T.C.
MARMARA ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
İKTİSAT ANABİLİM DALI
KALKINMA İKTİSADI VE İKTİSADİ BÜYÜME BİLİM DALI

EVALUATION OF THE IMPACT OF GLOBALIZATION ON INCOME INEQUALITY IN SUB-SAHARAN AFRICAN COUNTRIES FROM THE VIEW OF INSTITUTIONAL ECONOMICS

Yüksek Lisans Tezi

SYNE MAHMOUD ABDEL HAKIM NJOYA

İstanbul, 2019

T.C.
MARMARA ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
İKTİSAT ANABİLİM DALI
KALKINMA İKTİSADI VE İKTİSADİ BÜYÜME BİLİM DALI

EVALUATION OF THE IMPACT OF GLOBALIZATION ON INCOME INEQUALITY IN SUB-SAHARAN AFRICAN COUNTRIES FROM THE VIEW OF INSTITUTIONAL ECONOMICS

Yüksek Lisans Tezi

SYNE MAHMOUD ABDEL HAKIM NJOYA

Danışman : Dr. Öğr. Üyesi ERDEM TURGAN

İstanbul, 2019

T.C.
MARMARA ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRLÜĞÜ

TEZ ONAY BELGESİ

İKTİSAT Anabilim Dalı KALKINMA İKTİSADI VE İKTİSADİ BÜYÜME Bilim Dalı TEZLİ YÜKSEK LİSANS öğrencisi MAHMOUD ABDEL HAKİM NJOYA SYNE'nın SAHRA-ALTI AFRİKA ÜLKELERİNDE GELİR DAĞILIMI ADALETSİZLİĞİ ÜZERİNE KÜRESELLEŞMENİN ETKİSİNİN KURUMSAL İKTİSAT YÖNÜNDEN DEĞERLENDİRİLMESİ adlı tez çalışması, Enstitümüz Yönetim Kurulunun 22.08.2019 tarih ve 2019-27/11 sayılı kararıyla oluşturulan jüri tarafından oy birliği / ~~oy çokluğu~~ ile Yüksek Lisans Tezi olarak kabul edilmiştir.

Tez Savunma Tarihi 12/11/2019

Öğretim Üyesi Adı Soyadı			**İmzası**
1.	Tez Danışmanı	Dr. Öğr. Üyesi ERDEM TURGAN	
2.	Jüri Üyesi	Prof. Dr. NURDAN ASLAN	
3.	Jüri Üyesi	Dr. Öğr. Üyesi ERDİNÇ GÜLBAŞ	

GENERAL INFORMATION

Name and Surname : SYNE MAHMOUD ABDEL HAKIM NJOYA
Field : Economics
Programme : Development Economics and Economic Growth
Supervisor : Asst. Prof. Dr. ERDEM TURGAN
Degree Awarded and Date : Master – August 2019
Keywords : Income inequality, globalization, institutional economics

ABSTRACT

EVALUATION OF THE IMPACT OF GLOBALIZATION ON INCOME INEQUALITY IN SUB-SAHARAN AFRICAN COUNTRIES FROM THE VIEW OF INSTITUTIONAL ECONOMICS

Over the past decades, the exacerbation of income inequality has raised serious concerns and fuelled great controversies that have led to the analysis of the socio-economic mechanisms that generate these disparities. Since then, there has been a consensus that the rapid development of the globalization process since the 1980s has fostered a global increase in income inequality between and within countries. During this period, Sub-Saharan Africa was marked by strong integration into the world economy, economic growth without a catching-up process and an explosion in income inequality. However, the extent of these inequalities remains highly variable from one country to another, suggesting that the institutional framework specific to each country plays a decisive role in the distribution of income.

Thus, using data from a panel of 25 sub-Saharan African countries covering the period 1996-2015, this study aimed to analyze the dynamics of income inequality in the light of globalization and institutional economics. Evidence from the estimation of the fixed-effect model suggests that trade openness and economic growth reduce income inequality in countries with relatively good institutional quality and increase such inequalities in countries with low institutional quality. Besides, remittances improve income distribution and FDI accentuates inequalities in countries with relatively good institutional quality. While political globalization leads to a decrease in income inequality, in contrast, social globalization increases inequality in countries with relatively good institutional quality.

GENEL BİLGİLER

İsim ve Soyadı : SYNE MAHMOUD ABDEL HAKİM NJOYA
Anabilim Dalı : İktisat
Programı : Kalkınma İktisadı ve İktisadi Büyüme
Tez Danışmanı : Dr. Öğr. Üyesi ERDEM TURGAN

Tez Türü ve Tarihi : Yüksek Lisans – Ağustos 2019
Anahtar Kelimeler : Gelir dağılımı eşitsizliği, küreselleşme, kurumsal iktisat

ÖZET

SAHRA-ALTI AFRİKA ÜLKELERİNDE GELİR DAĞILIMI ADALETSİZLİĞİ ÜZERİNE KÜRESELLEŞMENİN ETKİSİNİN KURUMSAL İKTİSAT YÖNÜNDEN DEĞERLENDİRİLMESİ

Son yıllarda, gelir farklılıklarının giderek bir uçuruma dönüşmesinin sonucunda ortaya çıkan kaygılar ve tartışmalar gelir dağılımı bozukluğunun arkasında yatan sosyo-ekonomik mekanizmaların yeniden ele alınmasına yol açmıştır. Bu bağlamda, 1980'lerden bu yana küreselleşme sürecinin hızlı bir şekilde gelişmesinin, gerek ülkelerin kendi içinde gerekse de ülkeler arası düzeyde gelir dağılımı eşitsizliğinde genel bir artış sağladığı yönünde bir fikir birliği bulunmaktadır. Söz konusu dönemde, Sahra-Altı Afrika ülkeleri dünya ekonomisine güçlü bir entegrasyon, yakalama süreci sağlamayan ekonomik büyüme ve gelir eşitsizliği patlaması gibi özelliklerle karakterize edilmiştir. Bununla birlikte, bu eşitsizliklerin kapsamı bir ülkeden diğerine değişken kalmakta, bu da her ülkenin kurumsal yapısının gelir dağılımında belirleyici bir rol oynadığını göstermektedir.

Bu çalışma, 1996-2015 dönemi için toplam 25 Sahra-Altı Afrika ülkesini kapsayan panel verileri kullanarak küreselleşme ve kurumsal iktisat çerçevelerinde gelir dağılımı eşitsizliğinin dinamiklerini incelemeyi amaçlamıştır. Sabit etkiler modelinin tahmininden elde edilen sonuçlar, ticari açıklık ve ekonomik büyümenin kurumsal kalite düzeyi nispeten yüksek olan ülkelerde gelir eşitsizliğini azalttıklarını ve kurumsal kalitesi düşük olan ülkelerde artırdıklarını göstermektedir. Ayrıca göçmenlerin döviz transferleri gelir dağılımını iyileştirici bir etki meydana getirmekte, oysa doğrudan yabancı yatırımlar kurumsal kalitesi nispeten yüksek olan ülkelerde gelir eşitsizliğini artırmaktadır. Siyasi küreselleşme gelir eşitsizliğini azaltıcı bir etki yaratırken sosyal küreselleşme ise kurumsal kalite düzeyi nispeten yüksek ülkelerde gelir dağılımı eşitsizliğini artırıcı bir etki oluşturmaktadır.

TABLE OF CONTENTS

Page No.

LIST OF TABLES

Page No.

LIST OF FIGURES

Page No.

LIST OF ABBREVIATIONS

AREAER	Annual Report on Exchange Arrangements and Exchange Exchange Restrictions
CD	Cross-sectional Dependence
CPIA	Country Policy and Institutional Assessment
EFI	Economic Freedom Index
ERA	Economic Report on Africa
FDI	Foreign Direct Investment
GATT	General Agreement on Tariffs and Trade
GCI	Global Competitiveness Index
GCR	Global Competitiveness Report
GDP	Gross Domestic Product
GNI	Gross National Income
ILO	International Labor Organization
LIS	Luxembourg Income Study Database
NGO	Non-Governmental Organization
NIE	New Institutional Economics
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
SSA	Sub-Saharan Africa
SWIID	Standardized World Income Inequality Database
UNDP	United Nations Development Programme
UNU-WIDER	United Nations University-World Institute for Development Economics Reaserch
WIID	World Income Inequality Database
WIR	World Inequality Report
WTO	World Trade Organization

INTRODUCTION

Among all the problems that focus the attention of policy-makers, the issue of social inequalities is considered to be one of the most worrying. The debates on this issue very often revolve around income inequalities, wealth disparities, and job insecurity. While the issue of income inequality was of less concern to economists in the 1980s and 1990s, it becomes now a global concern at a core of economic debates **(Bourguignon, 2017; Stiglitz, 2012**). In fact, after almost two centuries of continuous increase in inequalities between the world's citizens following the industrial revolution, this process has slowed down and then reversed over the past thirty years. This break in the trend occurred as a result of a sharp decline in economic inequalities between countries since the 1990s. However, the renewed interest in inequality is explained by the general trend – during the last three decades – towards a widespread increase in wage and income inequality between and within countries. This increase in income disparities was exacerbated by the 2008 crisis, which halved wage increases, reduced social mobility through work and confined more and more people to low-wage jobs (**ILO, 2010**). According to the ILO report published in 2011, 80% of the world's population holds only 30% of the global wealth and 61 million people have as much income as 3.5 billion people in 2007. Moreover, in its report for 2016, the UNDP (**UNDP, 2017a**) reveals that only 1% of the global population holds 46% of the world's wealth. This observation of growing income disparities worldwide is confirmed by the recent report of the NGO Oxfam, which reveals that 82% of the wealth generated in 2017 ended up in the hands of the richest 1% of the world's population.

Although the persistence of income inequality in sub-Saharan Africa is not an isolated case, the rise in inequality in this region in comparison to the other parts of the world is of particular concern. This region, which is one of the poorest in the world, is also the one with significant income disparities between and within countries. In fact, sub-Saharan Africa is the second region in the world with the highest level of income inequality just after Latin America and the Caribbean (**IMF, 2016**). Moreover, despite significant economic performance over the past 25 years with strong GDP growth estimated at around

5%, poverty levels in Africa estimated at 41%, remain very high compared to those in other developing regions. Besides, although the region has experienced a moderate decline in its unweighted Gini coefficient from 0.47 to 0.43 between 1991 and 2011, it remains one of the least egalitarian, with 10 of the 19 most unequal countries in the world (**UNDP, 2017b**). The persistence of these income disparities hinders countries' economic development (**Thorbecke & Charumilind, 2002**) by posing a real threat to both peace and social cohesion (**Fajnzylber et al., 2002b, 2002a**) and political stability **(Alesina & Perotti, 1996**).

It is in the light of these perverse effects of income inequality that in September 2015 the reduction of poverty and inequality became essential among the Sustainable Development Goals by 2030. However, achieving decisive progress in reducing income inequality in sub-Saharan Africa requires a more in-depth analysis of these disparities, their trends, and their determinants.

The issue of the determinants of income inequality is theoretically related to the long-term dynamics of income and wealth distribution in capitalist economies. Together with growth, income distribution was the main concern of 19th-century economists. They postulated that inequalities are inherent in the capitalist production system and that there are no forces limiting inequalities and naturally leading societies back on the path of balanced growth. In effect, a minority of landowners (**Ricardo, 1817**) or capitalists (**Marx, 1867**) appropriate an ever-increasing share of the wealth produced so that no path of balanced growth is possible. It was not until the 20th century that a more optimistic consensus emerged on the dynamics of income inequality, particularly as a result of Kuznets' work (**1955**). Kuznets postulates the existence of an inverted U-shaped relationship between growth and inequality so that income inequality rises during the early phases of growth, then stabilizes and finally falls during the advanced stages of development. However, the rise in inequality since the 1970s and 1980s makes the assumption of the U-inverted Kuznets curve questionable and revives the theoretical controversy surrounding the dynamics of income inequality. In particular, over the past few

decades, income inequalities have increased in almost all countries but at different rates, suggesting that governance and institutional quality play a role in their evolution.

Moreover, from the perspective of developing countries, the evolution of the world economy in recent decades has been marked by three important stylized facts: an increasing integration into the world economy through accelerated trade liberalization; an economic growth without a catching-up process; and a general increase in income inequalities within countries. Given these stylized facts, one can question the relation between income inequalities, globalization, and institutions in sub-Saharan Africa.

