	-5.12**	18.10**	-26.55**	-24.26**	-30.78**	-4.13**
PFI	-0.280	-0.574	0.740	0.005	0.182	1.802	-0.500
	-3.35**	-7.36**	4.90**	2.43*	1.34	8.71**	-3.36**
FDI	-0.184	-0.054	0.297	-0.001	-0.006	-0.489	-0.545
	-5.08**	-1.63	4.13**	-0.94	-0.10	-7.59**	-10.12**
LBM	-0.139	-0.047	0.604	-0.004	-0.174	-0.125	-0.030
	-18.28**	-3.97**	22.83**	-19.81**	-17.32**	-8.65**	-2.19*
GGI	0.001	0.031	-0.008	-0.001	-0.053	0.008	0.030
	0.48	19.06**	-2.28*	-19.62**	-18.36**	2.12*	10.45**
TEL	0.143	0.048	-0.661	0.010	0.979	0.216	-0.099
	12.82**	4.61**	-25.53**	28.39**	37.86**	10.76**	-5.82**
N	3.228	0.576	-6.354	0.080	3.953	4.506	3.068
	50.46**	8.55**	-43.43**	47.96**	42.02**	38.16**	29.80**
Adj. R-squared	0.953	0.869	0.958	0.879	0.858	0.851	0.854
S.E. of reg.	2.813	3.565	8.286	0.077	5.075	5.255	4.608
F-statistic	3896.9**	1274.2**	4333.6**	1400.1**	1159.5**	1097.4**	1125.3**
Observation	132	132	132	132	132	132	132
Cross-sections	4	4	4	4	4	4	4

Note: [1]. ** denotes significant at 5%; * denotes significant at 10%. [2]. Absolute t-statistics are in next line to the coefficients. [3]. All regressions use the fixed cross-section effects cross-section weights standard errors and covariance (d.f. corrected)

Source: - Author's Computation

The estimated theoretical model augmented with percentage share of working population to total population size (n) as control variable was found to enhance HDI, LEI, MYS, access to improved WAT, SAN, and HCS, as well as reduced incidence of IMR in Central Africa. These effects conform with the *a priori* expectations in terms of signs. The value of estimates reported on Table 5.9 indicates that 1% increase in the share of economic active population will increase HDI, LEI, MYS, WAT, SAN, and HCS by 3.23%, 0.58%, 0.08%, 3.95%, 4.51%, and 3.07%, respectively, while it reduces IMR by 6.35% in Central Africa. Also, the t-statistic values indicate that at 1% critical level, working population (n) statistically and

significantly improved human welfare, other welfare measures (LEI, IMR, and MYS), and access to basic necessities (WAT, SAN and HCS) in Central Africa region between 1980 and 2012.

The estimated augmented panel regression model further reveals that with the consideration of TRD as a component of globalisation along with other factors accounts for an average 95.3%, 90.2%, and 85.4% variation in human welfare, other welfare measures (LEI, IMR, and MYS), and access to basic necessities (WAT, SAN and HCS) respectively, in Central Africa region between 1980 and 2012.

The results equally reveal that FDI as capital flow channel of globalisation was found to exert negative effect on HDI, SAN, and HCS, while it also has positive effect on IMR in Central Africa region between 1980 and 2012. These effects are not in tandem with theoretical expectations. In terms of effect size, a 10% change in FDI lowered HDI, IMR, SAN, and HCS by 1.84%, 4.89%, and 5.45% respectively and increase IMR by 0.297%. More so, the results presented on Table 5.9 reveal that PFI as financial dimension of globalisation exerts a negative effect on HDI, LEI, and HCS, while it exerts a positive effect on IMR in Central Africa between 1980 and 2012. These effects were not in tandem with the theoretical expectations. For a 10% change in financial flow of globalisation (PFI), HDI, LEI, IMR and HCS declined by -2.8%, -5.74%, 7.4%, and -5% respectively. Similarly, PFI was found to enhance positively the IMR, MYS, and SAN in Central Africa region. In terms of signs, these effects conform with the *a priori* expectations. In magnitude terms, a 10% increase in financial channel of globalisation (PFI) enhanced MYS, WAT and SAN by 0.05%, 1.82% and 18.02% respectively.

Gross fixed capital stock as a theoretical baseline input variable and measure of domestic capital formation was found to exert positive effect on SAN, and HCS, but has a negative effect on LEI and IMR in the region. These effects were in conformity with theoretical expectations based on signs of the reported estimates. In terms of intensity of effects, a 10% increase in fixed capital stock, enhanced HDI, MYS, WAT, SAN, and HCS by 1.02%, and 1.22% while reducing LEI and IMR by 0.37% and 1.68% respectively. Although, domestic capital formation was found to exert negative effect on LEI in the Central Africa region, this is not in consonance with theory. In terms of partial significance, the reported t-statistic values on Table 6.6 indicate that it was only the effect of fixed capital stock on LEI, IMR, SAN and HCS were found statistically significant at 1% critical level.

Comparatively, the analysis indicate that in the Central Africa region between 1980 and 2012, capital and financial flows of globalisation worsened human welfare development, while it is only domestic capital formation that enhanced human welfare status in the region. The

estimated augmented panel regression model further reveal that with the consideration of FDI and PFI as components of globalisation other factors accounts for an average 95.3%, 90.2%, and 85.4% variation in HDI, other welfare measures (LEI, IMR, and MYS), and access to basic necessities (WAT, SAN and HCS) changes in Central Africa region between 1980 and 2012.

The results also showed that the net LBM as a labour flow dimension of globalisation exerted negative effects on HDI, LEI, MYS, access to improved WAT, SAN, and HCS, while it exerted positive effect on IMR in Central Africa between 1980 and 2012. These effects were not in tandem with the theoretical expectations but statistically significant at 1% critical level. For 10% increase in labour migration flow of globalisation (labour migration), HDI, LEI, MYS, access to improved WAT, SAN and HCS were lowered by 1.39%, 0.47%, 0.04%, 1.74%, 1.25% and 0.30%, respectively. However IMR was raise by 6.04% for a 10% increase in labour migration.

Telephone access (TEL) as information dimension of globalisation exerted positive effect on HDI, LEI, MYS, access to improved WAT, and SAN, while it exerted negative effect on IMR and HCS in Central Africa between 1980 and 2012. These effects are in tandem with the *a priori* expectations except for access to HCS, and also statistically significant at 1% critical level. In terms of magnitude, a 10% change in information channel of globalisation (TEL) enhanced HDI, LEI, MYS, access to improved WAT, SAN by 1.43%, 0.48%, 0.10%, 9.79%, 2.16%, but caused reduction in IMR, and lack of access to HCS by 6.61% and 0.99% respectively in Central Africa during the review periods.

Also, GGI as a theoretical baseline control variable and measure of institutional quality was found to exert positive impact on LEI, access to improved SAN, and HCS, it had negative effects on IMR, MYS and access to improved WAT in Central Africa between 1980 and 2012. These are in consonance with the expected signs except for the effects on MYS and access to improved WAT. A 10% increase in GGI, enhanced LEI, SAN, HCS by 0.31%, 0.08%, 0.30%, respectively, but it lowered IMR, MYS and access to improved WAT by 0.08%, 0.01% and 0.53% within the reviewed period correspondingly.

Comparatively, the analysis indicated that in the Central Africa region between 1980 and 2012, labour flow of globalisation and governance effectiveness worsened and lowered human welfare development, while only information flow of globalisation enhanced human welfare status in the region. The estimated augmented panel regression model further revealed that with the consideration of net LBM and telephone access (TEL) as components of globalisation and other factors account for an average 95.3%, 90.2%, and 85.4% variation in

HDI, other welfare measures and access to basic necessities (WAT, SAN and HCS) in the Central Africa region between 1980 and 2012

5.7.2 Estimated Panel Regression Results: East Africa

The theoretical augmented fixed regression results that capture the effect of TRD on HDI, other welfare measures (LEI, IMR, and MYS), and access to basic necessities (WAT, SAN and HCS) in East Africa [comprising Kenya, Mauritius, Tanzania, and Uganda] were shown on Table 5.10. The results indicate that economic dimension of globalisation via trade flows proxy by TRD was found to be positively related to the HDI, LEI, access to improved WAT, SAN, and HCS in East Africa. These effects conform with the theoretical expectations and were found to be statistically significant at 1% critical level. Also, TRD was found to exert negative effect on IMR and MYS, but it is only the effect of the latter that is not in tandem with theoretical expectation. At 1% critical level, TRD likewise exert significant negative effect on IMR and MYS in East Africa between 1980 and 2012.

In terms of magnitude, 10% change in percentage share of total exports and imports as ratio of GDP improved HDI, LEI, access to improved WAT, SAN, and HCS in East Africa by 0.49%, 0.75%, 1.97%, 0.59%, and 0.83%, respectively, as well as reduced IMR and MYS by -0.74% and -0.01% correspondingly.

Similarly, working age population (n) as a control variable was found to exert positive and significant effect on HDI, MYS, access to improved WAT, and SAN in East Africa at 1% critical level. The effects were in line with the theoretical expectations. Likewise the economic active population share (n) at 1% critical level, exert negative and statistically significant effect on LEI, IMR, and access to HCS in East Africa. It is only the effect on IMR that was found to conform with the *a priori* expectation. On the basis of the effect size, 10% change in working age population share (n) enhanced HDI, MYS, WAT and SAN by 3.02%, 0.29%, 19.2%, and 9.1% respectively, as well as reduced LEI, IMR and HCS by -3.1%, -0.5% and -3.62% correspondingly during the reviewed periods.

Table 5.10: Fixed Effects Regression of Human welfare and Transmission Channel of Globalization in East Africa

	HDI	**LEI**	**IMR**	**MYS**	**WAT**	**SAN**	**HCS**
Constant	17.03	67.16	103.70	-1.07	-60.25	-19.84	65.98
	8.92**	53.61**	22.31**	-36.06**	-21.82**	-16.97**	30.33**
CFC	0.156	0.062	-1.219	0.006	-0.046	0.016	0.123
	9.66**	5.48**	-21.42**	23.29**	-1.63	1.20	8.43**
TRD	0.049	0.075	-0.074	-0.001	0.197	0.059	0.083

	6.94**	15.15**	-3.13**	-7.67**	15.37**	9.48**	13.88**
PFI	-0.010	-0.016	-0.007	0.0003	0.033	0.001	-0.018
	-3.41**	-8.10**	-0.57	5.29**	5.42**	0.21	-8.14**
FDI	1.514	0.569	-4.304	0.019	1.702	1.099	0.904
	37.54**	18.59**	-29.18**	24.88**	20.82**	28.93**	23.95**
LBM	0.276	0.023	0.873	-0.005	1.811	1.188	-0.189
	5.83**	0.67	5.09**	-6.49**	20.08**	26.41**	-4.35**
GGI	-0.035	0.031	0.037	-0.001	-0.142	-0.030	0.030
	-12.81**	14.34**	4.13**	-26.50**	-26.60**	-13.72**	9.71**
TEL	0.045	0.011	-0.017	0.000	0.020	0.026	0.030
	31.98**	10.79**	-3.47**	-0.06	7.30**	16.11**	22.97**
N	0.302	-0.305	-0.050	0.029	1.915	0.910	-0.362
	8.27**	-12.62**	-0.56	51.24**	35.44**	39.78**	-8.70**
Adj. R-squared	0.971	0.964	0.932	0.911	0.963	0.991	0.979
S.E. of reg.	2.572	1.856	8.474	0.044	4.691	2.264	3.093
F-statistic	6476.1**	5139.1**	2639.7**	1973.0**	5061.5**	21957.7**	8914.3**
Observation	132	132	132	132	132	132	132
Cross-sections	4	4	4	4	4	4	4

Note: [1]. ** denotes significant at 5%; * denotes significant at 10%. [2]. Absolute t-statistics are in next line to the coefficients. [3]. All regressions use the fixed cross-section effects cross-section weights standard errors and covariance (d.f. corrected)

Source: - Author's Computation

In assessing the overall fitness of the estimated augmented panel regression models, the adjusted R-squared results on Table 5.10 reveal that with the consideration of TRD as a channel of globalisation along with other factors account for an average 97.1%, 93.6%, and 97.8% variation in HDI, other welfare measures (LEI, IMR, and MYS), and access to basic necessities (WAT, SAN and HCS) changes in the East Africa region between 1980 and 2012.

The theoretical augmented fixed regression results that capture the effect of FDI and PFI on HDI, other welfare measures (LEI, IMR, and MYS), and access to basic necessities (WAT, SAN and HCS) in East Africa indicate that financial dimension of globalisation exert negative effect on HDI, LEI, IMR, and access to improved HCS. These are not in consonance with the expected signs excluding for IMR. In magnitude terms, a 10% change in PFI deteriorates HDI, LEI and HCS by -0.10%, -0.16%, and -0.18%, respectively, while it enhances reduction in IMR by 0.07%. Also, financial channel of globalisation was found to exert positive effect on MYS, access to improved WAT, and SAN in the East Africa region. These effects are in tandem with the expected signs. The reported t-statistic results on Table 6.7 indicate that it was only the effect of PFI on HDI, LEI, MYS, WAT and HCS that were found to be statistically significant at 1% critical level.

Foreign direct investment as a capital dimension of globalisation exerts positive effect on HDI, LEI, MYS, access to improved WAT, SAN, and HCS, while it exerts negative effect on IMR in East Africa between 1980 and 2012. These effects are in line with the *a priori* expectations and statistically significant at 1% critical level. In terms of magnitude, a 1% change in financial channel of globalisation (FDI) enhanced HDI, LEI, MYS, WAT, SAN, HCS and reduction in IMR by 1.51%, 0.57%, 0.02%, 1.7%, 1.1%, 0.9%, and -4.3% respectively.

Also, gross fixed capital stock as a measure of domestic capital formation has positive impact on HDI, LEI, MYS, access to improved SAN, and HCS, it has negative effect on IMR and access to improved WAT in East Africa between 1980 and 2012. These are in tandem with the expected signs excluding for the effect of access to improved water. Based on the reported t-statistic values, it was only the effect of fixed capital stock on HDI, LEI, IMR, MYS, and HCS that were statistically significant at 1% critical level. In magnitude terms also, a 10% change in fixed capital stock, enhanced HDI, LEI, MYS, SAN, HCS, and reduction in infant mortality rate by 1.56%, 0.62%, 0.06%, 0.16%, 1.23%, and -12.19% respectively, while it lowered access to WAT by -0.46% within the reviewed periods.

On the basis of the foregoing analysis, it can be deduced that domestic capital formation (fixed capital stock) and capital dimension of globalisation (FDI) enhance human welfare development in East Africa compared to the deteriorating effect of financial dimension of globalisation (PFI) on human welfare status during the review period. In assessing the overall fitness of the estimated augmented panel regression models, the adjusted R-squared results on Table 5.10 reveal that with FDI and PFI as components of globalisation and other factors account for an average 97.1%, 93.6%, and 97.8% variation in HDI, other welfare measures (LEI, IMR, and MYS), and access to basic necessities (WAT, SAN and HCS) changes in East Africa region between 1980 and 2012.

