

International Review of Economics

Does Economic Freedom enhance Quality of Life in Africa?

--Manuscript Draft--

Manuscript Number:	IREC-D-20-00143R3
Full Title:	Does Economic Freedom enhance Quality of Life in Africa?
Article Type:	Research Article
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Funding Information:	
Abstract:	This paper examines the role that the level and changes in economic freedom play in promoting quality of life in Africa over the period 1985-2016. It develops a composite index for quality of life to capture the different dimensions of quality of life. Employing the Generalised Method of Moments (GMM) estimation technique, the results indicate a positive effect of economic freedom on the quality of life. However, change in economic freedom has an inverse relationship with the quality of life in Africa. The GDP growth and foreign aid have positive effects on the quality of life index and its various indicators. The findings highlight the need for African countries to establish fiscal and monetary policies suitable for improving economic freedom. It also emphasizes the need for African countries to reduce international trade barriers and open up African economies to foreign trade. This will bring about increased economic growth and improved quality of life.
Response to Reviewers:	Response to Reviewer's comment The two issues raised by the reviewer has been addressed as suggested. A good explanation has been provided for why the change in economic freedom has a negative impact on the quality of life while the level of economic freedom has a positive impact. We followed the suggestion of the reviewer. We have described the components of economic freedom in section 3 of this paper. economic freedom consists of ten components: property right, fiscal freedom, government spending, business freedom, investment freedom, freedom from corruption, trade freedom, financial freedom, monetary freedom and labour freedom.

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Does Economic Freedom enhance Quality of Life in Africa?

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Acknowledgements: The authors wish to thank the anonymous reviewers for their very helpful comments and feedback on this article. The views in this paper are the authors' and do not necessarily represent those of the affiliated institutions.

Funding: This article does not receive any funding.

Conflict of interest: The authors declare that they have no conflict of interest.

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Abstract

This paper examines the role that the level and changes in economic freedom play in promoting quality of life in Africa over the period 1985-2016. It develops a composite index for quality of life to capture the different dimensions of quality of life. Employing the Generalised Method of Moments (GMM) estimation technique, the results indicate a positive effect of economic freedom on the quality of life. However, change in economic freedom has an inverse relationship with the quality of life in Africa. The GDP growth and foreign aid have positive effects on the quality of life index and its various indicators. The findings highlight the need for African countries to establish fiscal and monetary policies suitable for improving economic freedom. It also emphasizes the need for African countries to reduce international trade barriers and open up African economies to foreign trade. This will bring about increased economic growth and improved quality of life.

Keywords: Quality of life; economic freedom; GMM estimation; Africa

Jel. codes: I31; P19; C39; O55

1 Introduction

The impact of economic freedom on growth and quality of life in an economy has been extensively discussed in the economic development literature (Dollar and Kraay, 2002; North, 1990; Acemoglu, Johnson and Robinson, 2004; Acemoglu and Robinson, 2008; Naanwab, 2018; Belasen & Hafer 2013; Stroup 2007; Gehring 2013; Veenhoven, 2000a; Gropper, Lawson & Thorne 2011; Verme 2009; Inglehart, Foa, Peterson, & Welzel, 2008; Ovaska and Takashima 2006; Graafland, 2020a:2020b; Graafland and Noorderhaven, 2020; Graafland and Compen, 2012 & 2014; Graafland and Lous, 2018; Nikoleav, 2014; Feldmann, 2017). The argument in the literature is that a nation that is passionate about enhancing the quality of life should implement growth-enhancing policies of the rule of law, fiscal discipline, and openness to transnational trade (Dollar and Kraay, 2002). These assertions emphasize the role that institutions (i.e., economic or political) play in improving the quality of life.

Several channels through which economic freedom impacts quality of life have been noted in the literature. As a matter of example, economic freedom affects income distribution and, in turn, leads to lower income inequality (Perez-Moreno & Angulo-Guerrero, 2016). Economic freedom equally helps in promoting the economic growth of many nations (Aixala and Fabro, 2009; Cebula, 2013; Vega-Gordillo and Álvarez-Arce, 2003). The channels through which economic freedom promotes the economic growth includes income per capita, investment, growth per capita worker, foreign direct investment, among others (Cebula, 2013; Gwartney, Holcombe & Lawson, 2004; Quazi, 2007). Similarly, increased economic freedom assists in reducing the barriers that exist in less economically free countries, thereby unleashing the entrepreneurial spirit of the poor (Vargas 2008). Furthermore, economic freedom also impacts the quality of life by i) improving wellbeing (Graafland, 2020b; Belasen & Hafer 2012; Stroup 2007), ii) influencing the happiness level of the people (Veenhoven, 2000a; Gropper, et al. 2011; Verme 2009; Inglehart, et al. 2008; Ovaska & Takashima 2006), iii) affecting human capital investment and development (Naanwab, 2018; Graafland, 2020a; Feldmann, 2017), iv) influencing corporate social responsibility (Graafland & Noorderhaven, 2020), v) impacting life satisfaction (Graafland & Compen, 2012:2014; Graafland and Lous, 2018) and affecting the overall quality of life (Nikoleav, 2014).

The realization of the various benefits from improved economic freedom informed the high premium placed on it in the developed countries of the world and by multinational organizations such as the International Monetary Fund (IMF) and the World Bank. The IMF and World Bank have advocated and imposed policies to improved economic freedom and liberalization in nations, particularly Africa. The Structural Adjustment Programme (SAP)

1 introduced by the World Bank and IMF to tackle slow economic development, stagnation, and low quality of life
2 in Africa were some of the significant economic freedom-enhancing policies in the 1980s.
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5 According to Chen and Ravallion (2008), the developing world has recorded a modest decline in the population
6 of people living in absolute poverty since the 1980s, at an annual average rate of about 1% point. This development
7 implies that the efforts targeted at improving the quality of life in developing nations have yielded an insignificant
8 result. While Asian countries have recorded a substantial improvement in the quality of life of the citizens, the
9 reverse is the case in Africa. Generally, there is a worsening level and spread of low quality of life in Africa (Chen
10 and Ravallion, 2007, 2008; Thorbecke, 2013). For instance, a 2018 World Bank report predicted that by 2030, 9
11 out of 10 people living a low quality of life would live in Africa (World Bank, 2018). Moreover, 27 out of the 28
12 countries with the highest number of people living a low standard of living are in Africa countries. Similarly, the
13 Brookings Institution declared Nigeria as the country that has the highest number of people living a low quality
14 of life (Kimenyi, Adibe, Djiré, Jirgi, Kergna, Deressa, Pugliese and Westbury, 2014).
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26 Many studies in the literature have examined the relationship between some economic freedom policies and
27 quality of life (Perez-Moreno & Angulo-Guerrero, 2016; Nikoleav, 2014; Graafland and Lous, 2018; Hassan,
28 Quibria & Kim, 2003; Feldmann, 2017; Gwartney & Connors, 2010; Graafland & Noorderhaven, 2020; Gropper,
29 et al. 2011; Verme, 2009; Inglehart, et al., 2008; Kaur, 2007; Islam, 1996; Islam Md., 2018; Ahmad, 2017).
30 However, many of these previous studies only used a single measure of the quality of life in their analysis (Hassan,
31 Quibria & Kim, 2003; Kaur, 2007; Islam, 1996; Islam Md., 2018; Ahmad, 2017). Studies of Graafland & Compen,
32 2012:2014; Graafland and Lous, 2018 used an index of life satisfaction in studying the impact of economic
33 freedom on quality of life. Although these studies used an index computed from multiple indicators, the life
34 satisfaction data used could be influenced by emotions, and therefore, highly subjective. Similarly, Nikoleav, 2014
35 measured the quality of life by the wellbeing index of ‘Your Better Life’ index of the OECD, which also combined
36 both subjective and objective indicators. For this study, however, we use four objective measures of quality of
37 life, namely per capita income, consumption per capita, life expectancy, and school enrolment. The four indicators
38 cover four areas of quality of life; economic wellbeing, the standard of living, longevity, and human capital
39 development. Also, a composite index of quality of life is generated using principal component analysis. No
40 known study, particularly in Africa, has examined the economic freedom-quality of life nexus taking cognizance
41 the multidimensional nature of quality of life.
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2 Also, most of the existing studies used the level of economic freedom as their measure of economic freedom. But
3 few recent studies have shown that changes in the economic index value are more robust than the levels of the
4 index in explaining cross-country growth variations (Heckelman & Knack, 2009; Dawson, 1998; Gwartney,
5 Lawson, and Holcombe, 1999; de Haan and Sturm, 2000). Taking this into consideration, our study used both
6 economic freedom at levels and changes on economic freedom to explain whether fluctuations and
7 increase/decrease in economic freedom value affects the quality of life differently.
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12 The paper is organized as follows: Section 2 provides an overview of economic freedom and quality of life in
13 Africa. Section 3 contains a brief review of the empirical literature. Section 4 discusses the methodology and data
14 issues. This is followed by the empirical analysis in Section 5. The last section concludes the paper.
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20 **2. Literature Review**

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23 In this section, we discuss all the pathways through which economic freedom impacts quality of life. Furthermore,
24 we explicitly discuss the hypotheses tested on the links between economic freedom and quality of life. Quality of
25 life is a multi-dimensional concept without a well-developed theoretical background. There is no consensus in the
26 literature regarding the definition of the quality of life. Liu (1976) pointed out that there are as many definitions
27 of quality of life as there are people (quoted in Felce and Perry 1995, p. 52). The multiplicity of the definitions
28 quality of life show the differences in people's perception of what is essential in life, and the differences result
29 from the application of different theoretical models or academic orientations (Felce and Perry 1995).
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38 In the 1950s, Campbell defined the quality of life to mean a good life in terms of consumption, depending on the
39 possession of particular material goods (quoted by Garbat and Paszkowicz 2006, p. 261). Next, Terhurne (1973)
40 defined the quality of life as personal satisfaction (quoted by Veenhoven 2000b) or as a prerequisite for happiness
41 by (McCall, 1975). Landesman in 1986 (quoted by Felce and Perry 1995), on the other hand, defined the quality
42 of life as the sum of some objectively measurable conditions of life experienced by people as opposed to
43 satisfaction, which is considered as a subjective response to such conditions (Felce and Perry 1995, p. 54). The
44 World Health Organization (WHO) also view the quality of life as the perception of individuals, of their position
45 in life in the context of culture and value systems accepted by the society in which they live and concerning their
46 life goals, expectations, or interests (WHOQOL Group 1995, p. 1). The WHO's definition, however, stresses the
47 subjective dimension of quality of life. This is because the individual is a being who can determine the quality of
48 his/her own life based on his/her assessments. Given these definitions in the literature, one can conclude that the
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1 quality of life has both objective and subjective dimensions. But most studies in the literature rely more on the
2 subjective dimension of the quality of life which vary from one person to the other. Thus, for this study, we
3 focused on the objective dimension of the quality of life. We measured the quality of life by four indicators; i)
4 GDP per capita (indicating economic wellbeing), ii) per capita consumption (indicating the standard of living),
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6 GDP per capita (indicating economic wellbeing), ii) per capita consumption (indicating the standard of living),
7
8 iii) life expectancy (indicating longevity), and iv) secondary school enrolment (for human capital development).
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10 Moreover, a measure for quality of life generated from the four indicators using PCA was used in the analysis.
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12 **2.1 Links between Economic Freedom and Quality of Life.**

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16 Institutional economics literature is replete with theoretical and empirical studies on the role of economic freedom
17 on quality of life. There are various channels through which economic freedom affects the quality of life. These
18 channels include income per capita, human and physical capital investment (Dawson, 1998; Gwartney, Holcombe
19 & Lawson, 2004:2006; Hall, Sobel & Crowley, 2010), growth per capita worker, and foreign direct investment
20 (Cebula, 2013; Quazi, 2007), labour market outcomes (Feldmann, 2007; Heller & Stephenson, 2014), less
21 cronyism, and greater equality (Bennett & Cebula, 2015), social trust (Berggren & Jordahl, 2006), improved
22 human rights (Blume & Voigt, 2007), less crime (Bjørnskov, 2015), and peacefulness (de Soysa & Fjelde, 2010).
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31 Graafland (2020) noted that per capita GDP offers some relevant evidence about the quality of life of the people.
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33 A number of studies have established the links between economic freedom and per capita income growth. Corbi
34 (2007) claimed that economic freedom enhances the growth of per capita GDP in two ways: i) improving total
35 factor productivity and, ii), and enhancing capital accumulation. Economic freedom spurs per capita income
36 growth by unleashing individual dynamism, and enhancing productivity. Gwartney and Lawson (2004)
37 highlighted the three significant ways economic freedom enhances per capita income growth. They include
38 competition, entrepreneurship, and investment. Competitive markets will allow free entry for new business firms.
39 The firms that will survive are the ones that can provide customers with quality products at little cost. This
40 development will ensure higher output using a reduced and optimal amount of input. Also, the free-market assists
41 in stimulating entrepreneurial spirit and discovery, thereby creating a continuous process of experimentation and
42 discovery required for economic progress. Lastly, free economies attract more investment. Economic theories
43 have established that private investment is more attracted to economic environments that are more prone to
44 productive activities (Gwartney and Lawson, 2004).
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1 Human capital development exhibits four critical aspects of human quality of living: infant mortality, population
2 growth rate, longevity, and illiteracy (quoted by Jonker and Harmsen, 2012). Studies in the literature have drawn
3 associations between free-market economies' aspects of human development across countries globally (Naanwab,
4 2018; Graafland, 2020a; Feldmann, 2017; Esposto and Zaleski, 1999). Esposto and Zaleski (1999) found a
5 positive correlation between economic freedom and life expectancy, and literacy rates. Muslija and Satrovic
6 (2018) considered the impact of economic freedom on human capital using the mean years of schooling and
7 secondary enrolment rate as measures of human capital. They found a cointegrating relationship between human
8 capital and economic freedom in terms of both proxy variables of human capital. Moreover, people in
9 economically free countries also care more about education (Feldmann, 2017). The main reason for this
10 development is that economic freedom allows them and their children to achieve higher returns to education.
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21 Generally, many researchers perceive wellbeing as a subjective measure of the quality of life (Gehring 2013;
22 Belasen and Hafer 2012; Stroup 2007). Gehring (2013) found a positive effect of economic freedom on subjective
23 wellbeing in a panel of 86 countries. Nikolaev (2014) analyzed the relationship between economic freedom and
24 all the sub-dimensions of wellbeing distinguished in the Better Life Index for 34 OECD countries and found that
25 economic freedom favourably correlates with almost all aspects. By using a better life index, Graafland (2020b)
26 contributed to the literature on the analysis of the relationship between economic freedom and wellbeing using
27 the Better Life Index. He found out that the relationship between both is moderated by the cultural dimension of
28 long-term orientation. Although increasing literature used life satisfaction as a measure for wellbeing, Graafland
29 (2020b) claims that it does not fully describe wellbeing because of its subjective nature.
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41 Some studies that used life satisfaction to measure economic wellbeing established a positive relationship between
42 economic freedom and life satisfaction. Bjørnskov, Dreher, & Fischer (2007) found that the share of very-satisfied
43 people decrease with higher government consumption, while government capital formation and social spending
44 have no significant impact. On the other hand, Ott (2010) reported that it is not the government's size that affects
45 life satisfaction, but rather the quality of governance. At the same time, Helliwell and Huang (2008) found no
46 significant relationship between trade openness and life satisfaction. Tsai (2009) found that trade openness only
47 had an insignificant positive effect on life satisfaction. Graafland and Compen (2014) investigated the aspect of
48 economic freedom that drives the relationship between economic freedom and life satisfaction. The study
49 established that the quality of the legal system and government size negatively influence life satisfaction.
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Other channels demonstrated in the literature through which economic freedom impacts the quality of life include foreign direct investment (Ho, Amir, Nasaruddin and Abidin, 2013; Singh and Gal, 2020; Moussaa, Çahab, and Karagözc, 2015; Quazi, 2007), labour market outcomes (Feldmann, 2007; Heller & Stephenson, 2014), less cronyism, and greater equality (Bennett & Cebula, 2015), social trust (Berggren & Jordahl, 2006), improved human rights (Blume & Voigt, 2007), less crime (Bjørnskov, 2015), and peacefulness (de Soysa & Fjelde, 2010). However, this list of the channels through which economic freedom impacts the quality of life is not exhaustive. The next section looks at the specific hypothesis on the links between economic freedom and the quality of life.