This study, therefore, aims to empirically analyze the dynamics of income inequality in sub-Saharan Africa countries in the context of globalization and institutional economics. More precisely, the aim of this work is to assess the impact of globalization factors on the Gini coefficient by distinguishing countries with a relatively good quality of institutions from countries with a low quality of institutions. To this end, through an econometric panel model and, with reference to the empirical and theoretical literature, the study will test the hypothesis that globalization improves income distribution in countries with relatively good institutional quality and increases inequality in countries with low institutional quality.

Thus, the study is structured around four main chapters. The first chapter attempts to apprehend the phenomenon of globalization and its evolution, and presents the various indicators developed to measure it. The second chapter presents the concepts of income and income distribution while focusing on the notion of income inequality and its various measures. The third chapter reviews the concept of institution and the contribution of institutional economics to economic analysis. Finally, the fourth chapter is devoted to an empirical assessment of the relationship between globalization and income inequality, distinguishing the case of countries with relatively good institutional quality from those with low institutional quality.

1 GLOBALIZATION AND ITS CONCEPTS

As the dominant force at the end of the 20th century, globalization is shaping a new era of interaction between countries, economies, and individuals. It increases exchanges between individuals across borders, whether in the fields of economy, technology, culture or governance. It also splits production processes, labor markets, political entities, and societies. In this respect, globalization has both positive, innovative and dynamic aspects, as well as negative and disruptive aspects. The issue of the costs and benefits of globalization is at the heart of the debate between proponents of globalization and anti-globalization groups. The purpose of this study is to present the controversy surrounding the relationship between globalization and income inequality by reviewing the theoretical literature and the main empirical work on the issue. There are still profound differences over the consequences of globalization on the world's poorest people. While, on the one hand, some argue that globalization contributes to poverty reduction through the surplus growth it generates, on the contrary, some argue that it only further polarizes wealth without generating an overall increase in economic activity, thus leading to further marginalization of the poorest.

Before analyzing the various arguments, it is necessary to review the concepts of globalization, its evolution, its theoretical basis, its measures and its dynamics in sub-Saharan Africa

1.1 Definition and Historical Evolution of Globalization

The concept of globalization has been defined in a multitude of ways, highlighting the fact that it is a multifaceted concept. Globalization, is in fact, a complex, dynamic and multidimensional process that describes the variety of phenomena that reflect the increasing economic, social, environmental and political interdependence of countries. It should be noted that this phenomenon, which crystallizes attention and polarizes more and more interests, does not admit consensual and univocal definitions. From various points of view, globalization has been defined as, increased market integration and the diffusion of

technologies and ideas (**Friedman & Mandelbaum, 2011**), the reduction of the role of geographical constraints in social and cultural interactions (**Waters, 1995**), the increase in the importance of transnational corporations (**Beck, 2000**), and the erosion of nations' capacity to implement their own policies (**Thacker, 2008**). Emphasizing the notion of supra-territoriality as the main characteristic of globalization, **Scholte** (**2002**) defines globalization "as the spread of transplanetary - and in recent times more particularly supraterritorial - connections between people". This means removing barriers to cross-border contact, so that people are better able to interact more physically, legally and culturally in a world that has become unique. This notion of supra-territoriality and connectivity is found in **Giddens** (**1990**) for whom globalization refers to the "intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa". Globalization is therefore understood as a "reconfiguration of geography", a dynamic process of shrinking the distance that exists between national economies.

A distinction must also be made between globalization and related concepts in order to dispel the misunderstandings and confusion surrounding this phenomenon. According to **Scholte (2008)** and **Caselli (2012)**, although sometimes used interchangeably, there is a clear distinction between globalization and similar concepts such as internationalization, liberalization, universalization or westernization. Internationalization refers to the increase in transactions and interdependencies between countries. On the other hand, liberalization refers to the process of deregulation and the lifting of formal restrictions on the movement of resources between different countries. While universalization describes the process of diffusion and propagation of various objects and experiences to people everywhere on earth, Westernization is interpreted as a particular type of universalization in which the social structures of Western societies are promoted and propagated throughout the world. What distinguishes globalization from these concepts is its relationship to space. Thus, globalization is a supra-territorial or multi-continental concept as defined by **Clark (2000)** and **Norris (2000)** who argue that globalization refers to the process of creating networks of connections between actors at the intra- or inter-

continental level through various flows that include people, information, goods, and capital. It is a process that erodes national borders, promotes the integration of economies, cultures, technologies and governance, and produces complex interdependent relationships.

In any case, three driving forces have played a fundamental role in the globalization process: (i) the liberalization of capital flows and deregulation, including financial services; (ii) the further opening of markets to trade and investment, fostering increased international competition; and (iii) the central role that information and communication technologies have played in economic activity. In each of these cases, market forces and public policies have been major determinants of the changes that have occurred. It is also clear that multinational companies are at the core of the globalization process. As **Stiglitz (2003)** points out, globalization is strongly driven by transnational firms, which move not only capital and products but also technologies across borders. However, the internationalization of companies is not the only driver of globalization. Thus, the same author defines globalization as the closer integration of the countries and peoples of the world achieved through the considerable reduction of transport and communication costs on the one hand, and the destruction of artificial barriers to the cross-border movement of goods, services, capital, knowledge, and people on the other hand. **(Stiglitz, 2003).**

Nowadays, interactions between countries and individuals are deeper than ever. The increase and acceleration of the movement of people, goods, services, capital, technology, and information across national borders has given rise to an increasingly integrated global economy. This is one of the essential characteristics of globalization, which has laid the foundations for a world where interconnection and interdependence have never been stronger.

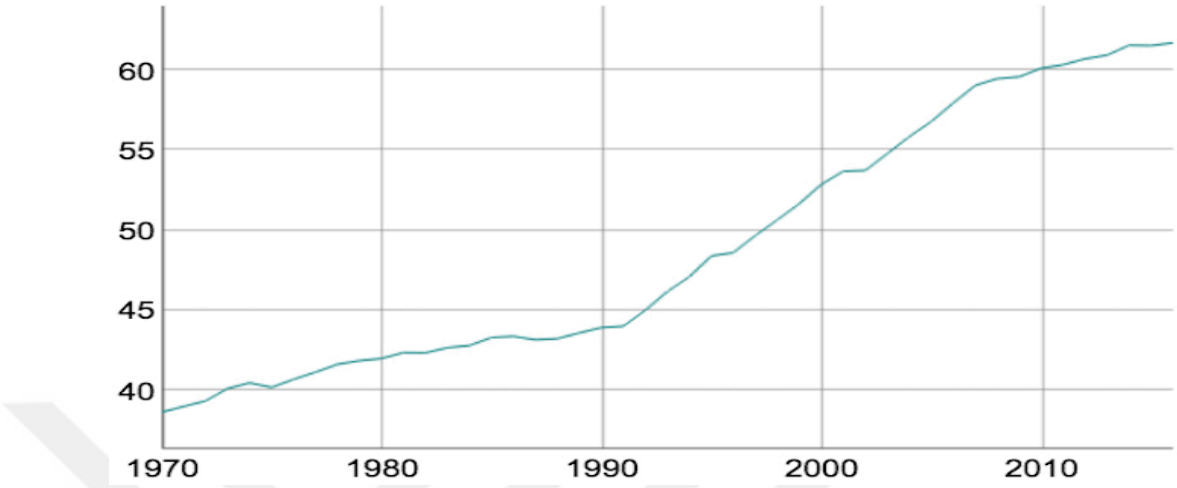

Figure 1-1 Evolution of Globalization measured with KOF index (1970-2016)

Source : KOF Swiss Economic Institute (2018)
http://www.kof.ethz.ch/globalization/, (15.08.2019)

To better grasp this phenomenon of globalization, it may be necessary to make a brief historical retrospective (**World Bank, 2002**). One must take a look back to 1870 to start observing significant international flows, both in commercial and financial terms and in terms of migration. This was the beginning of the first phase of globalization, which lasted until 1914. It was driven, on the one hand, by the sharp reduction in transport costs, particularly due to the development of trains and steamboats, and, on the other hand, by the negotiated reduction in customs tariffs. As the result, merchandise exports will double relative to world GDP to reach 8% of it, the stock of foreign capital in developing countries will increase from 9% to 32% of their GDP, and international labor flows will amount to about 10% of the world population. Per capita income growth is accelerating, but not enough to prevent a significant increase in the number of poor people. There is some convergence in per capita income among the countries most actively involved in world trade, which seems to be mainly due to massive migration flows. However, the gap between these countries and developing countries is widening, leading to a steady increase in global inequalities. This wave of economic integration ended with the Great Depression of 1929. Protectionism is therefore increasing and barriers to trade of all kinds are

multiplying, so that in 1950 world trade returned to its 1870 level, the stock of foreign capital in developing countries fell even more sharply to 4% of GDP, and flows of people followed the same trend. Meanwhile, the decline in per capita growth rates and the continued rise in inequality, combined with a high rate of population growth, led to a significant increase in the number of poor people, which was dangerously close to 1.4 billion people in 1950 (at the threshold of one dollar a day), while it had remained below 1.2 billion until 1914. Despite this increase in income poverty, this period has seen great progress in life expectancy, due in particular to progress in public health.

Around 1950, the second phase of globalization began and lasted until 1980. Economic integration is accelerating, especially among developed countries, as a result of the reduction in tariffs negotiated under the GATT and the constant reduction in transport costs: world trade is doubled relative to production. This was a prosperous period for rich countries that were experiencing high growth rates. The developing countries were also experiencing a marked upturn in economic activity, although they were not reaching the per capita growth rates of the rich countries. They are still excluded from this process of globalization: their exports are limited to commodities and the financial and migratory flows are not significant. The gap between rich and poor countries, therefore, continued to widen. The number of poor people fell sharply until 1970, then increased until the early 1980s when it almost returned to its 1950 level. Nevertheless, during this period there has been continuous progress in social and health indicators.

From 1980 onwards, the new wave of globalization began and is nowadays a matter of great concern. This new era of globalization is driven by continuous technological progress in transport, the rise of information and communication technologies, and by the negotiated reduction of customs barriers within the strengthened framework of the GATT, which established a dispute settlement body, and became the World Trade Organisation (WTO) in 1995. It is also stimulated by the political consensus, particularly in the international financial institutions, in favor of trade liberalization (**World Bank, 2002**).

One of the major forces of this globalization is the increasing internationalization of a number of multinational companies, especially Western ones, which are constantly expanding and multiplying their locations, mergers and acquisitions, and foreign investments. There is also an explosion in world trade, which has almost quadrupled since 1980 especially in manufactured products, whose share in exports from developing countries now exceeds 80%. However, these trade flows primarily affect developed countries, even if some developing countries are actively expanding their foreign trade. The same can be said for the polarization of financial flows, which have increased dramatically, especially since the early 1990s, in the case of developing countries: despite the 1997 financial crisis, net capital flows to developing countries tripled between 1990 and 2000. However, the number of poor people has evolved in different ways: it declined by about 200 million in the early 1980s to 1,183 million in 1987, then increased to 1,304 million in 1993, and finally declined again to 1,199 million in 1998, 1,100 million in 2000 and 1011 million in 2002 (**World Bank, 2000, 2002, 2003, 2005**).

This last phase of globalization is different from the previous ones, which should rather be called phases of internationalization. Indeed, internationalization only implies an intensification of international trade, and therefore specialization from one country to another, whereas the process under way since the early 1980s has been more conducive to competition between the various production and marketing sites on a global scale. Beyond the products themselves, it is the productive and social systems that are directly put in competition.