The theoretical augmented fixed regression results that capture the effect of net LBM and TEL on HDI, other welfare measures (LEI, IMR, and MYS), and access to basic necessities (WAT, SAN and HCS) in East Africa indicate that net LBM as a labour mobility flow of globalisation had positive impact on HDI, LEI, IMR, access to improved WAT, and SAN, while it had negative effect on MYS and access to improved HCS in East Africa between 1980 and 2012. These are in tandem with the expected signs except for the effect on IMR, MYS and HCS. Based on the reported t-statistic values, the effect of LBM on HDI, LEI, IMR, MYS, and access to basic necessities were statistically significant at 1% critical level. In magnitude terms also a 10% change in labour migration, enhanced HDI, LEI, IMR, access to improved WAT,

and SAN by 2.76%, 0.23%, 8.73%, 18.11%, and 11.9% respectively, while it lowered MYS and HCS by -0.05% and -1.89% over the reviewed periods, respectively.

Access to telephone network (TEL) as information dimension of globalisation exerted positive effect on HDI, LEI, MYS, access to improved WAT, SAN, and HCS, while it exerted negative effect on IMR in East Africa between 1980 and 2012. These effects are in tandem with the *a priori* expectations and were statistically significant at 1% critical level except for MYS parameter estimate. In terms of magnitude, a 10% change in information channel of globalisation (TEL) enhanced HDI, LEI, MYS, WAT, SAN, HCS but caused reduction in IMR by 0.45%, 0.11%, 0.001%, 0.20%, 0.26%, 0.30%, and -0.17%, respectively as presented on Table 5.10.

The results further indicate that GGI as a measure of institutional quality exerted positive effect on LEI, IMR, and access to improved HCS in East Africa. This is in tandem with theoretical expectation (except for IMR) and statistically significant at 1% critical level. Also, GGI at 1% critical level, has negative but significant impact on HDI, MYS, access to improved WAT and SAN in East Africa between 1980 and 2012. These effects were not supportive of theoretical expectations. In magnitude terms, a 10% change in GGI, lowered HDI, MYS, access to improved WAT, and SAN by -0.35%, -0.01%, -1.42%, and -0.30% respectively, while it enhanced LEI, IMR, and HCS by 0.31%, 0.37%, and 0.30% respectively in East Africa.

On the basis of the foregoing analysis, it can be deduced that information flow in terms of access of people to telephone lines enhanced human welfare development in East Africa compared to the relatively deteriorating effect of LBM flow of globalisation on human welfare status during the reviewed periods. In assessing the overall fitness of the estimated augmented panel regression models, the adjusted R-squared results reveal that LBM flow, information channel of globalisation and other factors account for an average 97.1%, 93.6%, and 97.8% variation in human welfare, other welfare measures and access to basic necessities in the East Africa region between 1980 and 2012.

5.7.3 Estimated Panel Regression Results: Southern Africa

The impact of trade openness as a channel of globalisation on human welfare development for Botswana, Malawi, Mozambique and South Africa that made up the Southern Africa region is discussed in this subsection. The fixed effect theoretical augmented models' estimates were shown on Table 5.11. The results indicate that in Southern Africa, trade openness (TRD) exert positive effect on the human development index (HDI), life expectancy index (LEI), mean year of adult schooling (MYS), access to improved water (WAT), sanitation

(SAN), and health care services (HCS), while it exerts negative effect on infant mortality rate (IMR). These effects conform with the theoretical expectations and were found to be statistically significant at 1% critical level, based on the reported t-statistic values under each welfare models.

On the basis of intensity of the effects, 10% change in TRD, enhanced HDI, LEI, MYS, access to improved WAT, SAN, and HCS by 1.21%, 0.68%, 0.01%, 1.66%, 0.78%, and 0.79% respectively, as well as reduced IMR by -6.97% during the reviewed periods.

Table 5.8 further indicates that working age population share (n) at 1% critical level, exert positive and significant effect on HDI, IMR, MYS, access to WAT and SAN in Southern Africa. The effects are in consonance with theoretical expectation, excluding the effect of IMR. Also, at 1% critical level, economic active population size (n) was found to be negative and significantly related to the LEI, and access to HCS in Southern Africa between 1980 and 2012. In magnitude terms, 1% change in working age population share (n), enhanced HDI, IMR, MYS, access to WAT and SAN by 0.34%, 0.63%, 0.012%, 1.18%, and 1.58% respectively, while it reduced LEI and access to HCS in Southern Africa by -1.04% and -1.20% correspondingly.

Table 5.11: Fixed Effects Regression of Human Welfare and Transmission Channel of Globalisation in Southern Africa

	HDI	**LEI**	**IMR**	**MYS**	**WAT**	**SAN**	**HCS**
Constant	11.46	105.09	104.33	-0.32	-17.45	-57.71	105.09
	5.74**	55.54**	12.00**	-13.36**	-4.73**	-25.10**	42.85**
CFC	-0.002	-0.003	0.388	-0.002	-0.051	-0.002	0.108
	-0.11	-0.21	4.79**	-6.38**	-1.81***	-0.12	6.37**
TRD	0.121	0.068	-0.697	0.001	0.166	0.078	0.079
	21.24**	13.50**	-22.29**	14.43**	16.07**	12.41**	12.06**
PFI	0.171	-0.071	-0.693	0.002	-0.033	0.140	0.109
	4.16**	-1.99*	-3.77**	3.35**	-0.41**	3.05**	2.05*
FDI	0.248	0.071	-2.192	0.004	0.399	0.201	0.372
	11.61**	3.97**	-18.54**	9.66**	10.28**	8.81**	14.74**
LBM	0.072	-0.001	-0.623	0.002	0.379	0.186	0.025
	4.85**	-0.04	-6.72**	7.91**	12.32**	10.39**	1.48
GGI	-0.055	-0.005	0.369	-0.001	-0.051	-0.050	-0.048
	-17.36**	-1.82***	21.23**	-12.77**	-8.36**	-13.69**	-12.96**
TEL	0.127	-0.019	-0.455	0.003	0.222	0.195	0.039
	16.37**	-2.80**	-12.57**	23.42**	14.70**	22.51**	3.90**
N	0.336	-1.043	0.629	0.012	1.182	1.580	-1.203
	8.42**	-27.74**	3.59**	25.10**	16.01	34.45**	-24.60**
Adj. R-squared	0.972	0.872	0.895	0.989	0.955**	0.982	0.848

S.E. of reg.	2.910	2.448	16.805	0.056	7.858	3.602	3.887
F-statistic	6665.3**	1307.1**	1635.0**	16642.0**	4032.7**	10538.6**	1073.5**
Observation	132	132	132	132	132	132	132
Cross-sections	4	4	4	4	4	4	4

Note: [1]. *** denotes significant at 1%; ** denotes significant at 5%, and *denotes significant at 10%. [2]. Absolute t-statistics are in next line to the coefficients. [3]. All regressions use the fixed cross-section effects cross-section weights standard errors and covariance (d.f. corrected)

Source:- Author's Computation

In assessing the overall fitness of the estimated augmented panel regression models, the adjusted R-squared results on Table 5.11 reveal that with TRD as a channel of globalisation and other factors account for an average of 97.2%, 91.8%, and 92.8% variation in HDI, other welfare measures (LEI, IMR, and MYS), and access to basic necessities (WAT, SAN and HCS) changes in Southern Africa region between 1980 and 2012.

The impact of capital and financial channels of globalisation on human welfare development for Southern Africa region between 1980 and 2012 indicate that in Southern Africa, financial dimension of globalisation (PFI) exerts positive effect on HDI, MYS, access to improved SAN and HCS, while it exerts negative effect on IMR. These are in tandem with the expected signs. In magnitude terms, a 10% change in PFI enhanced HDI, MYS, SAN, HCS and reduction infant mortality rate by 1.71%, 0.02%, 1.40%, and 1.09% respectively, while it depeens reduction in infant mortality rate by -6.93%. Also, financial channel of globalisation (PFI) was found to exert negative effect on LEI, and access to improved WAT in Southern Africa region. These effects are not in tandem with the expected signs. For 10% change in PFI, LEI and access to improved WAT were lowered by -0.71% and -0.33% respectively. The reported t-statistic results indicate that the effect of PFI on HDI, IMR, MYS, access to improved WAT, SAN and HCS were found to be statistically significant at 1% critical level, and at 5% critical level for LEI.

Foreign direct investment as a capital dimension of globalisation exerts positive effect on HDI, LEI, MYS, access to improved WAT, SAN, and HCS, while it exerts negative effect on IMR in Southern Africa between 1980 and 2012. These effects are in tandem with the *a priori* expectations and statistically significant at 1% critical level. In terms of magnitude, a 10% change in financial channel of globalisation (FDI) enhanced HDI, LEI, MYS, access to improved WAT, SAN, HCS but reduced IMR by 2.48%, 0.71%, 0.04%, 3.99%, 2.01%, 3.72% and -21.92% respectively.

The results reported further indicate that gross fixed capital stock as a measure of domestic capital formation exerts positive effect on access to improved HCS in Southern Africa.

This is in tandem with theoretical expectation and statistically significant at 1% critical level. Also, domestic capital formation (fixed capital stock) has negative impact on HDI, LEI, MYS, access to improved WAT and SAN, while its impact on IMR was positive in Southern Africa in the period under review. These effects were not in tandem with theoretical expectations. In magnitude terms, a 10% change in fixed capital stock, deepened deterioration of HDI, LEI, MYS, access to improved WAT, SAN and IMR by -0.02%, -0.03%, -0.02%, -0.51%, -0.02%, and 3.88%, respectively. The reported t-statistic values indicate that it was only the effect of fixed capital stock on IMR, MYS, and HCS were found to be statistically significant at 1% critical level; and 5% critical level for access to improved WAT.

The above analysis indicate that financial and capital dimensions of globalisation (PFI and FDI) enhanced human welfare development in Southern Africa compared to the deteriorating effect of domestic capital formation (fixed capital stock) on human welfare status during the review periods. In assessing the overall fitness of the estimated augmented panel regression models, the adjusted R-squared results reveal that with financial and capital channels of globalisation and other factors account for an average 97.2%, 91.8%, and 92.8% variation in HDI, other welfare measures (LEI, IMR, and MYS), and access to basic necessities (WAT, SAN and HCS) changes in Southern Africa region between 1980 and 2012.

The impact of LBM and information channels of globalisation on human welfare development of Botswana, Malawi, Mozambique and South Africa indicate that in Southern Africa, net LBM as labour flow dimension of globalisation was found to exert positive effects on HDI, MYS, access to improved WAT, SAN, and HCS, while negative effect on IMR in Southern Africa region in the period under review.

These effects were in line with theoretical expectations based on signs of the reported estimates. In terms of intensity of effects, 10% change in labour migration, enhanced HDI, MYS, access to improved WAT, SAN, HCS, but reduction in IMR by 0.72%, 0.02%, 3.79%, 1.86%, 0.25% and 6.23% respectively. Also, net LBM was found to exert negative effect on LEI in Southern Africa region by a magnitude of -0.01% with a 10% change. This is not in tandem with the expected sign. In terms of partial significance, the reported t-statistic values on Table 7.9 indicate that it was only the effect of LBM on HDI, IMR, MYS, WAT and SAN were found statistically significant at 1% critical level.

Also, access to telephone network (TEL) as information flow dimension of globalisation exerted positive effects on HDI, MYS, access to improved WAT, SAN, and HCS, while it exerted negative effect on LEI and IMR in Southern Africa between 1980 and 2012. These effects are in tandem with the *a priori* expectations (except for LEI) and statistically significant

at 1% critical level. In terms of magnitude, a 10% change in information channel of globalisation (TEL) enhanced HDI, MYS, access to improved WAT, SAN, HCS, but reduced LEI and IMR by 1.27%, 0.03%, 2.22%, 1.95%, 0.39%, -0.19%, and -4.55% respectively.

The results presented in Table 5.11 further reveal that GGI as institutional control variable was found to exert negative effects on HDI, LEI, MYS, access to improved WAT, SAN, and HCS, while it also has positive effect on IMR in Southern Africa region. These effects are not in tandem with theoretical expectations. In terms of effect size, 10% change in GGI lowered HDI, LEI, MYS, access to improved WAT, SAN and HCS, by -0.55%, -0.05%, 3.69%, -0.01%, -0.51%, 0.50%, and 0.48%, respectively. The reported t-statistics values indicated that GGI effect on HDI, LEI, IMR, access to improved WAT, SAN and HCS were found statistically significant at 1%, while it was 10% critical level for LEI in Southern Africa between 1980 and 2012.

The above analysis indicate that labour mobility and information dimensions of globalisation (LBM and TEL) enhanced human welfare development in Southern Africa compared to the deteriorating effect of GGI on human welfare status during the reviewed periods. In assessing the overall fitness of the estimated augmented regression models, the adjusted R-squared reveal that labour and information channels of globalisation and other factors account for an average 97.2%, 91.8%, and 92.8% variation in human welfare, other welfare measures (LEI, IMR, and MYS), and access to basic necessities (WAT, SAN and HCS) changes in Southern Africa region between 1980 and 2012.