2.2 Hypothesis

In this article, we propose that free-market economies lead to improved quality of life. The channels can be increasing per capita income, consumption per capita, life expectancy, and human development. This section focuses on the relationships between economic freedom and objective measures of the quality of life.

We hypothesize that:

- **Hypothesis 1:** When economic freedom increases, GDP per capita will rise.
- **Hypothesis 2:** Economic freedom leads to a rise in consumption per capita.
- **Hypothesis 3:** A higher economic freedom score leads to higher life expectancy.
- **Hypothesis 4:** School enrolment is higher when economic freedom is higher.

We suggest that there are four main reasons why free-market economies lead to a better quality of life.

2.2.1 Free market economies lead to a better quality of life through higher GDP per capita.

GDP per capita provides relevant information about the quality of life. Several studies have examined the impact of economic freedom on the growth of per capita GDP. Many of the empirical studies in the literature found a strong positive impact of economic freedom on GDP per capita growth (Arora and Vamvakidis, 2006; Cebula, 2011:2013; Cebula and Mixon, 2012; Heckelman and Stroup, 2000; Gwartney, Holcombe, and Lawson, 2006; Gwartney and Lawson, 2008; Ali and Crain, 2001; Heckelman, 2000). Economic freedom is indeed a significant economic growth factor regardless of the basic theoretical background (Cole, 2003). This conclusion is based on the assumption that increased economic freedom stimulates the growth of economic activity through incentives and improved efficiency.

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2 Also, De Haan and Sturm (2000: 3) noted that since Adam Smith, economists and economic historians have
3 argued that the freedom to choose and supply resources, competition in business, trade with others, and secure
4 property rights are central ingredients for economic progress. Gwartney and Connors (2010) argued that compared
5 to less free countries, countries with higher economic freedom ratings during 1980–2005 had lower rates of
6 extreme and moderate poverty in 2005. They noted that economic freedom, defined in general terms, is good for
7 the growth of the GDP. In contrast, Carlsson and Lundstrom (2002) claimed that economic freedom does not
8 matter for growth.
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10 11 12 13 14 15 **2.2.2 Free market economies increase the quality of life through per capita Consumption**

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18 Consumption is seen as a significant aspect of human existence and plays a critical role in defining individuals
19 (Belk 1988; Featherstone 1991; Ritzer 2004). Several studies have established a close relationship between
20 consumption and freedom; they argued that during the period of late capitalism or postmodernity, consumption is
21 increasingly defining freedom (Bauman, 1997; Fiske, 2000).
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27 No known study has empirically investigated the links between the economic freedom index and household
28 consumption. However, many studies have looked at the effect of each of the indicators of economic freedom on
29 consumption (Conway, 2004; Linnemann, 2006; Aron and Muellbauer, 2000; Blundell-Wignall, Browne and
30 Cavalia, 1991; Mir Nahid and Mansur, 2012; Levchenko, 2005). For instance, government size is one of the
31 indicators of economic freedom. Mir Nahid and Mansur (2012) claimed an inverse relationship between
32 government expenditure and household consumption in Bangladesh. The finding of this study supports the Barro-
33 Ricardian equivalence hypothesis of government spending, which says that household consumption is unrelated
34 to government consumption decisions in the long-run. Levchenko (2005) showed that when risks are insurable
35 within the domestic economy, opening up to international markets would not only reduce the amount of risk-
36 sharing attained at home but also raise the volatility of consumption. Similarly, Yakubu, Loganathan, Mursitama,
37 Mardani, Khan and Hassa (2020) argued that financial liberalization will encourage the influx of more foreign
38 banks into the domestic economy. Such influx may help in diversifying domestic opportunities, which may in turn
39 assist in reducing risk and smoothening consumption. Furthermore, there is a close association between trade
40 liberalisation and household consumption (Conway, 2004).
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56 57 **2.2.3 Economic freedom improves the quality of life through increased life expectancy**

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In the literature, longevity is used as a measure of wellbeing and human development (UNDP, 2018). Life expectancy is a summary of people's health conditions; it is another dimension of individual welfare, independent of income and comparable to, but easier to estimate than other non-income dimensions like safety, freedom, or access to justice or education (Bourguignon and Morrisson, 2002). Thus, studies have observed a tight relationship between economic freedom and life expectancy (Esposito and Zaleski, 1999; Mixon, Jr. and Roseman, 2003; Grubel, 1998; Norton, 1998). Esposito and Zaleski (1999), Norton (1998) and Grubel (1998) have all demonstrated that various aspects of economic freedom are positively related to life expectancy. Also, Gwartney and Lawson (2004b) claimed that people live longer in countries with the highest degree of economic freedom than countries with a lower degree of economic freedom. According to them, economic freedom helps in increasing life expectancy and improving the standard of living of both young and old in the society.

However, Mixon, Jr. and Roseman (2003) who examined the impact of economic freedom on male and female life expectancy found that females gain disproportionately from increased economic freedom. They claimed that this finding might be because freer countries provide more opportunities for females, thus potentially reducing longevity.

2.2.4 Economic freedom leads to improved quality of life through higher school enrolment.

Human capital development is also a measure of the quality of life. Many scholarly works have measured human capital and quality of life by literacy rate (UNDP, 2018; Esposito and Zaleski, 1999). By definition, the literacy rate is the percentage of the population that can read and write (EFA Global Monitoring Report, 2006). Several studies have demonstrated that there exists a close association between economic freedom and literacy rate or human development (Esposito and Zaleski, 1999; Feldmann, 2017:2020; Zaman, Saleem, Ahmad and Khan, 2017; Okpala and Okpala, 2017; Graafland, 2020; Nikolaev, 2014; Dawson, 1998; Aixala and Fabro, 2009; King, Montenegro, and Orazem, 2012).

Feldmann (2020) argued that economic freedom increases incomes and returns to education through specialization and economic exchange. This explains the great importance attached more importance to education worldwide. Furthermore, economic freedom is likely to strengthen people's regard for education not only among high and middle-income households but among low-income families as well. The study identified two ways through which economic freedom works to positively affect the people. One, economic freedom by facilitating the operation of credit markets can increase the availability of loans for educational investments, which are particularly important

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2 for low-income households. Two, open labour markets enable members from such families to get into professions
3 they may frequently find hard to enter.
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5 Empirically, many studies have found a close association between economic freedom and school enrolment
6 (Dawson, 1998; Aixala and Fabro, 2009; King, Montenegro, and Orazem, 2012; Feldmann, 2020). For example,
7 Aixxala and Fabro (2009) using data on 112 countries from 1976 to 2000 found that economic freedom Granger-
8 causes higher school enrolment. King *et al.* (2012) using data on 86 developing countries from 1989 to 2007 found
9 both schooling and work experience are substantially higher in economically free countries. In short, the
10 consensus in the literature is that improvement in economic freedom will lead to a better quality of life through
11 improved literacy rate and human development.
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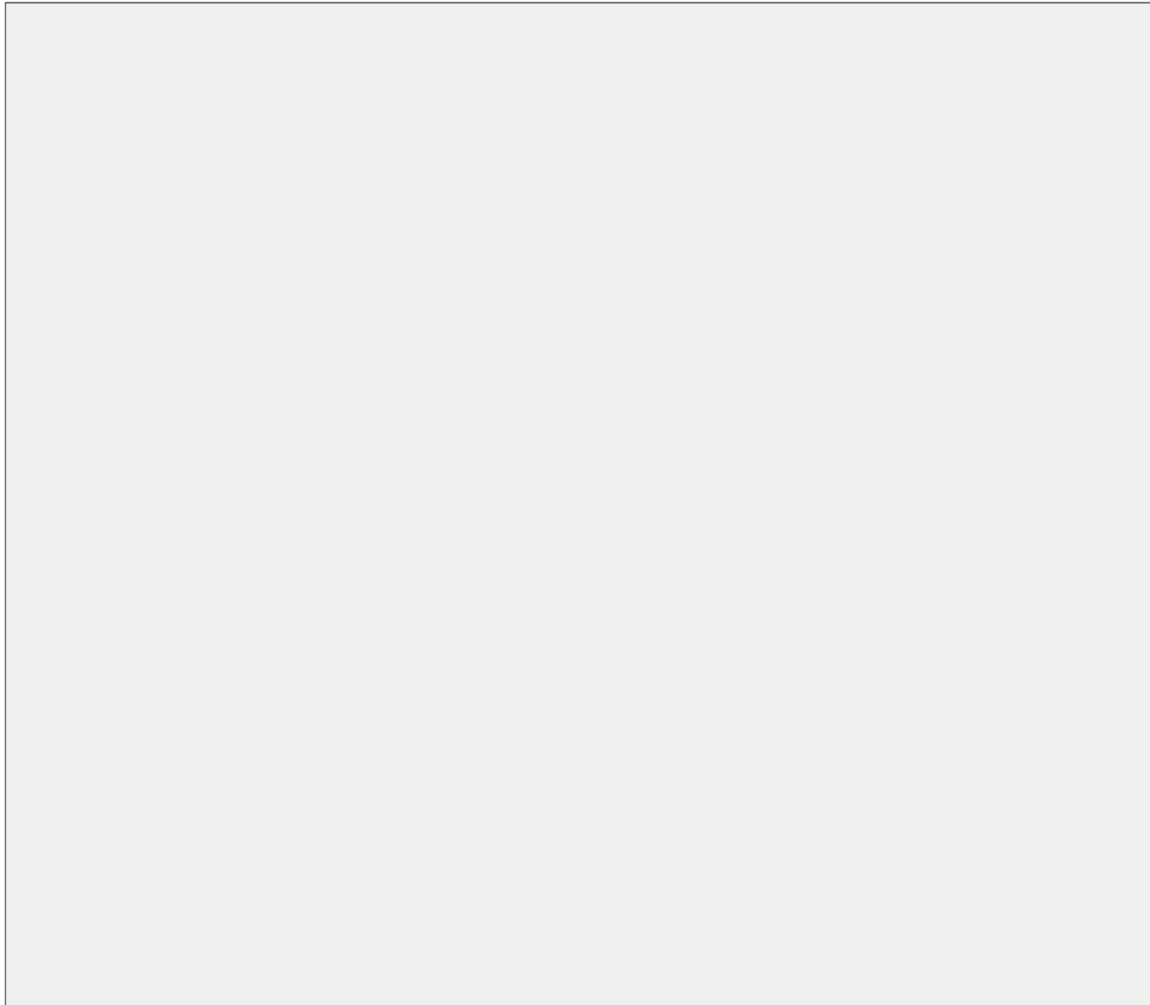
20 A priori, we expected that the coefficient of economic freedom will be positive for several reasons. Firstly,
21 increased economic freedom is expected to reduce the barriers that exist in less economically free countries, and
22 thus unleash the entrepreneurial spirit of the poor. Secondly, economic freedom helps to stimulate investment in
23 human capital, which in turn leads to better educational outcomes. Similarly, level of economic freedom through
24 various channels is likely to boost the quality of life. Income growth is expected to positively impact the quality
25 of life. The coefficient of population growth is expected to be negative since more population tends to reduce the
26 per capita income. Finally, the coefficient of foreign aid is expected to be positive.
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35 **3. Overview of Economic Freedom and Quality of life in Africa.**

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38 Economic freedom refers to the extent to which the market system is entrenched in an economy. According to
39 Miller, Holmes and Feulner(2012) economic freedom consists of ten components: property right, fiscal freedom,
40 government spending, business freedom, investment freedom, freedom from corruption, trade freedom, financial
41 freedom, monetary freedom and labour freedom. These components of economic freedom are into four categories
42 which include: 1) rule of law, 2) limited government, 3) regulatory efficiency, and 4) open markets. Several
43 policies have been implemented in sub-Saharan Africa countries to achieve high economic freedom. Among these
44 are the structural adjustment programmes introduced in the 1980s to the African countries, debt relief, conditional
45 lending, and privatization policy. No doubt, the degree of economic liberalization has increased, much still needs
46 to done to attain the level in newly industrialised economies. According to The Economist (2007), many of the
47 economies have reached a stage referred to as *freedom plateau* that requires the institution of third-generation
48 economic reforms to ensure growth and development.
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1 According to Gwartney, Lawson & Hall (2017), 17 out of the 30 least free economies are in sub-Saharan Africa.
2 This study computed the average economic freedom score between 1985 and 2016 for each African country used.
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4 The average economic freedom score is 5.8. Mauritius has the highest average economic freedom score of 7.59.
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6 On the other hand, the least free economy is Togo, with an average economic freedom score of 3.53 far below the
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8 African average economic freedom score.
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Figure 1: *Spatial Distribution of Economic Freedom in Africa; Average Economic Freedom scores for African Countries (1985-2016).*

