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Looking Beyond Gross Domestic Product: Self-Employment and Social Progress Index in Africa☆

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A B S T R A C T

This study aim at looking beyond Gross Domestic Product: Self-employment and the Social Progress Index in Africa. The period concern in the study stretches from 2014-2019. For our panel data analysis, the pooled OLS regression model was used to investigate for the effect of the SPI and its dimensions on self-employment in Africa. The stand of the research is that the SPI is a measure complementing GDP for an efficient measurement of social development. In this regard, the impact of GDP on self-employment is also scrutinised. The random effect and the fixed effect models have also been considered in our regression analysis to account for the impacts of variables in observation at country level. The independent variables included Social progress index (SPI_ALL), Basic Human Needs (SPI_NEEDS), Foundation of Well-being (SPI_FOUN), Opportunity (SPI_OPP) and Gross Domestic Product per capita at Purchasing Power Parity (GDPC_PPP). Unemployment total, population total and inflation rate at consumer price index were included as control variables.

The results from the pooled OLS shows an inverse and statistically significant relationship between SPI_ALL and self-employment. This implies that the Social Progress Index can serve as a robust source of information in decision making both at state and individual business level. GDPC_PPP also has a negative and significant relationship with self-employment. This might be due to the 'necessity' character of self-employment in its majority in Africa. However, the Basic Human Needs, a dimension of the SPI has a positive and significant relationship with self-employment suggesting that an increase in this dimension's components scores can carry the self-employment figures even higher. The other 2 dimensions of the SPI have a negative and significant relationship with self-employment.

The results from the random effect model is not quite significant only for the GDPC_PPP where we still see a negative and significant relationship with self-employment. Whereas the fixed effect model demonstrates a more significant relationship between SPI_NEEDS and self-employment (positive) and SPI_OPP and self-employment (negative)

CHAPTER 1. INTRODUCTION

1.1. Background of the Study

Gross Domestic Product (GDP), created in the midst of the U.S Great Depression and World War II was designed to measure the capacity of the U.S to provide and maintain a good level in the production of goods, services, and the standard of living for the American citizens during wartime. Simon Kuznets, one of its founding fathers purposed at capturing all economic production, then presented the original formulation of GDP. Defined as "the value of good and services produced by the nation's economy less the value of goods and services used up in the production" (Bureau of Economic Analysis report, 2015), GDP is shown to be a pure measure of market activities and nothing else. The lack of clarity in its measures and its consideration as a measure of welfare undermining the existing differences prompted researchers to look deep into its limits and address the need for holistic measures of social progress. The aggregate economic wellbeing defined as "the consumer welfare derived from market-based activities and non-market-based activities such as services provided by governments, certain non profits institutions and home ownership" (Karen Dyran, Louise & Sheiner, 2018), is clearly showing the difference between welfare and GDP. GDP does not take into account the contributions of non market-based activities such as volunteer work, parenting, housework to name a few and most importantly the contribution of informal economy, discussed as the major occupational pool in Africa (Fioramonti, 2015). Being a little selective in its computation, GDP can be misleading and less objective as some non-market-based productions (federal reserve defends spending and non profit spending on emergency housing and health care) are considered in its measurements (Constanza et al., 2009).

Many researchers from the many shortcomings of the GDP mantra found it necessary to insist on the need of a new era where we do not only rely on GDP. Looking toward reducing its mirage of reliable measure of welfare as it was seen during its sky rocking times (1944) after the Brethren wood conference that lead to the creation of the World Bank and the International Monetary Fund (Dickinson,2011) is imminent. Among the critics of the GDP some economist emphasize on the highly questionability of the GDP's capacity to efficiently and truly measure a Nation's wellbeing. Abramovitz (1959), underlined that "we must be highly skeptical of the view that long-term changes in the rate of growth of welfare can be gauged even roughly from changes in the rate of growth of out put" (Dickinson, 2011). GDP has been wrongly used as a measure of wellbeing. It was never designed to measure welfare. One of the architect of this GDP, Kuznets, reminded us of

the danger associated with an outcome related to the capacity of human being in simplifying complex contexts that might lead to illusionist and abusive results interpretation (Kuznets, 1934, pp.5-6). Economic measures are not exempted from these interpretations, Kuznets concluded. GDP has greatly contributed to regional classifications of the world's nations. We have based on the GDP economic principles classify the world as "powerful" nations and "emerging powers" with further classifications such as Group of Seven (G7), Group of Twenty (G20), "developed" and "developing" countries, and countries of the "North" and "South" (Fioramonti, 2013). These classifications exposed the wide use of the GDP measure undermining the advice of Kuznets not to apply this computation to countries (poor countries) whose economy is greatly dependent on informal economy, discussed later in this study. African countries mainly found in the informal economy pool (with a contribution of more than 70%) have experienced a growing GDP pattern in the last decades. This mirage of growing GDP is highly disputable as unemployment figures in Africa are on a rise, poverty keeps rising (over 65% of the African population leaves in extreme poverty), the standard of living, access to education and health facilities are alarming.

In Africa, the need for objective measures of progress is rising and GDP has been highly controversial and cannot serve as a good measure of progress on its own. Looking beyond GDP will be promising in policy efforts to eradicate poverty, improve standard of living and promote sustainable well-being.

Our study is aiming at looking beyond GDP and emphasises on indicators that fit the African context, measuring outcomes for improvement and policy orientations on education, health issues, and the individual standard of living in the region.

The literature argues that many alternatives to GDP have been deemed necessary for analysis and the debates over its use in the measure of economy's progress have proliferated. While some researchers adopted a complete replacement of GDP with other measures, some however, call for a thorough recalibration of its measure in order to reflect today's dynamics. Joseph Stieglitz as co-author of the French government's report (Dickinson, 2011) shouted a call for an end of the GDP "fetishism". The Index of Sustainable Economic Welfare, ISEW and the Genuine Progress Index, GPI happened to be the first two significant "green GDP" developed. The report from the China's newly created (2006) index for "green GDP" which is a measure of economic output being inclusive of environmental factors, shows that if environmental degradation were taken into consideration in the Chinese 2004 GDP's computation, a fall of 3% would have been observed (Dickinson, 2011). We can also mention the contribution of Nordhaus and

Tobin (1973); and Cobb (1990) for their respective work on Cost-Benefit adjusted GDP concluding that "GDP can be used as an indicator of social welfare if the GDP estimates are undertaken within a cost-benefit analysis framework (Islam & Clarke, 2002).

Our concern in this paper is to propose another approach to the beyond GDP prospect. We are viewing GDP in this study as an indicator of economic growth and of purely economic contribution to policy and business forecasting. We are not aiming at adjusting GDP but at complement it with social and environmental indicators, the social progress index method. In this regard, the social progress index as an indicator complementing GDP with features such as the measurements of outcomes instead of inputs and purely social and environmental measures demark its self from any other alternative to GDP and inscribe itself as a holistic measure of social progress.

Launched in 2013, by Michael Green and the social progress imperative team, social progress index is a measure of social and environmental indicators. It is defined as the capacity of a society to meet the basic human needs of its citizens, establish the building blocks that allow citizens and communities to enhance and sustain the equality of their lives and create the conditions for all individuals to reach their full potential (Porter, Stern & Loria, 2013). From the above definition of social progress, three dimensions came out; Basic Human Need, Foundation of Well-being and lastly Opportunity. Disaggregating the dimensions produce 12 different components computed from many specific indicators with each dimension having four components.

The dimensions (03 in total), components of each dimension (04 in total) and the number of indicators for each component(ranging from 2-6), (Porter et al., 2013) provides the architecture for the social progress index framework developed by the social progress imperative team covering around 50 countries in the beginning of the analysis and today it has been extended worldwide.

1.2. Problem Statement

Despite remarkable advances in the beyond GDP topic, GDP remains one important topic of all debates especially when addressing issues on development and welfare and is still been promoted as a measure of wellbeing.

There is a persisting need to grasp the causes of "true" development. One major attempt to measure development and welfare is that which has been applied in the past decades. The controversial Gross Domestic Product, GDP. In today's reality were there exist some unclear patterns initially thought to be positive and strong correlations between GDP and welfare or well-being of individuals, pressure is seen mounting on the need for delimitations of the

GDP contribution to a country's development with regards to its consideration as a measure of economic development. Repeated economic recessions, growing poverty in developing countries and in Africa in particular, rising unemployment ,poor standard of living and persisting high degree of inequalities are common features observe in Africa in one hand but with GDP being on a growing pattern for decades on the other hand. This GDP growth conclusive of economic development has for long being broadly used by politicians, the media and policy making to satisfy their agenda and hiding the real social and environmental degrading conditions observed in low and middle income countries. Policy makers and economists from this growing concern expressed the need to look beyond GDP prospect for sustainable growth, social and environmental orientations to ameliorate the overall individual and regional wellbeing.

While admitting the existence of a profound correlation between economic growth and social progress of a nation, we might consider it relevantly advantageous to not only rely on economic measures but complementing them with environmental and social measures to boost sustainable social progress.

Poverty has been on this growing path in Africa mainly caused by failed policies orientations but also rising population in the region without corresponding job skills to satisfy the little labour demand available when there is even skills the formal sector (mainly wage employment) cannot absorb this labour supply. In their efforts to fight for a living, the growing population with no unemployment benefits in the region turn to self employed, qualified in Fields (1990) as employed by necessity as they have no option other than being self-employed and earn the little because they are to poor. GDP has fail tremendously in policy orientation as it has been seen growing but without sustainable individual development as is the case in Africa. More over growing self-employment is not arguably because of economic growth but as a result of social and environmental integration of individuals to ameliorate their standard of living and living conditions in general. Fioramonti (2015) in his brief argues, "A networked economy, founded on localised forms of self-production and consumption would empower the millions of people that are at the moment left out of the apparent African economic miracle". The Social Progress Index (SPI) subscribing to this vibrant need of alternatives to GDP is evolving as a robust and holistic measure for social and environmental advancement of a society, measuring well-being and orienting policy making strategies.

Self-employment (discussed later in the next chapter) contains as much as averagely 75% of the working population in Africa. Admitting that the majority of the self-employed in developing countries are in informal

employment, and have no alternative because of highly competitive labour market with few offers, little is known of the determinants of this growing employment pool other than the demographic and human capital effects on self-employment rate in Africa. We are investigating on the beyond GDP to look at the effect social progress index has on self-employment. This finding is the first of the type and this explains why little is known from the pass literature on this aspect.

1.3. Purpose of the Study

The present work aim at investigating the relationship between the dimensions of social progress index and self-employment rate in Africa in an effort to explore other factors driving self-employment growth other than the GDP.

Our main concern is on looking beyond GDP as the surrounding features show that it is not a robust measure of social welfare in Africa. Poverty has been on a rise, unemployment rate has been growing and misleadingly in terms of policy and strategic orientations, GDP has been growing. Self-employment as the main employment option has also been growing as seen in Cameroon, Chad, Equatorial Guinea, Congo and many other countries with values going up to 94% like in Niger (World Bank, 2019). The aim now is to look for holistic measures to equip policy making, governments and all other institutions with adequate indicators for sustainable economic and social progress.

This study undertakes that the findings might contribute to policy intervention and promote sustainable social progress in Africa and in many other regions of the world.

1.4. Research Question

There have been many studies on the beyond GDP prospect. Most of these studies attempted to equip policy maker with adequate tools to measure progress and many advances have been achieved on this regard.

In this study, we are looking beyond GDP to present potential holistic indicators combinations to measure progress and equip policy strategies using the social progress index determinant's effect on self-employment. The questions to be answer in this piece of work are organised as follows:

1) – What is the relationship between GDP and self-employment in Africa?

2) – What is the relationship between the dimensions of social progress index and self-employment rate in Africa? And

3) - How can policy maker use social progress index measurements to raise the productivity of the self-employed in Africa?

1.5. Research Hypothesis

The following are the pairs of hypothesis that we will test to reach a conclusion in our analysis:

H^{I}_{0}: GDP has no effect on self-employment

H_0: SPI dimensions have no effect on self-employment

H_1^{I}: GDP has an effect on self-employment

H_1: SPI dimensions have an effect on self-employment

1.6. Objectives of the Study

1.6.1. General objective

The general objective of the research is to look beyond GDP as a measure of welfare to equip policy making with holistic measures of welfare in Africa.

1.6.2. Specific objectives of the study

Throughout this paper, the concern is specifically on assessing the need for new measures of wellbeing as alternatives and/or complements to GDP. On the other hand, the contribution of social progress index as a robust measure of social development through its effect on self-employment is been scrutinised for their contribution in policy orientation, decision making and businesses.

1.7. Scope of the Study

This study is design geographically to cover the African continent with available data from the SPI reports and the World Bank. It covers economic aspects with the GDP contribution but most importantly, it focuses on the social and environmental contributions in Africa's social progress. With a close look on the self-employment trends in Africa, the study clarifies the impact of its determinants from the social progress index perspective in an effort to provide policy makers with appropriate individual welfare measurement technics for sustainable development.

1.8. Significance of the Study

This paper is deem significant from the fact that it attempts to address on issues of strategic importance in policy making in Africa. Self-employment in Africa is the most available form of employment. Policy implication through improving earnings of the self-employed in this region is of relevant importance.