5.7.4 Estimated Panel Regression Results: West Africa

Table 5.12: Fixed Effects Regression of Human welfare and Transmission Channel of Globalization in West Africa

	HDI	LEI	IMR	MYS	WAT	SAN	HCS
Constant	44.16	80.99	-89.77	3.42	-97.12	-11.30	64.60
	10.26**	24.03**	-5.55**	19.11**	-13.39**	-4.88**	13.53**
CFC	0.072	0.217	-1.040	0.003	0.273	0.121	0.175
	4.81**	18.51**	-18.55**	4.48**	10.72**	13.66**	11.25**
TRD	0.016	-0.029	0.095	0.001	0.092	-0.028	-0.017
	3.60**	-10.55**	6.56**	3.45**	14.69**	-11.12**	-4.31**
PFI	-1.692	-1.086	6.186	-0.050	-2.278	-0.242	-1.660
	-26.54**	-27.96**	28.44**	-20.63**	-25.18**	-5.81**	-26.84**
FDI	0.401	0.285	-1.225	0.003	0.761	0.198	0.482
	18.01**	15.81**	-14.19**	3.18**	19.70**	17.12**	18.93**
LBM	-0.053	-0.057	1.640	0.0002	0.848	-0.046	-0.092
	-1.01	-1.34	8.28**	0.07	9.02**	-1.47	-1.79***

GGI	-0.045	-0.018	0.138	-0.002	-0.050	-0.012	-0.033
	-28.95**	-18.25**	25.85**	-32.15**	-21.36**	-11.59**	-22.95**
TEL	0.906	0.441	-3.442	0.035	0.945	0.321	0.828
	34.47**	24.06**	-36.88**	29.43**	22.74**	22.34**	32.03**
N	-0.359	-0.652	4.229	-0.066	2.556	0.439	-0.463
	-4.23**	-9.81**	13.26**	-18.71**	17.89**	9.58**	-4.91**
Adj. R-squared	0.940	0.889	0.880	0.929	0.923	0.963	0.920
S.E. of reg.	2.384	1.984	9.005	0.107	4.065	1.720	2.841
F-statistic	2987.7**	1543.8**	1410.4**	2526.1**	2293.5**	5053.2**	2222.3**
Observation	132	132	132	132	132	132	132
Cross-sections	4	4	4	4	4	4	4

Note: [1]. *** denotes significant at 1%; ** denotes significant at 5%, and *denotes significant at 10%. [2]. Absolute t-statistics are in next line to the coefficients. [3]. All regressions use the fixed cross-section effects cross-section weights standard errors and covariance (d.f. corrected)

Source:- Author's Computation

The theoretical augmented fixed regression results that capture the effect of TRD on HDI, other welfare measures (LEI, IMR, and MYS), and access to basic necessities (WAT, SAN and HCS) in West Africa [comprising Benin, Ghana, Niger, and Nigeria] were shown on Table 5.12. The results indicate that at 1% critical level, TRD as a channel of globalisation exerts positive and significant effect on the HDI, IMR, MYS and access to improved WAT. It is only the effect on IMR that was found not to conform with the theoretical expectations in West Africa between 1980 and 2012. Similarly, at 1% critical level, TRD as economic dimension of globalisation was found to exert negative and significant effect on the LEI, access to improved SAN, and HCS in West Africa. These effects are not in tandem with theoretical expectations.

Also, in terms of the magnitude, 10% change in TRD enhanced on HDI, IMR, MYS, access to improved WAT by 0.16%, 0.95%, 0.01%, and 0.92% respectively, while it reduced LEI, access to improved SAN and HCS by -0.29%, -0.28% and -0.17% correspondingly.

Economic active population share (n) as a theoretical control variable was found to be significantly and negatively related to the HDI, LEI, MYS, and access to HCS in the West Africa region at 1% critical level. The effects are not in consonance with the theoretical expectations. Also, the percentage share of working age population of total (n) was found to be significant and positively related to the IMR, access to WAT and SAN in West Africa between 1980 and 2012 at 1% critical level. For 1% change in economic active population (n), HDI, LEI, MYS, and access to HCS lowered by -0.36%, -0.65%, -0.07%, and -0.46%, respectively, while it enhanced IMR, access to WAT and SAN by 4.23%,2.56% and 0.44%, respectively.

In assessing the overall fitness of the estimated augmented panel regression models, the adjusted R-squared revealed that with TRD as a channel of globalisation and other factors account for an average 94%, 90%, and 93.6% variation in HDI, other welfare measures (LEI, IMR, and MYS), and access to basic necessities (WAT, SAN and HCS) changes in West Africa region in the period under review.

The theoretical augmented fixed regression results that capture the effects of capital and financial openness (PFI and FDI) on HDI, other welfare measures (LEI, IMR, and MYS), and access to basic necessities (WAT, SAN and HCS) in West Africa indicate that that PFI as financial dimension of globalisation exerts negative effect on HDI, LEI, MYS, access to improved WAT, SAN, and HCS, while it exerts positive effect on IMR in West Africa between 1980 and 2012. These effects were not in tandem with the theoretical expectations. For 1% change in financial flow of globalisation (portfolio investment), HDI, LEI, IMR, MYS, access to WAT, SAN and HCS lowered by -1.69%, -1.09%, 6.19%, -0.05%, -2.28%, -0.24% and -1.66% respectively. Base on the reported t-statistic values on Table 5.12, it is only the effect of PFI on HDI, LEI, IMR, MYS, access to improved WAT, SAN and HCS were found to be statistically significant at 1% critical level in West Africa.

Foreign direct investment as a capital dimension of globalisation exerts positive effect on HDI, LEI, MYS, access to improved WAT, SAN, and HCS, while it exerts negative effect on IMR in West Africa between 1980 and 2012. These effects are in tandem with the *a priori* expectations and statistically significant at 10% critical level. In terms of magnitude, a 10% change in financial channel of globalisation (FDI) enhanced HDI, LEI, MYS, access to improved WAT, SAN, HCS but reduction in IMR by 4.01%, 2.85%, 0.03%, 7.61%, 1.98%, 4.82%, and -12.3% respectively.

Similarly, Gross fixed capital stock as a theoretical baseline input variable and measure of domestic capital formation was found to exert positive effect on HDI, LEI, MYS, access to improved WAT supply, SAN, and HCS, while negative effect on IMR in West Africa region between 1980 and 2012. These effects were in tandem with theoretical expectations based on signs of the reported estimates. In terms of intensity of effects, 10% change in fixed capital stock, enhanced HDI, LEI, MYS, access to improved WAT supply, SAN, HCS, but reduction in IMR by 0.72%, 2.17%, 0.03%, 2.73%, 1.21%, 1.75%, and -10.4% respectively. In terms of partial significance, the reported t-statistic values indicate that, the effect of fixed capital stock on HDI, LEI, IMR, MYS, access to improved WAT, SAN, and HCS were found statistically significant at 1% critical level.

In comparative terms, the entire analysis reveal that domestic capital formation and capital channel of globalisation enhanced human welfare development, while financial dimension of globalisation worsen human welfare development in West Africa region during the reviewed periods. In assessing the overall fitness of the estimated augmented panel regression models, the adjusted R-squared results reveal that with PFI and FDI as channels of globalisation and other factors accounts for an average 94%, 90%, and 93.6% variation in HDI, other welfare measures (LEI, IMR, and MYS), as well as access to basic necessities (WAT, SAN and HCS) changes in West Africa region between 1980 and 2012.

The theoretical augmented fixed regression results that capture the effect of LBM and information flows on human welfare, other welfare measures and access to basic necessities in West Africa indicate that net LBM as a channel of labour flow dimension of globalisation exerted negative effect on HDI, LEI, access to improved SAN, and HCS, while it exerted positive effect on IMR, MYS, and access to improved WAT in West Africa in the period under review. These effects were not in consonance with the theoretical expectations (except for MYS and WAT). For 10% change in labour flow of globalisation (LBM), HDI, LEI, IMR, access to improved WAT, SAN and HCS lowered by -0.53%, -0.57%, 16.4%, -0.46%, and -0.92% respectively, while it enhanced MYS and access to improved WAT by 0.002% and 8.48%, respectively during the reviewed periods in West Africa. In terms of partial significance as reported by the t-statistic values reported on Table 5.13, it was only the effect of LBM on IMR and access to improved WAT that were found significant at 1% critical, while it was 10% for HCS.

Access to telephone network (TEL) as information dimension of globalisation exerted positive effect on HDI, LEI, MYS, access to improved WAT, SAN, and HCS, while it exerted negative effect on IMR in West Africa between 1980 and 2012. These effects are in consonance with the *a priori* expectations and statistically significant at 1% critical level. In terms of magnitude, a 1% change in information channel of globalisation (TEL) enhanced HDI, LEI, MYS, access to improved WAT, SAN and HCS but reduced IMR by 9.06%, 4.41%, 0.35%, 9.45%, 3.21%, 8.28%, and -34.42%, respectively as reported on Table 5.12.

Institutional and governance quality as measured by GGI was found to exert negative effects on HDI, LEI, MYS, access to improved WAT, SAN, and HCS, while it has positive effect on IMR in West Africa region between 1980 and 2012. These effects are not in tandem with theoretical expectations. In terms of effect size, 10% change in GGI lowered HDI, LEI, MYS, access to improved WAT, SAN and HCS by -0.45%, -0.18%, 1.38%, -0.02%, -0.50%, -0.12%, and -0.33% respectively. The reported t-statistics values indicate that GGI effects on

HDI, LEI, IMR, access to improved WAT, SAN and HCS were found statistically significant at 1% in West Africa during the period under review.

Comparatively, the entire analysis reveals that information flow channel of globalisation enhanced human welfare development, while LBM dimension of globalisation and governance quality worsened human welfare development in West Africa region during the reviewed periods. In assessing the overall fitness of the estimated augmented panel regression models, the adjusted R-squared reveal that the consideration of net LBM and access to telephone lines (TEL) as channels of globalisation and other factors accounted for an average 94%, 90%, and 93.6% variations in other welfare measures, and access to basic necessities changes in the West Africa region between 1980 and 2012.

5.8 Comparative Estimated Regression Results: More and Less Globalised Regions

For precise understanding, policy inference and robustness check, this study further comparatively examined the effect of the dimensions of globalisation on human welfare, other welfare measures and access to basic necessities in Sub-Saharan Africa (SSA) from 1980 to 2012 between the more and less globalised countries. The sampled SSA countries were further reclassified into more globalised (Cameroon, Gabon, Kenya, Mauritius, Botswana, South Africa, Ghana, and Nigeria) and less globalised (Central Africa Republic, Rwanda, Tanzania, Uganda, Malawi, Mozambique, Benin, and Niger) regions. Countries with KOF globalisation index less than the sub-regional average is classified less globalised while those with index higher than the sub-regional average is classified more globalised. The motivation for the comparative analysis stemmed from the need to determine the extent to which varying degree of globalisation influence human welfare status in SSA and to investigate the influence of aggregation on the overall results (i.e. aggregation biasness). This is to give further policy clarity and guide policy simulation relative to global integration among SSA countries with the global market.

The estimated theoretical augmented fixed effects regression models of human welfare, other welfare measures and access to basic necessities for the more and less globalised SSA regions are shown on Table 5.13. The results indicate that TRD as an economic dimension of globalisation was found to exert positive effect on HDI, LEI, access to improved WAT and HCS, while it exerts negative effect on IMR in the more and less globalised regions in SSA. These effects conform with the expected theoretical signs and were statistically significantly at 1% critical level. In magnitude, 10% increase in TRD changed HDI, LEI, IMR, access to WAT and HCS by 0.5%, 0.5%, 1.97%, and 0.7% in the more globalised SSA region and by 0.77%, 0.71%, -3.21%, 0.53%, and 1.13% in the less globalised SSA region respectively.

The results presented further indicate a reversal effect of TRD on mean year of schooling and access to improved sanitation between the more and less globalised regions in SSA. Precisely, TRD in the more globalised region exerts positive (0.0004) effect on MYS, while it was negative (-0.001) for less globalised region. This reflects the high level development effect on human welfare in terms of access to basic education. Also, TRD was found to exert negative and positive effects on access to improved SAN respectively for more and less globalised regions by a magnitude of -0.17% and 0.13% for a 10% increase in TRD. This also indicates the effect of a high level of urbanisation growth rate in the more globalised region that accelerates environmental pollution level.

It is clear and apparent from the analysis that the economic dimension of globalisation via trade flow channels improves human welfare, other welfare status, and access to basic necessities in the more and less globalised regions. But, the size of effect is higher for the less globalised region compared to the more globalised region. This indicates that the less globalised region benefits more from trade global interactions to enhance human welfare because of the large output size with relatively low trade volumes compared to the more globalised region that has high trade volumes.

Table 5.13 Fixed Effects Regression of Human Welfare and Transmission Channel of Globalization between More and Less Globalised SSA Countries

	HDI		LEI		IMR		MYS		WAT		SAN		HCS	
	MG	**LG**	**MG**	**LG**	**MG**	**LG**	**MG**	**LG**	**MG**	**LG**	**MG**	**LG**	**MG**	**LG**
Constant	-0.009 (-0.01)	-36.66 (-15.90***)	90.77 (93.97***)	24.18 (13.25***)	132.43 (51.64***)	193.80 (20.51***)	-0.90 (-43.67***)	-1.42 (-25.35***)	-87.70 (-51.62***)	35.19 (9.80***)	-73.26 (-67.59***)	-67.83 (-19.76***)	92.65 (60.40***)	-10.77 (-3.64***)
CFC	-0.002 (-0.16)	0.074 (8.14***)	0.037 (4.56***)	0.031 (4.70***)	-0.032 (-1.20)	-0.487 (-12.70***)	-0.003 (-12.33***)	0.005 (28.06***)	-0.074 (-3.02***)	0.128 (9.95***)	0.028 (2.24**)	0.033 (2.90***)	0.223 (16.48***)	0.045 (4.43***)
TRD	**0.050 (12.75***)**	**0.077 (18.91***)**	**0.050 (20.57*)**	**0.071 (25.90***)**	**-0.179 (-20.92***)**	**-0.321 (-19.57***)**	**0.0004 (5.19)**	**-0.001 (-10.81***)**	**0.197 (29.70***)**	**0.053 (8.19***)**	**-0.017 (-5.16***)**	**0.013 (2.04**)**	**0.070 (16.71***)**	**0.113 (24.73***)**
PFI	-0.004 (-1.45)	-0.695 (-11.61***)	-0.015 (-5.55***)	-0.558 (-13.38***)	-0.014 (-3.03***)	0.520 (2.58**)	0.0003 (6.33***)	-0.010 (-5.29***)	0.028 (6.39***)	-0.689 (-6.66***)	0.014 (2.78***)	0.118 (1.19)	-0.010 (-3.48***)	-0.718 (-9.63***)
FDI	0.377 (16.33***)	0.585 (34.84***)	0.111 (7.04***)	0.297 (24.37***)	-0.203 (-4.21***)	-3.555 (-48.45***)	-0.004 (-7.33***)	0.014 (32.36***)	-0.069 (-1.55)	0.576 (23.45***)	-0.166 (-8.91***)	0.572 (24.35***)	0.522 (20.28***)	0.492 (26.09***)
LBM	-0.056 (-1.35)	-0.003 (-0.49)	-0.231 (-7.06***)	-0.014 (-2.02**)	0.671 (8.06***)	0.223 (6.99***)	-0.001 (-1.50)	-0.001 (-5.39***)	1.154 (17.35***)	0.050 (5.20***)	0.607 (15.55***)	0.038 (3.43***)	-0.184 (-4.02***)	0.089 (8.97***)
GGI	-0.043 (-23.34***)	-0.019 (-16.24***)	-0.010 (-11.26***)	0.017 (18.50***)	0.069 (15.52***)	0.052 (12.27***)	-0.001 (-27.53***)	-0.001 (-34.48***)	-0.048 (-18.32***)	-0.091 (-40.13***)	0.014 (8.57***)	-0.030 (-15.99***)	-0.033 (-19.33***)	0.002 (1.34)
TEL	0.046 (40.75***)	0.885 (49.93***)	0.034 (38.14***)	0.632 (44.36***)	-0.033 (-16.02***)	-4.132 (-54.74***)	0.0002 (7.91***)	0.022 (41.36***)	-0.001 (-0.65)	2.163 (46.54***)	0.009 (5.79***)	0.558 (19.43***)	0.058 (50.51***)	0.912 (43.49***)
n	0.780 (34.73***)	1.118 (24.88***)	-0.709 (-38.87***)	0.371 (10.51***)	-0.947 (-19.87***)	-0.880 (-4.82***)	0.029 (76.09***)	0.030 (27.10***)	2.574 (83.12***)	-0.016 (-0.22)	2.079 (102.85***)	1.617 (23.97***)	-0.876 (-30.27***)	0.861 (14.96***)
Adj. R2	0.927	0.858	0.931	0.793	0.948	0.810	0.828	0.941	0.964	0.878	0.988	0.924	0.950	0.790
S.E of Reg	3.231	2.995	2.243	3.594	8.075	13.767	0.089	0.076	6.460	5.603	3.130	4.260	3.669	4.429
F-Statistic	3564.1***	1703.1***	3790.8***	1079.8***	5133.6***	1204.2***	1352.9***	4505.6***	7511.1***	2024.9***	22253.6***	3411.0***	5358.1***	1062.5***
Obs	4224	4224	4224	4224	4224	4224	4224	4224	4224	4224	4224	4224	4224	4224
Cross-Section	8	8	8	8	8	8	8	8	8	8	8	8	8	8