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Source: *Author's Construct, 2021; Data sourced from EFW, Fraser Institute.*

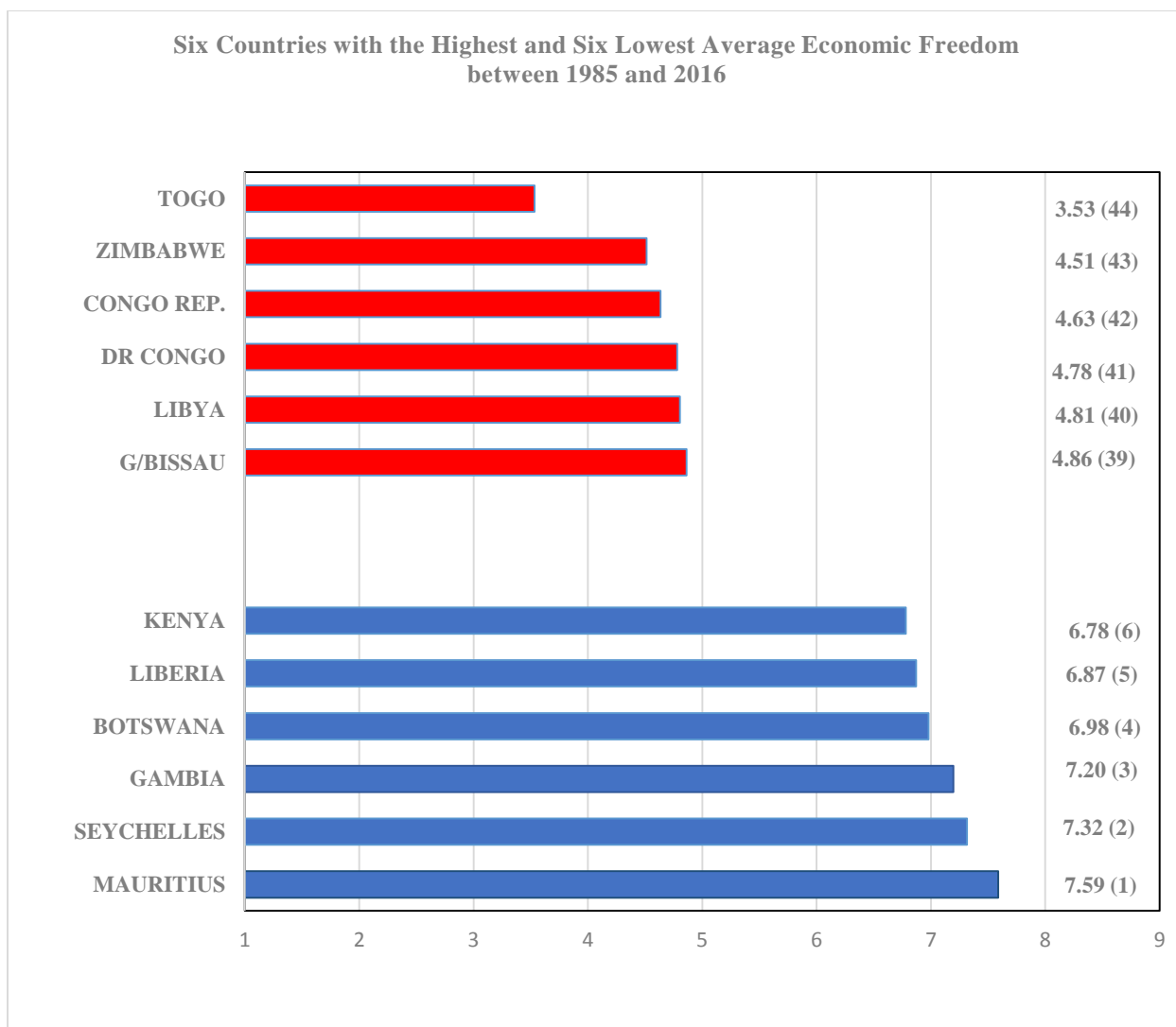


Figure 2: Countries with the Six Highest and Six Lowest Average Economic Freedom Score (1985-2016).

Source: Author's Computation, 2021, Data sourced from EFW, Fraser Institute.

Figure 1 shows the spatial distribution of the average level of economic freedom for 1985 to 2016. The red colour indicates the most economically free countries in the region while the green colour represents moderately free countries. The blue colour indicates the least free countries, while those in white are countries with no data. As revealed in figure 1, there is considerable variation in economic freedom across African countries. Figure 1 suggests that the degrees of economic freedom are similar across neighbouring countries in Africa. Figure 2 shows the average economic freedom for the six highest and lowest countries in Africa. As figure 2 shows, Togo, Zimbabwe, Congo Republic, Congo Democratic Republic, Libya, and Guinea Bissau are the six least free economies in the region between 1985 and 2016. Each of these countries ranks the lowest 20 globally. However, countries like Mauritius and Botswana are rank high in the global ranking of economic freedom. Kenya, Liberia,

1 Botswana, Gambia, Seychelles, and Mauritius were ranked as the six freest economies in Africa over the study
2 period (see figure 2).
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5 The world experienced an incredible improvement in the quality of life ever recorded in history in the last few
6 decades. A considerable number of the world's population previously living below the poverty line emerged into
7 a dominant global middle class (Press, 2017). This development according to Press (2017) could be attributed to
8 a more free and open global market economy.
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13 In the late 1990s, Africa was seen as a continent of wars, famines, and rooted in a low quality of life. According
14 to World Bank estimates from household surveys, the share of people in Africa living on less than \$1.90 a day
15 fell from 56 per cent in 1990 to 43 per cent in 2012 (World Bank, 2016). The World Bank reports also claimed
16 that wellbeing in Africa improved between 1995 and 2012. This study adopts the broad and multidimensional
17 view of the quality of life in carrying out the analysis. GNI, GDP and consumption per capita, life expectancy,
18 and secondary school enrolment were the primary indicators of quality of life used for the analysis in this section.
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27 Figure 3 shows the different GNI per capita brackets for African countries. The lighter colour indicates low GNI
28 per capita, while the darker ones indicate the higher GNI per capita. As shown in figure 3, more countries from
29 southern and northern Africa fall in the higher range of GNI per capita, while more countries from the East, West,
30 and Central Africa fall into the lower range of the GNI per capita. This finding implies that countries in southern
31 and northern Africa experienced better economic wellbeing than other sub-regions in Africa.
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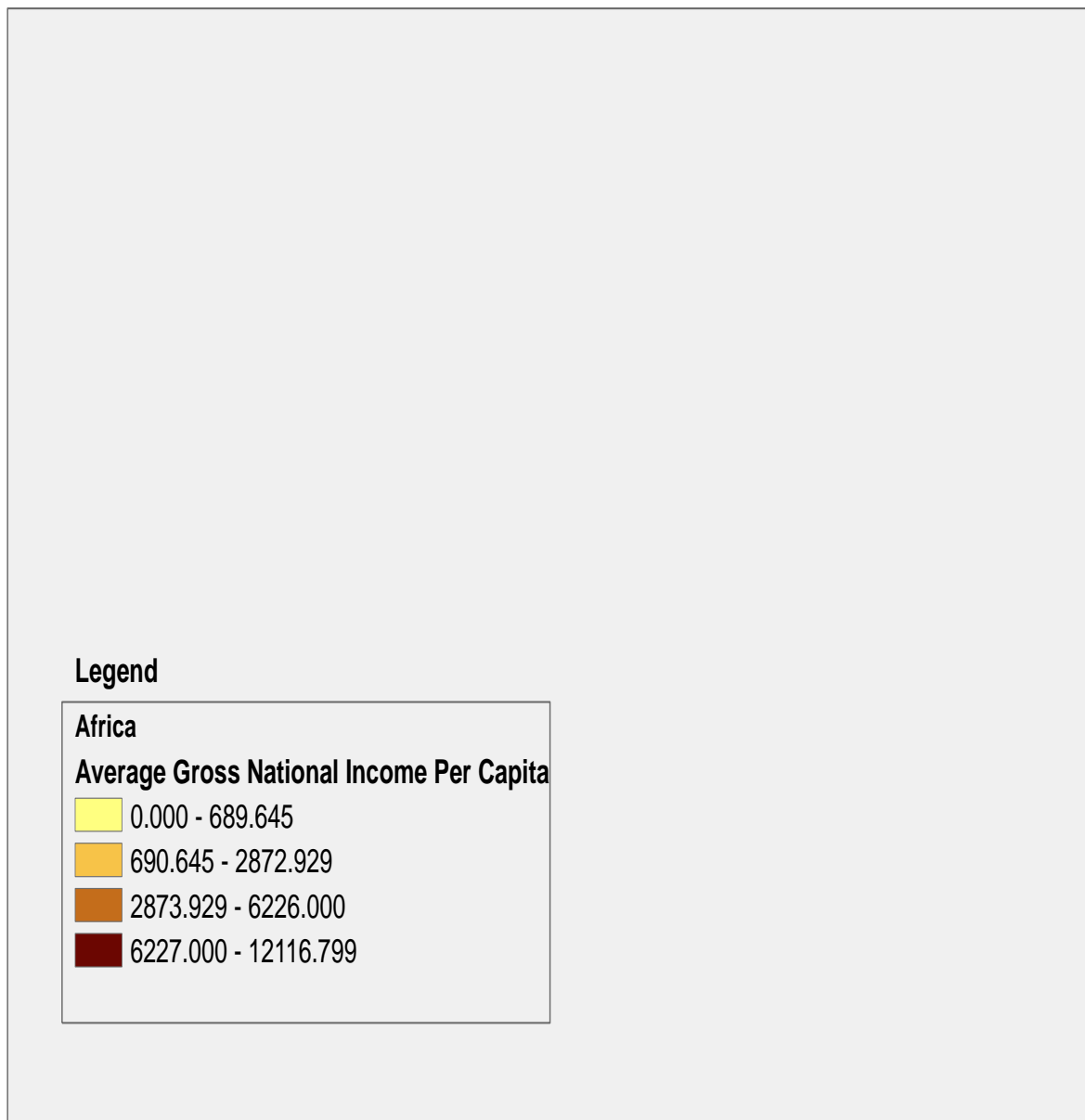


Figure 3: *Spatial Distribution of average GNI per capita in Africa (1985-2016).*

Source: Author's Construct, 2021. Data sourced from WDI of World Bank.

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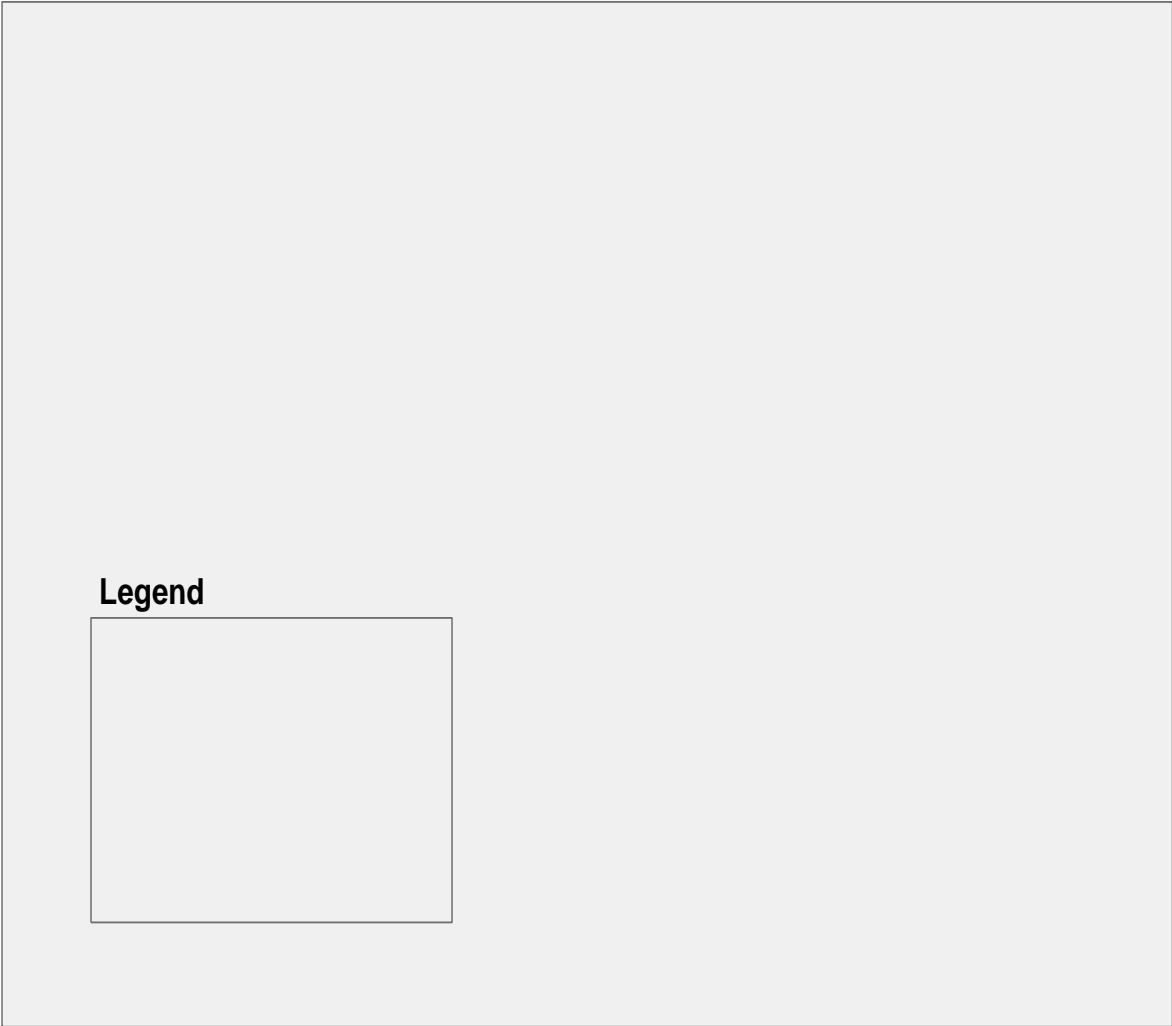