The social progress index with regard to its concerns on education, individual standard of living and health is consider a holistic measure of welfare and relating to its impact on self-employment in this study will be of great contribution through its findings and its

capacity to enhance progress.

This study will be particularly of social implications in the Sub-Saharan African region where poverty is still very rampant and almost all the pool of employment is converging toward self-productivity. The findings of the present study carried out on an African perspective could be eye by other developing regions with similar employment trends and development needs.

Working on the beyond GDP is demanding as its usage is widely spread and very impactful. Self-employment been of prior consideration in Africa largely out of necessity and to a lesser extend due to the opportunities it generates requires a good scrutiny of its determinants. On the contrast, we have the SPI attracting more and more attentions because of its social and environmental considerations. The next section has as purpose to display the review of the literature made available by both institutions, scholars and other stakeholders on the topic.

CHAPTER 2. LITERATURE REVIEW

This chapter shall explore the various contributions that have been made in the past with regard to the research orientation.

2.1. Gross Domestic Product (GDP)

Gross domestic product is a concept that has been adopted many decades ago (Dickson, 2011). From its implementation to its use beyond its matrix, many theorist, social scientist, psychologist, politicians and contemporary institutions like the Wold Bank, the European Union to name a few have attempted to better the understanding and the optimal usage of this concept (Fioramonti, 2013; Islam & Clarke, 2002). For that purpose, many theories have evolved making the literature on the topic very rich and consistent.

For this work on beyond GDP, the discussion will be wired from the understanding of some of these concepts, through the measurement of the GDP and its uses. To introduce the need to go beyond GDP, we will present the limits of the later while emphasizing on its real importance. This limit introduces the need for alternative measures of social welfare. Where social progress will be, discuss with a special focus on its indicators.

For simplicity, base on the importance of this research work in developing countries and Africa in particular, the informal economy through self-employment will also be discuss.

2.2. Theoretical Literature Review of the Gross Domestic Product

The aim of our work is to expose the need to rethink the mechanism letting to the perception of Gross Domestic product as the reliable measure of economic growth and welfare as applied to developing countries and Africa in particular. Economic performance has been appropriately measured from the GDP calculations. This concept has been inappropriately considered as a measure of the standard of living. Without contradiction, many different definitions of GDP have rose from the past until date. One of the relevant general definition of GDP is that of Kuznets which was presented to the American congress in his report of 1934. It has been entirely quoted by Fioramonti (2013, pp. 6-7) in his book Gross Domestic Problem: The Politics behind the World's Most Powerful Number. Fioramonti wrote:

> Year in, year out the people of this country, assisted by the stock of goods in their possession, render a vast volume of services towards the satisfaction of their wants. Each of these services, such as are coal, steal, clothing, furniture, automobiles; others take the form of direct, personal services , such as are rendered by physicians, lawyers, government officials, domestic servants, and the like. If all the commodities produced and all the direct services rendered during the year are added at their

> market value, and from the resulting total, we subtract the value of that part of the nation's stock of good that was expended (both as raw materials and capital equipment) in producing this total, then the remainder constitute the net product of the national economy during the year. It is referred to as the national income produced, and may be defined briefly as that part of the economy's end product that results from the efforts of the individuals who comprise a nation.

Another definition of GDP is that proposed by the Bureau of Economic Analysis (BEA). They defined GDP as "the value of the goods and services produced by the nation's economy less the value of the goods and services used up in production. GDP is also equal to the sum of personal consumption expenditures, gross private domestic investment, net exports of goods and services, and government consumption expenditures and gross investment" (Dynan & Sheiner, 2018, p.4).

A more simplified definition is that given as answer to what is GDP in the 2007 Beyond GDP conference proceeding of the European commission. To that question, they said, "GDP is the gross domestic product of a country. It measures the total final market value of all goods and services produced within a country during a given period. GDP is the most frequently used indicator of market activity and is most often measured on an annual or quarterly basis to gauge the growth of a country's economic activity between one period and another. GDP is also a measure of total consumer, investment and government spending plus the value of exports minus imports" (European Commission [EC], 2007).

Over the past decades, GDP has been considered as a general statistical measure of economic growth. This consideration which has mainly gain its meaning and support from developed countries has been implemented in developing countries not taking into account the specificity of the region; proportion of informal economy, self employment in a 'no otherwise' scenario, decreasing non-renewable natural resources, environmental concern and using the same selective principles and interpretations. Achieving economic growth, as measured by an increase in Gross Domestic Product has been one of the main goals of macro economic policy making over the last 50 years (BLEYS, 2013). In their attempt to reach an acceptable measurement of welfare, social scientist and politicians have used the GDP mantra in the greatest extend. Without an agreed upon method of measuring welfare, Gross domestic product is widely used (Sen, 1976 and Mclean, 1987 as cited in Islam & Clarke, 2001). From its origin, it has been clear that GDP was meant to measure economic activities and nothing else. It is then well elaborated to justify and support the growing questionability of GDP as a measure of welfare. The exclusion of other indicators of welfare

from the GDP composition was not hazardous as GDP was meant to be a precise and specialised tool, designed to measure only a narrow segment of society's activities (Costanza, Hart, Posner & Talberth, 2009). The misusage and assimilation of GDP as a measure of welfare in general, attempting to amplify its economic activity measurement characteristic was predictable. It is therefore of no surprise that for more than half a century, both governments have accepted it, decision making and world organisations as a proper measurement of welfare. This general consideration, which has been proven inappropriate, was done at the expense of appropriate substituents and/or complementary indicators of welfare.

Kuznets (1934, pp.5-6) was preventive in saying that:

> The valuable capacity of the human mind to simplify a complex situation in a compact characteristic becomes dangerous when not controlled in terms of definitely stated criteria. With quantitative measurements especially, the definiteness of the result suggests, often misleadingly a precision and simplicity in the outlines of the object measured. Measurements of National income are subject to this type of illusion and resulting abuse, especially since they deal with matters that are the center of conflict of opposing social groups where the effectiveness of an argument is often contingent upon oversimplification predicting the miss interpretation of GDP coverage.

This message was not enough to establish the boundaries applicable to GDP measurements. The effects of this abuse can be seen in developing countries where GDP is growing along side growing poverty, GDP growing with rising unemployment, depletion of natural resources been at its peak (World Bank, 2007). All these incongruences expose the inappropriate character of GDP as a measure of what it was not meant to, social well-being.

Islam (2002) in his work presented Hicks (1940) and Pigou (1962) as the initiators of the use of GDP as the measure of welfare even though the later recognises that GDP was not a barometer or a proper index for the measurement of welfare as it goes beyond the combined economic activities that GDP comprises (Pigou, 1962 as cited in Islam, 2002).

Several economist and researchers have worked on alternative measurements of economic growth as GDP has presented some limitations and critics. This is due to the growing concern that economic welfare is being inclusive of some indicators not taken in to account in the GDP mantra. For example, GDP does not capture informal economies, the contribution of subsistence farming, non-commercial agriculture and other localised forms of production and consumption (Jerven, 2013).

Exposing some limitations of GDP as a measure of welfare raises awareness on its perception

Davies (2014) in the brief on Measuring well-being and progress: Looking beyond GDP said **"**Gross domestic product (GDP), a measure of national economic production, has come to be used as a general measure of well-being and progress in society, and as a key indicator in deciding a wide range of public policies. However GDP does not take into account non-economic factors such as social issues and the environment."

In developing countries and specifically in Africa, natural resources are non renewable in the greatest share. Once they are used, they are completely out of the basket. GDP in its measurement does not take into account the loss associated with the selling of this natural resources in Africa's economy (Fioramonti, 2013). We might have a different picture if these losses where taken into consideration in the GDP mantra. In the MEMO of the European Commission's conference Proceedings on Beyond GDP: Measuring progress, true wealth, and the well-being of nations, while presenting the limits of GDP, they said, "GDP does not factor in a number of elements important in determining the well-being of people. For example, it overlooks the value of certain non-market goods and services such as natural resources and unpaid activities and leisure" (EC, 2007 P.318). GDP aims at expressing income of individuals in an average base but the "average income provides no indication about the distribution of income between citizens and it focuses on short-term economic activities rather than longer-term sustainable development aspects such as the growth of natural, economic and human capital" (EC, 2007 p.318).

In addition, the World Bank (2013 as cited in Fioramonti, 2013) adjusted net savings statistics by subtracting natural resources depletion and environmental damage from national income and the result revealed that: "African countries have been reducing their wealth at the tune of 1.2% a year. Rather than growing, our continent's economy have been shrinking. Sierra Leon has experienced net losses of about 20% of its entire GDP, Angola of 40%, Chad of 50% and the RDC of over 57%". This statistics if properly measured for the circumstance will greatly question the economic growth and therefore the development pattern been myriad in Africa for decades as poverty, unemployment and necessity self employment are the dominant features in the region. The World Bank (2006. p. XVI) base on their observations suggested that developing strategies should include natural resources management in their agenda considering the fact that many families especially the poor relies on it.

Barroso, Europeen Commission (EC) President, in his 2007 speech opening the conference proceeding on Beyond GDP stressed on the fact that, GDP, since its creation in 1930s was rapidly adopted as the best-recognised measure

of economic performance in the world (EC, 2007). His view of GDP was in term of economic market measure and not well-being (EC, 2007). In the same conference proceeding, the commissioner for Economic and Monetary Affaires of the European commission, Almunia emphasize on the non-consideration of sustainable consumption and production pattern in GDP composition. He said "it can not distinguish between activities that have a positive or negative impact on well-being. In fact, war, and even natural disasters may register as an increase in GDP" (EC, 2007). It is then more than appropriate to look beyond GDP in the search of measures that will take into consideration the economic, social and environmental aspect of social welfare. "We need to find measures that will complement GDP and build a more nuance and accurate understanding of economic and social progress." Almunia concluded.

2.2.1. Importance of GDP

Measuring economic growth has been an important strategy in nation's navigation purposes. The impact of this measurement has shaped the world and direct policy makers and government in their market strategies and policies orientation. "Without measures of economic aggregates like GDP, policy makers would be adrift in a sea of unorganized data. The GDP and related data are like beacons that help policy makers steer the economy toward the key economic objectives" (Samuelson & Nordhaus, 1995).

The US Bureau of Economic Analysis, BEA, emphasized on the purpose of measuring GDP. Measuring GDP according to the BEA was to get answers to questions like: how fast is the economy growing; what is the pattern of spending on goods and services; what percent of the increase in production is due to inflation and how much of the income produced is being used for consumption as opposed to investment or savings (McCulla & Smith, 2007 cite in Constanza et al., 2009). Answering these questions inevitably leads us to the three approaches in measuring GDP; the expenditure approach, the income approach and the value added approach (BEA Report, 2015). GDP is the best measure of economic growth. The GDP performance of a period generally a quarter or a year, provides governments, policy makers and businesses with forecasting facilities in terms of budget, economic growth and production capacity. For the U.S, GDP is:

one of the most comprehensive and closely watched economic statistics: it is used by the White House and Congress to prepare the Federal budget, by the Federal Reserve to formulate monetary policy, by Wall Street as an indicator of economic activity, and by the business community to prepare forecasts of economic performance that provide the basis for production, investment, and employment planning" (McCulla & Smith 2007, quoted in Constanza et al., 2009).

Internationally, both the IMF uses changes in a country's GDP and the World Bank to guide policies and determine how and which projects are funded around the world.

This benefits associated with Gross Domestic Product has not been enough to occupy the minds of researchers and some politicians as concerns was growing about it immense utilisation to measure all aspects of wellbeing. Critics have then been on a growing pattern as seen in the next section.

2.2.2. Limitations and critics of Gross Domestic Product

With the consideration of GDP as a measure of 'everything', it has been an easy task though of great concern for researchers to look deep into it and expose its shortcomings so as to bring more evidence of the need to go beyond it.

Kuznets presented according to him the appropriate uses of GDP while emphasizing on its limitations. In his words:

> The boundaries of a "Nation" in "National" income are still to be defined; and a number of other services, in addition to those listed above, might also be considered a proper part of the National economy's end product. He illustrated his idea with the following; "services of housewives and other members of the family," "relief and charity," "services of owned durable goods," "earnings from odd jobs," and "earnings from illegal pursuits" among others (Kuznets 1934, pp.3-5).

The limits of GDP can be observe beyond the developing country's view as some difficulties can also be seen in developed nations with GDP clearly understating growth in both regions (Gates, 2013 cited in Fioramont, 2014, p.2).

Fox (2012) and Parkin, Powell and Matthews (2005), pointed out the possible contribution of illegal transactions in an economy that are not considered by the GDP prospects. This transactions consisting of goods and services that are not declared makes up what we call 'the underground economy'. GDP does not deal with such economy. We can also consider own account jobs when not declared in this category.

Constanza et al. (2009) found out that GDP in some aspects has even been selective in its composition. It was meant to measure the flow of goods and services produced within the market but it is found to introduce some non-market productions like Federal Reserve defends spending and non-profit spending on emergency housing and health care in its measurements. At the same time, they observed the exclusion of volunteer work, social capital formation within health family units, increasing prison population, the cost of crime and the depletion of natural resources from the GDP calculations, which are also important economic activities (Constanza et al., 2009).