Note: [1]. MG and LG represent More and Less Globalised models respectively; [2]. Model is the augmented theoretical model with control variables; [3]. *** denotes significant at 1%; ** denotes significant at 5%.; * denotes significant at 10%. [4]. All regressions use the fixed cross-section effects cross-section weights standard errors and covariance (d.f. corrected)

Source: - Author's Computation

Similarly, the results presented on Table 5.13 further indicate that at 1% critical level, the share of economic active population of total (n) in more and less globalised regions significantly enhanced HDI, reduced IMR, MYS, and access to improved sanitation between 1980 and 2012. These conform with the theoretical expectations. In magnitude terms a 1% change in working age population share (n) enhanced HDI, reduced IMR, MYS, and access to improved SAN by 0.78%, -0.95%, 0.03%, and 2.08% for the more globalised region and by 1.12%, -0.88%, 0.03%, and 1.62% for the less globalised region, respectively. Also, differential effects were reported for the effect of economic active population share on other welfare measures. At 1% critical level the share of economic active population (n) was found to be significantly but negatively related to LEI and access to improved HCS for more globalised region (-0.71% and -0.88% for 1% change in n), while it was significantly and positively related to LEI and HCS for the less globalised region (0.37% and 0.86% for 1% change in n) in SSA. Similarly, at 1% critical level, economic active population share (n) had significant positive effect on access to improved water for the more globalised region, and had an insignificant reversal effect for the less globalised region.

The estimated theoretical augmented fixed effects regression models of human welfare, other welfare measures and access to basic necessities for the more and less globalised SSA regions indicate that FDI as capital dimension of globalisation was found to exert positive effect on HDI, LEI, and access to improved HCS, while it exerted negative effect on IMR in the more and less globalised regions in SSA. These effects conform with the expected theoretical signs and statistically significantly at 1% critical level. In magnitude terms, 10% change in capital dimension of openness enhanced HDI, LEI, but reduced IMR, and access to improved HCS by 3.77%, 1.11%, -2.03%, and 5.22% in the more globalised SSA region; and by 5.85%, 2.97%, -35.6%, and 4.92%% in the less globalised SSA region respectively. The reported estimates further reveal evidence of reverse effects. It indicate that the impact of capital flow channel of globalisation (FDI) on MYS, access to improved WAT, and SAN between 1980 and 2012 was negative in the more globalised region (by magnitude of -0.04%, -0.69%, and -1.66% for 10% change in FDI) and positive in the less globalised region (by a magnitude of 0.14%, 5.76%, and 5.72% for 10% change in FDI) respectively. The reported effects on human welfare development of the less globalised SSA region were found in tandem with the theoretical

expectations alone. Also, the effects for the two subregions in SSA were found statistically significant at 1% critical level excluding for the negative effect on access to improved WAT for more globalised region.

Also, the reported estimates of PFI as financial dimension of globalisation indicate a negative effect on HDI, LEI, and access to improved HCS, while a positive effect on access to improved SAN in the more and less globalised regions. These effects do not conform with the theoretical expected signs expect for SAN, and these effects were statistically significant at 1% critical expect for HDI and access to SAN parameter estimates for more and less globalised region in SSA, respectively. For 10% change in financial dimension of globalisation (PFI), HDI, LEI, and HCS lowered, while SAN was enhanced by -0.04%, -0.15%, -0.10%, and 0.14% in the more globalised region; and by -6.95%, -5.58%, -7.18%, and 1.18% in the less globalised region, respectively. Similarly, a differential effect between the more and less globalised region of PFI on IMR, MYS, and access to improved WAT were reported on Table 5.13. The estimates indicate that in tandem with the expected signs at 1% significance level, PFI exerts negative effect on IMR in the more globalised sub region, while positive effect on IMR in the less globalised regions. Further, at 1% critical level and in tandem with the expected signs, PFI exerted positive and significant effect on MYS, and access to improved WAT supply, in the more globalised region by a magnitude of 0.003% and 0.28% for a 10% change. Contrarily, at 1% critical level and not in tandem with the expected signs, PFI exerts negative effect on MYS and access to WAT supply by a magnitude of -0.1% and -0.689% respectively for a 10% change in the less globalised region.

In conformity with theoretical expected signs and at 1% critical level, gross fixed capital stock as a measure of domestic capital formation exerted positive effect on LEI, SAN, and HCS, while it exerted a negative effect on IMR in the more and less globalised regions. In magnitude terms, a 10% change in domestic capital formation (fixed capital stock), enhanced LEI, SAN, HCS, but reduced IMR correspondingly by 0.37%, 0.28%, 2.23%, and -0.32% in the more globalised region; and by 0.31%, 0.33%, 0.45%, and -4.87% in the less globalised region. Although, a reversal effect was reported for the effect of fixed capital stock on HDI, MYS and access to improved WAT supply between the more and less globalised region. Contrary to the expected theoretical signs, fixed capital stock exerts negative and significant effect on HDI, MYS and access to improved WAT supply,

by a magnitude of -0.02%, -0.03%, and -0.74%, respectively in the more globalised region between 1980 and 2012 for a 1% change. Also, in the less globalized region, at 1% critical level and in conformity with the theoretical expectations, fixed capital stock exerted positive and significant effects on HDI, MYS, and access to improved WAT supply by a magnitude of 0.74%, 0.05%, and 1.28%, respectively.

The empirical analysis indicates that domestic capital formation and capital dimension of globalisation were human welfare enhancing in the more and less globalized regions between 1980 and 2012. Nonetheless, in terms of magnitude, the effects sizes were more intensive and highly significant in less globalised region, particularly in cases of differential effects. In addition, it was only financial dimension of globalisation via PFI that was found to deteriorate human welfare in both regions, while the effect sizes were higher in terms of magnitude for the less globalised region. Also, PFI was more welfare enhancing in the more globalised region compared to the less globalised sub region.

The reported estimates of net LBM as a labour mobility dimension of globalisation on the same Table (5.13) indicate negative effects on HDI, LEI, and MYS, while positive effects on IMR, access to improved WAT and SAN in the more and less globalised regions. These effects do not conform with the theoretical expected signs except for HDI, LEI, IMR, and MYS; these effects were statistically significant at 1% critical except for HDI parameter estimates for more and less globalised regions in SSA respectively. For 10% change in labour mobility flow dimension of globalisation (LBM), HDI, LEI, and MYS lowered, while access to improved WAT, SAN, and IMR were enhanced by -0.56%, -2.31%, -0.01%, 11.54%, 6.71%, and 6.07% in the more globalised region; and by -0.03%, -0.14%, -0.01%, 0.50%, 0.38%, and 2.23% in the less globalised region, respectively. Similarly, differential effects between the more and less globalised regions with respect to the effects of LBM on access to improved HCS were reported on the table (5.13).

The estimates indicate that in tandem with the expected signs and 1% significance level, LBM exerted negative effect on HCS in the more globalised sub region by a magnitude of -1.84%, while positive effect on HCS in the less globalised regions by a magnitude of 0.89%.

Similarly, the results indicate that access to telephone (TEL) as information dimension of globalisation was found to exert positive effects on HDI, LEI, MYS, access to improved SAN, and HCS, while it exerted negative effects on IMR in the more and less

globalised regions in SSA. These effects conform with the expected theoretical signs and statistically significantly at 1% critical level. In magnitude terms, 10% change in access of people to telephone lines (TEL) as information dimension of openness enhanced HDI, LEI, MYS, and access to SAN, HCS, but reduced IMR: by 0.46%, 0.34%, 0.002%, 0.09%, 0.58%, and -0.33% in the more globalised SSA region; and by 8.85%, 6.32%, 0.22%, 5.58%, 9.12%, and -41.32% in the less globalised SSA region, respectively. The reported estimates further reveal evidence of reverse effects. It indicates that the impact of information flow channel of globalisation (TEL) on access to improved WAT between 1980 and 2012 was negative in the more globalised region (by magnitude of 0.01% for 10% change in TEL) and positive in the less globalised region (by a magnitude of 21.63% for 10% change in TEL) respectively. The reported effect on human welfare development in the less globalised SSA region was in tandem with the theoretical expectation alone. Also, the effects for the two categories in SSA were found statistically significant at 1% critical level except for the negative effect on WAT for more globalised region.

The reported estimates for GGI as institutional and governance quality have negative effects on HDI, MYS, and access to improve WAT, while a positive effect on IMR in the more and less globalized regions of SSA. These effects does not conform with the theoretical expected signs but they are statistically significant at 1% critical for more and less globalised regions in SSA. For 10% change in GGI, HDI, MYS, and access to improved WAT lowered by -0.43%, 0.69%, -0.01% and 0.48% in the more globalised region; and by -0.19%, 0.52%, -0.01%, and -0.91% in the less globalised region respectively. Similarly, differential effects between the more and less globalised regions with respect to the effect of GGI on LEI, access to improved SAN and HCS as reported in the table. The estimates indicate that in tandem with the expected signs and at 1% significance level, GGI exerted positive effect on access to SAN in the more globalised subregion by a magnitude of 0.14%, while negative effect on access to sanitation (but this does not conform with the expected sign) in the less globalised regions by a magnitude of -0.30%. Also, at 1% critical level, the effects of GGI on LEI and HCS were respectively: negative and significant (though this does not confirm with the theoretical expectation) in the more globalised region by magnitude of -0.10% and -0.33% for 10% change in GGI; and positive and significant in the less globalised region by magnitude of 0.17% and 0.02% for 10% change in GGI.

In summary, the empirical analysis indicates that information and communication dimensions of globalisation were human welfare enhancing in the more and less globalised regions between 1980 and 2012. But the effect sizes were more intensive and highly significant in less globalised region than the more globalised region. Also, it was found that labour mobility dimension of globalisation via net LBM was found to deteriorate human welfare in both regions, while the effect sizes were higher in terms of magnitude for the more globalised region. Similarly, institutional and governance quality was more human welfare deteriorating in the less globalised region, compared to the more globalised sub region.

CHAPTER SIX

SUMMARY, RECOMMENDATIONS AND CONCLUSION

This chapter of the study provides a summary of the major findings, recommendations and limitation of the study prior to the concluding remarks.

6.1 Summary of Major Findings

Africa, especially the Sub-Saharan Africa (SSA) region is one of the areas among developing and emerging nations that witnessed increased and intensive level of globalisation through trade relations, capital flows, labour migration, and technological transfers in the last three decades. This degree of globalisation has been further accelerated by political participation of the region which lessens restrictions to free flow of information and technological transfer among globalising countries. This high degree of globalisation has translated to growth, but these gains have not been reflected in qualitative welfare for most developing countries and thus, have precipitated inconclusive debates on the precise directional link between globalisation dimensions and human welfare changes.

These empirical controversies constituted the rationale for this study in determining the impact of trade openness (TRD), net capital and financial flow, labour mobility, information and technological flows as dimensions of globalisation on human welfare changes in selected SSA countries. This study considered extensive measures of welfare (human development index-HDI, life expectancy index-LEI, infant mortality rate-IMR, mean year of schooling-MYS, and access to basic necessities of life such as water-WAT, sanitation-SAN and health care services-HCS) as distinct from earlier empirical studies. The study surveyed sixteen SSA countries, equally selected from the Central, East, Southern and West Africa regions. A balanced panel approach was adopted with time series data between 1980 and 2012 for sixteen (16) cross-sectional units.

The estimation of different variants of the panel regression model reported three major sets of empirical findings in line with the stated objectives. The first set of the empirical evidence indicated that TRD as a measure of globalisation enhanced human welfare development and the access of people to infrastructural facilities in SSA regions as a result of adopted and instituted differential trade reforms over the years. Among other dimensions, TRD in a single equation system was found to account for 91.7% of changes in human welfare in SSA regions and similar outcomes were reported for the Central, East, Southern and West Africa subregions during the reviewed periods.

The evidence from the second set of findings reveals that capital flow through foreign direct investment (FDI) is a dimension of globalisation that has positive impact on welfare mainly in terms of human development, life expectancy combating IMR, and enhanced access to SAN and HCS in SSA region during the reviewed periods. Portfolio investment (PFI) as a financial channel of globalisation was found to deteriorate human welfare development in the SSA region. Among the indices, FDI was found to be predominantly human welfare enhancing in East, Southern Africa, more and less globalised subregions in the SSA.

Further, the results reveal that information flow via number of telephone lines subscribers as a dimension of globalisation exerted a positive impact on human welfare development, IMR, and improved access to WAT in the SSA region. Evidence from other subregions had complementary outcomes as information flow enhances human development in Central, East, Southern and West Africa.

Lastly, high labour migration and emigration of experts as a dimension of globalisation was found to worsen human welfare development and hinders basic infrastructural development in the SSA, Central, East and West Africa regions. Although, the reported outcomes and magnitude in the regions reflected the relative underutilisation of human resource endowments and high degree of labour emigration that characterised each covered country, contrary evidence was documented for Southern Africa as labour mobility was found to be human welfare enhancing during the reviewed periods. This is attributed to the dominance of foreigners in the labour market, especially in South Africa being the fastest-growing country in the region.

Also, bad and ineffective governance has been established to have the highest negative impact on human wellbeing improvement in terms of magnitude and statistical significance in SSA region and all the subregions. The last set of outcomes indicate that population growth is a threatening factor to infrastructural development and potentials to enhance human welfare development in the SSA region.