From an ideological point of view, globalization is seen as a new historical phase of capitalism reinvigorated by neoliberalism. This at least is the view defended by the Marxist current of thought. It is argued that capitalism is by nature an expansionist dynamic system focused on accumulation on a global scale. To survive, the capitalist system requires constant access to markets, new sources of labor, land and cheap raw materials. Thus, capitalism survives by expanding into the world's non-capitalist societies by introducing capitalist institutions, relationships, and productive forces into these regions

(**Foster, 2001**). This strong propensity for expansion led to periods of colonization and imperialism, which involved the conquest and domination by European powers of other peoples and societies. Thus, the 500 years of the process of expansion of capitalism marks the development of globalization whose current phase is distinguished from the others by its degree of qualitative and quantitative expansion. The first phase took place with the transition from feudal Europe to capitalism in the era of great discoveries and conquests symbolized by the discovery of America. The second is marked by the industrial revolution and the third by the emergence of multinational or corporate capitalism and the consolidation of a single international market with the great reinforcement of technological progress. Each phase is characterized by a distinct regulatory, organizational, institutional, and political structure that works to promote the expansion of the capitalist system outwards. Each capitalist system develops within itself a system of production through a particular form of relationship or social interaction called labor-capital relations or capitalist production relations. The outward expansion of capitalist production relations obeys a logic of domination that unfolds through the Marxist concept of ideology (**Eagleton, 1991**). In fact, any dominant social power that is conceptualized as a class, naturalizes and universalizes thoughts, beliefs, and values that are congenital to its interests. In this regard, **Marx and Engels (1845)** argue that:

« Generally speaking, big industry created everywhere the same relations between the classes of society, and thus destroyed the peculiar individuality of the various nationalities….While the bourgeoisie of each nation still retained separate national interests, big industry created a class, which in all nations has the same interest and within which nationality is already dead » (Marx & Engels, 1845, p.38)

Thus, by creating an international division of labor, internationalization tends to make the division of classes at the local and national levels less distinct and favors the emergence of a transnational capitalist class (**Howard, 1995**).

To sum up, the global capitalism, which is qualitatively emerging as a new political and economic order, is marked by an accelerated expansion of international trade, a rapid internationalization and growth of financial markets, a segmentation and internationalization of the production process and a reintegration of these components of the value chain into a transnational network of multinational corporations, investment and ownership linkages and business alliances, which lead to the emergence of a transnational dominant social class or transnational capitalist class (**Robinson, 2004**) that tends to universalize the thoughts and values inherent in its interests.

1.2 Measurement of Globalization

In recent years, the ever-increasing scale of the globalization phenomenon has raised concerns and questions about its impact on various crucial issues such as economic growth, poverty, the environment, economic integration and, above all, inequality. In order to better understand these effects and, more importantly, to grasp the evolution of globalization, its costs, and benefits, it is essential to develop methods and tools that can be used to accurately measure it.

At first glance, while several measures of globalization are provided, there is however no standard rule for measuring it. Two main reasons can be given: First, globalization is an extremely complex and diverse process. Hence, one can hardly construct an index that captures all its dimensions. Secondly, globalization is a broad and generic concept that allows for a multitude of different definitions, making it difficult to establish an unambiguous measure. Notwithstanding this, several indicators have been developed to explore this concept. A distinction is made between simple measures, one-dimensional measures and synthetic or composite indexes of globalization.

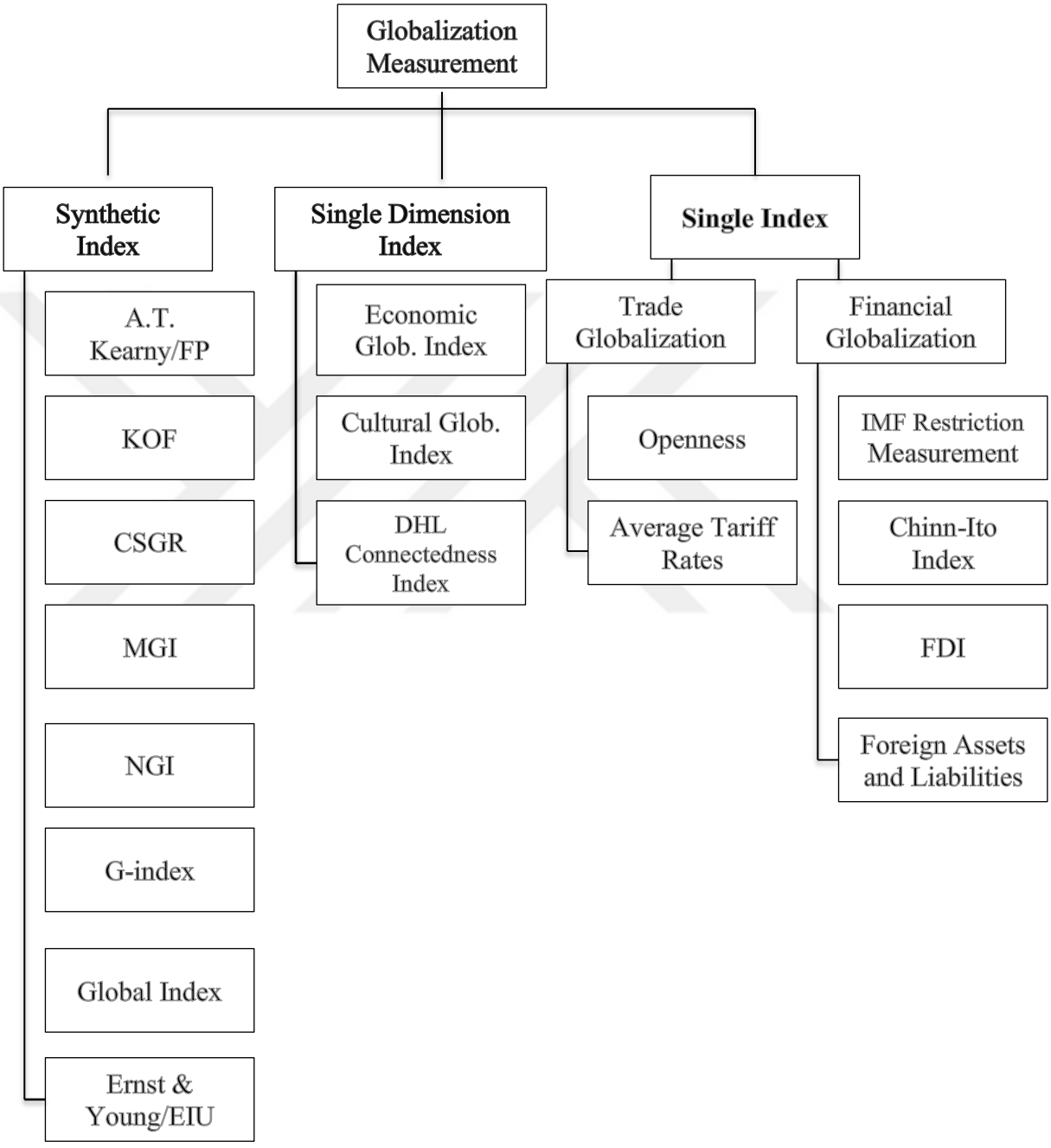

Figure 1-2 Overview of Globalization Measurement

Source : Concluded by the author pursuant to **Samimi, P., Lim, G.C, & Buang, A.A. (2012)**

1.2.1 Single indicators of globalization

The literature on globalization and its impacts has long focused on the economic dimension of the phenomenon. In this purely economic approach, the phenomenon of globalization is often captured by the degree of trade openness and financial liberalization.

1.2.1.1 Trade Openness

Trade openness as a measure of globalization is generally measured by the sum of imports and exports as a percentage of GDP. This measure has the advantage of being easy to calculate and available over a long period of time for several countries. In addition, openness is also grasped by the level of restriction placed on the movement of goods and services. This restriction generally concerns quantitative limitations (quotas) aimed at specifying a maximum quantity of a product that can be imported for a given period. It may also involve imposing a tariff on imports of goods and services. Following **Agénor (2004)** and **Jaumotte et al. (2008)**, the trade openness index in this approach is calculated by the formula below:

$$T = \sum_{i}^{n} \frac{M_i T_i}{M}$$

Where M_i and T_i represent the quantity imported of good i and the tariff rate respectively. M is the total quantity imported and n the number of goods and services.

It is worth noting that in the empirical work on trade openness, several other authors (**Jeffrey & Romer, 1999**) have developed other measures of trade openness that are preferred to the above-mentioned trade openness index. These include Trade Intensity (TI), Adjusted Trade Intensity (ATI) and Real Trade Intensity (RTI). However, the main criticism raised against these indexes is that they are essentially one-dimensional in their nature. Thus, to overcome this limitation, **Kadid (2015)** introduced the Composite Trade Intensity (CTI) based on trade intensity (TI) and Relative World Trade intensity (RWTI).

The latter index has the particularity of taking into account both the economic performance of the relative country and the volume of trade of the countries considered in the study.

$$TI_i = \frac{(X+M)_i}{GDP_i}$$

Where X and M represent exports, imports of country i respectively.

$$AT_i = \frac{M_i}{GDP_i} - \left(1 - \frac{GDP_i}{\sum_{i=1}^{k} GDP_i}\right)$$

$$RTI_i = \frac{(X+M)_i}{rGDP_i}$$

The r parameter allows to take into account the purchasing power of each country

$$RWTI_i = \frac{(X+M)_i}{\sum_{j=1}^{n}(X+M)_j} = \frac{(X+M)_i}{(X+M)_j + \sum_{j=1}^{n-1}(X+M)_j}$$

Where, $RWTI_i \in [0 \;\; 0.5]$ **(Kadid, 2015)**

$$Cti_{it} = nRWT_{it} \,.\, T_{it}$$

$$Cti_{it} = \frac{n(X+M)_{it}^{2}}{GDP_{it}\sum_{j=1}^{n}(X+M)_{jt}}$$

1.2.1.2 Financial liberalization

Financial liberalization is usually considered an important indicator of globalization. Most of the empirical works on globalization measure financial liberalization by the volume of FDI in nominal terms or as a percentage of GDP. There is another more direct measure based on the estimated gross stock of foreign assets and liabilities as a proportion of GDP. These two measures capture *de facto* financial openness in the form of effective capital movements. Conversely, there are *de jure* measures such as the Chinn-Ito index, which instead considers restrictions on capital movements to capture financial liberalization.

1.2.1.2.1 The Chinn-Ito and Quinn indexes of financial liberalization

The Chinn-Ito or KAOPEN index **(Chinn & Ito, 2008)** is the most commonly used indicator in recent empirical studies to measure the degree of financial openness or restriction to international financial transactions. This index estimates the *de jure* degree of financial openness of economies based on the disaggregated measures of capital and current account restrictions described in the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). The advantage of the KAOPEN variable lies in the fact that it gives a fairly clear idea of the intensity of financial liberalization and is available for 182 countries for the period from 1970 to 2016. This indicator, which is basically constructed using the principal component analysis method, ranges from -1.91 to +2.36 (for the 2016 version) or from 0 to 1 when normalized, with higher values indicating greater openness – that is, the higher its value, the more liberalized is the capital account.

Quinn (1997) also developed an index based on the AREAER database to capture the intensity of restrictions on capital movements (and not its existence or not as is the case with the IMF index). The Quinn index ranges from 0 to 4 with 4 representing a low level of restriction or similarly a high degree of financial liberalization. This index was updated in 2011 by **Quinn, Schindler, and Toyoda (2011)**.

A summary of the limitations of these indicators and other AREAER-based measures is provided in Kose et al. (2006). First, the AREAER focuses on restrictions

associated with foreign exchange transactions and does not necessarily reflect the real degree of capital account liberalization. Also, as a *de jure*[1] measure, this indicator does not take into account the degree of enforcement of capital control policies, as they may change over time. Moreover, some regulations that are not identified as restrictions may act in this way. This can be the case, for instance, with prudential regulations limiting the exposure of domestic banks to foreign exchange risk.

To overcome the shortcomings of the Chinn-Ito and Quinn indexes as a *de jure* measure of financial openness, **Lane and Milesi-Ferretti (2007)** developed a *de facto*[2] measure of financial liberalization. This index is defined as the sum of a country's total stock of foreign assets and liabilities as a percentage of GDP.

$$LMFindex = \frac{AE_{it} + EE_{it}}{GDP_{it}}$$

Where, AE_{it} represents the stock of foreign assets comprising the sum of portfolio investments and direct investments held by the country abroad and EE_{it}, the stock of foreign assets consisting of the sum of portfolio investment and direct investment held by foreigners in the country.

This index has the advantage of providing a relatively accurate picture of the expansion of international capital flows since the early 1970s for 188 countries.

1.2.2 Single-dimensional globalization indexes

The aforementioned simple indicators for measuring globalization do not provide relevant information on the extent of this highly complex phenomenon. In an attempt to provide alternatives to these measures based on trade openness and financial liberalization, several indicators have been developed to capture the specific dimensions of globalization, which are mainly economic, cultural, political, social and, to some extent, environmental.