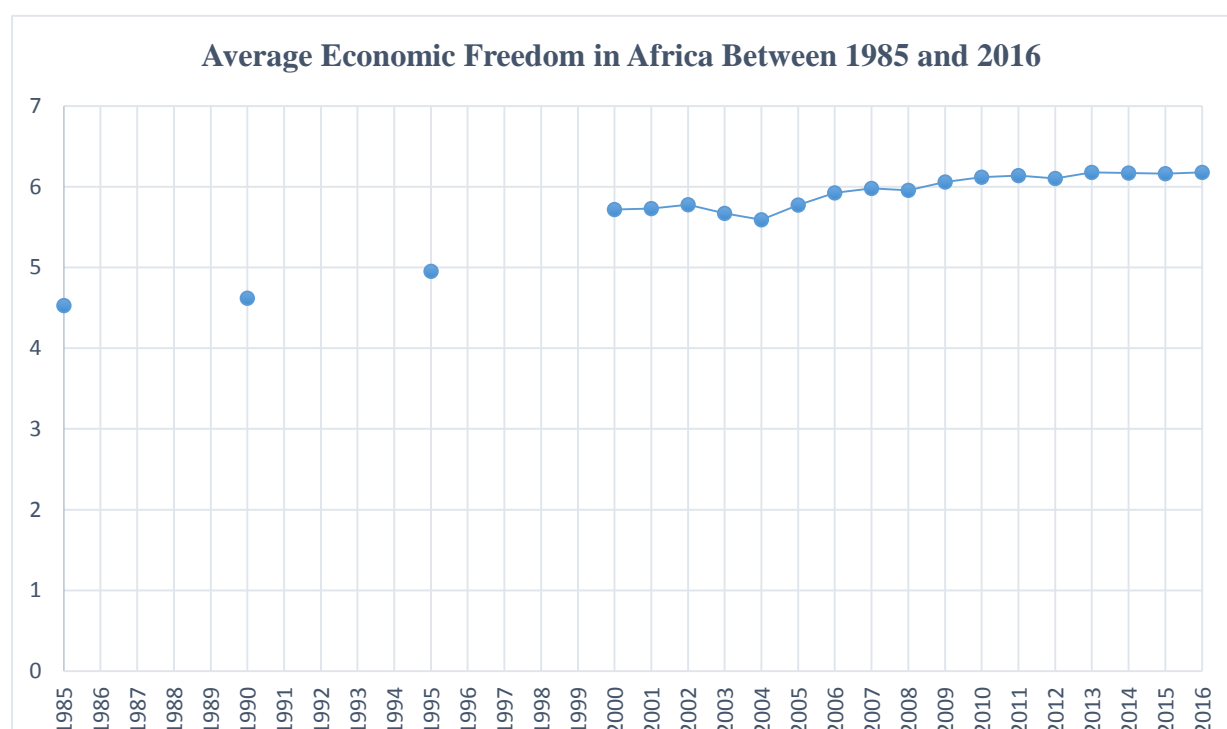
Figure 4: *Spatial Distribution of average life expectancy in Africa, 1985-2016.*

Source: *Author's Construct, 2021. Data sourced from WDI, World Bank.*

What can be noticed from this spatial distribution in figure 3 is that despite their low level of economic freedom and institutional quality, countries from North Africa still exhibit high GNI per capita. This downplays the importance of economic freedom in improving the quality of life in the region.

Furthermore, the Southern African countries with high economic freedom and institutional quality have high per capita GNI. For instance, Seychelles from the south and Libya from the north; are two leading countries with the highest average GNI per capita between 1985 and 2016 in Africa with \$10200.6 and \$12115.8. While Seychelles has improved economic freedom over the study period, Libya exhibited low economic freedom and institutional quality.

1 Similarly, figure 4 shows the different brackets of life expectancies for African countries. The lighter colour
 2 indicates lower life expectancy, while the darker ones indicate a higher life expectancy. As revealed in figure 4,
 3 countries in northern and southern Africa exhibited higher life expectancy than other sub-regions in Africa. For
 4 instance, Libya, Tunisia, Algeria, Egypt, Seychelles, Mauritius, and Morocco, all in the South and North Africa,
 5 have a high life expectancy above 70. By implication, these countries have higher longevity than other sub-
 6 regions. However, despite the low economic freedom in North Africa, more countries in the region exhibit high
 7 life expectancy or longevity. All the same, countries from the south with high economic freedom equally have
 8 high longevity. However, despite the low economic freedom in North Africa, more countries in the region exhibit high
 9 life expectancy or longevity. All the same, countries from the south with high economic freedom equally have
 10 high longevity. However, despite the low economic freedom in North Africa, more countries in the region exhibit high
 11 life expectancy or longevity. All the same, countries from the south with high economic freedom equally have
 12 high longevity. However, despite the low economic freedom in North Africa, more countries in the region exhibit high
 13 life expectancy or longevity. All the same, countries from the south with high economic freedom equally have
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41 **Figure 5:** Average Economic Freedom of 44 African countries between 1985 and 2016.

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43 *Source: Author's Computation, 2021, Data sourced from EFW, Fraser Institute.*

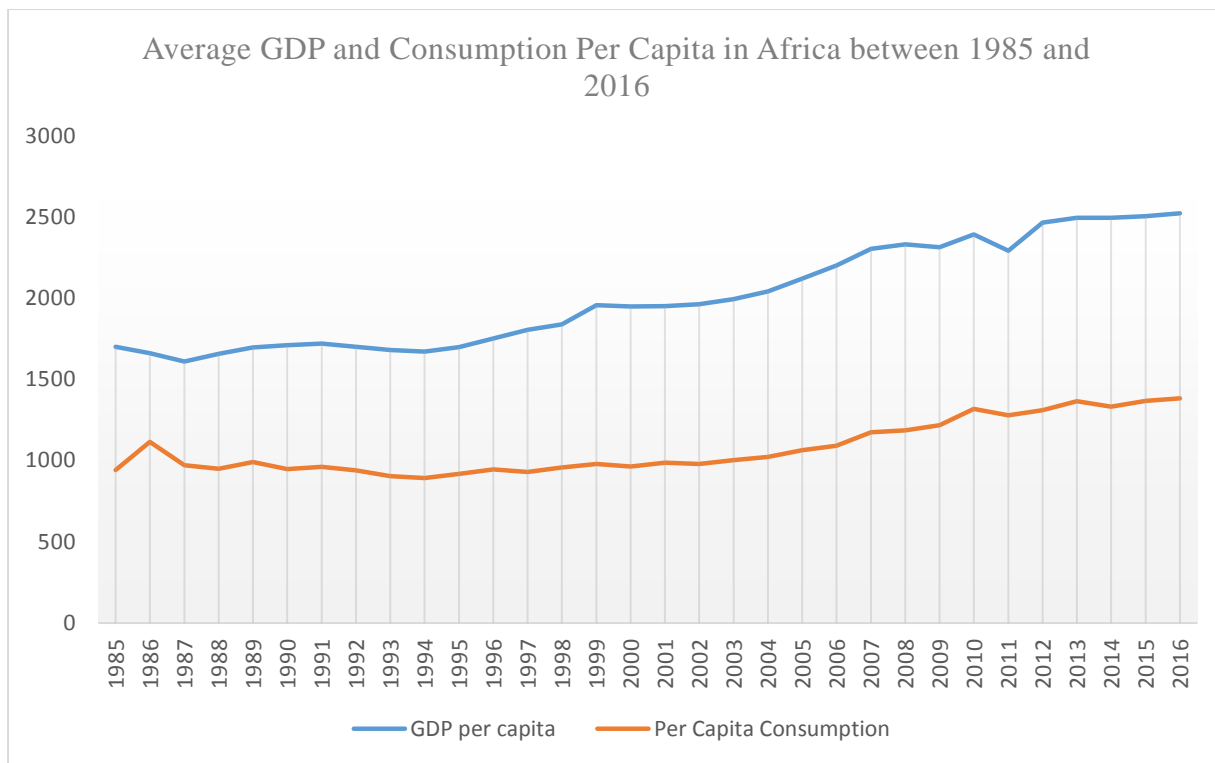


Figure 6: Average GDP and Consumption Per Capita of 44 African countries between 1985 and 2016.

Source: Author's Computation, 2021, Data sourced from WDI, World Bank.

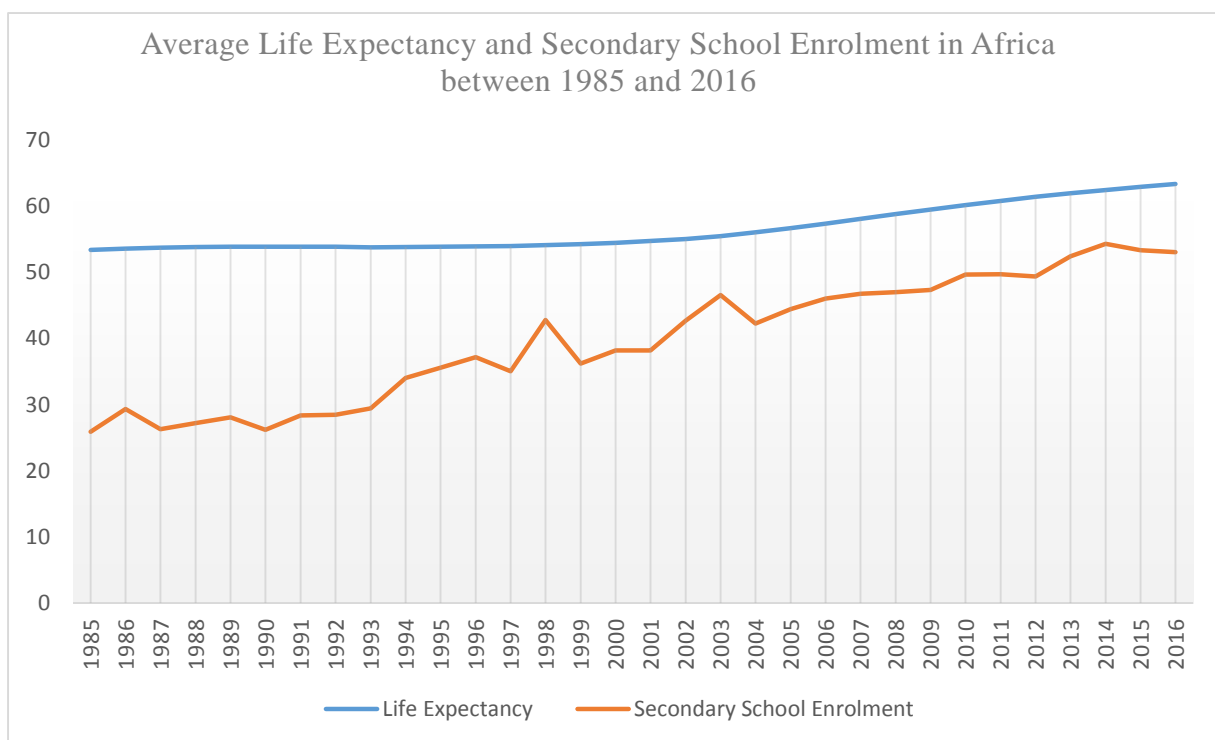


Figure 7: Average Life Expectancy & School Enrolment of 44 African countries between 1985 & 2016.

Source: Author's Computation, 2021, Data sourced from WDI, World Bank.

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3 The evolution of economic freedom in Africa shows a slight improvement in the study. We computed the average
4 economic freedom scores annually for the 44 African countries used in the research. We found that the continent
5 had the lowest and highest scores in 1985 and 2013 (see figure 5). The average economic freedom score in figure
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The evolution of economic freedom in Africa shows a slight improvement in the study. We computed the average economic freedom scores annually for the 44 African countries used in the research. We found that the continent had the lowest and highest scores in 1985 and 2013 (see figure 5). The average economic freedom score in figure 5 shows a slight but consistent improvement over the study period. The evolution of the quality of life in Africa also shows small but consistent improvement overtime. As shown in Figure 6, using the average scores of the 44 African countries as a benchmark, the continent has the lowest GDP and consumption per capita in 1987 and 1994, and highest in 2016. Similarly, the two other measures of the quality of life (life expectancy and school enrolment) in figure 7 indicate a marginal improvement in the quality of life.

As shown in figures 8 & 9, there is a positive relationship between economic freedom and the quality of life. We computed the average economic freedom scores and quality of life indicators for each of the 44 countries over the study period and plotted a scatter graph. The two indicators trend upward together. This movement suggests a positive relationship between economic freedom and both economic wellbeing and standard of living in Africa. Similarly in figure 9, there is a positive relationship between economic freedom and both longevity and human capital development. However, the improved quality of life exhibited by some countries in the northern part of Africa (i.e. Morocco, Algeria, Libya, etc.) despite their low economic freedom could be attributed to the influence other factors.