6.2 Policy Implications and Recommendations

The findings from the study yield various policy implications for policy makers in SSA countries, in their attempt to reap the immense benefits emanating from global interactions and thus call for the need to harmonised reforms. This step is anticipated to

improve human welfare development and enhance infrastructure accessibility, as the outcome of the empirical analysis reveals that TRD enhances human wellbeing in the SSA region but with marginal effects in terms of magnitude, it was also found to influence the access to basic primary schooling and sanitation. TRD was found to explain 92% changes in human welfare development within the considered time-frame. A plausible explanation for this observed empirical outcome is attributed to the existence of high trade tariffs and extensive open trade regimes hindering SSA specialisation in highly competitive primary products for global exchange. The long reliance on primary products coupled with high commodity prices' volatility have been one of the main driving forces of negative TRD impact on human welfare. Despite the consistent GDP growth rate recorded by most SSA countries, this has been rootless and non-inclusive in terms of qualitative development. Other reasons why large trade volume in SSA have not been translated to a remarkable improvement in human welfare include high marginal propensity to import, small size of domestic output and international trade characterised by dumping and non-compliance to comparative advantage laws of trade.

There is need for policy makers in each SSA country to continuously increase the adoption and utilisation of inclusive growth-oriented trade policy tools such as moderate tariffs and non-tariff barriers to guide trade interactions with the global world, especially via exports promotion strategy to facilitate development in human wellbeing. Also, harmonisation of trade tariffs and reforms among SSA countries will further improve future multilateral trade negotiations, break down structural constraints emanating from open trade regimes and reduce restrictive trade measures such as import duties and taxes to enhance the capability of the people through domestic production and reduction in demand for imported goods.

The identified gap between the positive and negative sides of TRD as well as labour mobility-growth-welfare nexus debates is the extent of factor endowment utilisation. As our empirical evidence indicated, underutilisation of extensive available labour in the SSA regions resulting in high labour emigration of experts to developed countries is one of the main causes of human welfare deterioration. The recognition of labour endowments as a key factor of production in SSA region by the policy makers will further enhance the capacity of the region in pursuing and strengthening export diversification. The negative impact of net LBM on the human welfare development in SSA may not be unconnected

with the high labour drift from the SSA to other regions in the world, leaving a large volume of resources untapped. This will increase domestic supply capacity at relative high accessible rate and enhance international competiveness. Access to telephone as an information flow dimension of globalisation is found to exert positive (though weak) effect on human development indices, basically because information penetration via telephone is higher than any other means of social network integration, and communication also paves way for improved productivity, employment creation as well as market expansion. Moreso, governance as a crucial determinant of human welfare development in the SSA region requires guided and transparent operations in its implementation of policies that directly affect the people, eradicate corruption, foster political stability and further enhance the adherence to the rule of law.

6.3 Limitations of Study

The basic limitation encountered in the course of the study is availability of long-term data on other measures of human welfare in terms of access to basic necessities such as bed space per patients, number of physicians per patients, number of people with standard accommodation, and number of dependants per household. Also, data on other dimensions of globalisation such as telephone traffic, hidden import barriers, television per 1000 people, and membership of international organisation to respectively measure international personal contact, trade restrictions, information flow, and other political globalisation indices, were not available. Nonetheless, it is a common knowledge that there are large margins of errors in SSA social and economic statistics and there may also have been other biases that have distorted the results. Meanwhile, the findings should be interpreted in line with its limitations, notably no large data biases can reverse the major findings as the sourced data were compared with other information obtained by other international data bureau.

6.4 Conclusion

This study yields a number of insights into the analysis of human welfare changes in the SSA region. Outcomes from the empirical analysis reveal that trade flow, information flow, stock of domestic capital, FDI, governance and population growth are significant determinants of human welfare development as proxied by HDI. Labour migration was

found to be a deteriorating factor of human welfare development in the SSA region. Other variants of the empirical analysis reveal that TRD, domestic capital stock, FDI, and information flows were significant factors which enhanced people's access to basic amenities such as WAT, SAN and HCS, while population growth, unguided trade liberalisation and ineffective governance worsened the accessibility of the people to the basic necessities of life.

Conclusively, the nexus analysis indicates that SSA subregions more globalised politically are engulfed with grave incidence of deteriorating human welfare development and inadequate access to basic necessities of life. Also, high politically globalised countries attracted huge capital flows, while low politically globalised ones with high social globalisation attracted high PFI as a channel of financial integration, thus required for human welfare development.

Comparatively, more globalised region in SSA recorded better human welfare development and adequate access to basic necessities of sustenance in terms of direction of effects, while the less globalised countries are more affected with grave incidence of deteriorating human welfare development and lack of access to basic necessities of life in terms of magnitude. Similarly, high level of social globalisation via labour inflow, access of people to telephone and internet facilities enhanced the development of human welfare changes as evidenced in Southern Africa.

The conclusion of this study emanates from the empirical outcomes and synthesised research hypotheses structured on the basis of the stated objectives in the first chapter. The outcome of the first hypothesis test reveals that TRD is a significant determinant of human welfare development in SSA region. Also, capital and financial flows have significantly impacted positively on human welfare improvement in SSA. The result of the last hypothesis shows that information flow as dimensions of globalisation has significantly enhanced human wellbeing changes in the region, while net labour migration flow is a significant factor that has contributed to the human welfare deterioration in SSA countries. Generally, it was evident from the study that the high degree of globalisation of SSA countries in terms of TRD, capital flow as well as information and communication has not been yielded a remarkable and proportionate improvement in human welfare.

6.5 Suggested Areas for Future Study

The data limitation encountered led to the interpretation and generalisation of the empirical findings. The study gives several useful and important insights and provides guidance to policy makers. The emanating evidence from the empirical outcomes could be clarified by subsequent studies, and this will further enhance reliability to policy formulation.

Further, comprehensive and up-to-date data gathering on this subject is an area for further research. Also, the empirical analysis in this study has been mainly cross-sectional at a relatively high level of aggregation. This approach precludes in-depth analysis of many country-specific issues such as peculiar macroeconomic structures that may be important for further clarity and preciseness in empirical studies. The analysis conducted here could thus be supplemented with detailed study of the individual countries, at best using a unified analytical approach. However, disaggregated estimates of the panel time series regression models are required to determine the proportion of human welfare changes explained by each dimension of globalisation in this study.

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APPENDIX A

EMPIRICAL REVIEW OF SELECTED LITERATURE

S/N	Author/ Year	Scope or coverage	Objective of the study	Methodology/Model	Empirical findings and conclusion
1	Chan, N. and Dung, T.K. 2001.	Vietnam (1997)	To examine the consumption of imported goods variation and dispersion between the rich and the poor in Vietnam	Single Caliberation to data for 1997 and forward projection	Trade policy change is pro-rich in Vietnam's consumption. Data suggest that the rich buy proportionately more import goods than the poor.
2	Santarelli. E and Figni. P. 2002.	Selected Developing Countries	To ascertain whether globalisation reduces or escalates poverty	Descriptive statistic and econometric analysis (linear regression)	Financial openness, although not statistically significant tends to be linked positively to poverty. Trade openness tends not to significantly affect relative poverty but financial openness does.
3	Khor M. 2002.	Bangladesh (1985-1996)	To investigate the trade linkage as a determinant of poverty in relation to other openness link	Double Caliberation	Trade is a minor determinant of poverty change compared to technical change and endowment growth.
4	Siddigni R and Kemal, R.A. 2002.	Pakistan (1989-1990)	To examine the precise determinants of poverty through globalisation and non-globalisation channels	Single caliberation to data for 1989-1990 and forward projection	Non-globalisation variables are key to poverty measures.
5	Pradhan Et. Al. 2002.	India (1994)	To explore the influence of trade policy on poverty changes in India	Single Caliberation to data for 1994 and forward projection	Trade policy change has small impact on poverty changes.

6	Heshmati, A. 2003.	Developing countries	To investigate the relationship between income inequality and globalisation in developing economies	Multiple Regression analysis	The empirical results show that the low rank of globalisation process is due to the political and personal factor with limited possibility for the developing countries to affect this. Globalisation indices explain 7 to 11 per cent in income inequality among the countries.
7	Hammoris, S and Kai, H. 2004.	Entire Sub-Saharan Africa (SSA) regions (1980-2002)	To examine the relationship between globalisation, financial deepening and inequality in SSA	Panel data regression method and unbalanced panel data model	Globalisation deteriorates inequalities and effect depends on the level of development of the country. Also globalisation deteriorates the equalizing effects of financial depth, although later helps to reduce inequality
8	Neutel, M. and Heshmati, A. 2006.	Selected developing countries	To ascertain the relationship between globalisation inequality and poverty from a cross country evidence.	Linear and Non linear regression analyses	The linear regression analysis shows that the relationship between globalisation and poverty remains significant when controlled for regional heterogeneity while the non-linear analysis show that poverty has diminishing returns on globalisation.
9	Hammed. A. Nazir, A. 2006.	Pakistan (1970-2004)	To assess the impact of economic globalisation on poverty and inequality in Pakistan by focusing on trade liberalization aspect of globalisation	Granger Causality test. Vector error correction model (VECM).	Result from Granger causality points out that trade liberalization has played a positive role in employment generation but had a negative influence on per capita GDP. Overall results seem to suggest that globalisation while leading to poverty reduction has at the same time exacerbated income inequality.
10	Lee, E. and Vivarelli. M. 2006.	Selected Developing countries	To examine the social impact of globalisation in the developing countries	Descriptive analysis	The optimistic Heckscher-Ohlin/Stolper-Samuelson predictions do not apply to the selected developing countries. Employment effect can be very diverse. Also trade seems to foster

					economic growth and absolute poverty alleviation although some important counter-example emerge.
11	Guordon, T. Maystre, N. and Melo, J. 2006.	Selected developing countries	To establish the link between openness, inequality and poverty	Panel data analysis	There is consistent evidence that the conditional effects of trade liberalization on inequality are correlated with relative factor endowment.
12	Geda, A. 2006.	African Countries	To explore the relationship between openness, poverty and inequality in Africa	Descriptive analyses	Africa is effectly marginalized from global markets given its degree of trade and financial integration with the rest of the world.
13	Hai, S Minhaj, S., Ahmed. R. and Mujahid, N. 2006.	Pakistan (1973-2003)	To assess the impact of globalisation and liberalization on the growth, incidence of poverty and inequality in Pakistan	Time series analysis (unit root test, Maximum likelihood test for cointegration and Error correction model.	There exist a long run relationship between all variables used. Therefore globalisation can be used as an effective means through which the issue of poverty can be addressed in Pakistan.
14	Sidikat L., *et al*. 2006.	Sub-Saharan Africa (2003)	To examine the determinants of human development in SSA	Multiple Regression analysis	Factors like extent of conflicts, the occurrence of natural disaster, external debt crises, macroeconomic instability, international trade, lack of access to water and the prevalence of HIV/AIDS impacted negatively on human development in the sub-region.
15	Ethan L. 2006.	Selected developed and developing countries (2003)	To investigate poverty and the welfare costs of risk associated with globalization	Quintile Lorenz Curve	Treating each country-quintile-year as an observation, to account for variation in consumption expenditure, and found that global shocks are of less importance than country-level shocks in explaining variation in consumption growth.

16	Harrison A. 2006.	Selected countries	To survey the evidence on the linkage between globalization and poverty using trade and international capital flows as two basic measures of globalization	Multiple regression analysis	The study concludes that the poor are more likely to share in the gains from globalization when there are complementary policies; trade and foreign investment reforms have produced benefits for the poor in exporting sectors and the sectors that receive foreign investment; financial crises are very costly to the poor.
17	Jeffery I.R. 2007.	Selected countries in Africa (1980-2004)	To outline the macro evidence on the extent to which globalisation is taking place and poverty is reducing in Africa	Descriptive analyses	It concludes that globalisation has generally been a gradual and indeed, a slow process in Africa relative to other global regions
18	Maertens, M., Colen, L. and Swinnen F.M. 2009.	Senegal	To contribute to empirical literature on globalisation and poverty by using household data to study the effect of what many extant consider as "a worst case scenario"	Descriptive analyses, OLS and instrumental variable estimation. Probit model	The finding reflects positive welfare impact of globalisation through employment creation and labour market participation.
19	Gold, K. 2009.	Bangladesh and Nigeria (1985-2006)	To address the linkage of globalisation and poverty in developing countries of Bangladesh and Nigeria.	Descriptive analyses	The paper concludes that the pace of poverty alleviation requires policies that further integrate developing countries into the global economy that will enable the poor to take the new opportunities offered by globalisation.
20	Heinrich, A. 2009.	88 Developing countries	To estimate the effect of national symbols and globalisation on the well-being of some selected countries	Descriptive Statistic and Panel regression analysis	Finding reveals that conventional determinants of production affect national well-being measured as Human Development Index (HDI). The effects on HDI of national symbols are unstable while those of globalisation are strong with social globalisation

					having the strongest effects.

APPENDIX B

Konjunkturforschungsstelle (KOF) 2012 Globalisation Index: Definition of Variables

	Indices and Variables	Sources	Definitions
A.	**Economic Globalisation**		
	i) Data on actual flows		
	Trade (percent of GDP)	World Bank (2009)	Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product. Data are in percent of GDP
	Foreign Direct Investment, flows (percent of GDP)	World Bank (2009)	Foreign direct investment are the net inflows plus net outflows of investment to acquire a lasting management interest. Data are in percent of GDP.
	Foreign Direct Investment, stocks (percent of GDP)	UNCTAD (2009)	Sum of inward and outward FDI stock as a percentage of GDP.
	Portfolio Investment (percent of GDP)	IMF (2009)	Portfolio investment is the sum of portfolio investment assets stocks and portfolio investment liabilities stocks. Data are in percent of GDP.
	Income Payment to Foreign Nationals (percent of GDP)	World Bank (2009)	Income payments refer to employee compensation paid to nonresident workers and investment income (payments on direct investment, portfolio investment, other investments). Income derived from the use of intangible assets is excluded. Data are in percent of GDP.