The informal economy though of huge contribution to the national economy especially

in African countries are all left out of the GDP mantra (Fioramonti, 2015). Any thing that is a non-monetized transaction is completely ignored by the GDP calculations be it of relevant importance for social well being. Functions of tremendous economic values carried in the household and volunteer sectors go entirely unnoticed as not to talk of flood control, water filtration, carbon sequestration, soil formation and maintenance of genetic diversity, which are valuable ecosystem function (Talberth, Cobb, & Slattery, 2006). As such, GDP devalues welfare enhancing activities.

Schneider and Enste (2002) brought a point not far from that of Fioramonti (2015) pointing out the contribution of the informal economy to the global economy performance. In their work, they considered the estimates made available by the International Monetary Fund, IMF in 2002 showing that 44% of developing country's economy output is generated from the informal economy contribution, 30% of transitional economies and 16% of the OECD countries represent various contributions of the informal economy. Unfortunately, GDP does not take into account such contributions. In Developed countries, informal labour also plays a part in the economic growth. We can see that for instance in the U.S with informal economy producing up to 9% of the GDP value with relatively 25 million Americans involved (Barber, 2003 as seen in Talberth et al., 2007).This makes GDP Less reliable especially in developing countries.

One need to remember that the per capita is generated by taking the real GDP value in a nation and dividing it by the total population of that nation. This value generally used to compare the standard of living within an economy presume an equal level of income in that particular economy. In reality, this is not the case and usually hide the unequal distribution of income that is observed in nations. Making GDP less appropriate to measure economic performance and welfare. Quoting an example illustrating the contribution of GDP to inequality, "If a billionaire spends $10,000 more of her income on aphrodisiacs made from endangered seals it counts the same as $10,000 spent by a New Orleans flood victim on bare essentials as far as GDP is concerned. As long as overall expenditures are increasing, GDP will grow even if the increase is entirely attributable to conspicuous consumption habits of the wealthy" (Talberth et al., 2006)

2.3. Alternative Measures of Social Welfare: The Social Progress Index

2.3.1. Social progress as alternatives to Gross Domestic Product

During World War II**,** when America wanted to evaluate their production capacity to know whether their productivity would not be disrupted by war and if goods and services will still be available for their population, they introduced a measure of their economic

situation, the GDP (Talbert, Cobb & Slattery, 2007). Since then, the use of GDP as a measure of economic growth has been generalised and accepted. Policy makers, businesses, politicians, the media and the social scientists to a broader extend have made of GDP a measure of wellbeing and economic growth. It has not been long since its acceptation before it was revealed inefficient and has severely been criticized by many authors and welfarists.

Developing alternative income accounting systems that could address the shortcomings observed by the GDP mantra has then been of great interests to every field concern with understanding the welfare pattern of a society.

Talberth et al. (2007) did a work on alternative accounting system to GDP. In his work aimed at presenting the need for alternative accounting system to GDP, he presented the deficiencies observed with the GDP method. According to him and as shown by many other authors, GDP has failed to express the existing differences between cost and benefits, productive and unproductive activities and the distinction between sustainable and unsustainable activities has not been addressed by the GDP accounting system approach. Because of this confusions, expenditures on crimes, accidents, toxic waste contamination, preventable natural disasters, prisons and corporate frauds have been found in the same package with socially productive investments such as investments in sanitation, education, housing, health care or mass transportation (Talberth et al., 2007). In this respect, all types of activities were consider adding up the wellbeing of a nation.

Many green GDP accounting systems have then stepped in to address and emphasize on other measures of wellbeing though on dispersed rang. Among this green GDP, the first two to significantly shape a “greener” GDP are the Index of Sustainable Economic Welfare, ISEW and the Genuine Progress Indicator, GPI (Talberth et al., 2007). Talberth et al. argue that most green GDP accounting systems are constructed in three basic steps and the ISEW and the GPI are not exempted from this process stating that:

> Computation begins with estimates of personal consumption expenditures, which are weight with an index of inequality in the distribution of income to reflect the social costs of inequality and diminishing returns to income received by the wealth. Additions are made to account for the non-market benefits associated with volunteer time, house work, parenting and other socially productive time uses as well as services from both household capital and public infrastructures. Deductions are then made to account purely defensive expenditures such as pollution related costs or the cost of automobile accidents as well as the costs that reflect the undesirable side effects of economic progress. Deductions for costs associated with degradation and depletion

> of natural capital incurred by existing and future generations are also made at this stage (p.3).

These three steps present various aspects of impacting components of wellbeing that are generally not considered for some and mismanaged for others in the GDP accounting system. Considering them therefor give us a more appropriate measure of wellbeing since non market and non monetized transactions are both taken into account. To give a clear illustration of such green GDP impact, one might consider for instance the volunteer contribution, increase in educated population, crimes, spending on wars, environmental deterioration, natural resources depletion and many other being taken into account. A close monitoring of these elements will leave a change in the welfare of individuals in that particular country.

Talberth et al. (2007) on the volunteer contribution in U.S presented volunteerism as a great contributor to the work force a financial contribution in America of up to $130 billion from the GPI estimates. This can tell how such contributions if well integrated can enhance wellbeing.

Different scholars and authors have emphasized many other alternative approaches to measure welfare. The Cost and Benefit of Economic Growth for example has been studied in many different aspects. The aim of this approach was still to adjust GDP to make it more meaningful with respect to welfare of individuals in an economy. The approaches to cost and benefit adjusted GDP for economic growth measurement of welfare proposed by Nordhaus and Tobin (1973) and Cobb (1990) where deemed “informal” (Islam & Clarke, 2002). Islam and Clarke (2002) proposed a more formal approach as it is based on new Social Welfare Function (SWF). In their approach, Islam and Clarke (2002) included the environmental impact of economic growth in his social welfare function presenting it as the cost and benefit of economic growth. The ISEW of the Thailand economy has been used to develop a cost-benefit adjusted GDP social welfare function. This function was divided into two sections; the cost and benefits of economic growth. The section representing the cost side of the function consisted of urbanisation, commuting, commercial sex work, private expenditures on health and education, car accidents, noise, air and water pollution, corruption, debts, lost of forests, farmlands, non renewable resources and long-term environmental damage (Islam & Clarke, 2002). Considering the benefit of economic growth’s section of this function, Islam thought of personal income adjusted for income distribution, household production, private consumer durables, public expenditures on education and health, and government provided streets and light ways. Each of this section is scrutinized for adjustment before been computed for welfare measurement. The cost

and benefits of economic growth adjusted GDP measurement of welfare is a more realistic measure as it increases at a slower rate than full GDP (Islam & Clarke, 2002).

2.3.2. The Social Progress Index: Contribution to the literature

Measuring a nations' welfare base on economic growth alone has for long being proven inconsistent and incomplete (Hedvig & Giulio, 2018). Developing countries to move out of poverty need more puzzles than just economic measures as this has for long led to misinterpretation of their progress or wellbeing development pattern. Indicators whose computations have as imperatives social and environmental development inclusions are scarce and will be of significant importance in both developed and developing regions. The pressing need for such indicators has seen the introduction and acceptance of alternative indicators to GDP (European Commission, 2007). One of this is the Social Progress Index, SPI. The SPI as a measure completing GDP gives a broader view to policymaking, governments, economist and businesses in their efforts to provide a nation with the appropriate orientations for the welfare level of a country (Pate & Sweo, 2016). Social progress imperatives does not only deal with quantitative measures but also qualitative measures of wellbeing making it a holistic measure of wellbeing as a complement of GDP. Measuring welfare has been on debate's table for decades now. Economist, social scientist and politicians had made it a priority to know on what to rely on in other to consistently measure and better people's well-being beyond economic measures. It has then being of major attention to understand whether it is economic or social interventions and to a lesser extend environmental concern that better express a nation's well-being.

Islam and Clarke (2002) presented a definition of welfare as a function of health, education, security, individual freedom, culture, social relationships, levels of contentment, and control over resources, satisfying of wants, freedom, the environment, leisure, housing and almost all combinations of the above. If these options does not seem that explicit, welfare should also "include, in addition to economic variables, every other interdependence that directly or indirectly affects men's well being" (Zolotas, 1981, p. 32).

Another approach on the alternatives to GDP has seen the evolution of a more social progress oriented measure with exclusive social and environmental measures of individual wellbeing (Hedvig & Giulio (2018). The Social Progress Index provides a robust source of information on the well-being of a population (Pate & Sweo, 2016). The Social Progress Imperative team developed it and are still working hard to improve the measure through inclusive indicators.

Launched in the early months of 2013, the social progress imperative has as main objective to address a nations' social and environmental development prerogatives. It was launched in the Oxford University during the 10th annual Skoll World Forum (The Origin, 2015 as cited in Pate & Sweo, 2016 p. 1 ;). The mission of the social progress imperative is to better the life of people all over the world with a particular attention on developing Nations since they are the least well off, there by encouraging collaboration between the government, the private sector and the non profit sectors and to make better uses of resources they have to address the urging social and environmental problems they encounter (Porter, Stern & Loria, 2013).

Porter (2015 as cited in Pate & Sweo, 2016) presented the social progress index's uniqueness as a measure of social progress base on the fact that it does not include economic variables in its composition, its ability to measure social progress independently of GDP and is considered as the most comprehensive computation developed for the measurement of social progress. Social progress has been a very tough nail in the shoe of many experts and researchers as many indicators have been suggested for its measurement but they fail to propose an agreed upon model. This question has then been greatly challenging. In this respect, there have been indicators say to complement GDP, some others attempting to replace it and others simply substituting GDP. All these research work where to reach at a better measure of well being as many of them where showing some limits and inconsistencies. The attention has then been diverted to a measure that could address social progress base on pure social and environmental aspects while living economic aspect aside to reveal its complementarity as the case may show (having GDP as a good measure of economic growth).

One remarkable work is that of the social progress imperative board in which they develop the social progress index, (Porter et al. 2014). Porter (2015 as cited in Pate & Sweo, 2016) pointed out concerning the SPI that it aligned itself as a measure complementing (not replacing nor substituting) GDP from the fact that it does not include economic indicators in its composition. It is thanks to this characteristic that its difference from other social progress measures is predominantly expressed. By excluding GDP or economic-based indicators, the SPI measures social progress directly and with no ambiguity as such can grasp and easily explore the link between economic development and social development (European Commission [EC], 2016).

Porter et al .(2013) defined social progress as the capacity of a society to meet the basic human needs of its citizens , establish the building blocks that allow citizens and communities to enhance and sustain the quality of their lives and create the conditions for all individuals to reach their full potential. With

the social progress index, a nation or a region of the world is more equipped with comprehensive and determined tools to orientate its prerogatives toward improving the living standard of its population. In the same order of ideas, Porter et al. (2013) found overwhelming the possible impactful contribution of the SPI stating that:

> Systematic measurement of social progress will also be important to understand the full causes of economic advancement. Rather than simply a consequence of economic development, we are learning that social progress is also a key driver of economic development. Education, health, and sense of opportunity for example, will have a positive impact on long-term productivity growth. Without a sophisticated way of measuring social progress, however, we have lacked the framework and data to understand this relationship empirically (p.13).

Porter et al. (2013) suggested that analysing social progress performance could enhance coherent choices in term of policies, government investment and many other stakeholders' strategies.

Collecting data across countries has been a challenging task for the social progress imperative team. In 2013, they have had a sample of 50 countries in which they based their findings and measures (Porter et al., 2013). A significant increase in this data is that of 2015 in which the social progress index included data of 133 countries and partial data from 28 countries leading to a coverage of 99% of the world population (social progress index findings, 2015 as cited in Pate & Sweo, 2016). In the 2018 social progress index, the data collected and aggregated represented those of 146 countries around the world (Porter et al. 2018). These data are collected from internationally recognised sources like the World Bank and the World Health Organisation (PRNewswire, 2013 as cited in Pate & Sweo, 2016).

From this social index findings, one can notice how the trends observed show that social progress tends to slow down in developed countries while they show economic growth pattern at the same time. Noting the remarkable improvement in the overall world's SPI since 2014 in their report of 2018, the Social Progress Imperative (2018) noticed that the global South with Nepal, Myanmar, The Gambia, Swaziland, Ethiopia, and Tanzania made the greatest push. From the definition of the social progress as presented in the social progress imperative by Porter et al. (2013), some questions were pushed forward in order to design the bases for future interpretation and for a better illustration of its structure. Such include: 1) does a country provide for its people most essential needs? ; 2) are the building blocks in place for individual and communities to enhance and sustain wellbeing? And 3) is there opportunity for all individuals to reach their full potential? (Porter et al. 2013). These three questions address specific dimensions of social progress which

when disaggregated provide components adequately defining social progress index (porter et al. 2013). Thus, laying emphasis on the social and the environmental characteristics of progress, the social progress indicators "offer a holistic snapshot of the health of the societies across the world" (Keohane, 2015 as cited in Pate & Sweo, 2016, pp. 1-2).

The dimensions of social progress index (three in total) as developed by the social progress imperative in 2013 presents a foundation of social progress with respect to its social and environmental measurable indicators (Porter et al., 2013). These three dimensions include; Basic Human Need, Foundation of Wellbeing, and Opportunity (Pate & Sweo, 2016). These dimensions are further broken down into four equally weight components each. Illustrating the repartition of these different components in their dimensions, Porter et al. organised it such that Basic Human Needs had: Nutrition and basic medical care; Air, Water and Sanitation; Shelter and Personal Safety, the other dimension Foundation of Well-being: Access to basic knowledge; Access to information and communication; Health and Wellness; and Ecosystem Sustainability, lastly Opportunity: Personal rights; Access to Higher Education; Personal freedom and choice; and Equity and inclusion. Appendix 1 displayed below better illustrate this social index structure.