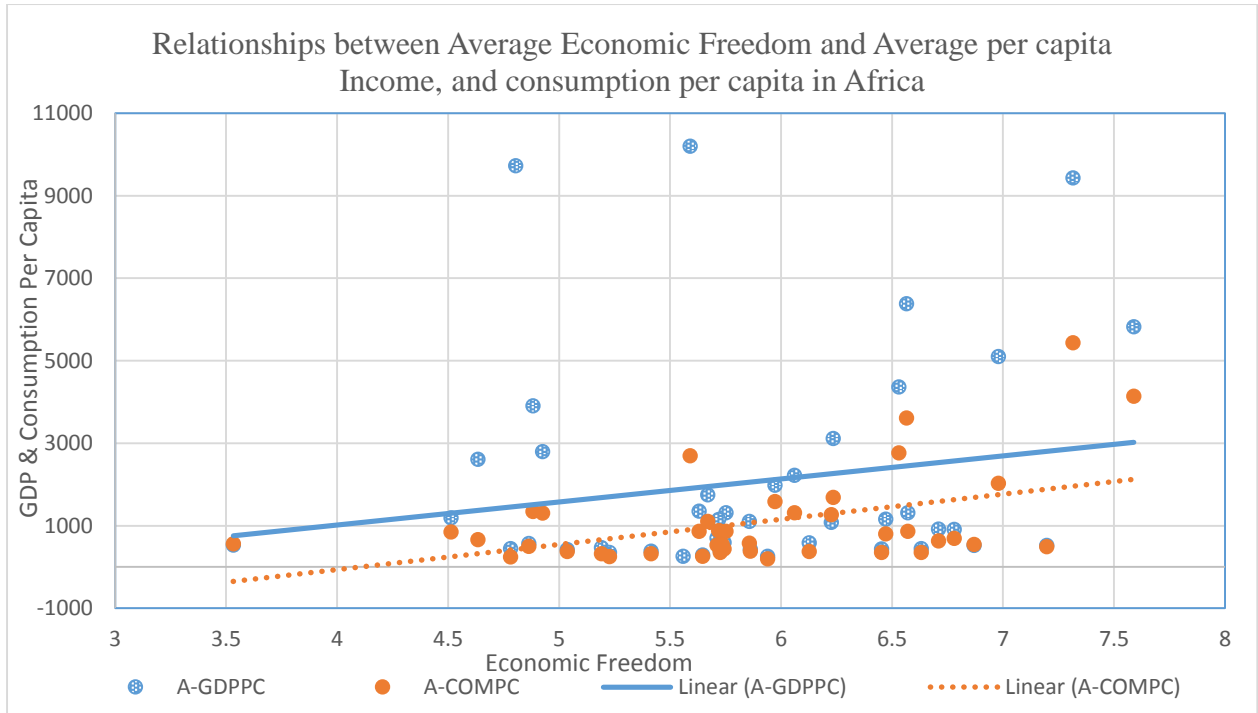


Figure 8: Relationships between Economic Freedom-GDP per capita and Economic Freedom-Consumption per capita of 44 African Countries over the period of 1985 & 2016.

Source: Author's Computation, 2021, Data sourced from WDI, World Bank and EFW, Fraser Institute

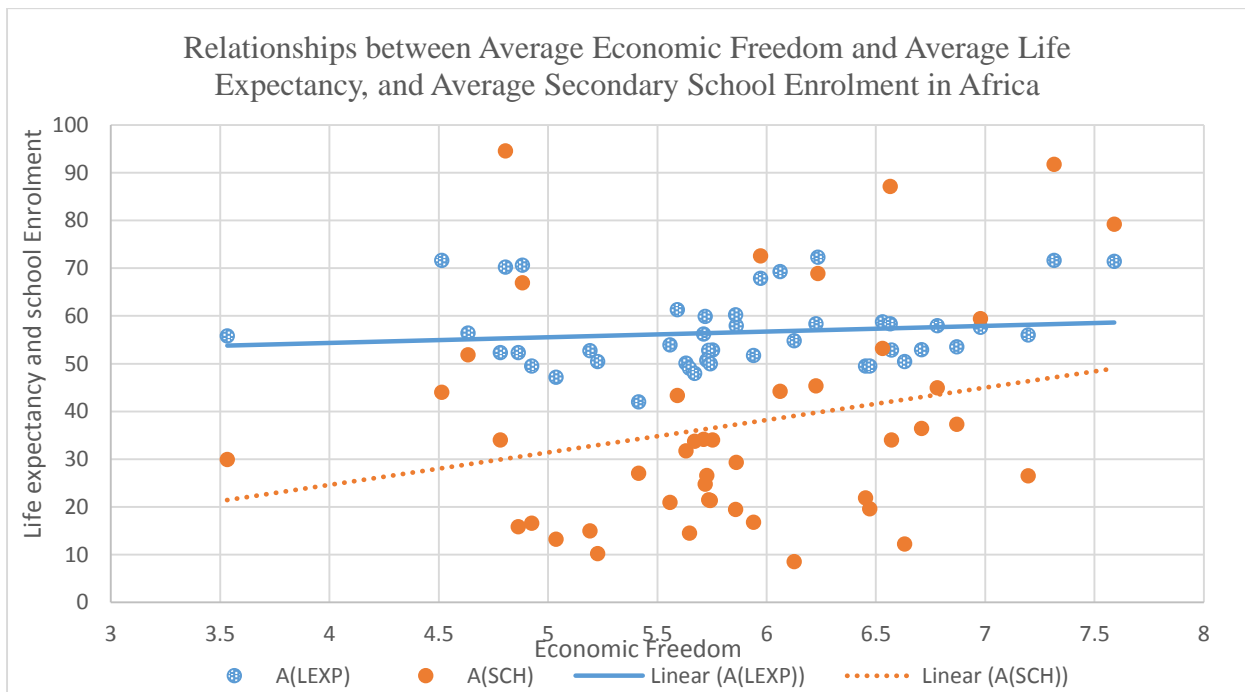


Figure 9: Relationships between Economic Freedom-Life Expectancy and Economic Freedom-School Enrolment of 44 African countries between 1985 & 2016.

Source: Author's Computation, 2021, Data sourced from WDI, World Bank and EFW, Fraser Institute.

4 Methodology

This section presents a panel regression to show the impact of both the level and the change in level of economic freedom on the quality of life in Africa. We applied the difference and system GMM method to investigate the main objective of this paper. The following model is estimated:

$$QAL_{it} = \beta_0 + \beta_1 Efw_{it} + \beta_2 Gdp_{it} + \beta_3 Pop_{it} + \beta_4 Faid_{it} + u_{it} \quad (1)$$

where QAL_{it} is the quality of life for country i in periods t , which represents various indicators of quality of life. These include; per capita income, life expectancy, household final consumption expenditure per capita, and literacy rate. Also, an index is computed using principal component analysis for all the indicators. Efw_{it} represents the economic freedom index, which measures the level or changes in economic freedom experienced by country i in periods t . Gdp_{it} , Pop_{it} , and $Faid_{it}$ are growth rate, population, and foreign aids respectively, which are other factors determining the quality of life and the white noise error term is u_{it} .

The study conducts some preliminary tests before the estimation of equation 1. The study tests for stationarity using panel unit root tests. Also, a panel co-integration test is conducted to ascertain the long-run relationship among the variables. The Principal Component Analysis (henceforth PCA) is used to compute the multidimensional quality of life index capturing the economic wellbeing, standard of living, longevity, and human capital development in Africa. The PCA is a multivariate statistical method used to decrease the number of variables without misplacing too much information. PCA is very efficient in generating fewer numbers of variables that describe most variation in the original variables. The new variables generated are linear combinations of the original variables. The first set of new variables account for as much as possible of the variation in the original data.

This paper adopts the difference and system Generalised Method of Moments (GMM) to estimate the model. These estimation techniques have many advantages over other techniques, such as fixed and random effects. They are capable of combining time-series and cross-country data. In the dynamic panel regressions, the lagged values are used as instruments.

4.1 Data Sources and Measurement

This paper adopts annual time series data ranging from 1985 to 2016. Data on per capita income is derived by dividing gross domestic product (GDP) by the midyear population. The real per capita GDP is employed to capture

1 the availability of resources needed for an appropriate economic livelihood (Masud and Yoncheva, 2005; Chirino
2 and Melian, 2006; Olofin, 2013). Life expectancy signifies the number of years a newborn child stays alive if
3 prevailing mortality patterns at the time of its birth were to stay the same during its life. Household final
4 consumption expenditure per capita is defined as the market value of all goods and services, comprising durable
5 goods (such as cars, washing machines, and home computers) procured by households. The consumption per
6 capita measures the access to resources needed for an appropriate standard of living (Masud and Yoncheva, 2005;
7 Chirino and Melian, 2006 and Olofin, 2013). Furthermore, literacy rate (School enrolment) refers to the total
8 enrollment in secondary education, irrespective of age, presented as a percentage of the population of official
9 secondary education age. Based on data availability, the paper used 44 African countries, and the list is as
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21 Other variables include gross domestic product (GDP) growth rate, which is the gross value added by all local
22 producers in the economy, adding any product taxes, and subtracting any subsidies not built-in in the value of the
23 products. The population growth is the exponential rate of growth of the midyear population from year t-1 to t,
24 expressed as a percentage. Foreign aid is measured as government aid earmarked to stimulate economic
25 development and welfare of developing countries. All these data were obtained from World Development
26 Indicators (WDIs) published by the World Bank. The economic freedom index data consists of ten components:
27 property right, fiscal freedom, government spending, business freedom, investment freedom, freedom from
28 corruption, trade freedom, financial freedom, monetary freedom, and labour freedom (Miller et al. (2012) and
29 was sourced from the Economic Freedom of the World (EFW) report published by the Fraser Institute. The change
30 in economic freedom was computed using the percentage change formula given as:
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$$42 \left(\frac{Z_2 - Z_1}{Z_1} \right) * 100 \text{ for all the countries under study.}$$

43 **5 Data Analysis and Empirical Results**

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47 Before examining the panel regression results, we present the panel unit roots and co-integration tests for all the
48 variables in tables 1 and 2 (Appendices B and C), respectively. The primary condition for a long run relationship
49 in time series is that the variables be integrated of order one, I(1). The stationarity test of this study is shown in
50 table 1 (Appendix B). The study employs Pedroni (1999, 2004) panel co-integration test as it permits sufficient
51 heterogeneity among individual members of the panel. The result of the co-integration test is presented in table 2
52 (Appendix C).
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Next, we examined the relationship between the level of economic freedom and the quality of life. Table 3 presents the results of the relationship between the level of economic freedom and quality of life index and all the quality of life indicators. Table 3 contains five models, each of which has a dependent variable (quality of life index and other indicators) and four independent variables. This paper adopts a multidimensional approach to quality of life, it uses GDP per capita as a proxy of economic wellbeing, household consumption per capita as a measure of standard of living, life expectancy measuring longevity, and secondary school enrolment captures the human development component of quality of life. The system GMM is used to robust-check the difference GMM.

In table 3, the coefficient of the level of economic freedom is positive and statistically significant in all the models. This result indicates that a rise in economic freedom increases the quality of life index in Africa within the study period. It suggests that a unit rise in economic freedom (level) will improve the quality of life index by 0.269 and 0.096 from the difference and system GMM results, respectively. Similarly, the level of economic freedom has a positive and significant effect on all the quality of life measures. For instance, the results in table 3 suggest that the level of economic freedom has a positive impact on GDP per capita, household consumption per capita, life expectancy, and secondary school enrolment. A unit rise in economic freedom (level) increases GDP per capita and life expectancy by (0.041) and (0.010) units, respectively, using difference GMM. The corresponding figures from system GMM are (0.001) and (0.047), respectively.

These results support the hypothesis that increased economic freedom improves the quality of life in Africa. Some empirical works have demonstrated a positive association between economic freedom and per capita income (Islam, 1996; de Haan and Siermann, 1998; Hussain and Haque, 2016; Asandului, Iacobuta and Cautisanu, 2016). The result in table 3 is consistent with the findings of studies like Madan (2002) and Nikolaev (2014) who found that economic freedom is positively associated with improved standard of living and quality of life. Some previous works have also stressed the critical role economic freedom plays in promoting higher standard of living and per capita consumption through accelerated rate of capital investment, faster economic growth, and lower unemployment and poverty rates (Hall et al. 2010; Gwartney et al. 2006; Azman-Saini et al. 2010; Heckelman and Knack, 2009; Feldmann 2007; Scully 2002; Grubel 1998).

Similarly, the result of this study presented in table 3 is in line with Madan (2002), Labrie and Doucet (2015), Mixon Jr. and Roseman (2003), Gwartney and Lawson (2004), Grubel (2004), who found that economic freedom increases longevity or life expectancy. Also, the level of economic freedom has a positive and statistically significant impact on secondary school enrollment in Africa. This result supports the findings of Naanwaab

(2018), Feldmann (2017), Dawson (1998), Aixala and Fabro (2009), and King, Montenegro, and Orazem (2012)

that the level of economic freedom has positive impact on secondary school enrolment rate.

For the control variables, GDP growth shows a positive and statistically significant effect on the quality of life index (QAL), consumption per capita, life expectancy, and secondary school enrolment. It implies that an increase in output growth increases the quality of life index and its indicators. Also, from Table 3, the result suggests that population growth hurts the quality of life index and all its indicators except secondary school enrolment. The result shows a positive relationship between foreign aid and quality of life index, although the coefficient for the system GMM estimation is not significant. Also, the Sargan tests for models (I-V) of both difference and system GMM show that the null hypothesis, which states that “overidentifying restrictions are valid,” cannot be rejected due to their high probability values. By implication, the instruments used by the panel GMM estimations are valid. Furthermore, the probabilities of AR (2) for all the models were not significant, indicating an absence of serial correlation.

In summary, economic freedom improves the economic wellbeing, standard of living, longevity, and human capital development in Africa. By implication, it means higher economic freedom will lead to a better quality of life in Africa.