1.2.2.1 Economic Globalization index

Globalization is very often reduced to its economic aspects. This is observed through the existence of a plethora of measures of globalization that focus exclusively on the economic component, but also through the preponderance of the economic dimension in the computation of synthetic or multidimensional globalization indexes. In this respect, **Andersen and Herbertsson (2003)** developed an index of economic globalization to capture the level of international transactions and the degree of integration of goods and capital markets based on 9 indicators[3]. These indicators are combined through multivariate factor analysis to extract a main factor representing the globalization index. The index is thus calculated for a set of 23 OECD countries and covers the period 1979-2000.

1.2.2.2 Cultural globalization index

The spread of cultures is undoubtedly one of the main channels through which globalization is realized. However, out of all the dimensions of globalization, the cultural dimension is the most difficult to grasp. Hence, **Kluver and Fu (2004)** have developed an instrument to measure cultural globalization through the diffusion of values and norms around the world. The idea underpinning this measure stems from the fact that the transmission of cultural values is strongly related to trade and the international flow of media-related goods, cultural goods and services such as films, television series, music and other works of art around the world. More precisely, Kluver and Fu postulate that four main media categories provide a relevant understanding of cultural globalization. These include cinematic films, television programming, print publications, and foreign satellite channels. However, due to the unavailability of data, Kluver and Fu retained only two indicators for the construction of the index: the per capita value of the exports and imports of print media goods and the per capita number of imported films.

1.2.2.3 DHL connectedness index

The DHL Connectedness Index or Global Connectedness Index proposed by **Ghemawat and Altman (2016)** is the most recent instrument for measuring globalization. This index, emphasizing the importance of networks in the integration process, conceptualizes globalization as a concentration of cross-border relations. In this respect, countries with a low number of international connections are assigned a low level of globalization compared to countries with connections to a large number of different countries.

Focusing on connectivity as a measure of globalization, the DHL index covers international flows of goods and services, capital, information and people and measures the depth and breadth[4] of a country's integration with the rest of the world under the various dimensions of globalization. The DHL index is calculated from a total of 12 indicators and covers the period 2005-2015 for a total of 140 countries.

To sum up, both single indicators and unidimensional indexes only partially reflect such a complex phenomenon as globalization, as the impact of political and social integration is underestimated by focusing only on the economic components. A good alternative is provided by composite indexes, which make it possible to empirically and effectively capture the scale and effects of globalization by combining its economic, social, political and even environmental components.

1.2.3 Synthetic or composite globalization indexes

The multidimensional nature of globalization has prompted the development of composite indicators to take into account all the important dimensions of the phenomenon. Several instruments have thus been proposed in an attempt to capture the extent of the phenomenon through a single or synthetic value. Most of the observed contrasts between the various measures are the result of the unavailability of some data and the aggregation technique or methodological approach.

1.2.3.1 The A.T-Kearny/Foreign Policy Globalization Index (AT-Kearny/FP)

The A.T-Kearny/FP index published since 2001 by Foreign Policy Magazine is one of the very first composite indices of globalization that provides a coherent multidimensional analytical framework that will serve as a template for subsequent measures of globalization. It is calculated for 72 countries for a period from 2001 to 2016 and measures globalization from four main dimensions, each comprising two or more sub-dimensions. These include economic integration, personal contact, technological connectivity, and political engagement. The subdivisions of each dimension, which form an indicator constructed from one or more variables, are normalized on a scale from 0 to 1 with 1 being the highest value recorded for a country in a given year. Weights are then assigned to each indicator based on theoretical considerations and the importance of each dimension in the globalization process. The final measure is obtained by aggregating the indices of each indicator into a synthetic index. Emphasis should be placed on the predominant value attributed to economic indicators as regards their weight, which represents 50% of the value of the final index.

1.2.3.2 The Globalization Index (G-index)

The G-index is with A.T-Kearny/FP index one of the very first instruments built in an attempt to capture the complexity of the phenomenon of globalization. Developed by the WMRC-World Markets Research Centre (**Randolph, J., 2001**), the G-Index is based on six indicators aggregated into two dimensions by which economic interdependence can be grasped. The first dimension referred to as "old economy", includes three indicators (International Trade, Foreign Direct Investment, Private Capital Flow) and accounts for 70% of the weight of the composite index, thus conferring on it a significant economic aspect. Conversely, the second dimension, termed "New economy", represents 30% of the overall index and includes variables related to the flow of services, information and communications. However, it should be noted that details are not provided on the weighting method of the indicators, the reference year of the calculation and the procedure for

aggregating and normalizing the index. In any event, the index was calculated and published only once for a total of 185 countries.

1.2.3.3 The KOF Index of Globalization

First published in 2002 before being modified in 2008 and updated in 2010 (**Dreher, 2002, 2006; Dreher, Gaston, & Martens, 2008)**, the KOF Globalization Index was designed by Axel Dreher of the KOF Swiss Economic Institute and is considered the most widely used index in the globalization literature (**Potrafke, 2015**). The index is based on the analytical framework proposed by the A.T. index. Kearny /FPG while making changes that are in line with the structure of the CSGR index. The KOF index is initially constructed from 23 indicators that are structured around three main dimensions of globalization, that is, economic, political and social globalization, which are divided into several sub-dimensions. The economic dimension is divided into two subdivisions, the first dealing with economic flows and the second with restrictions imposed on these flows. The three major sub-dimensions of social globalization are interpersonal contacts, information flows and cultural aspects of globalization, in contrast to political globalization, which does not include any subdivisions. Each indicator ranges from 0 to 100 with 100 indicating the maximum value recorded over a given period and 0 the minimum value. The final index is obtained by aggregating the different indicators after weighting. The weights are assigned to the different dimensions and sub-dimensions by using the statistical method of the principal component analysis.

The KOF index was updated for a second time in 2018 **(Gygli, Haelg, Potrafke, & Sturm, 2019)**. This revision introduced three major changes: First, a distinction is made between *de facto* and *de jure* measures for all dimensions of globalization, and second, the economic dimension of globalization is subdivided into financial globalization and trade globalization. In addition, this latest version uses a time-varying weighting technique to allocate weights to dimensions and sub-dimensions. Finally, by integrating new variables and replacing some of the variables in the 2007 version, the new index is constructed from

43 variables (instead of 23 in the previous version). It is updated annually and available for 203 countries and territories over the period 1970-2016.

1.2.3.4 The CSGR Globalization index

Developed by **Lockwood and Redoano (2005)** at the Centre for the Study of Globalization and Regionalisation of the University of Warwick (UK), the CSGR index measures globalization based on a total of 16 indicators grouped around the three main dimensions of globalization, notably economic, social and political globalization. The value of each indicator is normalized on a scale ranging from 0 to 1 with 1 indicating the maximum value and 0 the minimum value. Lockwood and Redoane (2005) use the statistical method based on principal component analysis to assign weights to each indicator. The resulting 3 sub-indexes are then aggregated to obtain the final synthetic index. The CSGR index is computed for 119 countries over the period 1982-2004. However, the political globalization sub-index is available for 189 countries and the economic and social globalization sub-indexes are available for 134 countries as a result of the unavailability of data.

1.2.3.5 The Maastricht Globalization index (MGI)

The Maastricht Globalization index was developed with the idea of introducing changes to improve the AT Kearny/FP index, hence its original description as the Modified Globalization Index. This index was constructed by **Martens, Zywiets, and Raza (2006, 2008, 2010)** and ranges from 0 to 100 with 100 indicating the highest level of globalization. The index is obtained by aggregating 11 indicators under the five major dimensions of globalization, that is, economic, political, socio-cultural, technological and ecological globalization. The particularity of the MGI index of globalization lies in the fact that it takes into account the environmental dimension through the ecological footprint of imports and exports and also introduces a variable into the political dimension that helps to capture arms trade. The MGI is computed for 117 countries and published in 2000, 2008 and 2012.

1.2.3.6 The Global Index

The Global Index developed by **Raab et al. (2008)** is an index of globalization that covers the economic, socio-technical, cultural, and political dimensions of the phenomenon. It introduces the sociological dimension into the measurement of globalization and extends the cultural dimension by incorporating variables that reflect the convergence of norms and values at the international level. Indeed, the Global Index attempts to improve existing globalization indices such as the AT.Kearny/FPG index, the CSRG index, and the KOF index by incorporating into the measurement of globalization the sociological aspect not addressed by the previous indexes. Thus, the Global Index reconsiders the analytical framework as well as the structure of the KOF index and expands it by integrating variables related to socio-technical interconnection. The index is constructed from a total of 31 indicators and computed for the period 1970-2002 for a total of 97 countries. These indicators are first normalized on a scale from 0 to 10 (with 0 and 10 respectively the minimum and maximum value recorded by a variable during the period considered.), then weighted using the principal component analysis method and finally aggregated to obtain the synthetic index.

1.2.3.7 Ernst & Young/EIU Globalization index

In 2009, Ernst and Young group in collaboration with the Economist Intelligence Unit (EIU) proposed a multidimensional index in an attempt to measure the phenomenon of globalization. Although the economic aspect of globalization is predominant in their index, it allows us to grasp the complexity of the phenomenon of globalization through 20 indicators grouped into five main dimensions: the international flow of goods and services, the movement of capital and finance, the exchange of technologies and ideas, the movement of labor and cultural integration. The Ernst & Young/EIU index is obtained by aggregating these indicators after their weighting according to the judgments of a panel of senior executives of companies operating at the international level. The index is calculated for 60 countries and covers the period from 1995 to 2016 (**Ernst & Young, 2012**).

1.2.3.8 The New Globalization index (NGI)

The NGI is a composite index of globalization composed of 21 variables that capture the multidimensional nature of the phenomenon of globalization, which cannot be grasped within the narrow sphere of economic indicators alone. Compared to other globalization indices, the NGI introduces three major innovations in measuring the phenomenon of globalization. First, it includes five new variables that have so far not been taken into account in the calculation of globalization indices. Second, it draws a distinction between globalization and regional integration by incorporating into the trade variable of the index a parameter that reflects the geographical distances between countries. The latest innovation is of a methodological nature. Indeed, the NGI uses the statistical method of Principal Component Analysis (PCA) to construct sub-indexes in accordance with the statistical characteristics of the variable's structure. The overall index covers 70 countries over the period 1995-2005 (**Vujakovic, 2010**).

Table 1-1

A Comparison of the Main Globalization Indices

Criteria													
Index	Years	Number of Countries	Number of Indicators	Economic Globalization				Social Globalization		Political Dimension	Negligible Weight to Indicators	Geographical Adjustment	Environment
				Actual Flow		Actual Flow of Trade	Restriction on Trade and Capital						
				Foreign Capital	FDI			Culture	Information and Contact				
AT.Kearny/FP	2002-2007	62	14	✖	✔	✔	✖	✖	✔	✔	✔	✖	✖
KOF	1970-2016	203	43	✔	✔	✔	✔	✔	✔	✔	✖	✖	✖
CSGR	1982-2004	119	16	✔	✔	✔	✖	✖	✔	✔	✔	✔	✖

MGI	2000-2008-2012	117	11	✔	✔	✔	✖	✖	✔	✖	Same weight	✔	✔
NGI	1995-2005	70	21	✔	✔	✔	✖	✔	✔	✔	✖	✔	✖
G-Index	2001	185	6	✔	✔	✔	✖	✖	✔	✖	✖	✖	✖
Global Index	1970-2002	97	31	✔	✔	✔	✔	✔	✔	✔	✖	✖	✖
Ernst & Young Index	1995-2016	60	20	✔	✔	✔	✔	✔	✔	✖	✔	✖	✖

Source : Generated by the author under **Samimi et al. (2012)**

To summarize, the wide variety of globalization indices proceeds from the multitude of definitions and the complexity of the phenomenon. In this respect, the various measures must be regarded as complementary and not as contradictory, because each of the measures alone cannot exhaustively capture the phenomenon but only allows one or more of its aspects to be apprehended (**Caselli, 2012**). Thus, to measure such a complex phenomenon as globalization, the index must be as complete as possible in an attempt to take into account the most essential dimensions of the phenomenon. More specifically, it must be able to provide more relevant information than could be obtained from a simple indicator (**Dreher et al., 2008**). In this regard, Dreher et al (2008) proposed a number of criteria for an optimal composite index of globalization. These include the criteria of suitability and reliability, the criterion related to the added value of the index and the criterion of transparency. Hence, the relevance of an index is related to its ability to effectively capture the phenomenon of globalization and not its related concepts such as internationalization, regionalization, integration or westernization. The index reliability criterion refers to the degree of sensitivity of the index to the year-on-year change in its component variables, but also the relevance of the methods used in the computation. In addition, the index should provide additional information that can help to better understand the process of globalization. Finally, under the transparency criterion, the index has to be clearly defined and the methodology should be precisely specified. It must be able to be replicated and recalculated on the basis of the scientific literature and available data.