A remark made in The European Regional Social Progress Index's, EU-SPI methodology note, indicates that each component of the social progress requires several indicators for its measurement (EC, 2016). In their methodology note, they presented four principles prior to the selection of these indicators which where the same as those presented by the global social progress index namely: 1. they are exclusively social and environmental indicators (no economic measure is included); 2. They measure outcome and not inputs; 3. They are relevant to all the regions and 4th but not the least, they cover matters that can be directly addressed by policy intervention. (EC, 2016, p. 3)

Enhancing progress can be achieve with both input and outcome-based indexes but the suitability of each method is expressed in their respective approach and context. The difference in these two approaches is that input indexes is oriented toward the measurement of state of country's policy choices or investment believed or known to lead to an important outcome and outcome-based indexes instead measures the outcome of the decision taken or investment made(Stern, Wares & Epner, 2018). The decision of making of social progress index an outcome measure emerges from the logic proposed by Fleurbaey and Blanchet (2013, as cited in Stern et al. 2018) saying that, "When there are multiple output measures or lack of consensus on all the inputs that matter, or when data related to inputs are highly incomplete, an

outcome –oriented index may be more appropriate" (p. 5).

The literature on social progress index is not at its peak till date and further interest on the topic will enrich and provide due research oriented reviews.

Developing countries and Africa in particular will find it interesting using the SPI mantra to analyse their outcomes for policy orientation and sustainable development (Fioramonti, 2013). One such orientation will be to get close to the factors behind the growth of self-employment in developing countries with special attention on Africa as far as this work is concern. In an attempt to study the pattern of self-employment with regard to social progress indicators for better policies orientations, the next sections gives us a view on the concepts of self-employment with flash look on the informal sector as most of the self-employed in developing countries are found in that sector.

2.4. The Contribution of Self-Employment and Related Concepts

2.4.1. Introduction

The labour force as defined in the ILO Glossary of Statistical Terms comprises all persons of working age who furnish the supply of labour for the production of goods and services during a specific time reference period (20thICLS, 2018). Referring the labour force as the sum of all persons of the working age as well as those unemployed.

In developing countries, the informal sector provides a substantial pool of employment to the poorest population in its greatest proportion. In Africa and Sub Saharan Africa in particular, an important poll of employment (particularly in the informal sector) consist of self-employed individuals (Lain, 2015). Base on the vibrant contribution of self-employment to the labour market which is in turn the greatest contributor to a country' global economy, self-employment has become a center of interest in growing economies. The study of Fields (2019) on self-employment and poverty in developing countries laid an importance on labour market. Fields presented it as a combination of wage employment and self-employment stating that "labour markets are mechanisms that enable labour services to be bought and sold. They include wage employment, where employees sell labour services to an employer, as well as self-employment, where workers sell labour services to themselves" (p. 6).

While this section is reserve for the grasping of the self-employment literature review, the existing link between self-employment and the informal sector has prompted a reorganisation of this section of review in such a way that it will be possible to review the literature on concepts of the informal sector before transiting to self-employment. This is because most self-employed in developing countries and particularly in Sub Saharan Africa are found in the informal sector.

2.4.2. The contribution of the informal sector to the literature

It was in the early 70s that the conceptualisation of the informality relative to the economy of work has been approached (ILO, 2018).

One early concept of informality was that of Hart (1971, as cited in ILO, 2018), introducing the concept of "informal income opportunities", emphasizing on the worker aspect of the informality concept. Another one was that of Jolly and Singer (1972, as cited in ILO, 2018), main authors of the report of the ILO employment strategy mission in Kenya, pointed out the "establishment" or "enterprise" character of the informality concept.

Porter, Castells and Benton (1989, p.12, as cited in Loayza, 1997, p.1), stated concerning the informal economy that, "the informal economy is …a process of income generation characterised by one central feature: it is unregulated by the institutions of society, in a legal and social environment in which similar activities are regulated."

While the 15th resolution concerning statistics of employment in the informal sector emphasizes on the production unit characteristic to defined the informal sector putting it in the word of the International Labour Office (ILO), "the informal sector may be broadly characterised as consisting units engaged in the production of goods and services with the primary objective of generating an income for the person concerned. These units typically operate at a low level of organisation, with little or no division between labour and capital as factors of production and on a small scale" (ILO, 1993a, para.5 (2) as quoted in the ILO, 2018)

Some findings reveal that, the informal sectors' attractiveness tends to increase due to complexity associated with excessive regulatory systems (cost of entry to legality and some times the cost of maintaining the legality), and to some extend gains from tax evasion (Loayza, 1997).

The overall economy of a country or a region is made up of both the informal and the formal sector. It is therefore relevant to grasp the contribution of the informal sector first because of its contribution to the global economy and secondly because of its attractiveness when dealing with self-employment which is the epicenter of this study. This informal sectors' contribution differ across regions of the world but the most remarkable contribution is seen in developing economies. The main catalyzer of this sector is said to be the poverty level and the low productivity in the regions of the world with statistics showing informal sector to be lower in high income countries and up to 70 per cent high in low income economies like Africa (Benjamin, Beegle, Recanatini, & Santini, 2014).

Talking of the size of the informal sector, the ILO (2002, as cited in Benjamin et al., 2014) presented some statistics showing that 48% of non-agricultural employment in North Africa, 51% in Latin America, 65% in Asia and 72% in Sub Saharan Africa constitute the informal

sectors' contribution to the global output of developing countries. Schnieder and Enste (2003 as cited Benjamin et al., 2014) estimating this informal sectors size to be " 10 to 20 per cent of the global outputs in developed countries and more than a third of global output of developing countries" (p. 6).

Fields (1990) in his work proposed the splitting up of the informal sector into two distinct sectors bringing forward the heterogeneity character of the informal sector as for many other researchers, it is homogeneous. Fields suggestion is worth presenting in his entirety being that:

Two different things are going on within that "sector". Part of it consist of employment which is free-entry, low wage, and undesirable relative to formal sector employment. However, another part of it consist of employment which is limited-entry, high wage, and preferred to formal sector employment. From the point of view of the worker, as well as that of the outside evaluator, these two groups are very different in their position relative to the formal sector: the first is worst and the second is better.

A better apprehension of the informal sector theory is thus of relevance importance to dissociate or consider the heterogeneity prospect of the informal sector. One such approach is to make use of the terms "easy-entry informal sector" and "upper-tier informal sector" when discussing the informal sector (Fields, 1990). This idea elaborate the forms of the informal sector and the debate on the voluntary and involuntary informal sectors can be address with some ease base on this work of Fields. Persisting disaccords shown in various publications on informal sector have seen the interest of Kucera and Roncolato (2008) addressing the issue of formal labour regulations as a cause of informal employment, and so called voluntary informal employment. Fields (1990 as cited in Kucera & Roncorato, 2008) considered as voluntary the "upper-tier" informal employment since it is "better" than and it is a preference when compared to formal employment. Fields revealed in the same order of ideas that most voluntary informal workers have worked in the formal sector, acquired some skills and made some savings and making. One might consider of relative importance in the policy making prior to regulating the informal sector, the proportionality of the voluntary to involuntary informal sectors.

Tracing the vulnerability of workers in poorer nations, developing countries, there is no convergence in the prospect of voluntary "upper-entry" informal employment. Maloney (2004, pp.1160, 1164 as cited in Kucera & Roncorato, 2008, p. 328) views regarding poverty was "arguing that workers are voluntarily informal does not, of course, imply that they are not living in poverty, only that they would not obviously be better off in the formal jobs for which they are qualified…many are simply making the best choices they can given their low level of education". Holding that even in poverty, there are still options and therefore voluntary informal employment.

Kucera and Roncorato have a different point of view and are very direct in saying that there is no way informal workers can be voluntary in poverty and even questioning the relevance of voluntary informal employment concept in regions were informal employment is most acute (2008, p.326)
The labour market consisting of both formal and informal employment is further organised into groups of which we have the self-employed. While not denying the existence of this category of employment in both forms, our review of the informal employment shows that, the majority of the self-employed are informal in developing countries and Africa in particular. The next section is dedicated to the review of the self-employment and its determinant in the limit of the present research work.

2.4.3. Literature review on self-employment

2.4.3.1. Concepts and definition of self-employment

Self-employment, entrepreneurship and informal employment are sometimes conflicting not minimising the efforts of researchers in exposing existing boundaries on the matter. Self-employment is different from entrepreneurship and self-employment is not necessarily informal employment (Fields, 2015). Equating self-employment to entrepreneurship is inappropriate though they share some common features. While psychologist view entrepreneurship in terms of "cognitive processes, or psychological traits such as creativity, motivation, or the mental process generating the intention of starting a business (Burchell, Courtts, Hall, & Pye, 2015), Fields (2019) referring to developing countries sees the goal of many self-employed as been far modest as compare to those of "genuine" entrepreneur. Fields stated that the goal of many self-employed is to earn money for a time-preferably, a short time-before transitioning to a more remunerative activity (Fields, 2019). To illustrate this existing difference between self-employment and entrepreneurship, Fields (2019) used this argument that a seller of a packet of cigarette is doing so out of necessity and will switch to better opportunities or wage employment in the first occasion. Parker (2004) as seen in Macieira (2009) does not totally share Fields point of view as to him, the self-employed are considered as individuals who earn no wage or salary but who derive their income by exercising their profession or business on their own account and at a risk.
Some definitions of entrepreneurship shows similar purpose to those of self-employment. Drucker and Noel (1986 as cited in Tunio, Soomro & Bogenhold, 2017) proposed a definition of entrepreneurship, in which they considered entrepreneurship as a novel source of employment aiming at fighting poverty through the production of goods and services to ameliorate the social and economic status of the society. Another view of entrepreneurship postulates that it is "an independent process of alertness to explore and exploit the resources to

create a new environment for the employment of youths" emphasizing on the opportunity-based entrepreneurship (Isreal & Kirzer, 2009 as cited in Tunio et al.2017, p.33).

Amoros, Ciravegna, Mandakovic, and Stenholm (2019) when working on Necessity or Opportunity? The Effects of State Fragility and Economic Development on Entrepreneurial Efforts proposed different considerations of the selfemployed as to their classifications. Amoros et al. (2019) cited remarks were scholars of entrepreneurship are focussing more on the determinant of "opportunity efforts" with associated categories like high growth and strategic entrepreneurship (Levie & Autio, 2011) and scholars of economic development turns to emphasize on the causes and effects of " necessity efforts (Bruton et al., 2015).

Taking into account the work of Bowen and De Clerq (2008), Mc Mullen et al. (2008), Valdez and Richardson (2013) and that of Stenholm et al. (2013) to address the gap on the opportunity and necessity efforts literature, Amoros et al. (2019) findings reveal that, the lower the level of state fragility (well defined institutional framework), the more individuals are likely to seize the benefits associated with opportunity entrepreneurial efforts over employment. Pointing out at the same time that "the link between state fragility and necessity effort is particularly important for poorer economies and becomes less important as an economy becomes wealthier" (Amoros et al., 2019, p.726).

The Organisation for Economic Co-operation and Development (OECD) defined self-employment as anyone who works for himself or herself but not for anyone else, except under arm's length contract (OECD, 2001, p. 23 as quoted in Burchell et al., 2015). Macieira (2009) investigating the determinants of self-employment proposed a definition of self-employed person based on the definition of the European System of account classifying them as "persons who own sole or joint business of the incorporated enterprises in which they work, with the exception of those unincorporated enterprises classified as quasi-corporations".

2.4.3.2. Self-employment discussion

The ILO report (2013) considered employment as comprising all persons of working age who during a specified brief period, such as one week or one day, were in the following categories: a) paid employment (whether at work or with a job but out of work); or b) self-employment (whether at work or with an enterprise but not at work). Self-employment is seen as a major contributor to the labour market and Aronson (1991 as cited in Macieira, 2009) views self-employment as the irrefutable oldest way by which individuals offer and sell their labour in the market economy.

The International Classification of Status in Employment (ICSE), from their classification of jobs in five categories, two main types of jobs emerge: Paid employment jobs consisting of employees and self-employment jobs being inclusive of employers, own-account workers, contributing family workers and members of

producers' cooperatives, (ILO, 1993). These self-employed are people who work in their own activities meeting one of the following criteria: work for the purpose of earning a profit; spend time on the operation of a business; or is currently establishing a business (William & Lapeyre, 2017).

Pence and Elliot (2012, as cited in Tunio et al. 2017) argued that self-employment can be use as "an instrument to the economic crises, to reduce poverty and has a prominent contribution in socioeconomic development of local economy of developing countries".

A better apprehension of the self-employment can be achieve prior to its identification. The following sections attempt to present the self-employed.