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Table 3. The relationship between the level of economic freedom and quality of life in Africa (1985-2016)

Vrb	MODEL I (QAL)		MODEL II (GDPPC)		MODEL III (COMPC)		MODEL IV (LEXP)		MODEL V (SCHENROL)	
	D-GMM	S-GMM	D-GMM	S-GMM	D-GMM	S-GMM	D-GMM	S-GMM	D-GMM	S-GMM
Lag of Dep	0.799*** (0.000)	0.922*** (0.000)	0.894*** (0.000)	0.991*** (0.000)	0.913*** (0.000)	0.974*** (0.000)	0.960*** (0.000)	0.998*** (0.000)	0.869*** (0.000)	0.988*** (0.000)
C		0.421*** (0.001)		0.176*** (0.003)		-0.079 (0.665)		-1.872*** (0.000)		-2.264 (0.201)
EFW	0.269*** (0.000)	0.096*** (0.000)	0.041** (0.027)	0.010*** (0.000)	0.018*** (0.008)	0.015** (0.028)	0.339*** (0.000)	0.047*** (0.007)	0.580** (0.012)	0.362** (0.012)
GDPG	0.036*** (0.000)	0.035*** (0.000)			0.002*** (0.000)	0.006*** (0.000)	0.025*** (0.000)	0.041*** (0.000)	-0.459** (0.028)	0.051*** (0.000)
FAID	0.080*** (0.001)	-0.001 (0.860)	0.021* (0.060)	0.010*** (0.001)	0.059*** (0.000)	0.012** (0.012)	0.719*** (0.000)	0.090*** (0.000)	2.095*** (0.000)	0.065 (0.226)
POPG	-0.141*** (0.004)	-0.056*** (0.000)	-0.039 (0.207)	-0.007** (0.028)	-0.034*** (0.036)	-0.036** (0.033)	-1.092*** (0.000)	-0.099*** (0.000)	-0.605 (0.137)	0.221*** (0.000)
AR(1)	-1.94* (0.052)	-1.96* (0.050)	-7.80*** (0.000)	-2.59** (0.010)	-2.58** (0.010)	-2.49** (0.013)	-1.61* (0.091)	-1.97** (0.048)	-2.39** (0.017)	-2.35** (0.019)
AR(2)	1.54 (0.123)	1.6 (0.110)	-1.33 (0.184)	-0.94 (0.349)	1.65 (0.1)	1.85 (0.664)	-1.01 (0.312)	0.52 (0.605)	0.27 (0.785)	0.37 (0.714)
Sargan test	90.75 (0.458)	36.18 (0.102)	54.23 (0.117)	108.04 (0.229)	63.71 (0.718)	159.5 (0.688)	52.44 (0.130)	579.71 (0.615)	26.61 (0.485)	58.74 (0.594)
Obs	262	345	599	708	511	597	599	708	293	390

Notes: *, **, *** indicates level of significance at 10%, 5% and 1% respectively. The values in parenthesis are probability values of each of the coefficients.

Source: Authors' Computation, 2021

1 Given the argument that changes in the economic freedom value are more robust than the index level in explaining
2 cross-country growth variations (Heckelman and Knack, 2009; Dawson, 1998), we examined the impact of
3 changes in economic freedom on the quality of life. Table 4 presents the results of the estimation concerning all
4 the quality of life indicators. Table 4 shows that changes in economic freedom has a negative and statistically
5 significant effect on the quality of life index and all the measures of quality of life used. When changes in
6 economic freedom index increases by a unit, the quality of life index reduces by 0.711 and 0.474 in the difference
7 and system GMM, respectively. The same negative relationship is obtained between changes in economic freedom
8 and other measures of quality of life. For instance, a unit increase in changes in economic freedom index reduces
9 consumption per capita and secondary school enrollment by (0.085) (0.057) and (1.331) (3.577) for the difference
10 and system GMM results, respectively.
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21 This result is in contrast with the findings of Gwartney et al. (1999), de Haan and Sturm (1999), Dawson (2003)
22 who found that changes in the economic freedom index is significantly and positively related to the economic
23 growth rate. de Haan and Sturm (2000) present a sensitivity analysis of the freedom–growth relationship and
24 found that changes in the economic freedom index have a strong impact on growth, while the level of economic
25 freedom index does not. However, N’zue (2011) found that changes in economic freedom are detrimental to the
26 industrial sectors’ performance, although no sensitivity analysis was conducted in this study. In this study, the
27 reason why the coefficients of the level of economic freedom and changes in economic freedom have contrasting
28 signs may not be farfetched. The coefficient of the level of economic freedom in table 3 represents the long run
29 impact. On the other hand, the coefficient of changes in economic freedom in table 4 represents the short run
30 impact. The case may be that the first impact of increased economic freedom is negative, but eventual, in the long
31 run, the impact becomes positive. For illustration, a fall in government involvement means less government
32 spending. In the short-run, GDP and consumption per capita fall. Over time, as the private sector invests in the
33 economy, the quality of life grows beyond what it had been. This can be likened to growing pains. Transitioning
34 to more freedom can initially be costly, but has positive net benefits in the long run.
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51 Furthermore, the result in Table 4 shows that the GDP growth rate has a significant positive impact on the
52 composite quality of life index, consumption per capita, life expectancy, and secondary school enrolment.
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Table 4: The relationship between changes in economic freedom and quality of life in Africa (1985-2016)

Vrb	MODEL I (QAL)		MODEL II (GDPPC)		MODEL III (COMPC)		MODEL IV (LEXP)		MODEL V (SCHENROL)	
	D-GMM	S-GMM	D-GMM	S-GMM	D-GMM	S-GMM	D-GMM	S-GMM	D-GMM	S-GMM
Lag of Dep	0.836*** (0.000)	0.961*** (0.000)	0.898*** (0.000)	0.999*** (0.000)	0.849*** (0.000)	0.944*** (0.000)	0.953*** (0.000)	0.988*** (0.000)	0.845*** (0.000)	1.001*** (0.000)
C		1.135** (0.023)		-0.127** (0.013)		0.224*** (0.000)				3.402* (0.053)
CH_EFW	-0.711*** (0.000)	-0.474*** (0.000)	-0.127*** (0.000)	-0.078*** (0.000)	-0.085*** (0.008)	-0.057*** (0.000)	-0.573*** (0.000)	-0.339** (0.019)	-1.331*** (0.000)	-3.577*** (0.000)
GDPG	0.026*** (0.000)	0.022*** (0.000)			0.002*** (0.002)	0.001*** (0.009)	0.019*** (0.000)	0.033*** (0.000)	0.038*** (0.005)	0.044*** (0.000)
FAID	0.169*** (0.000)	-0.049** (0.034)	0.014*** (0.000)	0.009** (0.019)	0.054*** (0.000)	0.013*** (0.000)	0.746*** (0.000)	0.291*** (0.000)	1.239*** (0.000)	-0.122 (0.129)
POPG	0.075 (0.265)	-0.032*** (0.000)	-0.003 (0.500)	-0.007** (0.017)	0.030* (0.069)	-0.039*** (0.000)	0.381*** (0.000)	-0.054 (0.134)	-0.778*** (0.006)	0.139 (0.105)
AR(1)	-2.00** (0.045)	-2.02** (0.043)	-2.65*** (0.008)	-2.61* (0.009)	-2.50** (0.012)	-2.53** (0.011)	-1.97** (0.049)	-2.10** (0.035)	-2.35** (0.019)	-2.31** (0.021)
AR(2)	1.58 (0.115)	1.67 (0.100)	0.91 (0.363)	-0.83 (0.404)	1.63 (0.103)	1.77 (0.107)	-1.45 (0.147)	-0.24 (0.812)	0.38 (0.705)	0.35 (0.728)
Sargan test	48.81 (0.800)	102.71 (0.277)	48.16 (0.792)	77.40 (0.159)	75.14 (0.870)	38.36 (0.141)	48.71 (0.162)	422.22 (0.946)	43.3 (0.416)	358.43 (0.202)
Obs	262	345	599	708	511	597	599	708	293	390

Notes: *, **, *** indicates level of significance at 10%, 5% and 1% respectively. The values in parenthesis are the probability value of each coefficient.

Sources: Authors' Computation, 2021

The result shows that population growth hurts the quality of life index and all other measures of the quality of life measures. In contrast, foreign aid shows a varying impact on the dependent variables. The GMM estimates depend on the statistical correctness of the diagnostic tests. The Arellano-Bond tests conducted clearly show an absence of serial correlation of order 2 in all the models estimated. Similarly, the Sargan tests for all the estimations show that the null hypothesis, which states that “over-identifying restrictions are valid,” cannot be rejected based on their high probability values. Given the negative effect of changes in the economic freedom index, we conclude that fluctuations in economic freedom in Africa have a significant adverse impact on the quality of life.

Table 5: Panel Regression Result (economic freedom(levels)and QOL in Africa (1985-2016)

Vrb	QOL	GDPPC	COMPC	LEXP	SCHENROL
	FE	FE	FE	FE	FE
C	-7.805*** (0.000)	2.195*** (0.00)	1.772*** (0.00)	4.116 (0.39)	3.983*** (0.00)
EFW	0.511*** (0.000)	0.079*** (0.00)	0.070*** (0.000)	2.659*** (0.00)	0.172*** (0.00)
GDPG	-0.009 (0.440)	-0.002 (0.93)	-0.0007 (0.594)	-0.018 (0.501)	-0.0001 (0.41)
FAID	0.244*** (0.000)	0.027** (0.018)	0.043*** (0.000)	1.133*** (0.000)	-0.034* (0.08)
POPG	0.106 (0.172)	0.238*** (0.000)	-0.442*** (0.000)	5.191*** (0.000)	0.086*** (0.00)
Hausman test	548.83 (0.000)	36.25 (0.000)	52.11 (0.000)	241.22 (0.000)	184.3 (0.000)
BP. LM Test	44.00 (0.000)	4126.36 (0.000)	3189.53 (0.000)	3818.22 (0.000)	1750.13 (0.000)
F-Tests	8.37 (0.000)	542.49 (0.000)	327.9 (0.000)	109.69 (0.000)	67.91 (0.000)
Obs	413	735	626	735	466

Notes: *, **, *** indicates level of significance at 10%, 5% and 1% respectively. The values in parenthesis are the probability value of each coefficient.

Sources: Author's Computation, 2021

The fixed effects and random effects models help to account for unobserved heterogeneity and the issue of potential bias. The result in section 3 shows a negative relationship between economic freedom and quality of life in the Northern African countries as against a positive relationship in the countries of the south is exciting. This difference can partly be explained by geographical location, exposure to FDI, and political differences. The fixed and random effect, however, control for these unobserved characteristics in this study. As revealed in table 5 and 6, the conventional F-type tests, which is used (for the joint significance of the country and time dummy variables) to determine whether the OLS model is rejected in favour of fixed-effects model, shows a rejection of the null hypothesis that there are no individual-specific effects. This finding implies that there are individual specific effects in the model.

Also, the Breuech Pagan Lagrange Multiplier (LM) test results in tables 5 and 6 confirm the appropriateness of random effect estimation over OLS model. By implication, there is evidence of significant differences across countries. However, the Hausman test results helps to choose between fixed effects model or a random effects model. Here, we reject the null and accept the alternative hypothesis and conclude that the fixed-effect is more appropriate for all the models.

Table 6: Panel Regression Result [economic freedom (changes)and QOL in Africa (1985-2016)]

Vrb	QOL	GDPPC	COMPC	LEXP	SCHENROL
	FE	FE	FE	FE	FE
C	-54.769*** (0.000)	0.074*** (0.000)	-3.678*** (0.000)	-2.101*** (0.000)	-6.458*** (0.000)
EFW	-1.599*** (0.000)	-0.379*** (0.000)	-0.216** (0.010)	-0.016 (0.202)	-0.101** (0.020)
GDPG	-0.0004 (0.967)	-0.002 (0.116)	-0.002 (0.302)	-0.0001 (0.606)	-0.0017* (0.070)
FAID	0.306*** (0.000)	0.031*** (0.008)	0.044*** (0.000)	0.013*** (0.000)	-0.003 (0.656)
POPG	3.005*** (0.000)	0.393*** (0.000)	0.584*** (0.000)	0.149*** (0.000)	0.428*** (0.000)
Hausman test	225.1 (0.000)	182.27 (0.000)	154.08 (0.000)	1707.38 (0.000)	938.02 (0.000)
BP-LM Test	17.19 (0.000)	4838.49 (0.000)	3929.27 (0.000)	3500.15 (0.000)	1947.54 (0.000)
F-Tests	9.54 (0.000)	613.41 (0.000)	414.19 (0.000)	130.99 (0.000)	105.02 (0.000)
Obs	413	735	626	735	466

Notes: *,**, *** indicates level of significance at 10%, 5% and 1% respectively. The values in parenthesis are the probability value of each coefficient.

Sources: Author's Computation, 2019

6 Conclusion

This paper has examined the role of economic freedom on quality of life in Africa using panel data from 1985 to 2016 employing the GMM estimation technique. In addition to the various indicators of quality of life such GDP per capita growth and school enrolment, the study generated a composite index of quality of life for Africa countries. The empirical findings show that economic freedom (level) enhances the quality of life. However, changes in economic freedom tend to worsen the quality of life. This suggests that in the short run---reflected by changes in economic freedom, quality of life is worse off. In the long run—reflected by level of economic freedom, however, quality of life is being enhanced. The economic growth and the foreign aid enhance the quality of life in Africa.

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4 Our results suggest some policy implications. African countries need to establish fiscal and monetary policies suitable
5 for the improvement of economic freedom. For instance, fiscal freedom which is one of the components of economic
6 freedom can be enhanced by reducing government expenditure including government transfers and subsidies.
7 Excessive government consumption spending often results in deficits with adverse effects on the economic growth.
8 Reduction in government involvement in economic activities would lessen the regulation and intervention in financial
9 sectors and allow for efficient allocation of credit in the capital market. To achieve improved quality of life through
10 monetary freedom, African countries need to ensure macroeconomic stability.
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19 Finally, African countries must ensure increased trade freedom which also a component of economic freedom. Hence,
20 there is the need to reduce international trade barriers among African countries. Besides, their economies must be
21 opened up to foreign trade through the dismantling of tariff and non-tariff barriers. Restrictions on capital mobility
22 and the control of the international capital market must be abolished, to allow African countries to get the gains of
23 trade liberalization. These policies must be implemented consistently over time to ensure it produces a positive impact
24 on the quality of life. This is because, as found in this study, these policies may not be impactful at the initial stages,
25 but would have a positive impact in the long run.
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34 The major limitation of this study is the absence of sensitivity analysis in investigating the impact of the level and
35 changes in economic freedom on quality of life. Also, other factors may influence the freedom-quality of life
36 relationship, which should be investigated by further researches.
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42 **References**