Table 1-2

Globalization Indices: Comparison and Criteria for Optimal Indice

Category	Subcategory	WRMC (Randolp, 2001)	ATK (Kearney, 2007)	MGI (Martnes and Raz, 2009)	KOF (Dreher, 2006)
Suitability	Used definition of globalisation	Very narrow, only economic	Average	Very broad	Very narrow
	Differentiation of globalisation and internationalisation	No differentiation	No differentiation	No differentiation	No differentiatic
	Type of changes assessed	Prolixity, intensity	Prolixity, intensity	Prolixity, intensity	Prolixity, intensity
	Geographical aspect	Not available	Not available	Available	Not availabl
	Scope	185 countries	72 countries	117 countries	122 countrie
	Correlation with economic development	Low	High	High	High
Reliability	Sensitivity to extreme values	Method unpublished	High	Low	Low
	Sensitivity to the variations of different years	Very high (the use of highly fluctuating indicators)	High (some indicators of lower fluctuation)	Low (calculated average of fluctuating indicators)	High (some indicators o lower fluctuation)
	Method according to which the value is provided	A priori, with normative considerations	A priori, with normative considerations	Equal values	The analysis of main components
	Distortion of value	Method unpublished	Low distortion	No distortion	Low distortion
Additional value	Correlation inside the component	High	Low	Partly	Partly
	Correlation among the components	Unpublished	Unpublished	Average	Average
Transparency	Transparency of methodology	Average	High	High	High
	Data publication	Partly	Yes	Yes	Yes

Source: Dreher, A., Gaston, N., Martens, P. (2008).

1.3 Dynamics of Globalization in Sub-Saharan Africa: Some Stylized Facts

The emergence and rise of globalization during the 1980s was perceived by many scholars as the advent of the era of liberation **(Bauman, 1998; Fukuyama, 1992; Strange, 1996**). These authors argue that globalization has brought effective solutions to the crisis of post-war Fordist society by deconstructing the rigid system of interventionism and re-establishing the system of individual emancipation **(Giddens, 2000; Micklethwait & Wooldridge, 2000**). By contrast, in the view of many other authors, the emergence of globalization has led to social polarization and marginalization, increased environmental degradation and the socio-economic gap between North and South on the one hand and within countries on the other hand. Thus, as globalization increases, sub-Saharan Africa, which is one of the poorest regions in the world, experiences increasing integration into the world economy, increasing mobility of its populations accompanied by growth without a catching-up process and a general rise in income inequality.

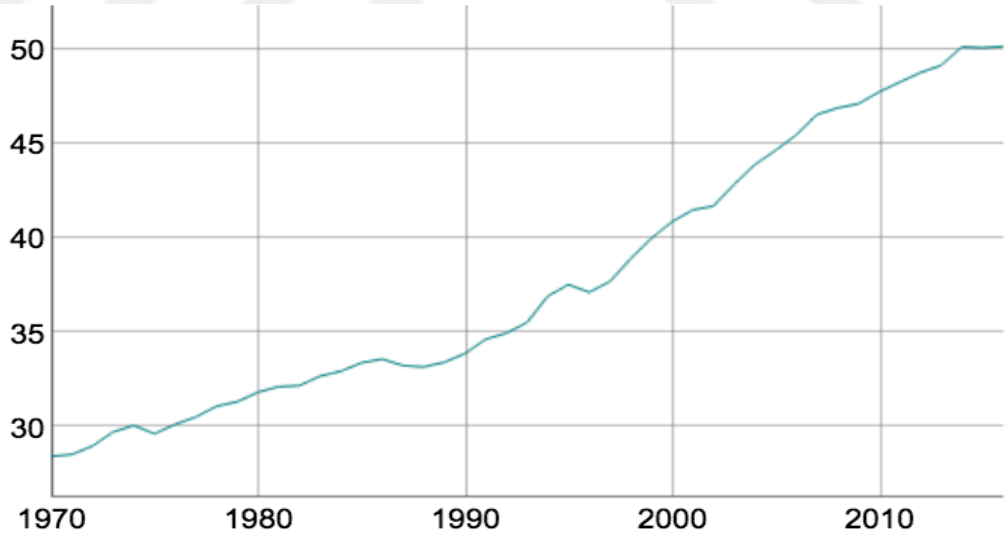

Figure 1-3 Evolution of Globalization in SSA measured by the KOF index (1970-2016)

Source : KOF Swiss Economic Institute (2018)
http://www.kof.ethz.ch/globalization/, (15.08.2019)

Table 1-3

Classification of the 10 most globalized SSA countries based on the overall KOF index and its sub-indexes (2016)

	Overall Index		**Economic Globalization**		**Social Globalization**		**Political Globalization**	
Rank	Country	Index	Country	Index	Country	Index	Country	Index
1	Mauritius	71,74	Mauritius	82,15	Mauritius	76,65	S.Africa	88,06
2	S. Africa	69,89	Seychelles	77,08	Seychelles	70,64	Nigeria	86,41
3	Seychelles	62,19	Eq.Guinea	61,70	S.Africa	66,28	Senegal	83,67
4	Senegal	61,51	Mozambiqu	61,60	Botswana	65,51	Ghana	81,00
5	Ghana	61,03	Djibouti	60,72	CapeVerde	61,60	Kenya	80,74
6	Namibia	59,91	Botswana	58,17	Namibia	61,41	Ethiopia	78,06
7	Zambia	56,62	Liberia	57,60	Gabon	57,71	Tanzania	77,31
8	Botswana	56,22	S. Africa	55,34	Senegal	51,02	Cameroon	74,11
9	Gabon	55,65	Namibia	54,61	Ghana	50,67	Burk.Faso	72,96
10	Kenya	55,20	Lesotho	54,14	Swaziland	50,26	Cote d'Ivr	72,23

Source : Generated by the author using data from : **Source** : KOF Swiss Economic Institute (2018) http://www.kof.ethz.ch/globalization/, (15.08.2019)

1.3.1 Strong integration into the global economy

The globalization process started to take shape in sub-Saharan Africa in the 1980s as a result of the structural adjustment programs launched by the Bretton Woods institutions in the wake of the Washington consensus. This program aimed at promoting fiscal austerity, privatization and, above all, liberalization in developing economies. The resulting policies have led to an increase in poverty in sub-Saharan Africa, poor economic performance characterized by low economic growth and widespread unemployment, which have challenged governments to find solutions (**Stiglitz, 2003**). In this context, Africa has strongly integrated into the world economy through the production and export of low value-added primary products. These products, which mainly consist of agriculture, mining and petroleum resources, represent on average 80% of African exports (**ERA, 2010**). However, despite its high level of integration, Africa does not account for a significant position in the global economic system. In fact, Africa's share of global exports of goods, which represented only 3.5% of total world trade in goods, fell to 2.4% in 2015 (**ERA, 2017**)[5] and its exports of services, estimated at an average of $17.5 billion annually (**ERA, 2010**), represent on average only 2.2% of world trade in services for the period 2010-2015 **(ERA, 2017**). This poor performance is related to a poorly diversified export structure based mainly on primary products[6] but also to a low diversification of its commercial partners. Africa's strong integration coupled with its limited size and influence in the world economy negatively affects its ability to generate sufficient financial resources from international trade owing to the chronic deterioration of the terms of trade but also exacerbates its vulnerability to world economic crises in because of its dependence on raw material exports. In this respect, the slowdown of economic activity in developed countries as a result of an economic crisis causes the collapse of demand for export goods, which in turn leads to a sharp decline in the prices of primary products from Africa. The shock-wave of this fall in prices goes beyond the export sector and spreads to other sectors of the economy, leading to an upsurge in unemployment and poverty (**Gekonge, 2013**).

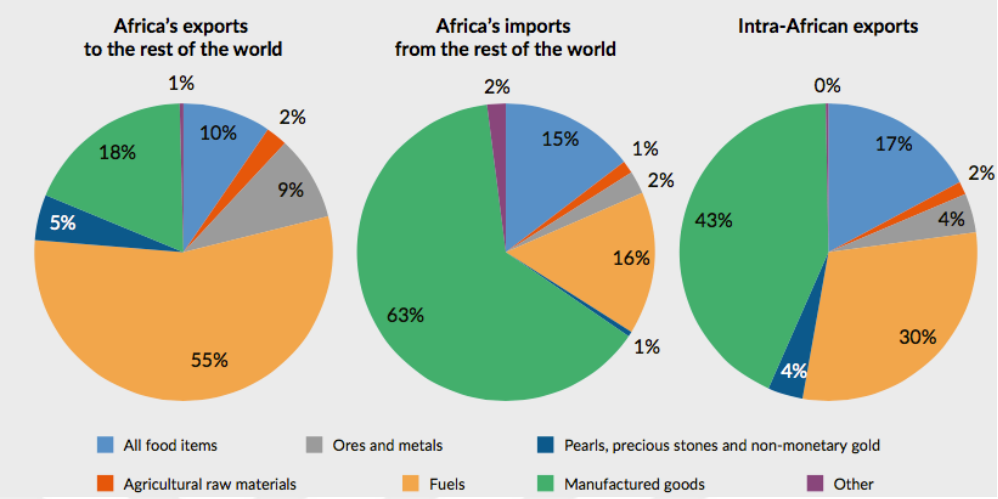

Figure 1-4 Composition of Africa's trade by main sector, 2010-2015 average

Source : Economic Report on Africa (2017)

1.3.2 Growth without convergence processes

Economic growth in Africa as a whole has improved since 2000, boosted by exceptional global growth that has driven demand and prices for exported raw materials, but also as a result of new private investment in the extractive sectors. Africa experienced a remarkable recovery with a growth rate of 3.6% in 2010 after a contraction of 2.1% due to the 2009 economic crisis (**ERA, 2011**). Economic growth in Africa then fell by more than half, going from 5.7% in 2012 to 3.7% in 2015 and then to 1.7% in 2016 as a result of global economic gloom and falling oil and primary product prices (**ERA, 2014, 2017**).

In contrast, after a period of rapid growth marked by relatively high commodity prices and intensified trade relations, sub-Saharan Africa has experienced a decline in the average GDP growth rate to below 5% since 2015 and has grown at a rate of 3.4% in 2018 (**GCR, 2018**). However, although this growth remains strong and above the global average, it is not enough to eradicate poverty and trigger the process of catching up with developed countries. Indeed, there is still a considerable gap between developed countries (including some emerging countries) and sub-Saharan African countries still stuck in the " poverty trap ".

The most striking indicator of this phenomenon, described by **Pritchett (1997)** as "big time divergence", is the substantial widening of the income gap between the richest and poorest countries in the world. Overall, the hypothesis that the per capita income of poor countries grows faster than that of rich countries (because poorer countries can import capital and new technologies from more advanced countries, thus taking advantage of their economic backwardness), the so-called absolute convergence or ß-convergence hypothesis, is not empirically verified. According to Pritchett, who considers this phenomenon of divergence to be probably the most important feature of modern economic history, the ratio of per capita income between the world's richest and poorest countries has increased sixfold over the past half-century. The **World Bank (2000)** also reveals that the average income in the top 20 richest countries is 37 times higher than the average income in the bottom 20 countries, and this ratio has doubled since 1960.

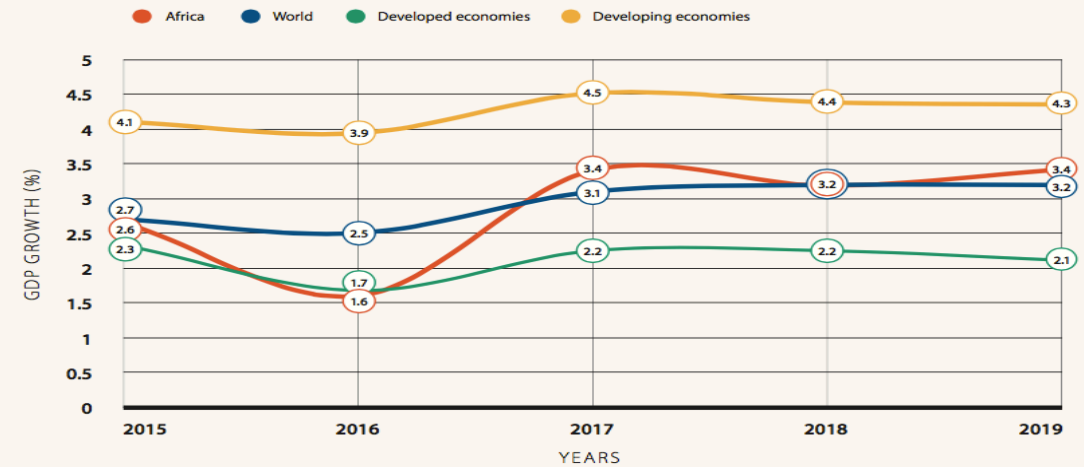

Figure 1-5 Global Economic Growth, 2015-2019

Source : Economic Report on Africa, 2019.