2.4.3.3. Identification of the self-employed

The majority of people in developing countries live in extreme poverty (below the poverty line of $2 per day). In their effort for subsistence, they engage in self-employment as this is the only option they have. Self-employment is seen everywhere in the globe but its expression is acute in regions like Sub Saharan Africa, the Middle East and part of Asia as they still struggle for a living. Identifying the self-employed as individuals is a stressing exercise for policymaking and government institutions especially the labour market regulatory system. Fields (2013) view of the self-employ is such that some are self-employed because they are too poor and there is not enough wage employment while for others, they leave the wage employment to self-employed because of opportunities.

Thurik, Carree, Stel and Audretsch (2007) on their attempt to understand if self-employment reduces unemployment, undergone a two-equation vector auto regression model to estimate this changes. Their findings reveal that there is both a positive and negative relationship between self-employment and unemployment showing that changes in unemployment clearly have a positive impact on subsequent changes on self-employment rates. The reverse happens with changes in self-employment rates about unemployment rates enumerating in their conclusion that the negative effect of self-employment on unemployment rate is more expressed (Thurik et al., 2007).

Many researchers have shown a concern on the perception and identification of the self-employed and their motivation. Back in the 70s, this pronounced interest led to the findings revealing that in developing countries, many people have shown interest in the Urban sectors that were not modern and was occupied by small traders, street vendors, shoeshine boys, self-appointed parking attendants, beggars, some shadow activities, carpenters, masons, tailors , tradesmen, cooks, taxi-drivers and the list goes on (Fields, 1990). These workers where mostly found in the informal sector and they possess the three basic criteria of self-

employment namely: 1) they have more than one client; 2) they have the authority to hire staff and or 3) they have the authority to make important strategic decisions about how to run the business (William & Lapeyre, 2017).

In the informal economy, there co-exist self-employment and paid employment practices and one definition proposed and accepted by the International Conference of Labour Statisticians (ICLS), the International Labour Organisation (ILO) and the Women in Informal Employment: Globalising and Organising (WIEGO) is that found in the footnote of Fields (2013, p.4) saying that

"Self-employment in informal enterprises (small unregistered or unincorporated enterprises) including: employers, own account operators and unpaid family workers in informal enterprises" and

"Paid employment in informal jobs (for informal enterprises, formal enterprises, households, or no fixed employer) including: casual or day laborers, industrial outworkers, unregistered or undeclared workers, contract workers and unprotected temporary and part-time workers"

Macieira (2009) analysed the Determinants of self-employment in which demographic trends and human capital and professional experience where considered. Macieira arrived at the conclusion that: 1. Men in the demographic trends have the greatest probability of being self-employed, married people have the biggest tendency to be self-employed and the people with age-range of 45 to 64 years old are more likely to be self-employed; 2. At the human capital level, people with basic education level are mostly self-employed and they are followed by those with no level of education and people of higher education level are also present in this form of employment but of minor importance as seen in Portugal; 3. "Craft and related trades workers", "services workers and vendors" and " unskilled" in this order are the types of professions with the most important figures in self-employment with "wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods" being the economic activity's sector of major attraction to the self-employed within the period of analysis.

Tunio et al. (2017) have drawn some conclusions from their analysis on self-employment at the Small and Medium Enterprises level in developing countries showing that, poverty is an economic problem in developing countries (Murin & Robin, 2016) which is caused by population rapid growth rate, increasing competition in the job market regrettably leaving many out of employment due to limited opportunities or lack of skills resulting in poverty (Nolen, 2013).

A descriptive definition of poverty is seen in the work of Yigzaw (2016, para 4), where the Programme of Action of the World Summit for Social Development (United Nations, 2006, resolution 1, annex II) said "Poverty has various manifestations, including lack of income and productive resources sufficient to ensure sustainable livelihoods; hunger and

malnutrition; ill health; limited or lack of access to education and other basic services; increased morbidity and mortality from illness; homelessness and inadequate housing; unsafe environments; and social discrimination and exclusion".

Banerjee and Duflo (2011, p.226, as cited in Fields, 2013) presented a reasoning on the study of the poor suggesting that entrepreneurship in developing countries is less of opportunity evidence and might be representative of failed economic policies in these countries. In such economies, the informal employment is most often intertwine with self-employment and self-employment is commonly referred to as informal employment. With such regards, the ILO (2009, cited in Njoda & Ulrich, 2015) revealed that in the urban and rural work force in Africa, nine in ten are in informal jobs with women and the youth fighting for subsistence in this category due to lack of alternatives. In the Economic and Monetary Community of Central Africa (CEMAC), Cameroon 2010 survey shows that, out of 90.4% of the overall informal share of the job market, 32.2 per cent and 55.2 per cent represented the urban and rural shares respectively with Chad's 2013 country profile showing that 91% of the workers in the non-agricultural workforce are found in the informal sector (Njoda and Ulirich, 2015). Looking at the United Nation and the World Bank's figures, Fields (2012) noted that " the informal sector in a city-account for 78% of all escape from poverty in Kenya, 70% in India, 69% in Peru and 54% in Uganda with the latest figures showing that 3.1billion people are still in absolute poverty (under the poverty line of US$2.5 at PPP$)all of whom are found in low and middle income countries of Asia, Latin America and Africa (Fields, 2012).

Self-employment figures in Africa is still very high with the CEMAC region composed of Cameroon, Central African Republic, Chad, Congo Republic and Equatorial Guinea has a self-employment level of 76.7%, 92.5%, 93.3%, 81.7%, 77.1% and 86 % respectively been the highest in this part of Africa but with Niger, 94.35 and Nigeria, 81.4% also showing very high level of self-employment. Libya, 6.8%, Egypt, 31.3%, Gabon, 33.8% Namibia, 37.3% and Morocco, 50.2% presents lower levels of self-employment as compared to others in the region (World Bank, 2019)

In developed countries, self-employment is mostly associated with workers who have worked in paid employment, earn some money, after acquiring some skills, decide to create and run their own business. These group of self-employed are different from most observed in developing countries and poor regions in that they are self-employed by "opportunity". They had a "choice" so they did not engage in self-employment out of "necessity".

Another form of employment showing hybrid patterns is clearly finding its way in the literature. They are neither self-employed nor wage employment as observed from the ICSE-1993. William and Lapeyre (2017) while

working on Dependent self-employment: trends, challenges and policy responses in the EU, have discussed the issue of dependent self-employment. They observe the existence of a percentage of self-employed who turn to be self-employed in "purpose" motivated by employers whom viewing the labour laws employment tax and other employer liabilities as a burden to be avoid turn to classify their employees as self-employed (William & Lapeyere, 2017). This type of employment is termed "dependent self-employment" as it does not satisfy the three basic criteria of "genuine" self-employment and of the analysis made from the European Working Condition Survey of 2015, William and Lapeyre (2017, P.5) further stressed that:

> 4.3 per cent of the total employment in the EU28 is dependent self-employment (1.4 per cent comply with fewer than only two of the three criteria and 2.9 per cent with only 2 of the three criteria), declining from 5.3 per cent in 2010. Just 53 per cent (compared with 49 per cent in 2010) of the self-employed without employers are 'genuine' independent self-employed (fulfilling all the three criteria), while 47 per cent (51 per cent in 2010) were dependent self-employed, with 15 per cent (12 per cent in 2010) meeting less than two and 32 per cent (39 in 2010) only two of the three criteria

The complexity associated with the self-employment identification and more over its determinants is widely express and more interest on the topic will fortunately wider the grasping of different corners of this form of employment. Targeting the possible contribution of the social progress index and the GDP, extending the view to their relationship lead us aboard and in a confident array approaching the concept and determinants of self-employment in Africa. This inevitably leads to more policy orientation and general recalibration of the concept boosting economic growth and social progress in Africa.

CHAPTER 3. ECONOMIC GROWTH, EMPLOYMENT AND SOCIAL PROGRESS IN AFRICA

The World Bank Overview (2020) stressed with emphasis that Africa is a continent hosting the greatest share of poverty level in the world. This institution calling figures reiterates that the African continent with 54 countries accounts for roughly 1.2 billion of the world's population. This population apart from its geographical repartitions into countries is compose of different regional segmentations forming communities, unions and organisations on top of which is the African Union (AU). The CEMAC and the Economic Community of West African States are among the strongest economic unions in the region. Most of these initiatives are economic and trade related organisations in Sub Saharan Africa. Commonly grouped under North Africa (Tunisia, Libya, Morrocco, Algeria and Egypt) and Sub Saharan Africa (all other African

countries apart from those of North Africa), Africa is known for its diversities both culturally and economically.

Africa has been on a constant, sometimes stagnating development path. Dragged behind by civil unrest, wars, political instability and corruption, its countries have been maintained under the developing category of economic growth development classification (Kwabena & Marva, 2005; Mkandawire & Soludo, 1998). Tracing the growth pattern in Africa is thus a difficult task. While some are pursuing their development goals efficiently, others are triggered in wars and conflicts.

In an effort to address the development pattern in Africa with respect to our topic, we will address the economic growth in the region mainly in terms of GDP and the labour market in Africa. Further in this section we will have a look on the social welfare orientations and development in the region.

3.1. Economic Growth and Employment in Africa

As early as in the 1960s, after most African countries have obtained their independence from their colonial masters, the continent turned their efforts on restructuring growth (Mkandawire & Soludo, 1998). Sharing the view of Haughton and Khandker (2009), we can see in Africa that economic growth and development policies became the center of attention in the ambitious Africa in a quest for emergence. Largely relying on natural resources, the continent has been struggling with no better managerial strategies to boost their economic independence and achieve economic.

A region home to all the four income groups of people ranging from low-income countries to high-income countries through lower-middle and upper-middle income countries with 18 being conflict affected countries and 13 small state countries (World Bank Overview, 2019). These groups are characterised by their economic growth features and development level.

In their book Sources of Growth in Sub Saharan Africa (EPUB), Tahari, Aka, Akitobi, and Ghura (2004) used the growth accounting framework to grasp the facts about economic growth in Sub Saharan Africa. This method aim at determining if economic growth evolved as a result of factor accumulation pointing capital and labour specifically or if it comes with total factor productivity. Tahari et al. suggested that Factor accumulation was the main driver of real GDP growth through 1960 to 2002 in Sub Saharan Africa but the increase in growth observed at the end of this period (1997-2002) was because of greater consideration of the total factor productivity. Real GDP is said to have considerably increase in Africa in the period of 1960 to 2002 and the average real GDP growth in Sub Saharan Africa increased from 2.1% (1991 to 1996) to 3.6% (1997 to

2002) giving the region an average GDP of 3.3% through the period of 1960 to 2002 (Tahari et al., 2004). Out of the four income group's classification of countries earlier mentioned, the fastest GDP growth was observed in the middle-income countries with 4.8% as average(1960-2002) and countries found in conflicts zones were having the lowest GDP growth rate with 2.4% as annual average GDP in the same period with many as four countries (Botswana, Guinea, The Gambian and Mauritius) where showing exceptional growth as compared to others during this period of 1960-2002 both having a GDP greater than 5% (Tahari et al., 2004)

The Millennium Development Gaol (MDG) of the United Nations unanimously adopted by the 192 members in 2002, with aim of halving the population living below poverty line ($1.9 US) by 2015 has greatly contributed in raising awareness on the need for economic development and poverty reduction in Africa. Reaching the MDG's goal was not enough to eradicate poverty in Africa, as the poverty level is still very high in the region with over 416 million Africans still living in extreme poverty (World Bank, 2020).

Ghura and Hadjimichael (1990) from their work on Growth in Sub Saharan Africa, studying countries in the region from 1981 to 1992 suggested from their result that increasing private investment would lead to an increase in per capita growth. They went further indicating that " growth is stimulated by public policies that lower the budget deficit in relation to GDP(without reducing government investment), reduce the rate of inflation, maintain external competitiveness, promote structural reforms, encourage human capital development and slow population growth" (Ghura & Hadjimichael, 1996).

The informal economy contribution in Sub Saharan Africa can be apprehend in two ways: its contribution in GDP through the informal sector and its contribution in employment in the form of informal employment. For instance, in term of GDP contribution, the informal economy contributed with a share of 41% of GDP in Sub Saharan Africa's economy with self-employment figures growing at a greater rate and even doubling for women from 44% in 1980 to 90% in 1990 (Paratian & Dasgupta, 2005, p.39).

Wage employment figures are alarming. The percentage of people in wage employment in Sub Saharan Africa is still very low and this has been the case for decades now. If in the 90s the figures of unemployment have been kept low is because of lack of unemployment benefits and people in Sub Saharan Africa been very poor engaged in subsistence employment in the form of self-employment to earn a leaving. This resulted to the growing entrepreneurial and self-employment boost observed in the region. The low level of unemployment cannot be attributed to wage employment prospect and

policies orientation as wage employment figures were around 5% to 10% and not more between 1990-1999 in Sub Saharan Africa and the major sector of employment was in the agricultural sector with approximately 90% of employment in Burkina Faso, Ethiopia, Rwanda, and Tanzania (Paratian & Dasgupta, 2005, pp.39-40). North Africa in the other hand shows greater involvement in the wage employment during the same period as their economy is mostly industrialised and service oriented and they rely less on agriculture with 90% of their GDP coming from the industry and service sectors (Paratian & Dasgupta, 2005, p.39). Gross Domestic Product has been on a rise with the increasing self-employment in Sub Saharan Africa (-0.4% in 1990 to 3.5% in 2000 of GDP growth). These aspects contribute in raising the concern on the GDP myriads as the increasing self-employment is mainly caused by poverty and shortages in wage employment and lack of unemployment benefits in most Sub Saharan Africa.