- 43 Acemoglu, D. & J. Robinson (2008). *The Role of Institutions in Growth and Development*. Commission on Growth
44 and Development Working Paper No. 10. The World Bank, Washington, DC.
45 Acemoglu, D., S. Johnson and J. A. Robinson. (2004). *Institutions as the Fundamental Cause of Long-Run Growth*.
46 NBER Working Paper 10481.
47 Ahmad, M. (2017). Economic Freedom and Income Inequality: Does Political Regime Matter? *Economies*, Vol. 5(18),
48 pp. 1-28.
49 Aixala, J., & Fabro, G. (2009). Economic freedom, civil liberties, political rights and growth: A causality analysis.
50 *Spanish Economic Review*, Vol. 11 (3), pp. 165-178.
51 Ali, A., and W. Crain. 2001. Political regimes, economic freedom, institutions and growth. *Journal of Public Finance*
52 *and Public Choice* 19(1): 3-22.
53 Aron, J. And J. Muellbauer (2000). Financial Liberalization, Consumption, and Debt in South Africa. WPS 2000-22.
54 Arora, V., and G. Vamvakidis. 2006. The impact of U.S. economic growth on the rest of the world: How much does
55 it matter? *Journal of Economic Integration* 21(1): 21-39.
56 Asandului, L., A. Iacobuta & C. Cautisanu (2016). Modeling Economic Growth Based on Economic Freedom and
57 Social Progress. *European Journal of Sustainable Development*, Vol. 5(3), pp. 229-238.
58 Azman-Saini, W., A. Baharumshah, A., and S. Law (2010). Foreign Direct Investment, Economic Freedom and
59 Economic Growth: International Evidence. *Economic Modeling*, 27(5): 529–45.
60
61
62
63
64
65

- 1
2
3
4 Bauman, Z. (1997). *Freedom*. New Delhi: World View.
- 5 Beck, N. L., & N. K. Jonathan (2001). Throwing out the Baby with the Bathwater: A comment on Green, Yoon and
6 Kim. *International Organization*, Vol. 55(2), pp. 487-95.
- 7 Belasen, A. R. and R.W. Hafer (2012): Well-being and economic freedom: Evidence from the States. *Intelligence*,
8 Vol. 40(3), pp. 306-316.
- 9 Belasen, A. R. and R.W. Hafer (2013). Do Changes in Economic Freedom affect Well-Being? *The Journal of Regional*
10 *Analysis and Policy*, Vol. 43(1), pp. 56-64.
- 11 Belk, R. W. 1988. Possessions and the extended self. *Journal of Consumer Research* 15 (September):139-68.
- 12 Bennett, D. L. & R. J. Cebula (2015). Misperceptions about Capitalism, Government and Inequality. In: Cebula, R.J.,
13 Hall, J.C., Mixon, F., Payne, J.E. (Eds.), *Economic Behavior, Entrepreneurship and Economic Freedom*.
14 Edward Elgar, Amsterdam.
- 15 Berggren, N. & H. Jordahl (2006). Free to trust: economic freedom and social capital. *Kyklos*, Vol. 59 (2), pp. 141-
16 169.
- 17 Bjørnskov, C. (2015). Does economic freedom really kill? On the association between ‘Neoliberal’ policies and
18 homicide rates. *Eur. J. Polit. Econ*, Vol. 37, pp. 207-219.
- 19 Bjørnskov, C., Dreher, A., & Fischer, J. A. V. (2007). The bigger the better? Evidence of the effect of government
20 size on life satisfaction around the world. *Public Choice*, 130, 267-292.
- 21 Blume, L. & S. Voigt (2007). The economic effects of human rights. *Kyklos*, Vol. 60 (4), pp. 509-538.
- 22 Blundell-Wignall, A., F. Browne, and S. Cavaglia, 1991. Financial liberalisation and consumer behaviour. OECD
23 Economics Department Working Papers No. 81. OECD.
- 24 Breitung, J. (2000). “The Local Power of Some Unit Root Tests for Panel Data”, in B. Baltagi (ed.), *Nonstationary*
25 *Panels, Panel Cointegration, and Dynamic Panels*, *Advances in Econometrics*, Vol. 15, pp. 161-178, Elsevier
26 Science.
- 27 Carlsson, F. & S. Lundstrom (2002). Economic freedom and growth: Decomposing the effects. *Public Choice*, Vol.
28 112, pp. 335-344.
- 29 Cebula, R. 2011. Economic growth, ten forms of economic freedom, and political stability: An empirical study using
30 panel data, 2003-2007. *Journal of Private Enterprise* 26(2), Spring: 61-82.
- 31 Cebula, R. J. (2013). Which economic freedoms influence per capita real income? *Applied Economics Letters*, Vol.
32 20 (4), pp. 368-372.
- 33 Cebula, R., and F. Mixon. 2012. The impact of fiscal and other economic freedoms on economic growth: An empirical
34 analysis. *International Advances in Economic Research* 18(2) May: 139-150.
- 35 Chen, S & M. Ravallion (2008). The Developing world is Poorer than We Thought, But No Less Successful in the
36 Fight against Poverty. *Poverty Research Paper No. 4703*, (Washington, DC: World Bank).
- 37 Chen, S. & Ravallion, M. (2007). *Absolute Poverty Measures for the Developing World, 1981-2004*. Policy Research
38 Working Paper 4211. (Washington, DC: World Bank).
- 39 Chirino, J. B. & Melian, J. M. B. (2006). Analysis of the effectiveness of Official Development Assistance.
40 *International Research Journal of Finance and Economics*, Vol. 3, pp. 1450-2887.
- 41 Connors, J. S. (2011). *Global Poverty: The role of Economic Freedom, Democracy, and Foreign Aid*. A Dissertation
42 submitted to the Department of Economics, Florida State University, in partial fulfilment of the requirements
43 for the degree of Doctor of Philosophy. Retrieved from http://purl.flvc.org/fsu/fd/FSU_migr_etd-3435.
44 (Accessed 21, Aug. 2018).
- 45 Connors, J. S. (2013). *Economic Institutions and Global Poverty*. Florida State University papers. Retrieved from
46 [http://myweb.fsu.edu/jsc07e/Documents/Papers/Connors%20-](http://myweb.fsu.edu/jsc07e/Documents/Papers/Connors%20-%20Economic%20Institutions%20and%20Global%20Poverty.pdf)
47 [%20Economic%20Institutions%20and%20Global%20Poverty.pdf](http://myweb.fsu.edu/jsc07e/Documents/Papers/Connors%20-%20Economic%20Institutions%20and%20Global%20Poverty.pdf). (Accessed 21, Aug. 2018).
- 48 Conway, T. (2004). *Trade Liberalisation and Poverty Reduction*. A study funded by Department for International
49 Development, UK, under contract CNTR 03 4777. London: Overseas Development Institute.
- 50 Dawson, J. W. (1998). Institutions, Investment, and Growth: New Cross-Country and Panel Data Evidence. *Economic*
51 *Inquiry*, Vol. 36(4), pp. 603-619.
- 52 de Haan, J. & C. L. J. Siermann (1998). Further Evidence on the Relationship between Economic Freedom and
53 Economic Growth Source. *Public Choice*, Vol. 95, No. 3/4, pp. 363-380.
- 54 de Haan, J. & J. Sturm (2000). On the relationship between economic freedom and economic growth. *European*
55 *Journal of Political Economy*, Vol. 16(2), pp. 215-241.
- 56 De Soysa, I. & H. Fjelde (2010). Is the hidden hand an iron fist? Capitalism and civil peace, 1970-2005. *J. Peace Res*,
57 Vol. 47 (3), pp. 287-298.
- 58 Dollar, D. & A. Kraay (2002). Growth is good for the poor. *Journal of Economic Growth*, Vol. 7, pp. 195-225.
- 59 EFA Global Monitoring Report, 2006. *Education for All: Literacy for Life*. France: UNESCO.
- 60
61
62
63
64
65

- 1
2
3
4 Esposto, A. G. and P. A. Zaleski (1999). Economic freedom and the quality of life: An empirical analysis. *Constitutional Political Economy*, 10: 185-197.
- 5
6 Featherstone, M. 1991. *Consumer culture and postmodernism*. London: Sage.
- 7 Felce, D., & Perry, J. (1995). Quality of life: Its definition and measurement. *Research in Developmental Disabilities*,
8 16(1), 51–74.
- 9 Feldmann, H. (2007). Economic freedom and unemployment around the world. *South. Econ. J.* Vol. 74 (1), pp. 158–
10 176.
- 11 Feldmann, H. (2017). Economic Freedom and Human Capital Investment. *Journal of Institutional Economics*, Vol.
12 13(2), pp. 421-445.
- 13 Feldmann, H. (2020). Economic Freedom and People's Regard for Education. *Social Indicators Research*,
14 <https://doi.org/10.1007/s11205-020-02555-w>.
- 15 Fiske, J. 2000. Shopping for pleasure: Malls, power, and resistance. In *The consumer society reader*, edited by Juliet
16 B Schor and Douglas B. Holt. New York: The New Press: 306–28.
- 17 Garbat, M., & Paszkowicz, M. A. (1984). Jakos'c' z'ycia oso'b niepełnosprawnych w wojewo'dztwie lubuskim –
18 diagnoza sytuacji materialno-bytowej. In Z. Palak (Ed.), *Jakos'c' z'ycia oso'b niepełnosprawnych I*
19 *nieprzystosowanych społecznie*. Lublin: Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej.
- 20 Gehring, K. (2013). Who benefits from economic freedom? Unraveling the effect of economic freedom on subjective
21 well-being. *World Development* 50: 74 – 90.
- 22 Graafland, J. & B. Lous (2018). Economic Freedom, Income Inequality and Life Satisfaction in OECD Countries.
23 *Journal Happiness Studies*, Vol. 19, pp. 2071–2093.
- 24 Graafland, J. 2020a. Contingencies in the relationship between economic freedom and human development: the role
25 of generalized trust. *Journal of Institutional Economics*, Vol. 16(3) pp. 271-286.
- 26 Graafland, J. 2020b. When Does Economic Freedom Promote Well Being? On the Moderating Role of Long- Term
27 Orientation. *Social Indicators Research*, 149: 127–153.
- 28 Graafland, J. and N. Noorderhaven. 2020. Culture and institutions: How economic freedom and long-term orientation
29 interactively influence corporate social responsibility. *Journal of International Business Studies*, Vol. 51, pp.
30 1034-1043.
- 31 Graafland, J. J. & B. Compen (2012). Economic Freedom and Life Satisfaction: A Cross Country Analysis, Discussion
32 Paper 2012-038, Tilburg University, Center for Economic Research.
- 33 Graafland, J. J. and B. Compen (2015). Economic Freedom and Life Satisfaction: Mediation by Income per Capita
34 and Generalized Trust. *Journal of Happiness Studies*, 16(3): 789–810.
- 35 Gropper, D. M., Lawson, R. A., and Thorne, J. T., Jr. (2011): Economic freedom and happiness. *Cato Journal* 31:
36 237–255.
- 37 Grubel, H. G. (1998). Economic Freedom and Human Welfare: Some Empirical Findings. *Cato Journal*, 18(2): 287-
38 304.
- 39 Gwartney, J. and R. Lawson (2004) *Economic freedom of the world: 2004 annual report*. Vancouver: The Fraser
40 Institute, 2004. Data retrieved from www.freetheworld.com.
- 41 Gwartney, J. D. & J. S. Connors (2010). “Economic freedom and global poverty”. In: White M. D. (eds) *Accepting*
42 *the Invisible Hand. Perspectives from Social Economics*. Palgrave Macmillan, New York. Pp. 43-68.
- 43 Gwartney, J. D., Holcombe, R., Lawson, R. (1999). Economic Freedom and the Environment for Economic Growth.
44 *Journal of Institutional and Theoretical Economics*, Vol. 155(4), pp. 643–663.
- 45 Gwartney, J. D., R. G. Holcombe, and R. A. Lawson (2004). Economic Freedom, Institutional Quality, and Cross-
46 Country Differences in Income and Growth. *Cato Journal*, Vol. 24(3), pp. 205-233. Cato Institute.
- 47 Gwartney, J., and R. Lawson (2004b). Ten Consequences of Economic Freedom. NCPA Policy Report No. 268.
48 Texas: National Centre for Policy Analysis.
- 49 Gwartney, J., and R. Lawson. 2008. *Economic Freedom of the World: 2008 Annual Report*. Vancouver: Fraser
50 Institute.
- 51 Gwartney, J., R. Holcombe & R. Lawson (2006). Institutions and the impact of investment on growth. *Kyklos* 59 (2),
52 255–273.
- 53 Gwartney, J., R. Lawson & J. Hall (2017). *Economic Freedom of the World: 2017 Annual Report*. Fraser Institute.
54 Available on <https://www.fraserinstitute.org/studies/economic-freedom>. Accessed on 3/2/2019
- 55 Hall, J., R. Sobel & G. Crowley (2010). Institutions, capital, and growth. *South. Econ. J.* 77 (2), 385–405.
- 56 Heckelman, J. & S. Knack (2009). Aid, Economic Freedom, and Growth. *Contemporary Economic Policy*, Vol. 27(1),
57 pp. 46–53.
- 58 Heckelman, J. 2000. Economic freedom and economic growth: A short-run causal relationship. *Journal of Applied*
59 *Economics* 3(1): 71-91.
- 60
61
62
63
64
65