	ii) Data on restrictions		
	Hidden Import Barriers	Gwartney and Lawson (2009)	The index is based on the Global Competitiveness Report's survey question: "In your country, tariff and non-tariff barriers significantly reduce the ability of imported goods to compete in domestic market." The question's wording has varied slightly over the years.
	Mean Tariff Rate	Gwartney and Lawson (2009)	As the mean tariff rate increases, countries are assigned lower ratings. The rating declines toward zero as the mean tariff rate approaches 50%.
	Taxes on Internal Trade (percent of current revenue)	World Bank (2009)	Taxes on international trade include import duties, export duties, profits of export or import monopolies, exchange profits, and exchange taxes. Current revenue include all revenue from taxes and nonrepayable receipts (other than grants) from the sale of land, intangible assets, government stocks, or fixed capital assets, or from capital transfers from nongovernmental sources. It also includes fines, fees, recoveries, inheritance taxes, and nonrecureent levies on capital. Data are for central government and in percent of all current revenue.
	Capital Account Restrictions	Gwartney and Lawson (2009)	Index based on two components: (i) Beginning with the year 2002, this sub-component is based on the question. "Foreign ownership of companies in your country is (1) rare, limited to minority stakes, and often prohibited in key sectors or (2) prevalent and encouraged". Access of citizens to foreign capital markets and foreign access to domestic capital markets". (ii) Index based on the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions, including 13 different types of capital controls. It is constructed by subtracting the number of restrictions from 13 and multiplying the result by 10.
B.	**Social Globalisation**		
	i) Data on Personal Contact		
	Telephone (percent of GDP)	World Bank (2009)	International voice traffic is the sum of international incoming and outgoing telephone traffic (in minutes per person)
	Transfers (percent of GDP)	World Bank (2009)	Sum of gross inflows and gross outflows of goods, services, income, or financial items without a quid pro quo. Data are in percent of GDP.
	International Tourism	World Bank (2009)	Sum of arrivals and departures of international tourists as a share of population.
	Foreign Population (percent of GDP)	World Bank (2009)	Foreign population is the number of foreign-born residents in a country. Data are in percent of total population.
	International letters (per capita)	Universal Postal Union, Postal Statistics database	Number of international letters sent and received per capita.
	ii) Data on Information Flows		
	Internet Users (per 1000 people)	World Bank (2009)	Internet users are people with access to the worldwide internet network.
	Television (per 1000 people)	World Bank (2009)	Share of households with a television set.
	Trade in Newspapers (percent of GDP)	UNESCO (various year)	The sum of exports and imports in newspapers and periodicals in percent of GDP. Data are provided by the Statistical Division of the United Nations and correspond to those published in the U.N. World Trade Annual.
	ii) Data on Cultural Proximity		
	Number of McDonald's Restaurants (per capita)	Various sources	Number of McDonald's Restaurants (per capita).
	Number of Ikea (per capita)		Number of Ikea (per capita)
	Trade in books (percent of GDP)	UNESCO (various year)	The sum of exports and imports in books and pamphlets in percent of GDP. Data are provided by Statistical Division of the United Nations and correspond to those published in the U.N. World Trade Annual.
C.	**Political Globalisation**		

	Embassies in Country	Europa World Yearbook (various years)	Absolute number of embassies in a country.
	Membership in International Organization	Yearbook of international organizations and CIA World Factbook, various years	Absolute number of international inter-governmnetal organization
	Participation in U.N. Security Council Missions	Department of Peacekeeping Operations, UN	Personnel contributed to U.N. Security Council Missions per capita
	International Treaties	United Nations Treaties Collection	Any document signed between two or more states and ratified by the highes legislative body of each country since 1945. Not ratified treaties, or subsequent actions, and annexes are not included. Treaties signed and ratified must be deposited in the Office of Secretary General of the United Nations to be included.

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2012 KOF Index of Globalisation (Computation Measurement and Weights)		
	Indices and Variables	**Weights (%)**
A.	**Economic Globalisation**	**37**
	(i) Actual Flows	50
	Trade (percent of GDP)	19
	Foreign Direct Investment, flows (percent of GDP)	20
	Foreign Direct Investment, stocks (percent of GDP)	24
	Portfolio Investment (percent of GDP)	17
	Income Payments to Foreign Nationals (percent of GDP)	20
	(ii) Restrictions	50
	Hidden Import Barriers	22
	Mean Tariff Rate	28
	Taxes on International Trade (percent of current revenue)	27
	Capital Account Restrictions	22
B.	**Social Globalisation**	**39**
	(i) Data on Personal Contact	33
	Telephone Traffic	26
	Transfers (percent of GDP)	3
	International Tourism	26
	Foreign Population (percent of total population)	20
	International letters (per capita)	25
	(ii) Data on Information Flows	26
	Internet Users (per 1000 people)	36

	Television (per 1000 people)	36
	Trade in Newspapers (percent of GDP)	28
	(iii) Data on Cultural Proximity	31
	Number of McDonald's Restaurants (per capita)	43
	Number of Ikea (per capita)	44
	Trade in books (percent of GDP)	12
C.	**Political Globalisation**	**25**
	Embassies in Country	25
	Membership in International Organizations	28
	Participation in U.N. Security Council Missions	22
	International Treaties	25

Source: Dreher, Axel, 2006, Does Globalisation Affect Growth? Empirical Evidence from a new Index, *Applied Economics* 38, 10: 1091-1110.

APPENDIX C

LIST OF SELECTED COUNTRIES IN SSA REGIONS AND CRITERIA OF SELECTION

CENTRAL AFRICA	
Gabon	The two countries selected in Central Africa sub-region are major oil exporters. They are all members of World Trade Organization (WTO) which means they are committed to multilateral trade liberalization. The selection mix comprises of the strongly globalized in the region (Gabon) with aggregate KOF globalization index of 48.0473 between 1970-2012 which is above the regional average; and also, the least globalized in the region (Central Africa republic) with aggregate KOF globalization index of 27.8089 between 1970-2012 which is below the regional average. The average growth rate of real GDP in the region between 1980-2008 is 2.1% while the average growth rate of the selected countries is 2.5%, in the same period (ADB, 2009).
Central Africa Republic	
Cameroon	
Rwanda	
EAST AFRICA	

Kenya Tanzania Mauritius Tanzania	All the countries selected in the region thrive on tourism and exports of primary products, notably tea, cotton and coffee. The selection mix comprises of the relatively globalized in the region (Kenya) with aggregate KOF globalization index of 36.8172 between 1970-2012 which is above the regional average; and also, the least globalized in the region (Tanzania) with aggregate KOF globalization index of 26.9387 between 1970-2012 which is below the regional average. The selected countries has an average growth rate of real GDP as 3.1 between 1980-2008, which is very close to the average growth rate of the entire region in the four decades. All the countries experience a fiscal deficit of 2.5% to 7.5% of GDP between 1980-2008 (ADB, 2009).
SOUTHERN AFRICA	
South Africa Malawi Botswana Mozambique	The selected countries in the region are heavily reliant on exports of non-oil minerals (gold, diamonds, copper, platinum) and agricultural products. The selection mix comprises of the strongly globalized in the region (Mauritius) with aggregate KOF globalization index of 47.2209 between 1970-2012 which is above the regional average; and also, the least globalized in the region (Malawi) with aggregate KOF globalization index of 38.9133 between 1970-2012 which is below the regional average. All selected countries are member of WTO and Southern Africa Development Community (SADC), making the countries relatively open.
WEST AFRICA	
Nigeria Ghana Benin Niger	The selected countries in the region comprise of one CFA countries (Benin) and one non-CFA countries (Nigeria). The selected countries are net oil importers except Nigeria. In all, there is one upper income economy (Nigeria) and one lower income economy (Benin) are selected for the study. The selection mix comprises of the strongly globalized in the region (Nigeria) with aggregate KOF globalization index of 40.7923 between 1970-2012 which is above the regional average; and also, the least globalized in the region (Benin) with aggregate KOF globalization index of 29.0580 between 1970-2012 which is below the regional average. The selected countries are member of ECOWAS, which in principle is committed to the suppression of custom duties and equivalent taxes within the region and the establishment of a common external tariff. The countries selected in the region are relatively open by the continent's (Africa) standard.

CLASSIFICATION OF SAMPLED COUNTRIES

Country Name	Identifier	Region	Degree of Globalisation
Cameroon	CM	Central Africa	More
Gabon	GA	Central Africa	More
Central African Republic	CA	Central Africa	Less
Rwanda	RW	Central Africa	Less
Kenya	KN	East Africa	More
Mauritius	MS	East Africa	More
Tanzania	TZ	East Africa	Less
Uganda	UG	East Africa	Less

Botswana	BW	Southern Africa	More
South Africa	SF	Southern Africa	More
Malawi	MW	Southern Africa	Less
Mozambique	MZ	Southern Africa	Less
Ghana	GH	West Africa	More
Nigeria	NG	West Africa	More
Benin	BN	West Africa	Less
Niger	NR	West Africa	Less

APPENDIX D

KOF GLOBALISATION INDEX (1970-2012 AVERAGE)

PANEL A: CENTRAL AFRICA KOF INDEX

COUNTRIES	ECONOMIC GLOBALISATION	SOCIAL GLOBALISATION	POLITCAL GLOBALISATION	AGGREGATE GLOBALISATION
Burundi	18.64055703	18.4626627	34.95711784	22.31629541
Cameroon	28.17119027	27.92631189	54.04920324	34.01531108
Democratic Rep. of Congo	51.21704946	24.87579027	44.44465405	39.4736027
Gabon	42.83962189	51.56029622	50.83295	48.04734027
Rwanda	19.93860459	17.04440216	37.78544054	22.91482
Chad	27.39339703	13.63586151	41.50828811	25.31103946
Central Africa Rep.	26.00377946	21.58989622	41.30897432	27.80886676
REGIONAL AVERAGE	**30.60059996**	**25.013603**	**38.81019057**	**31.41246795**

PANEL B: EAST AFRICA KOF INDEX

COUNTRIES	ECONOMIC GLOBALISATION	SOCIAL GLOBALISATION	POLITCAL GLOBALISATION	AGGREGATE GLOBALISATION
Ethiopia	31.91427568	31.91427568	51.14264216	29.48772919
Kenya	31.51811703	24.88420108	65.78983676	36.81716
Madagascar	21.92216473	20.66857649	42.10945676	26.07011568

Mauritius	41.49845108	57.38090541	38.29838595	46.90764811
Seychelles		74.27234892	24.97817054	55.9168
Tanzania	24.37710541	20.14612459	42.67054378	26.93872595
Uganda	27.48186405	20.55176297	48.35735811	29.59198649
REGIONAL AVERAGE	**29.78532966**	**34.63315774**	**38.20466249**	**35.9614522**
PANEL C: SOUTHERN AFRICA KOF INDEX				
COUNTRIES	**ECONOMIC GLOBALISATION**	**SOCIAL GLOBALISATION**	**POLITCAL GLOBALISATION**	**AGGREGATE GLOBALISATION**
Botswana	66.90086297	46.26013676	31.81199514	50.86401838
Lesotho	51.20955081	49.27819297	30.67828568	45.75067324
Malawi	45.31940027	31.37101622	40.91542297	38.91325459
Mozambique	46.45011162	33.33376892	35.82371216	38.93780676
Namibia	61.51415351	51.88953757	32.25956162	51.07744973
South Africa	55.91641324	39.63083838	45.47615838	47.22091676
Swaziland	59.3457627	58.62876243	30.87682514	52.53497216
Zambia	48.98998081	35.24972351	56.28277432	45.34867892
Zimbabwe	36.8674927	36.14273027	42.04963765	37.77641459
REGIONAL AVERAGE	**53.04962843**	**42.420523**	**37.835679**	**45.67506251**
PANEL D: WEST AFRICA				
COUNTRIES	**ECONOMIC GLOBALISATION**	**SOCIAL GLOBALISATION**	**POLITCAL GLOBALISATION**	**AGGREGATE GLOBALISATION**
Benin	26.74415243	20.57454676	47.22538	29.05796486
Burkina Faso	39.71413378	30.33784	40.99146324	36.38037081
Cote d'Ivoire	33.35288703	38.18166297	49.6414427	38.95886027
Guinea Bissau	34.49462703	25.89774568	35.11424973	31.31141378
Mali	35.94810892	14.96752027	54.8026073	32.15946973
Niger	26.66870054	16.5975327	53.42376405	28.9131327
Senegal	26.51829297	33.3240173	73.22473595	39.86969757
Togo	40.07027919	34.85437324	51.22348622	40.61227568
Ghana	27.19701297	28.86582432	76.53641243	39.16562486
The Gambia		51.33840486	38.20561216	46.44818135
Nigeria	34.98043432	25.96569216	75.49954486	40.79227297
Sierra Leone	31.55616243	17.43806811	42.34522757	28.57108
REGIONAL AVERAGE	**32.47679924**	**29.75132356**	**50.77681079**	**36.41286827**
PANEL E: SSA AND WORLD AVERAGES				

	ECONOMIC GLOBALISATION	SOCIAL GLOBALISATION	POLITCAL GLOBALISATION	AGGREGATE GLOBALISATION
SSA AVERAGE	**37.05074842**	**32.71546719**	**45.78975204**	**37.49377059**
WORLD AVERAGE	**48.93399235**	**40.59418731**	**44.31279324**	**44.24891154**

APPENDIX E

SOCIAL INDICATORS OF POVETY AND HUMAN WELFARE CHANGES FOR SSA

	INFANT MORTALITY RATE (PER 1000)			LIFE EXPECTANCY AT BIRTH (YEARS)			% OF POPULATION WITH ACCESS TO SANITATION			% OF PUPULATION WITH ACCESS TO SAFE WATER			% OF POPULATION WITH ACCESS TO BASIC HEALTH SERVICE			HUMAN DEVELOPMENT INDEX (HDI)		
	1981-1990	**1991-2000**	**2000-2012**	**1981-1990**	**1991-2000**	**2000-2012**	**1981-1990**	**1991-2000**	**2000-2012**	**1981-1990**	**1991-2000**	**2000-2012**	**1981-1990**	**1991-2000**	**2000-2012**	**1981-1990**	**1991-2000**	**2000-2012**
CENTRAL AFRICA																		
Burundi	123	126	106	47	44	41	52	58	n.a	23	58	n.a	45	80	80	0.181	0.236	0.223
Cameroon	108	86	87	49	53	51	36	41	92	36	41	62	20	15	80	0.354	0.418	0.415
Central Africa Republic	128	111	100	46	47	45	19	18	31	24	18	60	n.a	13	52	0.265	0.293	0.299
Democratic Rep. Of Congo	118	119	119	49	51	52	23	60	20	33	60	45	33	59	26	0.267	0.261	0.201
Congo	88	82	82	50	52	52	40	27	n.a	20	27	51	n.a	n.a	83	0.462	0.499	0.458
Equitorial Guinea	142	122	99	44	47	53	n.a	95	53	n.a	95	43	n.a	n.a	n.a	n.a	n.a	0.477
Sao Tome and Principe	60	53	31	n.a	n.a	n.a	15	70	n.a	42	70	n.a	n.a	n.a	n.a	n.a	n.a	n.a
AVERAGE	110	100	89	48	49	49	31	53	49	30	53	52	33	42	64	0.306	0.341	0.346
EAST AFRICA																		
Eritrea	119	93	72	45	49	53	n.a	68	13	n.a	68	46	n.a	n.a	n.a	n.a	n.a	n.a
Ethiopia	144	123	99	43	46	43	19	27	15	16	27	24	44	55	46	n.a	n.a	0.25
Kenya	86	68	68	55	57	50	44	49	86	27	49	49	n.a	n.a	77	0.404	0.437	0.424
Mauritius	32	22	16	66	69	73	97	100	99	99	100	100	100	99	100		0.337	0.39
Seychelles	n.a	n.a	n.a	n.a	n.a	n.a	99	97	n.a	95	97	n.a	99	99	n.a	n.a	n.a	n.a
Tanzania	68	40	23	62	67	72	64	49	90	52	49	54	73	93	42	n.a	0.329	0.332
Uganda	121	110	84	47	43	47	13	42	75	16	42	50	42	71	49	n.a	0.281	0.35