For Rwanda, Nigeria and South Africa for instance, unemployment initially at 0.9% in 2002 in Rwanda, 3.8% in 2011 in Nigeria and 22.4% in 2008 in South Africa is found to have risen to 15.1% in 2018 in Rwanda, 8.4% in 2018 in Nigeria and 28.5% in 2018 in South Africa (World Bank, 2020). Gross Domestic Product during this same period has been high as compare to that of the early 2000s with an average GDP in Sub Saharan Africa of 5.5% on an annual base from 2005 to 2008 though a sharp fall caused by the 2008 recession was observed in 2009 (2.4% of GDP) but projections were showing a rapid gain in GDP growing momentum as from 2010 (UN, NEPAD-OECD). The United Nation report presented the three pillars of African economy mainly composed of services, industry and agriculture constituting the GDP contributions of Sub Saharan Africa's economy with services been the largest contributor(51.7% in 2005 to 56.6% in 2009). Agriculture provides for more than 60% of the employment opportunities in Sub Saharan Africa with a contribution of roughly 13% of the region's GDP in 2009 and the greater share of the service sector increase is thanks to the informal economy's contribution (UN, NEPAD-OECD).

3.2. Welfare in Africa

Africa is in a constant quest for development (Chabal, 2002). The continent facing challenges of all kinds have observed some advancement in some aspects in the past decades and most specifically in some regions of the continent with regard to social progress (Houngnikpo, 2006).

Africa development has not been considered on its real valuation. Mainly caused by its consideration on purely economic factors. The decades preceeding the 2000s was a period of economic (GNP) downturn in Africa (Paratian & Dasgupta, 2005). The economic shortcomings shaded the development observed

in the continent derived from non-economic factors.

Progress over these same decades of economic decline was observed in areas of education, political participation, freedom, health and nutrition showing importance of additive measures of development in the form of social indicators when looking at African development in a broader picture (Gasper, 2004).

In this section, the study elaborates on welfare indicators under poverty and happiness concepts in Africa.

3.2.1. Poverty in Africa

Poverty is an inexhaustible concept in the African context. It can be referred to when addressing the development of Africa in both social and economic perspectives as Africa is considered as the main contender of its figures (World Bank Overview, 2019)

The poverty from the view of Haughton & Khandker (2009 as cited in Yigzaw (2016) is "the minimum expenditure required by an individual to satisfy his or her basic food and non-food needs". Absolute poverty, a concept very familiar in the African regions as defined by the United Nation is a condition characterized by severe deprivation of basic human needs including food, safe drinking water, sanitation facilities, health, shelter, education and information. It is dependent not only on income but also on access to services (UN, 1995 as stated in Yigzaw, 2016).

Africa is still the region mostly affected by poverty. The African population constitutes the greatest share of the world population living in extreme poverty. The World Bank report (2015, cited in Yigzaw, 2016) shows that after that the global population living in extreme poverty had reduced to one billion people through 1990 to 2011, 415.4 million people were from Sub Saharan Africa. This figure represented 46.8% of the total region's population describing the severity of the poverty level in the region (Yigzaw, 2016). As of 2020, more than 416 million people still live in extreme poverty in Africa (World Bank Overview, 2020). From the publication of the World Bank report in Africa (2020), a contraction in economic growth is expected in Africa with the effect of the covid19 pandemic (2.4% in 2019 to between -2.1 and -5.1%).

Another report from the World Bank (2019, volume 20) shows that "extreme poverty in Sub Saharan Africa, defined as living below US$1.9/day declined from 54 percent in 1990 to 41.4 percent in 2015, largely driven by rising standards of living between 1995 and 2015. However, the number of poor people increased from 278million in 1990 to 416.4 million in 2015 as the population of the region continue to expand rapidly".

Enhancing development through the amelioration of electrical infrastructure, increase willingness in conflicts settlement and

better reforms in poverty reduction policies and governance is therefore eminent to achieve development in the region. Some strategies for sustainable development in Africa rely on : " investing in human capital"; "building Africa's digital economy"; "support climate change adaptation and mitigation"; "address the drivers of fragility, conflict and violence"; "create jobs and transform economies"; and "make institutes more efficient and accountable" (World Bank, 2020).

In investigating the reason for the low economic development performance, Nche (2011) found out that malaria is the main reason for low economic performance in Africa. Basing his research on malaria, institution, and foreign aid, Nche stated, "countries with endemic malaria and good institutions were observed to be poorer than the non-endemic ones with poor institutions. These points out the precarious condition of the African health system and the obvious but deplorable shortages in medical facilities in the region which if remedy will contribute in enhancing the continent welfare.

3.2.2. Happiness in Africa

Comparing the level of happiness between countries and regions needs a consideration of certain variables as they have the potential to address all aspect of life valuation. The outcome of these measures generally leaves a gap at individual and most importantly regional level of happiness. The United Nation's World Happiness report of (2016) identified GDP per capita, healthy years of life expectancy, social support, trust, perceived absence of corruption), perceived freedom to make life decisions and generosity as a frame work for these happiness computation.

Inequality being a persisting threat to the welfare of a country, the World Happiness report (2016) have emphasized on its impact suggesting, "Inequality of well-being provides a better measure of the distribution of welfare than is provided by income and wealth". Claiming further "in the world as a whole, in eight of the 10 global regions, and in more than half of the countries surveyed there was a significant increase in the inequality of happiness". In the United Nation publication on the world happiness report (2016), while revealing that countries of the North occupy the top 10 positions, African countries like Madagascar, Tanzania, Liberia, Guinea, Rwanda, Benin, Togo, and Burundi are among the countries occupying the 10 least performance on happiness.

CHAPTER 4. RESEARCH METHOD AND DATA COLLECTION

4.1. Introduction

This chapter will cover the methodology adopted in the study. A brief discussion of the data explored to achieve analysis and resulting findings on the study was included. The method presented in this section is well in line with the objective of the study and facilitates the data analysis as will be explored in the coming sections.

Table 4-1 Methodology table

Methodology	Data collection		Data analysis
Quantitative	Source	Date	Multiple regression model (POOL OLS)
	World Development Index (World Bank)	20014-2019	
	Social Progress Index	2014-2019	

Source: Author computation

4.2. Data

Given the relevance of this research that is entailed in approaching a problem common in developing countries , this study have considered African countries as the main focus. In this regard, most African countries have been considered in the study (39 in total) and to facilitate our analysis, data have been collected from two sources: The social progress index and the world development indicators.

Social progress index developed by the social progress imperative team started providing data in 2013. This exposes some limitations to the study, as the period of analysis will have to start within that range of time. The SPI is a measure of social and environmental outcomes of a country or state aiming at catalysing improvement and enhancing social progress (Stern et al., 2013). Its main purpose is to equip policymaking, government institutions and business decision-makers with robust

measures of social welfare.

In the beginning of their work, only 50 countries were included in the SPI scores evaluation in 2013. The significance associated with their measurement prompted the social progress imperative team to expand their work to other countries with objective to cover every country with calculated individual scores. The scores are calculated from components whose average sum generates the SPI dimensions (03 in total). The overall SPI score is obtained by finding the average of its dimensions sum total. By 2018, the social progress index has ranked 146 countries on social progress with an additional 90 countries with partial component –level scores. Covering up to 99% of the world population by 2018, the social progress imperative team proceeds by "combining 51 social outcome indicators to calculate an overall score for these countries, based on third party's levels of scoring that include measures in health, safety, education, technology, rights, and more"(Stern et al., 2013). While the SPI as an index of social wellbeing is the most important variable in the study, its dimensions (Basic Human Needs, Foundation of Wellbeing, and Opportunity) will be considered in our regression analysis for individual statistical significance.

The other source of data in this research was collected from the world development indicator retrieved from the World Bank. The World Bank created in 1944 after Brethren wood conference has a long history of providing data especially of socio-economic indicators. Most useful economic and human capital indicators can be obtained from the World Bank database. For this research work, indicators were selected from the world development index of the Word Bank enabling the understanding of the contribution of social progress in Africa. In addition, the data from this source will present how the SPI can be integrate for development purposes. The indicators selected; self-employed, total (% of total employment); GDP per capita, PPP (current international $); Unemployment, total (% of total labor force); Population, total; and Inflation at consumer prices index (annual %) were considered. For each of the 39 countries considered in our study, data were organized in yearly bases starting from 2014 to 2019 for each indicator. These years (2014 – 2019) synchronizes with available years in the SPI database.

For our sample country consideration. The 54 African countries were the base of the research. The period of analysis was initially chosen to stretch from 2005 to 2019. Two constraints evolved. One was the match between our sources of data in term of country selection. From the SPI fully ranked 146 countries on social progress scores, 39 African countries (Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Congo. Democratic Republic of, Congo.

Republic of, Côte d'Ivoire, Djibouti, Egypt, Ethiopia, Gambia. The, Ghana, Guinea, Kenya, Liberia, Madagascar, Malawi, Mali, Mauritius, Morocco, Mozambique, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, South Africa, South Sudan, Sudan, Tanzania, Togo, and Zimbabwe) have been considered for the analysis leaving aside 9 other African countries (Zambia, Somalia, Uganda, Gabon, Seychelles, Namibia, Libya, Equatorial Guinea and Guinea-Bissau) out of the 90 worldwide countries with partial scores on social progress (SPI database). The other African countries have not yet been attributed scores, which is why they have also been excluded from our analysis. All the 54 African countries have had their corresponding indexes as per the World Development Index of the World Bank. The other constraint was the period of analysis. The World Development index has data covering our chosen period and beyond. The SPI scores were only available as from 2014. With those constraints been taken into consideration, the study period was concluded to stretch from 2014 to 2019 and the number of African countries was brought to 39 countries out of the 54 initially considered.

4.3. Research Methodology

4.3.1. Dependent variable: Self-employment total

Self-employment as a percentage of total employment (SE_tot), a modeled ILO estimate is the dependent variable in this study. Self-employment is an important employment pool in developing countries and Africa in particular. Determining its relationship with GDP, SPI, inflation and other components leading to development is deemed very necessary in Africa.

Self employed workers as defined by the international labour organisation are those workers who, working on their own account or with one or a few partners or in cooperative, hold the type of jobs defined as a "self-employment jobs." i.e. jobs where the remuneration is directly dependent upon the profits derived from the goods and services produced (World Bank-WDI, 2020). Data on this variable have been collected from the world development index of the World Bank. Self-employment figures are greatly available in this database and the period of analysis as earlier stated have been considered.

4.3.2. Independent variables

Providing policy making with suitable determinants of progress is the focus of the research. To achieve this objective, some indicators have been considered in this section; GDP per capita in purchasing power parity and social progress index with its dimensions as independent variables.

4.3.2.1. GDP per capita

GDP per capita is a well-known indicator in economic growth and development analysis. GDP per capita based on purchasing power parity (PPP) is the gross domestic product converted to international dollars using

purchasing power parity rates (World Bank-WDI, 2020). GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources (World Bank-WDI, 2020). For its calculation, the total population divides real GDP. Its measure considered here is in Purchasing Power Parity (PPP) with the USD as currency denomination. Nwaka, Guven-Lisaniler, and Tuna, (2016) postulate that economic conditions are an important factor driving self-employment figures and in Africa. This findings translate a negative relationship between GDP and self-employment in Africa as poverty, mainly expressed in term of GDP per capita is very acute in the region and people turn to self-employed while waiting for better alternatives (Fields, 2013).GDP per capita in PPP = real GDP/Total population

4.3.2.2. Social Progress Index

The social progress imperative team has provided a framework of indicators computation that have been revealed robust in term of welfare measurement. Considering our interest in this research, the Social Progress Index, the average sum of the 03 SPI dimensions will be denoted SPI_ALL and its individual dimensions have been considered: Basic Human Need (SPI_NEEDS), Foundation of Wellbeing (SPI_FOUN) and Opportunity (SPI_OPP). SPI is relatively a new measure of social progress. While its relationship with self-employment is not yet widely elaborated on and even understood, we expect their relationship to be negative. This is because improving social progress induces improvement in the living standard, education and health facilities whose poor conditions are the main reasons behind increasing self-employment figures in Africa.

4.3.2.2.1 Basic Human Need

This dimension of the SPI is composed of 04 components: Nutrition and Basic Medical Care, Water and Sanitation, Shelter, and Personal Safety. This dimension is meant to answer the question on the ability for a country to "provide for its people's most essential needs" (Porter et al., 2013). Most African countries are still struggling when it comes to answer this question in an affirmative way, but the scores are very much encouraging along the years.

To compute this dimension, we sum up the score of its components and divide it by four as shown below.

Dimension $_{SPI\_NEEDS}$ = $1/4\sum_{c}$Components Score of SPI_NEEDS

4.3.2.2.2. Foundation of Well Being

This is another dimension of social progress and its focus is to "capture the degree to which a country has created the set of policies and institutions to support improving wellbeing and community in a sustainable natural environment" (Porter et al., 2013). It comprises of the following

components: Access to Basic Knowledge, Access to Information and Communications, Health and Wellness, and lastly Environmental Quality. All of these four components are computed with their equally weighed scores to form the dimension as shown below:

Dimension $_{SPI\_FOUN}$ = 1/4$\sum_C$Component Score of SPI_FOUN

This dimension focuses on assessing the existence of building blocks for individual communities in an effort to enhance and sustain wellbeing (Porter et al. 2013).