- 1
2
3
4 Heckelman, J., and M. Stroup. 2000. Which economic freedoms contribute to economic growth? *Kyklos* 3(4): 527-
5 544.
- 6 Heller, L. & E. Stephenson (2014). Economic freedom and labor market conditions: evidence from the states.
7 *Contemp. Econ. Policy*, Vol. 32 (1), pp. 56–66.
- 8 Ho C.S.F., Amir K., Nasaruddin L.S., Abidin N.F.Z. (2013) Openness, Market Size and Foreign Direct Investments.
9 In: Hooy C.W., Ali R., Rhee S.G. (eds) *Emerging Markets and Financial Resilience*. Palgrave Macmillan,
10 London.
- 11 Hussain, M. E. & M. Haque (2016). Impact of Economic Freedom on the Growth Rate: A Panel Data Analysis.
12 *Economies*, Vol. 4(5), pp. 1-15.
- 13 Im K. S., M. H. Pesaran and Y. Shin (2003). Testing for Unit Roots in Heterogeneous Panels. *Journal of Econometrics*,
14 Vol. 115, pp. 53-74.
- 15 Inglehart, R., Foa, R., Peterson, C., and Welzel, C. (2008). Development, freedom, and rising happiness. *Perspectives*
16 *on Psychological Science* 3: 264–285.
- 17 Islam, Md. R. (2018). Wealth Inequality, Democracy and Economic Freedom, *Journal of Comparative Economics*,
18 doi: 10.1016/j.jce.2018.01.002.
- 19 Islam, S. (1996). Economic freedom, per capita income and economic growth. *Applied Economics Letters*, Vol. 3(9),
20 pp. 595-597.
- 21 Jonker, G. and J. Harmsen (2012). “Structuring of Sustainability Context” in Gerald Jonker and Jan Harmen
22 Engineering for sustainability, pp. 35-60, Elsevier: New York.
- 23
- 24 Kaur, S. (2007). Economic Freedom, Inequality and Poverty: Re-examining the Role of Government. *The Indian*
25 *Economic Journal*, Vol. 55(2), pp. 96-118.
- 26 Kimenyi, M., J. Adibe, M. Djiré, A. J. Jirgi, A. Kergna, T. T. Deressa, J. E. Pugliese and A. Westbury (2014). The
27 impact of conflict and political instability on agricultural investments in Mali and Nigeria. Africa Growth
28 Initiative Working Paper 17. Washington: Brookings.
- 29 King, E. M., C. E. Montenegro, and P. F. Orazem (2012). Economic Freedom, Human Rights, and the Returns to
30 Human Capital: An Evaluation of the Schultz Hypothesis. *Economic Development and Cultural Change*,
31 Vol. 61(1), pp. 39–72.
- 32 Labrie, Y. and B. Doucet (2015). Economic freedom improves Human well-being. *Economic Notes*. (Montreal
33 Economic Institute: Montreal QC).
- 34 Levchenko, A. A. (2005). Financial Liberalization and Consumption Volatility in Developing Countries. IMF Staff
35 Papers, Vol 52(2), pp. 237-259.
- 36 Levin, A., C. F. Lin & C. S. J. Chu (2002). Unit root tests in panel data: asymptotic and finite-sample properties.
37 *Journal of Econometrics*, Vol. 108, pp. 1-24.
- 38 Linnemann, L. (2006). The Effect of Government Spending on Private Consumption: A Puzzle? *Journal of Money,*
39 *Credit and Banking*, Vol. 38, No. 7, pp. 1715-1735.
- 40 Madan, A. (2002). The Relationship between Economic Freedom and Socio-Economic Development. *Honors*
41 *Projects*, Paper 37. Available at http://digitalcommons.iwu.edu/econ_honproj/37.
- 42 Maddala, G. and S. Wu (1999). A Comparative Study of Unit Root Tests and a New Simple Test. *Oxford Bulletin of*
43 *Economics and Statistics*, Vol. 61, pp. 631-652.
- 44 Masud, N. & B. Yontcheva (2005). Does Foreign Aid Reduce Poverty? Empirical Evidence from Nongovernmental
45 and Bilateral Aid. IMF Working Paper 05/100.
- 46 Miller, A. J., Holmes, K.R. and Feulner, E.J. (2012). Index of Economic Freedom. The Wall Street Journal. Dow
47 Jones and Company Inc., New York.
- 48 Mir Nahid, M. and A. Mansur (2012). Government Expenditure and Household Consumption in Bangladesh through
49 the Lens of Economic Theories: An Empirical Assessment. MPRA Paper No. 36016. Available at
50 <https://mpra.ub.uni-muenchen.de/36016/>.
- 51 Mixon Jr., J. W. and G. H. Roseman (2003). Male-Female Life Expectancy and Economic Freedom. *Journal of Private*
52 *Enterprise*, Vol. 19(1), pp. 1-25.
- 53 Muslija. A. and E. Satrovic (2018). Economic Freedom Matters for Human Capital: Evidence from Turkey.
54 *International Journal of New Trends in Science, Engineering and Technology*, Vol. 1(1), pp. 1-10.
- 55 N’zue, F. F. (2011). Economic Freedom and Performance in ECOWAS Countries: A Dynamic Panel Data Approach.
56 *International Journal of Economic Policy in Emerging Economies*, Vol. 18, No. 2, pp. 53-78.
- 57 Naanwaab, C. (2018). Does economic freedom promote Human development? New evidence from a cross-national
58 study. *The Journal of Developing Areas*, Vol. 52 (3), pp.184-198.
- 59
60
61
62
63
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65

- 1
2
3
4 Nikolaev, B. (2014). Economic freedom and quality of life: evidence from the OECD's your better life index. *J. Priv. Enterp.* 29(3): 61–96.
- 5
6 North, D. C. (1990). *Institutions, institutional change, and economic performance*. Cambridge University Press, Cambridge.
- 7
8 Norton, S. W. & J. Gwartney. 2008. "Economic Freedom and World Poverty." In *Economic Freedom of the World, 2008 Annual Report*, edited by James Gwartney and Robert Lawson, 23-40. Vancouver: Fraser Institute.
- 9
10 Norton, Seth (1998) Property, Property Rights, and Human Well-Being: A CrossNational Study. *Cato Journal* 18(2): 233-245.
- 11
12 Okpala A. O. and C. O. Okpala, 2017. Index of Economic Freedom, Religion and Female literacy rate in Sub-Saharan Africa. *The Journal of Social Sciences Research*, 3(4):33-36.
- 13
14 Olofin, O. P. (2013). Foreign aid and poverty level in West African countries: New evidence using a heterogeneous panel analysis. *Australian Journal of Business and Management Research* Vol.3 No.04, 9-18.
- 15
16 Ovaska, T., and Takashima, R. (2006). Economic policy and the level of self perceived well-being: An international comparison. *The Journal of Socio-Economics* 35: 308–325.
- 17
18 Pedroni, P. (1999). Critical Values for Cointegration Tests in Heterogeneous Panels with Multiple Regressors. *Oxford Bulletin of Economics and Statistics*, Vol. 61, pp. 653-670.
- 19
20 Pedroni, P. (2004). Panel Cointegration: Asymptotic and Finite Sample Properties of Pooled Time Series Tests with an Application to the PPP Hypothesis. *Econometric Theory*, Vol. 20, pp. 597–625.
- 21
22 Perez-Moreno, S. & M. J. Angulo-Guerrero. 2016. Does economic freedom increase income inequality? Evidence from the EU countries. *Journal of Economic Policy Reform*, Vol. 19(4), pp. 327-347.
- 23
24 Press, D. (2017). *Why Economic Freedom Is the Best Weapon against Poverty*. Competitive Enterprise Institute. Available at: <https://cei.org/blog/why-economic-freedom-best-weapon-against-poverty>. Accessed on 24th April 2019.
- 25
26
27 Quazi, R. (2007). Economic freedom and foreign direct investment in East Asia. *Journal of the Asia Pacific Economy*, Vol. 12 (3), pp. 329-344.
- 28
29 Ritzer, George. 2004. *Enchanting a disenchanted world: Revolutionizing the means of consumption*. 2ded. Thousand Oaks: Pine Forge.
- 30
31 Scully, G. W. (2002). Economic freedom, government policy and the trade-off between equity and economic growth. *Public Choice*, Vol., 113, pp. 77-96.
- 32
33 Singh, D., and Z. Gal (2020). Economic Freedom and its Impact on Foreign Direct Investment: Global Overview. *Review of Economic Perspectives*, Vol. 20,(1), pp. 73–90.
- 34
35 Stroup, M. (2007). Economic Freedom, Democracy, and the Quality of Life. *World Development*, Vol. 35(1), pp. 52–66.
- 36
37 The Economist (2007). Economic freedom in Africa: Where has all the progress gone? Available at: <https://www.economist.com/news/2007/05/17/economic-freedom-in-africa>. Accessed 4th April 2019.
- 38
39 Thorbecke, E. 2013. The Interrelationship Linking Growth, Inequality and Poverty in Sub-Saharan Africa. *Journal of African Economies*, 22, Supplement 1, pp. i15-i48.
- 40
41 UNDP (2018). *2018 Human Development Report*. New York: UN Publishing.
- 42
43 Vargas Llosa, A. (2008). *Lessons from the Poor: Triumph of the Entrepreneurial Spirit*. Oakland: Independent Institute.
- 44
45 Veenhoven, R. (2000a). Freedom and Happiness: a comparative study in 46 nations in the early 1990s. In: Diener, E., Suh, E. M. (eds), "Culture and Subjective Well-being". MIT Press, Cambridge, MA. pp. 257-288.
- 46
47 Veenhoven, R. (2000b). The four qualities of life ordering concepts and measures of the good life. *Journal of Happiness Studies*, 1, 1–39.
- 48
49 Vega-Gordillo, M., & Álvarez-Arce J. L. (2003). Economic growth and freedom: A causality study. *Cato Journal*, Vol. 23 (2), pp. 199-215.
- 50
51 Verme, P. (2009). Happiness, freedom and control. *Journal of Economic Behavior & Organization*, 71(2): 146–161.
- 52
53 WHOQOL Group (1995). Measuring quality of life. www.social-sciencegenesis.de/en/social_monitoring/social_indicators/EU_Reporting/index.htm.
- 54
55 World Bank (2016). *Poverty in a rising Africa. Africa Poverty Report*, World Bank: Washington, DC.
- 56
57 World Bank. (2018). *Poverty and Shared Prosperity 2018: Piecing Together the Poverty Puzzle*. Washington, DC: World Bank.
- 58
59 Yakubu, Z., N. Loganathan, T. N. Mursitama, A. Mardani, S. A. R. Khan and A. A. G. Hassa (2020). Financial Liberalisation, Political Stability, and Economic Determinants of Real Economic Growth in Kenya. *Energies*, 13, pp. 34-50.
- 60
61
62
63
64
65

Zaman, K., M. Q. Saleem, M. Ahmad, A. Khan (2017). Economic Freedom Indicators and Higher Education Reforms: Evaluation and Planning Internationalization Process. International Journal of Economics and Financial Issues, 2017, 7(3), 152-160.

ALGERIA	ANGOLA	BENIN	BOTSWANA	BURKINA FASO
BURUNDI	CAMEROON	CABO VERDE	CENTRAL AFRICAN REPUBLIC	DR CONGO
CONGO REPUBLIC	COTE D'IVOIRE	EGYPT	ETHIOPIA	GABON
GAMBIA	GHANA	GUINEA	GUINEA BISSAU	KENYA
LESOTHO	LIBERIA	LIBYA	MADAGASCAR	MALAWI
MALI	MAURITANIA	MAURITIUS	MOROCCO	MOZAMBIQUE
NAMABIA	NIGER	NIGERIA	RWANDA	SENEGAL
SEYCHELLES	SEIRRA LEONE	SOUTH AFRICA	TANZANIA	TOGO
TUNISIA	UGANDA	ZAMBIA	ZIMBABWE	

Appendix

Appendix A: List of 44 African Countries used

Appendix B:

For stationarity tests, the study uses a broad range of panel unit root tests: the LLC (Levin, Lin & Chu, 2002), the IPS (Im, Pesaran & Shin., 2003), and the ADF- and PP-Fisher chi-square (Maddala and Wu, 1999) and Breitung's (2000) t-statistic. As shown in table 1, the results of the stationarity test show that out of the ten variables tested, five of the series is stationary at a level while five are stationary at first difference. Next, we perform cointegration tests among variables used in the models estimated.

Appendix C:

Pedroni examines properties of residual-based tests for the null hypothesis of no co-integration for dynamic panels' variables wherein both the short-run dynamics and the long-run slope coefficients are allowed to be heterogeneous across individual members of the panel. Pedroni puts into consideration both pooled within dimension tests and group mean between dimension tests. The test results in table 2 show seven test statistics for each model estimated, consisting of Panel-v, Panel-rho, Panel-PP, Panel-ADF, Group-rho, Group-PP, and Group-ADF. The co-integration results

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presented in table 2 are for models with quality of life as dependent variable. The result in table 2 shows that with intercept and trend, five of the test statistics accept the null hypothesis of no co-integration while six of the test statistics reject the null hypothesis of no co-integration, meaning that there is co-integration among the variable in the models.

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Table 1: Panel Unit root test result

Variables	Levin et al		Breitung		Im et al		ADF		PP		RMKS
	Levels	1st Diff	Levels	1st Diff	Levels	1st Diff	Levels	1st Diff	Levels	1st Diff	
COMPC	9.85	-22.39***	8.36	-10.74***	1.25	-15.28***	75.03	584.5***	79.8	1971.61***	I(1)
CEFW	-1.24	,-15.52***	-6.96***		-11.29***		252.48***		636.86***		I(0)
EFW	-6.52***		-1.45*		-1.85**		105.45**		162.21***		I(0)
GDPG	-7.58***		-7.57***		-11.57***		295.30***		658.12***		I(0)
GDPPC	-0.37	-20.33**	9.37	-11.44***	4.33	-22.06***	57.57	595.67***	69.37	899.36***	I(1)
LEXP	-3.54***		20.81	12.87*	5.39	8.62*	126.09***		64.22	310.59***	I(1)
LNFAID	-5.36***		-4.41***		-5.34***		166.63***		185.40***		I(0)
POPG	5.12	6.51*	11.82	4.24*	8.07	3.36*	46.49	128.40***	63.57	352.32***	I(1)
QAL	-25.38***		0.869	0.52*	-10.34***		425.14***		71.96	245.85***	I(0)
SCHENROL	-3505.86***		4.0E-10	-5.8E-15*	5.28	-4.39***	43.37	226.05***	77.92	267.47***	I(1)

Notes: *, **, *** indicates level of significance at 10%, 5% and 1% respectively. Panel unit root was conducted with intercept and trend

Source: Author's Computation, 2019

Table 2: Pedroni Panel Cointegration Results (Economic freedom and QOL)

Vrb in Coint. vector	Test	Unweighted		Weighted	
		Intercept & Trend	Prob.	Intercept & Trend	Prob.
QAL, EFW, GDPG, FAID, POPG	Pane-v	0.623	0.267	-4.904	1.000
	Panel-rho	3.987	1.000	4.037	1.000
	Panel-PP	-5.385***	0.000	-1.769**	0.038
	Panel-ADF	-4.578***	0.000	-1.734**	0.042
	Group-rho	7.070	1.000		
	Group-PP	-3.495***	0.000		
	Group-ADF	-2.357***	0.009		
QAL, C-EFW, GDPG, FAID, POPG	Panel-v	-0.489	0.687	-3.813	0.999
	Panel-rho	4.467	1.000	5.070	1.000
	Panel-PP	-3.564***	0.000	-3.404***	0.000
	Panel-ADF	-2.806***	0.003	-2.118***	0.017
	Group-rho	7.397	1.000		
	Group-PP	0.063**	0.025		
	Group-ADF	0.102**	0.041		

***, **, * indicate 1%, 5%, and 10% levels of significance. Probability values recorded

Sources: Author's Computation, 2019



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Supplementary Material

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