AVERAGE	95	76	60	53	55	56	56	62	63	51	62	54	72	83	63	0.404	0.346	0.349
SOUTHERN AFRICA																		
Botswana	63	48	55	58	62	37	36	70	n.a	77	70	n.a	n.a	86	n.a	0.431	0.576	0.572
Lesotho	114	101	90	53	57	40	22	62	92	36	62	91	50	80	80	0.397	0.451	0.423
Malawi	165	143	113	45	45	40	60	77	77	32	77	57	54	80	35	0.258	0.289	0.344
Mozambique	143	139	120	43	44	38	20	24	43	15	24	60	40	30	39	0.195	0.178	0.224
Namibia	88	68	58	53	55	45	14	60	41	52	60	77	72	n.a	59	n.a	0.553	0.568
South Africa	66	50	47	57	60	47	n.a	87	86	n.a	87	n.a	n.a	n.a	n.a	n.a	0.601	n.a
Swaziland	101	81	77	52	56	38	n.a	60	n.a	54	60	n.a	n.a	55	n.a	n.a	0.51	0.49
AVERAGE	106	90	80	52	55	41	30	63	68	44	63	71	54	66	53	0.320	0.451	0.437
WEST AFRICA																		
Benin	115	102	91	47	50	54	10	70	23	14	70	63	n.a	42	18	0.264	0.305	0.386
Cote D'Ivoire	110	99	100	50	51	49	50	82	n.a	17	82	77	n.a	60	n.a	0.35	0.36	0.379
Senegal	93	72	60	46	50	55	55	50	70	44	50	78	40	40	90	0.291	0.331	0.36
Togo	110	90	80	49	51	53	14	63	34	35	63	54	61	n.a	n.a	0.347	0.361	0.399
Ghana	93	76	56	54	55	58	26	57	63	56	57	64	64	76	n.a	0.363	0.399	0.431
Gambia	143	106	79	41	44	48	n.a	76	37	45	76	62	90	n.a	93	n.a	n.a	0.343
Nigeria	119	99	77	48	51	52	35	40	63	36	40	57	66	67	51	0.402	0.41	0.412
AVERAGE	112	92	78	48	50	53	32	63	48	35	63	65	64	57	63	0.336	0.361	0.387

Source: World Bank:- African Development Indicators (Various Edition); UN:- Human Development Report (Various Edition); ADB:- Statistical Division; UNDP Data Base (Various years)

APPENDIX F
DATA DESCRIPTION

Series Identifier	Series Name	Short definition	Source	Periodicity	Aggregation method
TRD	Trade (% of GDP)	Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product.	World Bank national accounts data, and OECD National Accounts data files.	Annual	Weighted average
FDI	Foreign direct investment, net inflows (% of GDP)	Foreign direct investment is net inflows of investment to acquire a lasting interest in or management control over an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvested earnings, other long-term capital, and short-term capital, as shown in the balance of payments. Data are in current U.S. dollars.	International Monetary Fund, Balance of Payments database, supplemented by data from the United Nations Conference on Trade and Development and official national sources.	Annual	Sum
PFI	Portfolio investment (% of GDP)	Portfolio investment excluding liabilities constituting foreign authorities' reserves covers transactions in equity securities and debt securities. Data are in current U.S. dollars.	International Monetary Fund, Balance of Payments Statistics Yearbook and data files.	Annual	Sum
POP	Population ages 15-64 (% of total)	Population ages 15 to 64 is the percentage of the total population that is in the age group 15 to 64. Population is based on the de facto definition of population.	World Bank staff estimates from various sources including census reports, the United Nations Population Division's World Population Prospects, national statistical offices, household surveys conducted by national	Annual	Weighted average

			agencies, and Macro International.		
LBM	Net migration (per 10,000)	Net migration is the number of immigrants minus the number of emigrants, including citizens and noncitizens, for the five-year period.	United Nations Population Division, World Population Prospects 2008.	Annual	Sum
TEL	Telephone lines (per 100 people)	Telephone lines are fixed telephone lines that connect a subscriber's terminal equipment to the public switched telephone network and that have a port on a telephone exchange. Integrated services digital network channels and fixed wireless subscribers are included.	International Telecommunication Union, World Telecommunication/ICT Development Report and database, and World Bank estimates.	Annual	Sum
ITN	Internet users (per 10,000 people)	Internet users are people with access to the worldwide network.	International Telecommunication Union, World Telecommunication/ICT Development Report and database.	Annual	Sum
CFC	Gross fixed capital formation (current US$) (% of GDP)	Gross fixed capital formation (formerly gross domestic fixed investment) includes land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. According to the 1993 SNA, net acquisitions of valuables are also considered capital formation. Data are in current U.S. dollars.	World Bank national accounts data, and OECD National Accounts data files.	Annual	Gap-filled total

GGI	Government Effectiveness Index	Reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies	The Worldwide Governance Indicators, 2011	Annual	Index
EGI	Economic Globalization Index	The index comprises of actual trade flows, and restrictions	KOF Institute	Annual	Weighted Average
SGI	Social Globalization Index	The index comprises of data on personal contact, information flows, and cultural proximity	KOF Institute	Annual	Weighted Average
PGI	Political Globalization Index	The index comprises of Embassies in Country, Membership in International Organizations, Participation in U.N. Security Council Missions, and International Treaties	KOF Institute	Annual	Weighted Average
WAT	Improved Water (% of population with access)	Access to an improved water source refers to the percentage of the population with reasonable access to an adequate amount of water from an improved source, such as a household connection, public standpipe, borehole, protected well or spring, and rainwater collection. Unimproved sources include vendors, tanker trucks, and unprotected wells and springs. Reasonable access is defined as the availability of at least 20 liters a person a day from a source within one kilometer of the dwelling.	World Health Organization and United Nations Children's Fund, Joint Measurement Programme (JMP) (http://www.wssinfo.org/).	Annual	Weighted Average

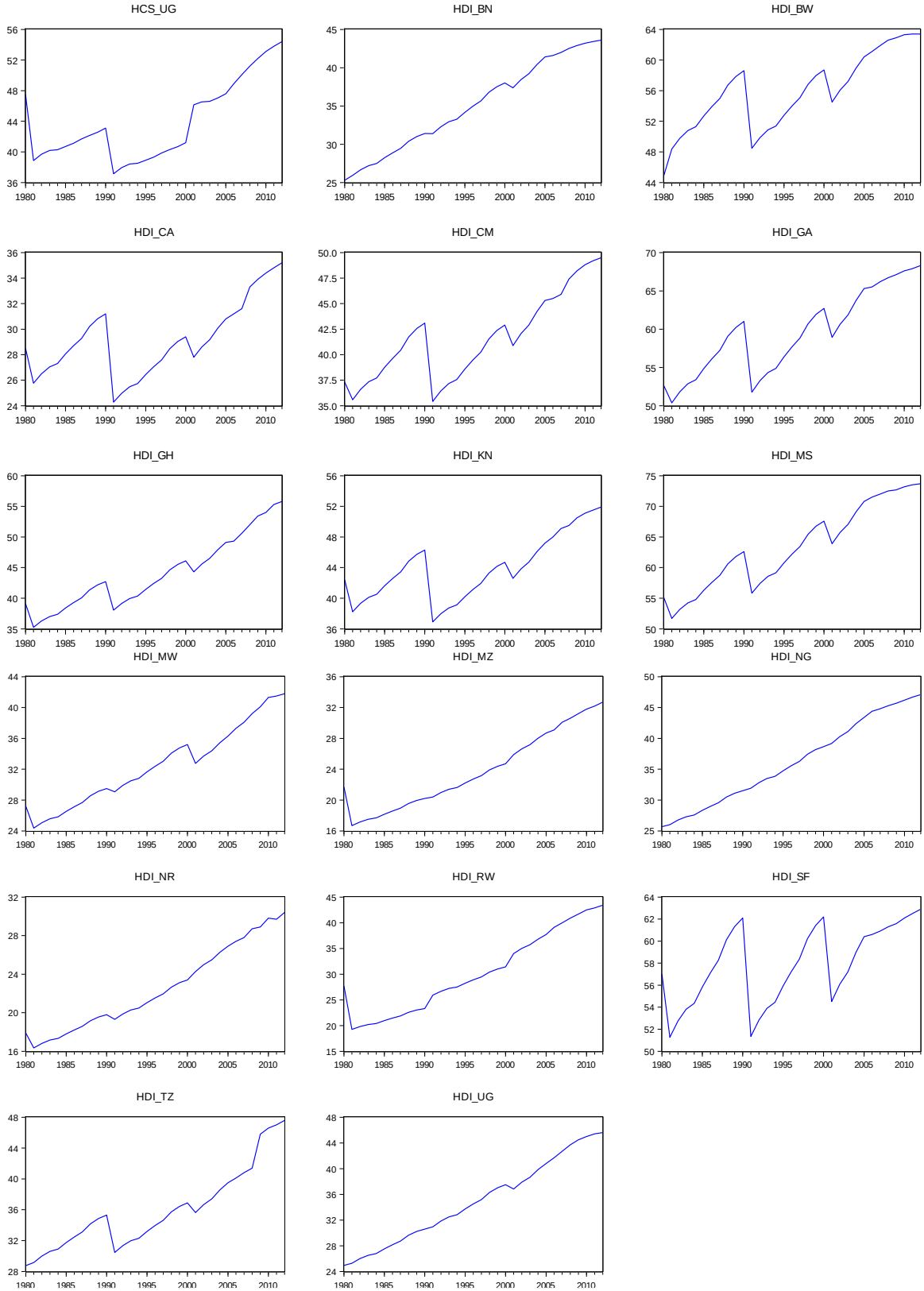
SAN	Improved Sanitation facilities (% of population with access)	Access to improved sanitation facilities refers to the percentage of the population with at least adequate access to excreta disposal facilities that can effectively prevent human, animal, and insect contact with excreta. Improved facilities range from simple but protected pit latrines to flush toilets with a sewerage connection. To be effective, facilities must be correctly constructed and properly maintained.	World Health Organization and United Nations Children's Fund, Joint Measurement Programme (JMP) (http://www.wssinfo.org/).	Annual	Weighted Average
HCS	Health Care Services (% of population with access)	The population with access to health services refers to the percentage of the population that can reach appropriate local health services by local means of transport in no more than one hour, and proportion of the population with access to bed space, nurses, physicians and proper health facilities.	World Health Organization and United Nations Children's Fund, Joint Measurement Programme (JMP) (http://www.wssinfo.org/).	Annual	Weighted Average
HDI	Human Development Index	A composite index measuring average achievement in three basic dimensions of human development—a long and healthy life, knowledge and a decent standard of living	HDRO calculations based on data from UNDESA (2011), Barro and Lee (2010), UNESCO Institute for Statistics (2011), World Bank (2011a) and IMF (2011)	Annual	Weighted Average
LEI	Life expectancy at birth (years)	Number of years a new born infant could expect to live if prevailing patterns of age-specific mortality rates at the time of birth stay the same throughout the infant's life	UNDESA (2011).	Annual	Weighted Average

MYS	Mean years of schooling (of adults) (years)	Average number of years of education received by people ages 25 and older, converted from education attainment levels using official durations of each level.	HDRO updates of Barro and Lee (2010) estimates based on UNESCO Institute for Statistics data on education attainment (2011) and Barro and Lee (2010) methodology	Annual	Sum
IMR	Infant Mortality Rate	Mortality rate, infant (per 1,000 live births)	Infant mortality rate is the number of infants dying before reaching one year of age, per 1,000 live births in a given year.	Annual	Sum