1.3.3 Weak competitiveness in the global economy

Globalization has exacerbated the growing concern of economies to improve their productivity in order to derive the greatest benefit from comparative advantage in a context of trade openness and competitiveness. Competitiveness refers to a set of institutions,

policies and factors that determine a country's level of productivity and therefore enable it to produce quality goods and services at low cost and ensure long-term economic growth.

The World Economic Forum has been publishing since 1998 a report that assesses competitiveness across the world's economies and explores a wide range of factors that influence their productivity through the Global Competitiveness Index (GCI). This index ranks the majority of African countries among the least competitive in the world and indicates that, despite 15 years of strong growth, Africa's overall competitiveness keeps stagnating. In many respects, the reasons for Africa's poor competitiveness are the same as those highlighted since the first publication of the report in 1998. These include institutional vulnerability, persistent infrastructure deficit (explored in detail in the 2013 edition of the Report), and insufficient level of health and education indicators, which constitute a major obstacle to harnessing the vast potential of its human resources.

When we examine the global competitiveness index estimated in the latest report of The World Economic Forum (2018), it is obvious that sub-Saharan Africa remains the least competitive region with a score of 46.2 and has the lowest regional performance on 10 of the 12 indicators in the index. Moreover, no country in sub-Saharan Africa is in the upper range (80 to 100 points) corresponding to the high level of global competitiveness. Only two countries, Mauritius and South Africa, have achieved a notable score and are relatively well-ranked in the classification of the most competitive countries in the world. However, although this relative performance reflects the considerable effort made by these two countries to achieve this level of competitiveness, the comparison with advanced countries reveals that these countries still have a significant scope for improving their productivity in the context of high global competitiveness. In fact, Mauritius, which is the most competitive country in Africa with an index of 63.7, ranks only 49th among the most competitive countries, and South Africa, the second most competitive African country, ranks 74th in the world with a score of 60.5 (**GCR, 2018**).

Table 1-4

Classification of the 10 most competitive economies in SSA based on the GCI (2018)

Rank	Country	Global Ranking	GCI Score
1	Mauritius	49th	63,7
2	South Africa	67th	60,08
3	Seychelles	74th	58,5
4	Botswana	90th	54,5
5	Kenya	93th	53,7
6	Namibia	100th	52,7
7	Ghana	106th	51,3
8	Rwanda	108th	50,9
9	Cape verde	111th	50,2
10	Senegal	113th	49,0

Source : Generated by the author using data from The Global Competitiveness Report (2018)

1.3.4 Exploding income inequalities

There is a general consensus that the evolution over the past decades towards an increasingly globalized world has been accompanied by an increase in inequalities both between and within countries. While the share of total income held by the 50% of the world's poorest individuals has fluctuated around 9% since 1980, the top income share, which was 16% in 1980, rose to 22% in 2000 and then fell slightly to 20% as a result of a decline in inequality between countries (**WIR, 2018**). These income disparities vary significantly from one region to another and, Sub-Saharan Africa is, after Latin America and the Caribbean, the region of the world with the highest levels of inequality **(IMF, 2016**). This finding is corroborated by the report on global inequalities published by the World Inequality Lab in 2018, which reveals that in 2016 the share of national income captured only by the top 10% was 37% in Europe (most equal region), 61% in the Middle

East (most unequal region) and around 55% in sub-Saharan Africa where income disparities remained relatively stable and at very high levels during the 1990-2016 period. In addition, the UNDP report highlights that despite an average reduction in its unweighted Gini coefficient from 0.47 to 0.43 between 1991 and 2011, Sub-Saharan Africa, with 10 of the 19 most unequal countries in the world, remains one of the least egalitarian regions in the world. Among the factors leading to inequality, the report mentions, inter alia, the highly dualist structure of the economy, the high concentration of physical capital, human capital and land and the limited role of the State in redistributing resources (**UNDP, 2017**).

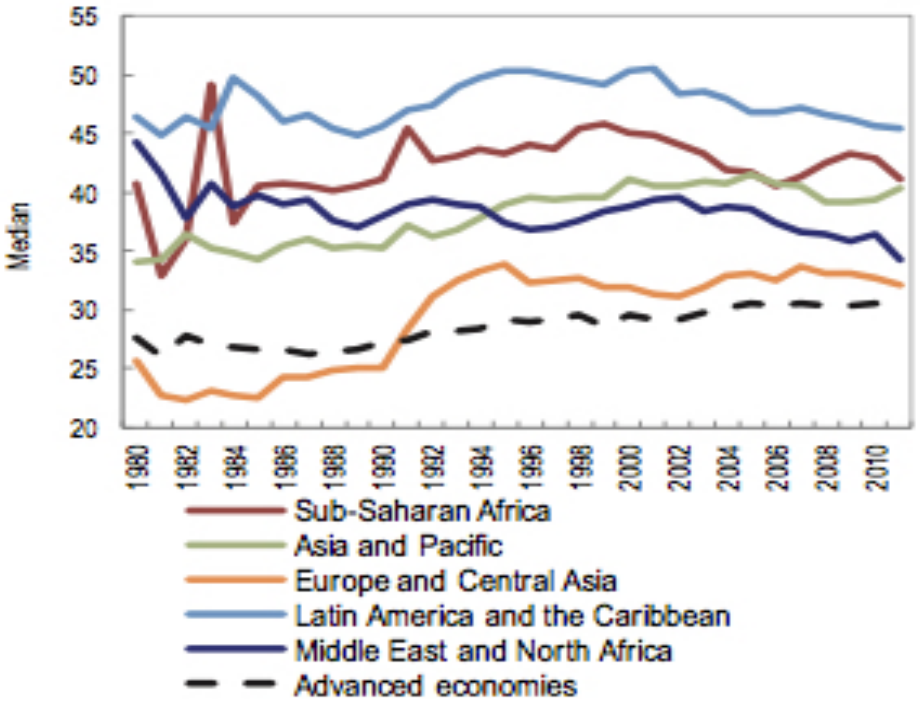

Figure 1-6 Evolution of the Gini index in Different Regions

Source : IMF (2016) from Solt, Frederick., 2014

2 INCOME DISTRIBUTION AND INCOME INEQUALITY

2.1 The Concept of Income

In an economy based on monetary exchange, economic agents have to hold some income to carry out the activity of production, consumption and, to a certain extent, savings. In such an economy, when the cost of all inputs used in the production process of goods and services as well as the depreciation value of capital and equipment are deducted from the selling price, the surplus generated or net value added is shared between the owners of the capital and the workers involved in the production process and constitutes their income. Income is, therefore, a sum of all the earnings received by an economic agent either for social reasons or in return for the work performed, the service provided or an investment carried out. Income is generally measured in monetary terms. However, in some situations, goods and services can be considered as income.

Basically, the income held by an individual or household at a given time results from three main sources. It may derive from salaries or wages obtained in exchange for the work provided. This is referred to as labor income. In addition to labor income, there is also property income. It is income generated by real assets (capital, land) or financial assets (shares, bonds, etc.). Property income is generally in the form of profits, interest, rents or dividends. The sum of labor and property income constitutes market income. Besides market income, there is another source of income known as transfer payments. These are payments made by the government without any consideration. Transfer programs are consistent with the government's attempt to tackle part of the problem of inequality and poverty. This is the case, for instance, for unemployment insurance benefits. As a result, income can be defined as the sum of all the remunerations including wages, profits, interest, dividends, rents, transfers or any other form of payment received by an individual at a given time (**Case, Fair, & Oster, 2008**).

It is important to note that the income that this definition refers to is gross income or before-tax income. This includes all income received before the deduction of taxes. In practice, this income is subject to the payment of tax and other forms of levies. The after-tax income thus obtained is described as disposable income as it refers to the income that individuals actually have at their disposal at a given time and that can be used for expenditure or savings purposes. This form of income is the one we will address throughout this study. To sum up, the concept of income can be summarized as follows:

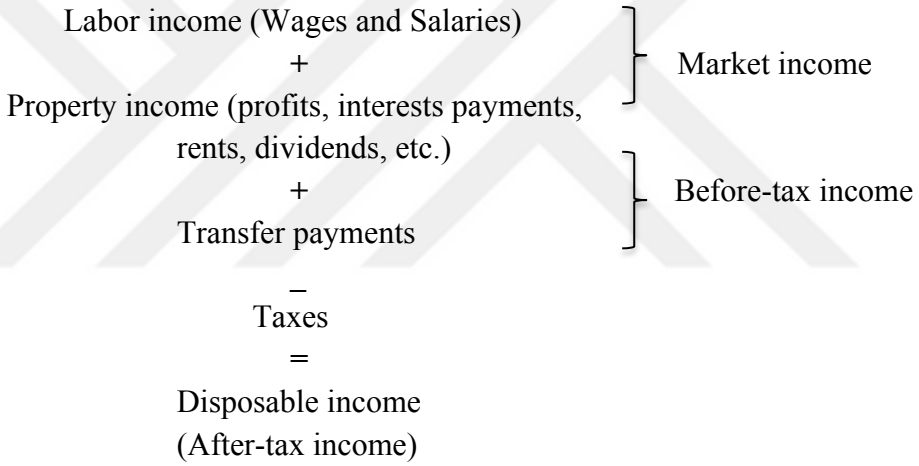

Figure 2-1 Typology of Income

Source : Generated by the Author

A clear distinction should also be made between the concepts of income and wealth in order to clarify any ambiguity. While wealth refers to the total of all that an individual owns in terms of property after subtracting the total of all that he owes, income is the sum of all the earnings or payments received by an individual at a given time period. Thus, in contrast to wealth, which is a stock concept, income is a flow measure generally specified in terms of income per year or income per month (**Case et al., 2008**).

2.2 Typology of Income Distribution

The income held by economic agents at a given time derived from the value-added created through the domestic production of goods and services within a specific time period. This overall production of the economy is measured by the GDP. GDP is the total monetary or market value of all final goods and services produced within a specific period of time by factors of production located within a country's borders. GDP can be computed based on the total value of final goods and services produced, the total value of income earned by all the factors of production involved in the production of these goods and services, or based on the total amount spent on all these goods and services. Calculations based on these three approaches always lead to identical results for the reason that: every expenditure made by one economic agent represents at the same time an income for another economic agent. Hence, whether we measure the total value of final goods and services, the income received or the expenditures made, we always end up with the same value of the total output (**Case et al., 2008**).

The total income thus obtained is distributed within the economic apparatus. Income distribution is defined as the allocation of income created in an economy at a given time, among individuals, social groups or factors of production. The analysis of income distribution can be done using several approaches. In this respect, emphasis is generally placed on the distinction between the functional distribution and the personal distribution of income. In the context of the income redistribution process, a distinction is also made between primary and secondary income distribution. There is another categorization of income distribution in terms of regional distribution and sectoral distribution of income. In addition to these types of income distribution, analyzes of income distribution can be carried out from different perspectives such as gender, race, socio-professional category and level of education.

2.2.1 Functional Income Distribution

The question of income distribution has been one of the main issues addressed since the beginning of the development of economics. Classical economists have focused on assessing the share of factor income as a result of their conception of society as being composed of classes that derive their income from the different factors of production. Thus, according to the positive economic theory developed by Malthus and David Ricardo, understanding the distribution of total income among rent, profit and wage and determining the laws that govern this distribution are the most important problems that "political economy" should analyze (**Atkinson & Bourguignon, 2014**). In the economic literature, this type of income distribution is referred to as "functional distribution".