4.3.2.2.3. Opportunity

This dimension of social progress index addresses the issues of personal rights, freedom and inclusion, and access to advance education. The main objective of this dimension is to assess the capacity of individuals in a country to reach their full potential. On like the other dimensions of SPI, it comprises of 04 equally weighed components, Personal Rights, Personal Freedom and choice, Access to Advanced Education, and Inclusiveness.

Dimension $_{SPI\_OPP}$ = 1/4$\sum_C$Component Score of SPI_OPP

4.3.3. Control variables

This research work aims at investigating the relationship between self-employment GDP and the SPI dimensions. How the later (SPI dimensions and GDP) affects the former (self-employment) if our objective. Still, other factors affect self-employment and might disrupt the test analysis. These variables will then be considered in the research as control variables along side the fore mention independent variables. These control variables are Unemployment, total (% of total labor force); Population, total; and Inflation, consumer prices (annual %).

4.3.3.1. Unemployment

As defined by the ILO, “unemployment refers to the share of the labour force that is without work but available for and seeking employment (World Bank-WDI, 2020). The unemployment rate (UNR_tot) is “the percentage of people in the labour force who are unemployed” (Parkin, 2014, p.516)

UNR_tot = number of people unemployed/labour force *100

According to the literature, unemployment has a positive impact on self-employment and self-employment is said to have a negative relationship with unemployment rate (Thurick et al., 2007).

4.3.3.2. Inflation rate

Inflation rate (INFL_cpi) as measured by the consumer price index (CPI) and as defined by the IMF reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specific intervals, such as yearly. This inflation rate is the annual percentage change in the CPI (Parkin, 2014. P524).

INFL_cpi = CPI this year-CPI last year/CPI last year *100

4.3.3.3. Population total

Population, total in percentage (lPOP_tot) is the counts of all residents regardless of legal status or citizenship considered base on the “de facto” definition of population (World Bank-WDI 2020). Tunio et al. (2017) suggest in their work that the growing population without a substantial growth in the job market leads to increasing need to be self-employed. This suggest a positive relationship between population total and self-employment.

4.4. Variable Presentation

Table 4.2 is a brief presentation of all the variables that will be explored through out this work.

Table 4-2 Variable definition and sources

Variables	sign	Types of variable	Period	source
Self-employment total	SE_tot	DEPENDENT	2014-2019	World Bank
GDP per capita	lGDPC_PPP	INDEPENDENT	2014-2019	World Bank
Social Progress Index	SPI_ALL	INDEPENDENT	2014-2019	SPI
Basic Human Need	SPI_NEEDS	INDEPENDENT	2014-2019	SPI
Foundation of Wellbeing	SPI_FOUN	INDEPENDENT	2014-2019	SPI
Opportunity	SPI_OPP	INDEPENDENT	2014-2019	SPI
Unemployment	UNR_tot	INDEPENDENT	2014-2019	World Bank

total				
Log of Population total	lPOP_tot	INDEPENDENT	2014-2019	World Bank
Inflation rate at Consumer price index	INFL_cpi	INDEPENDENT	2014-2019	World Bank

Source: Author computation: Note SPI means relevant data are sourced from the Social Progress Index database.

4.5. Research Regression Models

In other for this study to mathematically present the link between the dependent variable and the independent variables, we have witnessed the need for a model selection. A linear regression model was chosen in the study and the Pooled Ordinary Least Squares (Pooled OLS) regression model better fit the purpose of our analysis. The methodology used in realising the aim of our study is drown from a multiple regression model taking into consideration the set of hypotheses and the selected variables with the following functions:

SE_tot = f (SPI_ALL, lGDPC_PPP) …...1

SE_tot = f (SPI_NEEDS, SPI_FOUN, SPI_OPP, lGDPC_PPP, UNR_tot, INFL_cpi, lPOP_tot)…...2

For the regression analysis, lets assume an unobserved variable Y_i such that

$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots\ldots + \beta_K X_{Ki} + u_i$ ……..…….3

Translating equation 3 into our variables gives:

$SE\_tot_i = \beta_0 + \beta_1 lGDPC\_PPP_i + \beta_2 SPI\_NEEDS_i + \beta_3 SPI\_FOUN_i + \beta 4 SPI\_OPP_i + \beta_5 UNR\_tot_i + \beta_6 INFL\_cpi_i + \beta_7 POP\_tot_i + u_i$

Where:

i= 1,2,3...n

SE_tot_i is the observations on self-employment, which is our dependent variable. In the same regression, $lGDPC\_PPP_i$, SPI_NEEDS_i, SPI_FOUN_i, SPI_OPP_i, UNR_tot_i , $INFL\_cpi_i$, and $lPOP\_tot_i$ are the i^{th} observations on each of the regressor.

u_i is the error term and β_0 is the constant term. The slope coefficient on $lGDPC\_PPP_i$, SPI_NEEDS_i , SPI_FOUN_i , SPI_OPP_i , UNR_tot_i , $INFL\_cpi_i$, and $lPOP\_tot_i$ are β_1, β_2, β_3, β_4, β_5, β_6, β_7, and respectively. The coefficient β_1 is the expected change in SE_tot_i resulting from changing lGDPC_PPPi by one unit holding constant SPI_NEEDS_i , SPI_FOUN_i , SPI_OPPi , UNR_tot_i , $INFL\_cpi_i$, and $lPOP\_tot_i$ This interpretation of β_1 can be extended to the other coefficients β_2, β_3, β_4, β_5, β_6, and β_7). Intercept β_0 is the expected value of self-employment when all the other variables on the other side of the equation are equal to zero (0). It can be considered as a coefficient on a regressor that equals one for all i.

In addition, since data is a panel of African countries, we will also use the panel data analysis to investigate the subject matter. This means we will also apply the Random Effect (RE) and the Fixed Effect (FE) in the analysis. The RE and the FE will also be interpreted as above.

While the data and model presentation are an important step in our data analysis, it is relevant to emphasize on the descriptive statistic to explain the degree of relationship between the variables and the variables representation in the sample countries. The following section deals with the descriptive statistics and the descriptive analysis of our study on the beyond GDP.

CHAPTER 5. EMPERICAL RESULTS

5.1. Summary Statistics

Table 5-1 represents a summary statistic of our selected variables. Self-employment (SE_tot) which is our dependent variable has a value of 65.8% within the period of analysis in Africa indicating the average self-employment level in the region. This figure also tells us that 65.8% of total employment in Africa represents the share of the self-employed. This is understandable as according to Schnieder & Enste (2003), 72% of the working population in Africa are in the informal employment of which the majority are the self-employed. The poverty level in the region is also a good propeller of this self-employment figure. Regarding the SPI scores, table 5-1 shows that, for the Basic Human Needs (SPI_NEEDS), Foundation of Wellbeing (SPI_FOUN) and Opportunity (SPI_OPP), the scores in Africa are averagely 54.1%, 52.8% and 39.3% respectively with an average overall SPI (SPI_ALL) Score of 48.3% which is in turn the mean of the scores of the 03 equally weighed dimensions. The unemployment rate and the inflation rate as shown in table 5-1 are averagely 7.7% and 8.4% respectively in the region with and average GDP per capita in purchasing power parity (PPP) of $5351.8 (l GDPC_PPP of 8.1).

Table 5-1 Summary statistics of all variables

Variable	Obs	Mean	Std. Dev.	Min	Max
SE_tot	288	65.791	25.506	0.000	94.726
lGDPC_PPP	224	8.127	0.998	6.492	10.365
SPI_all	234	48.311	10.969	24.21	73.88
SPI_NEEDS	288	54.143	15.421	21.79	91.22
SPI_FOUN	240	52.832	10.253	26.44	73.47
SPI_OPP	270	39.734	10.577	14.99	65.49
lPOP_tot	240	16.150	1.593	11.422	19.092
INFL_cpi	213	8.359	29.461	-2.815	379.848
UNR_tot	288	7.668	5.959	0.000	27.327

Source: Author computation

When the POOLED OLS regression is applied in a model analysis, discrepancies can be observed due to multi-collinearity problems between the independent variables. No independent variable should be a perfect linear function of another independent variable in the

same study. This study has proposed a multi-collinearity test to check for any multi-collinearity outcome (highly correlated independent variables). The Pearson correlation coefficient derived from the study can be found in table 5-2 below. The main feature from this Pearson correlation coefficient table is that most of the variables have an absolute value (coefficient) of less that 0.5. This reveals the lesser extend to which multi-collinearity severity is expressed in the regression test. Self-employment has a relatively weak and negative correlation with SPI_ALL (-0.227). There is also a negative correlation between SPI dimensions and self-employment of almost same degree. A stronger negative correlation is that found between GDP per capita and self-employment showing the degree to which GDP changes can enhance self-employment figures in Africa. Self-employment has a strong correlation with GDP per capita of -0.7662 indicating the negative relationship between changes in GDP per capita and the implied change in self-employment. The same observation is seen with SPI dimensions. Whereas, the degree of relationship portrayed between SPI and its dimensions reveals a highly positive correlation. Population total and inflation have a positive correlation with self-employment but a weak and negative correlation with GDP per capita. Unemployment total on the other hand has a negative correlation with self-employment but a positive one with GDP per capita. Inflation also has a negative correlation with all SPIs but population and unemployment total have a positive correlation with the later.

Table 5-2 Correlation coefficient table of our variables

Variables	SE_tot	SPI_all	SPI_NEEEDS	SPI_FOUN	SPI_O
UNR_tot					
SE_tot	1.000				
SPI_all	-0.227	1.000			
SPI_NEEDS	-0.136	0.924	1.000		
SPI_FOUN	-0.235	0.938	0.799	1.000	
SPI_OPP	-0.283	0.891	0.683	0.823	1.000
GDPC_PPP	-0.766	0.113	0.132	0.036	0.125
POP_tot	0.061	0.263	0.394	0.206	0.062
INFL_cpi	0.090	-0.209	-0.166	-0.199	-0.223
UNR_tot	-0.578	0.235	0.201	0.220	0.232

Source: Author computation

5.2. Empirical Analysis

Table 5-3 presents the results of the Pooled OLS regression on our sampled countries in column 1. Column 2 and 3 of table 5-3 report the results of the Fixed Effect (FE) and the Random Effect (RA) models. Again, the dependent variable in this study is the self-employed as a percentage of total employment (SE_tot). To comprehend our analysis, GDP Per capita in purchasing power parity (GDPC_PPP),

Social Progress Index (SPI_ALL), Basic Human Needs (SPI_NEEDS), Foundation of Wellbeing (SPI_FOUN), and Opportunity (SPI_OPP) are selected as independent variables in the analysis. In addition, Population total (POP_tot), Inflation rate in consumer price index (INFL_cpi), and Unemployment total (UNR_tot) have been included as control variables as they may distort the analysis. All these variables except the SPIs are modeled ILO estimations.

As shown in table 5-3, the relationship between the variables SE_tot and SPI_ALL is statistically significant. This satisfies the set hypothesis (H_1^l). There exists a negative relationship between SE_tot and SPI_ALL. This implies that as SPI_ALL increase in Africa by 1 percentage point, SE_tot is likely to decrease by about 0.2 percentage point with every other things remaining constant. This might be explained from the standard of living perspective as with an increase in social progress implies an increase in the living standard of the population, health, and education. Such an impact amy equally be observed in developing countries and in Africa in particular as most of the self-employed in these regions are "self-employed by necessity" (Fields, 2013). There is an inverse relation between self-employment and the Social Progress Index in Africa, and this relationship becomes more significant ($P<0.01$) with individual country effect (FE and RE) as shown in Table 5-3

Another important relationship is that observed in Table 5-3 Gross Domestic Product as reported in the results of the Pooled OLS regression in Table 5-3 has a significant relationship with self-employment. This result again satisfies our hypothesis (H_0^l) testing. The result suggest that an inverse relationship exist between GDP and self-employment in Africa. The findings show that an increase in GDPC_PPP by 1% in Africa will lead to a decrease in SE_tot by 0.2% percentage point with every other things been held constant. In the same conditions, a decrease in GDPC_PPP by 1% will lead to an increase in SE_tot. This relationship might be because of people getting better of economically through improved policy orientation and living conditions that they become more comfortable in paid employment. Literature on developing countries show that the self-employment represents the vulnerable group and that the choices of working in the sector is conditioned by economic factors rather than an individual's motives (Fields, 2013; Guven-Lisaniler et al., 2018; Nwaka et al., 2016). Intuitively, this means that more money in the pockets of workers in Africa, translates to a reduction self-employment. It is also possible that self-employment in this context represents the vulnerable group as posited in the literature, and growth in income leads to engagements in other employment choices than the self-employment.

Increasing GDP presumes more economic freedom and there for increase self-employment. As observed in develop countries with people feeling more financially stable to start an own account job with an opportunity-based motive (Amoros et al., 2019, p.726). This significance observed in Table 5-3 is stronger in the Pooled OLS model but also with the Fixed Effect model and the Random Effect model.

The adjusted R-square of this model (at 71.1%) indicates the good quality of our variables and robustness or our data analysis.