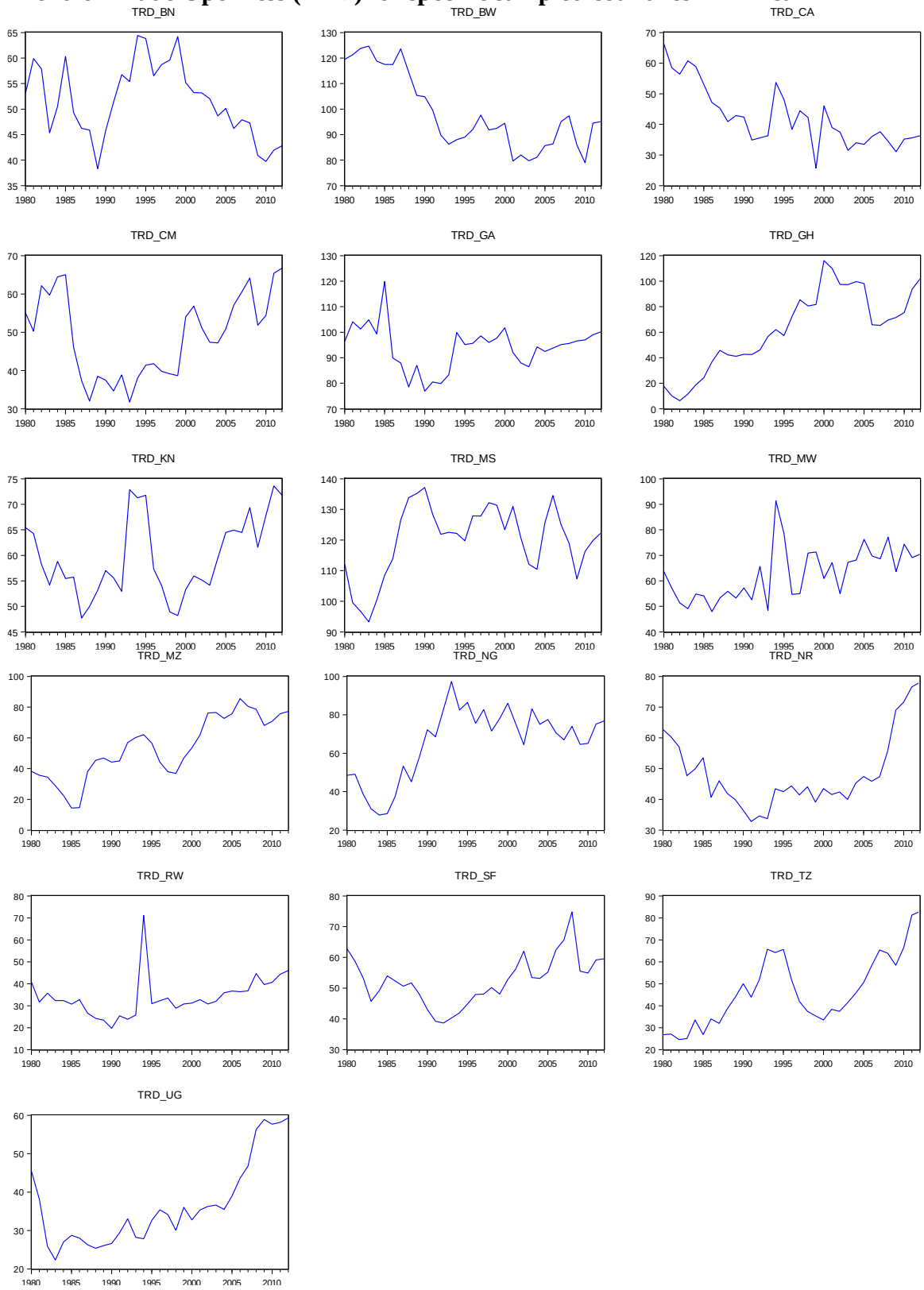
APPENDIX G

TIME SERIES PLOTS

Trend of Human Development Index (HDI) for specific sampled countries in Africa

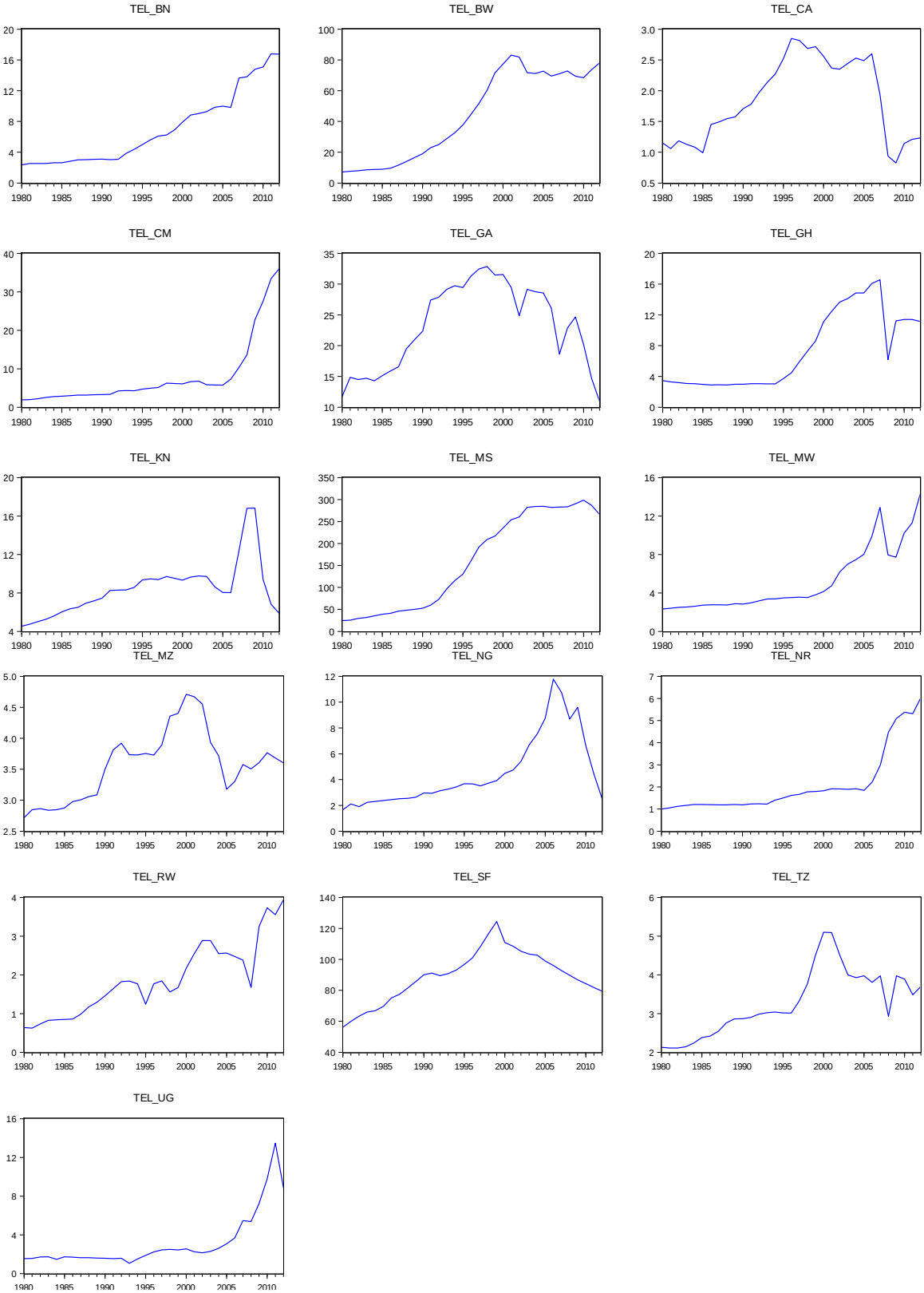


Trend of Trade Openness (TRD) for specific sampled countries in Africa

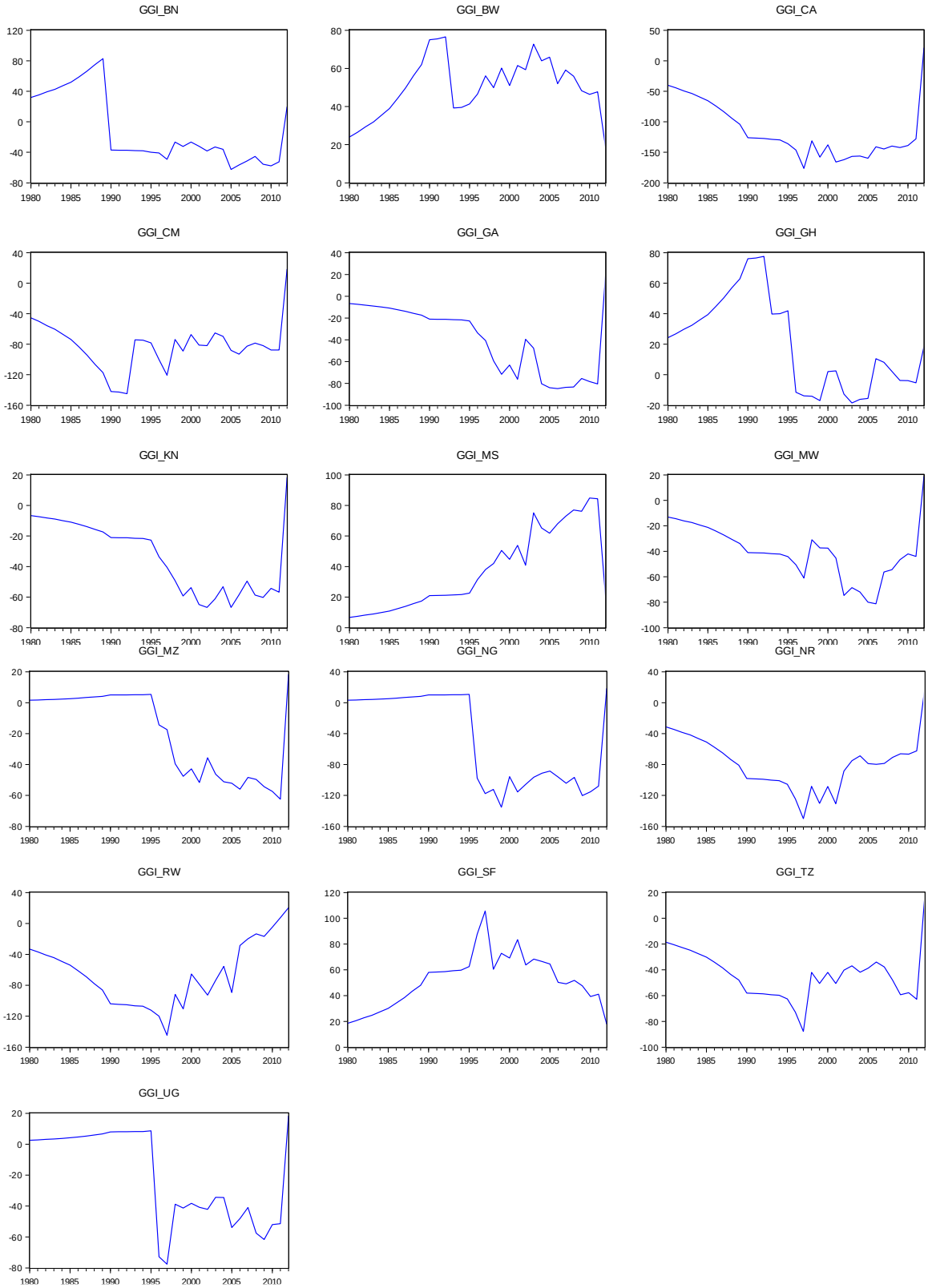


Trend of Foreign Direct Investment (FDI) for specific sampled countries in Africa

Trend of Telephone Access (per 1,000 people) for specific sampled countries in Africa

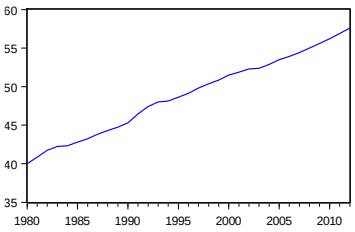


Trend of Good Governance Index (GGI) for specific sampled countries in Africa

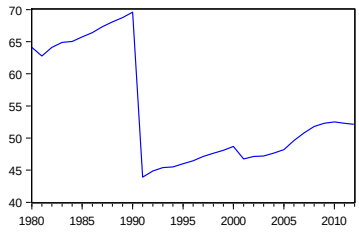


Trend of Access to Health Care Services (HCS) for specific sampled countries in Africa

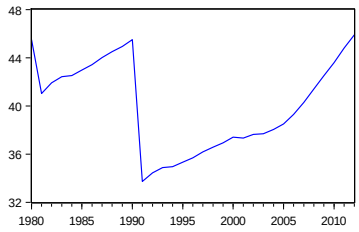
HCS_BN



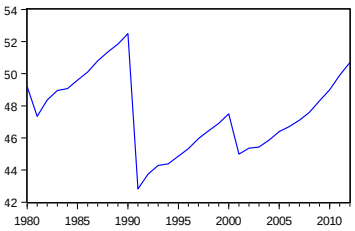
HCS_BW



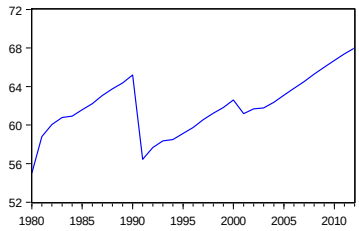
HCS_CA



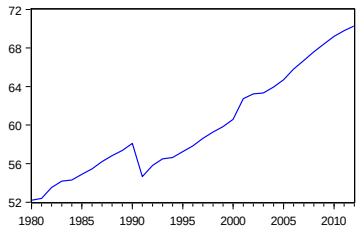
HCS_CM



HCS_GA



HCS_GH



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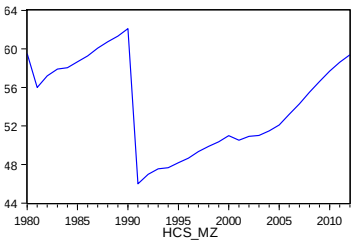
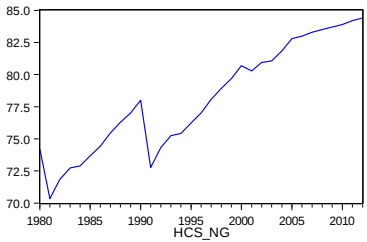
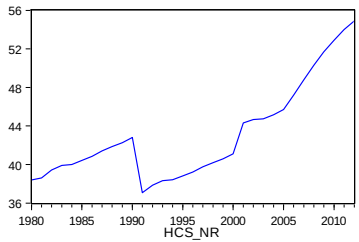


HCS_MS



HCS_MW



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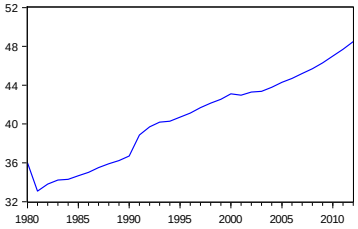
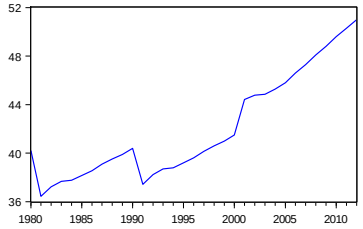
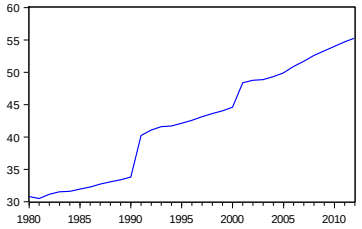


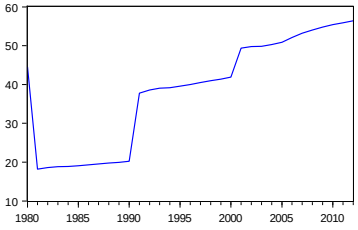
HCS_NG



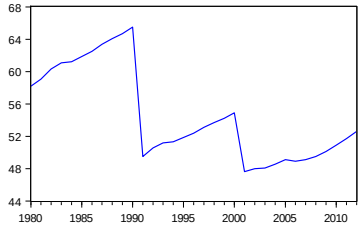
HCS_NR



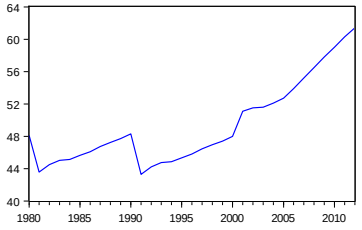
HCS_RW



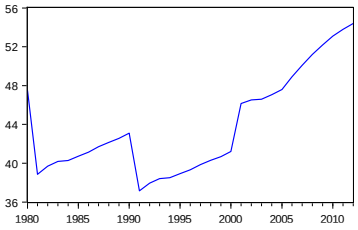
HCS_SF



HCS_TZ



HCS_UG



APPENDIX H
DESCRIPTION OF DIAGNOSTIC TESTS

Pre-Estimation Diagnostic Tests		
Levin, Lin and Chu Test (Panel Unit Root Test)	The test hypotheses are: $H_0 : \rho = 0$ (each series contains a unit root common to all i) $H_1 : \rho < 0$ (all the i cross-sectional series are stationary)	To examine the stationary properties of the considered pool series
Im, Pesaran and Shin Test (Panel Unit Root Test)	The null hypothesis is that each series in the panel contains a unit root, i.e., $H_0 : \rho_i = 0$ for all i and the alternative hypothesis allows for some (but not all) of the individual series to have unit roots, i.e., $\begin{cases} H_1 : \rho_i < 0 & for \quad i = 1,2,..., N_1 \\ H_1 : \rho_i = 0 & for \quad i = N_1 + 1,..., N \end{cases}$	To examine the stationary properties of the considered pool series
Post-Estimation Diagnostic Tests		
Panel Cointegration Test (Kao Tests)	The Kao test is a variant of Engle-granger approach, which is residual-based DF and ADF tests. The null hypothesis of no cointegration can be expressed as: $H_0 : \rho = 0$ and hypothesis of cointegration is written as $H_1 : \rho < 0$	To examine the long-run relationship among human-welfare-poverty, energy inputs, and CO2 emission in Africa

Source: Baltagi (2005)