Functional income distribution refers to the allocation of income generated during a given period among factors of production and socio-economic groups and provides information on the share of wages, interest, income, profits, and dividends in national income. This distribution approach is designed to analyze the income level of the main factors of production, including labor, capital, natural resources, and entrepreneurship. Indeed, each of the owners of the factors involved in the production process of goods and services receives in return an income share termed salary, interest, rent, and profit. From this perspective, functional distribution shows how much of the production is distributed in the form of wages to workers, interest to capital holders, rent to landowners, and how much remains in terms of profit for the entrepreneur (**Gürsel, Levent, Selim, & Sarıca, 2000**).

Similarly, functional distribution is also defined by distinguishing between labor income and non-labor income. This conception is justified by the fact that the real income of dependent workers (salaried workers) - who constitute the majority of the society - is the remuneration of their labor, and that, almost all the high-incomes of the society earn income from non-labor sources. In this respect, functional distribution is a way of determining the share of wages and non-labor income in GDP. However, the functional distribution only gives approximate information on the share of the different social strata in national income due to the large differences within the social strata.

Functional income distribution is an essential part of the economic analysis of relative prices, output, and employment. The standard approach to functional distribution is to address distribution issues in the framework of neoclassical price and resource allocation analysis. In this respect, prices are adjusted to ensure equilibrium in all markets. In particular, the prices or remunerations of factors of production are determined by the supply and demand curves of the factors. All factors of production are rewarded based on their marginal productivity, that is, the market value of what they produce at the margin. Hence, the functional income distribution is systematically determined by market mechanisms **(Cowell, 2007**).

2.2.2 Personal Income Distribution

Pareto (1895) was the first to specify and estimate a model of personal income distribution, particularly through his work on distribution curves (**Dagum, 1998**). Personal or size distribution of income denotes the distribution of income among individuals according to their position on the income scale. More precisely, this distribution refers to the allocation of national income among individuals or households regardless of the source of this income (salary, property income, rents, profit, transfer, donation, etc.). The personal income distribution approach does not focus on the different types of income or how individuals earn their income but only takes into account the total amount of income earned at a given period of time. In this respect, it is not important whether the share of national income received by individuals or households derives from an economic activity or not, the key issue is the total value of this income, whether it comes exclusively from labor or other sources such as interest, profits, rents, dividends or even donations **(Todaro & Smith, 2008).**

The personal income distribution is individual and static. Its main purpose is to assess income inequalities across households. In this way, it allows comparisons to be made between countries or within countries. In addition to determining income inequality among individuals or households, personal income distribution also describes how income inequality varies from one year to another, thereby making it possible to effectively assess

the impact of economic policies on improving income distribution. As well, personal income distribution is taken into account in the formulation of tax and social security legislation (**Boratav, 1965**).

It is also by reference to the personal income distribution that a distinction is made between developed and developing countries. In this perspective, the World Bank uses this approach to distinguish groups of countries in terms of their level of income calculated on the basis of the so-called "Atlas" method. Thus, according to the new classification adopted on 1 July 2018, the World Bank identifies four categories of economies: "low-income economies" with a per capita Gross National Income of less than USD 1,025 ; "lower-middle-income economies" with a per capita GNI comprised between USD 1,026 and USD 3,995 ; "upper-middle-income economies" with a per capita GNI between USD 3,996 and USD 12,375 and "high-income economies" with a per capita GNI of USD 12,376 or above (https://datahelpdesk.worldbank.org/knowledgebase/articles/906519, **24.06.2019**)

When measuring personal income distribution, individuals or households are classified according to the amount of income they receive. The gap between the lower and upper groups of the distribution indicates the degree of inequality in the society. More precisely, all individuals are ranked in ascending order of personal income (from the lowest to the highest income individual) and then split into separate groups or categories. The total population is usually divided into five successive quintiles, that is, five equal groups of 20% each, and then the proportion of the total income held by each group is calculated. In terms of the national income ratio, a large difference between the first quintile representing the "bottom 20%" of the population and the last quintile representing the "top 20%" of the population on the income scale is interpreted as an inequality in the distribution of income. To explore this distribution disparity in more detail, income previously classified in ascending or descending order can be divided into deciles (ten equal groups each representing 10% of the population) or percentiles (100 equal groups each representing 1% of the population) and the percentage of income allocated to each group can be determined (**Todaro & Smith, 2008**).

2.2.3 Primary and Secondary Distribution of Income

Whatever the income distribution approach, it is possible to distinguish between a primary distribution and a secondary distribution. The distribution of income resulting from the free working of the market system without any form of intervention is referred to as the primary distribution of income (**Aktan & Vural, 2002**).

This corresponds to the allocation of added value among the various actors involved in the production process over a given period of time. In the primary income, a distinction is made between labor income and property income. The level of this income can be influenced by factors such as factor prices, minimum wage, economic crisis, inflation, etc.

However, market mechanisms do not always systematically lead to an even distribution of income. Also, the primary income derived from such a system does not always ensure a certain minimum standard of living for individuals. As a result, governments generally take measures that affect income distribution as part of the redistribution policy or secondary distribution (**Case et al., 2008**).

Secondary distribution refers to the distribution of income resulting from government intervention in the functioning of the market mechanism through various public finance instruments. In this way, it attempts to adjust the market distribution of income to make it more equitable (**Aktan & Vural, 2002**).

Redistribution is based on mandatory levy mechanisms (taxes, social security contributions) on the one hand, and transfers and benefits in kind of free or semi-free public goods on the other. From this perspective, the secondary distribution refers to all secondary operations through which part of the income is deducted from certain economic agents or social categories to be repaid to the benefit of others or to the same. It corresponds to the difference between what is deducted from an agent's primary income in terms of taxes and what he receives in terms of transfer payments. In this respect, redistribution aims to correct the social inequalities arising from primary distribution.

2.2.4 Sectoral Distribution of Income

The sectoral approach to income distribution is based on the three-sector theory framework developed by Allan Fisher (1935), Colin Clark (1940) and Jean Fourastié (1952). These authors break down the economy into primary, secondary and tertiary sectors in their attempt to describe economic development as the movement of jobs and population from agriculture to industry, then from industry to service provision (**Hugon, 1963**).

In this respect, the sectoral income distribution expresses the share of national income derived from activities in the agricultural, industrial and service sectors. This approach allows us to make observations on the long-term evolution of the income shares of each sector and to grasp the impact of the government policies implemented through incentives and regulations that may favor or disadvantage certain sectors (**Aktan & Vural, 2002**). Another way of addressing sectoral distribution is to analyze the distribution of national income among the public and private sectors in terms of ownership of the means of production. This distribution provides information on the degree of state intervention in the economy and highlights the characteristics of the economic system.

Income distribution by sector is an important indicator of the level of development of countries. In underdeveloped countries, the agricultural sector accounts for a large share of national income, while in developed countries, the largest share of national income comes mainly from industry and services. According to World Bank data for 2018, in Sub-Saharan Africa, the share of total income generated by the agricultural sector is estimated at 15.2% of GDP, while in the services sector it is estimated at 52.5% of total income, which means that the industrial sector contributes about 32.3% to GDP. On the other hand, in high-income countries, the largest share of total income derives from the service sector, which accounts for 69.9% of GDP, while income from the agricultural sector represents only 1.4% of GDP (https://data.worldbank.org/indicator?tab=all, **27.06.2019**)

2.2.5 Regional Income Distribution

Generally speaking, the different regions that make up a country are not homogeneous in terms of level of development, and national income is not always evenly distributed among the different regions. There are practically always disparities so that some regions lag far behind the rest of the country. These inter-regional disparities may be related to geographical conditions, demographic characteristics or socio-economic environment. Regional income distribution refers to the allocation of national income among the different regions according to various criteria. While providing information on the share of income of individuals living in different geographical areas in national income, the regional distribution of income highlights spatial heterogeneity and inter-regional imbalances in the allocation of income.

In the regional approach to income distribution, a geographic breakdown of the country is generally carried out according to the level of development, or according to the nature of the settlement area, by distinguishing between rural and urban areas. In this respect, regional income distribution can be considered as a particular form of personal or functional distribution that emphasizes the geographical criterion. This distribution concept is used in particular to reveal the differences between developed and underdeveloped regions of the country. All the information it provides constitutes important data that decision-makers should take into account when deciding on policies to be implemented in order to eliminate regional development disparities.

2.3 Measuring Income Inequality

In a trivial way, income inequality is defined as an uneven and disproportionate allocation of total income among individuals, households or factors of production in the economy. This concept refers to a state of extreme concentration of income or wealth in the hands of a small proportion of the population and describes the gap between the wealthiest groups and the rest of the population. (**Todaro and Smith, 2008**).

There is a plethora of income inequality measures, so that it may seem almost impossible to draw up an exhaustive inventory of all the existing inequality indicators. However, it is possible to group these measures by type, according to the different paradigms on which they are based. It is also important to note that these different types of indices often measure different aspects of the issue of inequality. This section will focus on nine key measures that represent a broad range of quantitative treatment of income inequality and include the most commonly used indices in the literature and in practice. What these measures have in common is the fact that they all reflect the notion of social utility. In fact, they are based on the assumption that the marginal utility of wealth is decreasing, and therefore replacing a rich person with a poorer person always increases the underlying social utility. From this perspective, measures of income inequality refer to the principle of equity in income distribution. However, before reviewing the different indices, it is first necessary to highlight the axiomatic properties of income inequality measures.

2.3.1 Properties of Income Inequality Measures

Several methods have been developed in the literature in order to adequately measure income disparities. However, the ability of these different methods to provide accurate and precise information on income distribution is gauged by their compliance with the axiomatic principles underlying measures of income inequality. As a result, a valid measure of income inequality should meet the criteria related to basic principles such as the Pigou-Dalton transfer sensitivity, income scale independence, population size independence, anonymity or symmetry and decomposability principles **(Cowell, 2011; Litchfield, 1999).**

- **Pigou-Dalton Transfer Principle :** This principle requires the measure of income inequality to ensure that a transfer of income from a rich to a poor individual occurs without reversing the ranking between the two individuals. In other words, if there is a transfer of income from a rich to a poor individual, this should lead to a decrease (or at least should not lead to an increase) in income inequality. Conversely, a transfer of income from a poor to a rich should entail an increase in

inequality (or at least should not reduce inequality). Except for measures based on variance (variance of logarithms, logarithmic variance), most measures (the Gini coefficient, Generalized Entropy class and the Atkinson class) are consistent with this axiomatic property.

- **Income Scale Independence :** According to this principle, an income inequality measure should be insensitive to a proportional variation in income. In other words, if each individual's income increases or decreases in the same proportion, this should have no incidence on the income distribution and therefore the inequality measure should remain unchanged. Standard measures of income inequality other than the Dalton index and measures based on variance satisfy this principle.

- **Principle of Population :** This criterion stipulates that income inequality measures should be invariant to replications of the population. In other words, combining two populations with identical income distribution should not modify the inequality in income distribution, all else being equal.

- **Anonymity :** This property states that inequality measures should not depend on any factor other than individuals' income. Thus, if any two individuals interchange their incomes, this should not induce any change in the income inequality measure. In this respect, this criterion is often referred to as the "symmetry principle".

- **Decomposability :** This principle requires that there should be a possibility of disaggregating inequality measures into subgroups, by income sources or other components, so that a coherent link can be established between inequality in the different sub-divisions and the overall inequality. By decomposing an inequality measure, a variation in inequality between and within subgroups induces a variation of the overall inequality in the same direction. That is, total inequality can be written as a function of inequality within subgroups and inequality between

subgroups. Among all inequality measures, Generalized Entropy class measures are those that can be easily decomposed. In contrast, the Gini index cannot be easily decomposed, especially when the subgroups are overlapping. The Atkinson class measures can also be decomposed, however, they are not additive across the sub-groups.

2.3.2 Principal Measures of Income Inequality

There is no single method for measuring income distribution. Apart from the Lorenz curve, which provides a graphical and static representation of income distribution inequality, the range of standard measures of inequality existing in the literature can be broadly grouped into positive and normative measures of inequality. Positive measures use statistical methods to objectively capture gaps between incomes or deviations from an average income. They include, among others: Gini coefficient, relative mean deviation, variance, coefficient of variation and squared coefficient of variation, logarithmic variance, variance of logarithms, quantile share ratios, Theil's entropy index, and generalized entropy index. On the other hand, normative measures attempt to measure inequalities in income distribution based on certain normative conceptions of social welfare. These include Atkinson's index and Dalton's index (**Cowell, 2011; Sen & Foster, 1997**).