The table 5-3 below reports the results of the regression models of our variable analysis. The first column reports the results of the Pooled OLS regression (POLS) and the 2nd and 3rd columns denoted RE and FE report the results of the Random effect model and the Fixed effect model, respectively. The variables considered in table 5-3 are self-employment (SE_tot) as independent variable and Social Progress Index (SPI_ALL) and GDP per Capita at Purchasing Power Parity GDPC_PPP) as independent variables. The significance levels are denoted with a star (*) and varies from a star to 3 stars with increasing significance.

Table 5-3 Regression analysis of the main variables

VARIABLES	POLS	RE	FE
SPI_all	-0.189**	-0.157**	-0.175***
	(0.081)	(0.067)	(0.062)
lGDPC_PPP	-20.364***	-6.760***	-3.038**
	(1.328)	(1.187)	(1.188)
Constant	240.199***	128.679***	99.632***
	(9.661)	(9.714)	(9.360)
Observations	176	176	176
R-squared	0.711		0.123
Number of country id		39	39

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

A more comprehensive Pooled OLS regression is that shown in Table 5-4. These regressions especially in column 3 of Table 5-4 represents the various models adopted. However, interpretations are based on column 3 while other columns are preserved for comparative

instances. We have used the SPI dimensions this time around and have included some control variables alongside the GDPC_PPP as independent variables. Self-employment is our independent variable. The results reported in table 5-4 show that the relationship between the SPI dimensions and self-employment is statistically significant.

These relationships satisfy and verify the hypothesis H_1[1]. for the individual effect of these SPI dimensions on self-employment; the SPI_NEEDS has a significant and positive relationship with SE_tot. This implies that as the need for Nutrition and basic medical care, Water and Sanitation, Shelter, Personal Safety, which are the Basic Human Needs dimension's component increase, the more people are willing to be self-employed with every other factors remaining constant. On the other hand, Foundation of Wellbeing (SPI_FOUN) has an inverse relationship with self-employment, which is also very significant. Implying that an increase in Africa of Access to Basic Knowledge, Access to Information and Communication, Health and Wellness, and Environmental quality, which are the Foundations of Wellbeing dimension's components, will lead to a drop in self-employment in the region. This effect especially concerning environmental degradation and depletion of non-renewable natural resources has been well elaborated in Fioramonti (2013). A survey from 12 countries including some EU member's states also found it relevant to use
Health, social and environmental indicators along with economic measures in a nation's social development measurement (Davies, 2014). Lastly, regarding the effects of the SPI dimensions on self-employment, Opportunity (SPI_OPP) on as SPI_FOUN has a negative relationship with SE_tot. This relationship is less significant than the first two SPI dimensions. An increase in SPI_OPP components (Personal Right, Personal Freedom and choice, Tolerance and Inclusion, and Access to Advanced Education) in Africa will significantly decrease self-employment total in the region.

The other model used in this study (FE and RE) did not produced much significant results as shown in Table 5-4. While the Random effect model did not produce any significant result at all with the 03 SPI dimensions, the fixed effect model did produce significant result of the relationship between SPI_NEEDS and SE_tot and a more significant one between SPI_OPP and SE_tot.

Another set of results reported in the pooled OLS regression is seen in table 5-4 with unemployment rate (UNR_tot) having a negative and significant relationship with self-employment total (SE_tot). This shows that, all things being equal, an increase in unemployment will have a decreasing effect on self-employment. This might be because

of overall job shortages in the region including seasonal jobs. This finding is not aligned with those of Thurick et al. (2007) whose findings reveal that unemployment has a positive impact on self-employment rate and that self-employment on the other hand has a negative effect on unemployment rate. It is possible that rising unemployment rates are associated with reduced income, which may also reduce the chances of being self-employed. The results reported from the random effect model shows an insignificant relationship between UNR_tot and SE_tot but this relationship is positive and significant in the fixed effect model, which is the opposite of what is reported in the pooled OLS model.

Population total (POP_tot) has a positive and significant relationship with self-employment. The growing African population is therefor having an increasing effect on self-employment rate in the region. Tunio et al. (2017) considered the positive relationship between population growth rate and self-employment rate in developing countries to be motivated by economic problems in the region.

Inflation rate at consumer price index (INF_cpi) is found to have an insignificant relationship with self-employment from our pooled OLS regression results. However, there is a significant and negative relationship between INF_cpi and SE_tot as reported in the Random effect model and this significance is less expressed in the fixed effect model. At the same time population total and self-employment, initially having a positive and significant relationship in the pooled OLS regression is having the same type of relationship with the random effect but a negative and significant relationship with the fixed effect model.

Table 5-4 is a regression table that reports the results of the 3 models applied in this research work (POLS, RE, FE). The variables emphasized hereby include the independent variables, the dependent variable and the control variables mentioned earlier in this study.

Table 5-4 Regression table of all the variables

VARIABLES	POLS	RE	FE
SPI_NEEDS	0.448***	0.047	0.206**
	(0.109)	(0.091)	(0.092)
SPI_FOUN	-0.538***	-0.114	0.004
	(0.204)	(0.079)	(0.069)
SPI_OPP	-0.369**	-0.105	-0.209***
	(0.154)	(0.078)	(0.067)
lGDPC_PPP	-16.783***	-7.434***	-1.943
	(1.317)	(1.345)	(1.317)
UNR_tot	-0.897***	0.025	0.877***
	(0.221)	(0.199)	(0.194)
INFL_cpi	-0.166	-0.041**	-0.030*
	(0.133)	(0.020)	(0.016)
lPOP_tot	2.205**	3.021**	-5.889**
	(0.929)	(1.529)	(2.932)
OPEN	-0.026	0.015*	0.009
	(0.043)	(0.008)	(0.007)
Constant	193.274***	84.053***	166.996***
	(20.787)	(27.425)	(46.147)
Observations	157	157	157
R-squared	0.801		0.304
Number of country id		39	39

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

CHAPTER 6. CONCLUSION

6.1. Research Conclusion

This research work aimed at investigating a look beyond GDP by investigating the relationships between social-progress, and other covariates and the self-employment in Africa. Using data drawn from the Social Progress Index of the Social Progress Imperative team and World Development Indicators of World, the research used data between 2014 and 2019 inclusively. The Social Progress Index's dimensions through their equally weighed components revealed the importance of social welfare measures in enhancing policies and development at regional and country level in Africa in an employment perspective specifically, self-employment.

The pooled OLS regression reports a highly significant result of the relationship between the SPI's dimensions and self-employment rate in Africa. This result testifies the validity of the hypothesis H_1^1. the results are deemed consistent with the findings of Pate and Sweo (2016) in that the SPI provides a useful set of information through its 52 indicators (Porter, 2015 as cited in Pate & Sweo,2016) aiming at aiding policy maker and businesses in decision making and enhancing social development. The SPI has a negative and statistically significant relationship with self-employment on like GDP per capita. This results there for comfort our stand of complementarity between the SPI and GDP as each has useful indicators for development in Africa and beyond the continent. This view was also emphasized in the European Commission (2007) conference proceeding. The three dimensions of SPI have different relevant results and implications. While the Basic Human Needs dimension has a positive and significant relationship with self-employment, Foundation of wellbeing and Opportunity have a negative and significant relationship with self-employment. These findings reveal that if more efforts in Africa are oriented toward improving the components of the basic human needs, the region will be overwhelmed with improved standard of living and self-employment will increase thereby reducing the share of vulnerable employment and underemployment (UN, 2010). This increase will mostly be related to "opportunity" self-employment as the "necessity" view as seen in Field (2013) will be discarded at some point. Noting again that the majority of the self-employed in Africa are self-employed by necessity, our study suggests that if Africa can outperform on the SPI scores, self-employment by necessity (mostly underemployment and vulnerable employment) might drastically decrease creating more room for self-employment by opportunity as seen in developed countries. The flipped from the necessity self-employment to opportunity will be attributed to improved standards of living, health, and educational facilities. For instance, a country's policy aiming at attracting foreign companies in their effort to boost job opportunities might work toward improving its

access to advance education, which is an Opportunity dimension of the SPI while managing a pessimistic GDP per capita policy (wage policy). This source of information is welcome by oversea companies seeking a population with an advanced level of education with low wage rate (low GDP per capita). This combines policy however turn to have a decreasing effect on self-employment rate. The research also suggests that a government policy will to promote self-employment can do so by improving nutrition and basic medical care facilities and/or ameliorating the water and sanitation conditions of its citizens. This will have an increasing effect on their Basic Human Need dimension of SPI and if other determinants happened to be pretty much constant, will increase the pool of the self-employed. Institutional policies on the other hand aiming at improving personal rights, access to advanced education, and personal freedom and choices tend to ameliorate the opportunity dimension of the SPI and again might bring a contraction in the self-employment rate as people with higher education turn to prefer high paying jobs. This idea is also shared in the findings of Macieira (2009). We believe from these findings that an overall increase in the SPI score, a measure of social progress has a decreasing effect on self-employment in Africa and managing efficiently its dimensions can enhance development and back policies orientations and decisions making.

GDP per capita has an inverse and significant relationship with self-employment which condition satisfies our hypothesis H_0^1. This might explain why developing countries and Africa have the highest level of the self-employed. The wage rates in these regions are still incredibly low and the poverty level is very high as Africa is still considered the poorest region with no unemployment benefits nor social benefits. This might be why most people in Sub Sahara Africa are in self-employment.

Our findings also demonstrate an inverse relation between unemployment rate and self-employment, a positive relationship between population total and self-employment and an insignificant result between inflation rate and self-employment.

Since our study was a panel data analysis other models were also considered and the results of the random effect model was only significant for GDP per capita, inflation rate and population total. The first two had a negative relationship with self-employment in this model and population total had a positive relationship with the latter. On the other hand, the fixed effect model whose results were quite significant shows a negative relationship between population total and self-employment. Unemployment total in the fixed effect model also had a positive relationship with self-employment while the basic human need and Opportunity dimensions have maintained their stands as in the pooled OLS. This demonstrates that at individual country levels,

the effect might vary as different conditions might prevail. The interpretation can thus consider countries specificities.

6.2. Limitations and Future Research

The results of this study have reached our expectations. However, the study still has some limitations worth outlining.

Firstly, using the pooled OLS regression model can be compromising overtime as the errors turn to correlate with time and our observations were on a yearly basis.

Secondly, we have used an outcome-based method indicator of social progress (SPI) on our beyond GDP prospect. The data availability was limited as fewer as 5 years (2014-2019) have been published so far on the SPI scores. This limits our analysis timeline to 5 years. Nonetheless, not every country so far has been attributed a SPI score (only 39 countries in Africa has been ranked out of 54 with nine others partially ranked). This makes the study limited to data availability and to the few ranked countries. Thus, future research on this aspect will be more consistent as data availability is likely to increase and the SPI scores are being processed for further ranking thanks to the Social Progress Imperative team.

Thirdly, the SPI for data sourcing rely on external parties. If this external source lack some accuracy or experience missing data, so will do the SPI.

Finally, we entailed to look beyond GDP: Self-employment and Social Progress Index in Africa. Other studies on the SPI can on the one hand extend the view to developing countries in general to account for regional effects. On the other hand, future research work on this topic can emphasize on other proxies proper to the African context other than self-employment.

The literature on the SPI is still very embryonic. This might explain why our literature review on SPI was very limited. This research subscribes to adding to the literature review for further research work and provide useful insights for social progress development and decision-making.

6.3. Summary of the Contribution of the Study

This study aligns it self on the beyond GDP prospect with a sole look on the possible contribution of the social progress index in measuring individual social wellbeing through its effect on self-employment in an African context. Specifying this contribution without being exhaustive, the study has outline the following areas with regards to the fore mention objectives.

6.3.1 Scholars and organizations

The SPI is a new measure of social progress. A look at its indicators reveal a need of concern as it provides a pure social and environmental indicators-based measures with more than 51 indicators under computation for an overall state or country score. Researchers might find it very useful in evaluating social and environmental contributions not only in

promoting employment policies but also in assessing varying determinants of wellbeing. The result obtained in this research will be helpful in future reviews as it was one of our limits in the present study. This will equip future scholars and researchers with more insights of the possible contribution of the SPI in assessing individual wellbeing. We suggest future research work on the topic to make use of a more stretched period of analysis in the future to present more consistent results and also extend the work beyond Africa and the developing world. Using parameters other than self-employment might also extend the contribution of the SPI in assessing social progress thus enriching policy strategies.

6.3.2. Governments and policymakers

Adapting policies in Africa base on an outcome measure facilitates correction measures and contribute in new policy strategies. The social progress index is an outcome measure of socio-environmental indicators, which correspond to the current individual wellbeing assessment challenges facing both policymaker and institutions. Our results might bring more insights on the determinants of employment policy orientations in both the private and public sectors.

6.3.3. Business and porporations

The SPI provides a useful set of information aiding business deciders in search of favorable parameters in term of overseas investment and subsidiaries. A matrix with both low wage rate and good education facilities and a healthy population is usually a determinant factor for such corporations (Pate & Sweo, 2016). A good look at the SPI dimensions in such targeted countries is essential for decision making. This can also identify areas base on the dimensions scores for corporate social responsibility initiatives both for local and overseas companies.

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