2.3.2.1 Lorenz Curve

Developed by the American statistician Max Lorenz (1905), the Lorenz curve is a graphical representation widely used in the literature to illustrate the inequality of income distribution. This curve quantitatively relates the percentage of income earners to the percentage of total income they actually received over a certain period of time. To this end, individuals or households are initially ranked in ascending order of income. Then, on the horizontal axis, the cumulative percentages of individuals or households are plotted, and on the vertical axis, the cumulative percentages of income received by these individuals are represented. The diagonal that connects the points where the percentage of individuals or households in the population is equal to the percentage of income they receive and which

forms an angle of 45° with the axes, is referred to as the "line of perfect equality". On the other hand, the position of the two inverted L-shaped segments starting from the lower-left corner and moving along the horizontal axis and continuing along the vertical axis indicates perfect inequality. The Lorenz curve is represented between this area and the diagonal line. Thus, the further away the Lorenz curve moves from the diagonal, the higher is the degree of inequality. The extreme case of perfect inequality is represented by the congruence of the Lorenz curve with the lower horizontal and right vertical axes (**Todaro and Smith, 2008**).

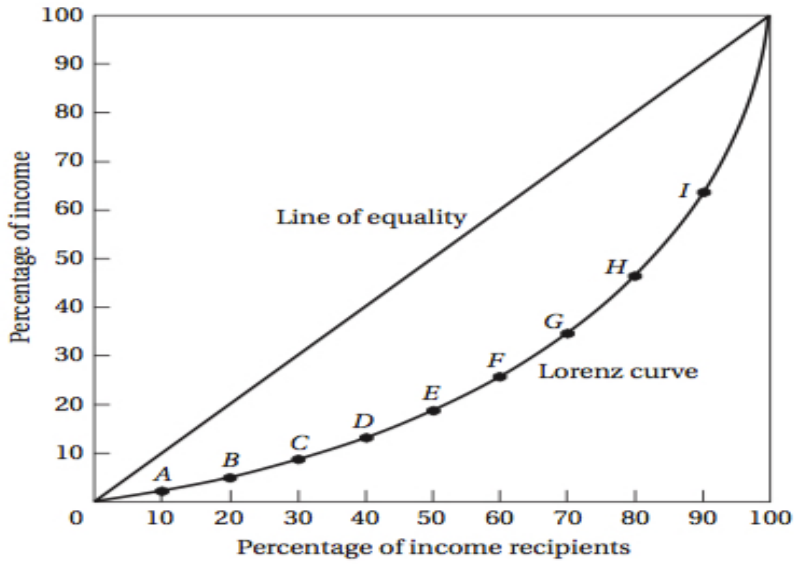

Figure 2-2 The Lorenz Curve

Source : Todaro and Smith, 2008.

The Lorenz curve is used to compare the inequality of income distribution in different countries or the inequality of income distribution at different times in the same country. By comparing the two income distributions, if the Lorenz curve of one distribution lies entirely above the other Lorenz at each point of the distribution, the first distribution shows a less unequal distribution and is said to exhibit a "Lorenz dominance".

However, when comparing two income distributions, one does not always Lorenz-dominate another. The Lorenz curve of an income distribution may be greater than a portion of the income distribution in some parts of the income distribution but may fall below it in some other parts of the income distribution. In such a case where the Lorenz curves intersect, it is not possible, based on the Lorenz dominance criterion, to identify the less unequal one. As a result, an alternative measurement method will be required.

2.3.2.2 Gini Coefficient

Developed by the Italian statistician Corrado Gini (1912), the Gini index is probably the most frequently used measure of income inequality in the literature. The Gini coefficient is derived from the Lorenz curve and expresses income inequality as a scalar value, allowing for the comparison of different income distributions. The Gini coefficient can be defined as an aggregate numerical measure of the income gaps ranging from 0 (perfect equality) to 1 (perfect inequality where only one individual holds all the income). Graphically, the Gini coefficient is measured by the ratio of the area between the perfect equality line and the Lorenz curve to the total area of the triangle below the perfect equality line in a Lorenz diagram.

Statistically, the Gini coefficient is measured by the arithmetic mean - irrespective of the signs - of the differences between all income pairs (y_i - y_j). This average is then divided by the arithmetic mean of the distribution (μ), that is :

$$Gini = \frac{1}{2n^2\mu} \sum_{i=1}^{n} \sum_{j=1}^{n} |y_i - y_j| \qquad \textbf{(Sen \& Foster, 1997)}$$

The Gini coefficient is consistent with four of the five axiomatic properties of income inequality measures, including the Pigou-Dalton transfer principle, the principle of population, income scale independence, and anonymity. However, it only satisfies the principle of decomposability if there is no overlap between income sub-groups.

2.3.2.3 Relative Mean Deviation

The Relative mean deviation is a measure of income distribution inequality that compares each individual's income level with the mean income. The absolute deviations of each income level from the mean being calculated in this way, their sum is then expressed as a proportion of the total income. Let M be the so-called " relative mean deviation ". The statistical expression of M is as follows:

$$M = \sum_{i=1}^{n} \left| \mu - y_i \right| n\mu$$ **(Sen & Foster, 1997)**

If M is equal to zero, this indicates absolute equality. In the extreme case where all the income of the economy is held by a single person, M = 2 (n-1) / n.

Although this method provides a more comprehensive perspective in terms of measuring income inequality, it has the disadvantage of being invariant to an income transfer between people of the same income bracket. Indeed, the transfer of income from a poor individual to a relatively richer individual but whose income remains below the mean income would at the same time lead to an increase and a decrease in the income gap by an identical amount. Thus, such a transfer will have no incidence on the distribution of income, since the M quantity measures income disparities by simply adding these absolute differences **(Sen & Foster, 1997).**

2.3.2.4 Variance, Coefficient of Variation and Squared Coefficient of Variation

In an income distribution, variance is used to measure the distance between observations and the mean. Variance is expressed as the ratio of the sum of the squares of income-deviations to the average of the total number of individuals. Contrary to the relative mean deviation, the variance, by considering rather the sum of the squares of the absolute deviations from the mean, meets the principle of transfer. All other things being equal, the

transfer of income from a low-income person to a high-income person increases variance and therefore inequality. If we note V the variance, its statistical expression can be written as follows:

$$V = \frac{1}{n} \sum_{i=1}^{n} \left(\mu - y_i \right)^2$$

Although variance, as a measure of income inequality, takes into account the effect of income transfers on income distribution inequality, it varies with average income level and therefore does not satisfy the principle of independence from the income scale, which is one of the required characteristics for income inequality measures. As a result, the variance cannot be used to compare income distributions with highly different averages. The coefficient of variation (CV), which is one of the measures that does not include such weaknesses, focuses on relative variation. This coefficient is obtained by dividing the standard deviation - defined as the square root of the variance- by the average income level.

$$CV = \frac{\sqrt{V}}{\mu}$$

As the value of the coefficient of variation approaches zero, the distribution of income becomes more even. This coefficient is sensitive to income transfers and, unlike variance, is independent of the mean income level. One of the characteristics of the coefficient of variation is that it assigns equal weight to income transfers at different levels **(Sen & Foster, 1997).**

Moreover, since the variance depends on the average income level and takes the square into account in its formula, dividing the variance by the square of the mean income distribution yields the "Squared Coefficient of Variation" (SCV). The SCV satisfies the income scale independence principle and is more sensitive to income transfers in high-income groups. SCV has no upper limit value. Hence, income inequality increases as the value of the measure increases **(Gürsel et al., 2000).**

$$SCV = \frac{1}{n\mu^2} \sum \left(\mu - y_i \right)^2$$

2.3.2.5 Quantile Share Ratios

Measures based on quantile shares are an important category within measures of income distribution inequality. They are probably the most in line with the usual intuition of what the idea of inequality covers. Their construction is simple provided that the quantiles can be accurately estimated. To this end, individuals must initially be classified consistently in ascending or descending order of income. The most common index in this class is the Quintile Share Ratio (QSR). It corresponds to the ratio of the income received by the top quintile (20% of the population with the highest income) to the total of income received by the bottom quantile (20% of the population with the lowest income) In addition to this measure, the Decile Share Ratio (DSR) is sometimes adopted. DSR is measured as the ratio of the richest 10% of the population to the poorest 10%.

However, when these ratios are calculated on a too-small sample of individuals, it may lack robustness since the average of the wealthiest is sometimes pulled upwards by a single particularly high observation **(Langel & Tille, 2009).**

$$QSR = S_{80} / S_{20}$$

$$DSR = S_{90} / S_{10}$$

2.3.2.6 Theil's Entropy Index and Generalized Entropy Index

Generalized Entropy class measures of inequality, includes all measures of income inequality developed on the basis of the concept of entropy derived from the theory of information. These measures have the main characteristic of being consistent with all the axiomatic properties of income inequality measures. The general expression of the Generalized entropy index can be formulated as follows:

$$GE(\alpha) = \frac{1}{\alpha(\alpha - 1)}\left[\frac{1}{n}\sum_{i=1}^{n}\left(\frac{y_i}{\mu}\right)^{\alpha} - 1\right]$$ **(Aktan & Vural, 2002)**

The value of GE varies between 0 and ∞. 0 denotes an equal distribution, while higher values indicate an increase in inequality. The parameter α is a weighting factor that indicates the distance between incomes at different points in the income distribution. At low values α, GE is more sensitive to variations. If α = 1, there is an equal weight across the entire distribution. The increase in the value of α implies an increase in weight towards higher income groups. When GE takes parameters 0 and 1, it corresponds to Theil's index.

Developed in 1967, the Theil index is a particular type of generalized entropy measures. It measures the entropy variation between a perfectly egalitarian income distribution and the real situation. It is widely used, especially when comparing countries' income distributions. The Theil index satisfies all the principles of income inequality measures. The transfer of income from a rich person to a poor person reduces Theil's index. However, the extent of this decline depends only on the relative importance of individual income. As a result, the transfer between two people with the same income rate results in the same reduction in the Theil index, irrespective of the point of distribution. As it can be easily decomposed, Theil's index is a good way to analyze changes in inequality in populations divided into homogeneous groups (**Cowell, 2011; Sen & Foster, 1997**).

The Theil index can be formulated in two ways, depending on whether the α parameter is set to 0 or 1 :

$$T = GE(0) = \frac{1}{n}\sum_{i=1}^{n}\log\left(\frac{y_i}{\mu}\right)$$

$$T = GE(1) = \frac{1}{n}\sum_{i=1}^{n}\frac{y_i}{\mu}\log\left(\frac{y_i}{\mu}\right)$$ **(Aktan & Vural, 2002)**

The Theil's index is comprised between 0 (equal distribution of income) and log n (all income is held by an individual). It has the same interpretation principle as the Gini index. The lower the values are and tend to approach zero, the more even the distribution is.

2.3.2.7 Atkinson's Index

Atkinson (1970) has elaborated a widely used measure of inequality. The general form of this measure is expressed as follows :

$$I = 1 - \left[\frac{1}{n} \sum_{i=1}^{n} \left(\frac{y_i}{\mu} \right)^{1-\varepsilon} \right]^{\frac{1}{1-\varepsilon}}$$

The Atkinson index is derived from the social welfare function. This function is based in particular on the assumption of additivity, which assumes that social welfare is the sum of individual well-being. This hypothesis is probably the most critical because it assumes that individual preferences are comparable. In addition, the social welfare function is also a symmetrical and concave function. Since concavity is more important among the poor, the indicator will give more importance to inequality among the poor than among the rich; this characteristic increases with the parameter (ε) that indicates the degree of sensitivity or aversion to inequality. The judgment on inequalities depends on this parameter. The more people have an aversion to inequalities, the more they will prioritize the situation of the less well-off (**Cowell, 2011; Sen & Foster, 1997**).

The Atkinson index gives different results depending on the degree of sensitivity (ε) of the society to normative inequality. For this reason, the choice of ε becomes important before interpreting any society's Atkinson index. The increase of ε means that society is becoming more sensitive to inequalities. This parameter may vary from one country to another, as it shows the sensitivity of the society to income inequality or, in other words, the degree of willingness to avoid inequality. Given the level of sensitivity or aversion to inequality (ε), if we consider two different income distributions (different countries, different years in the same country) the allocation of income will be more unequal in the distribution that has the highest Atkinson index (**Gürsel et al., 2000**).

Table 2-1
Overview of the Principal Measures of Income Inequality

Income inequality index	Principle of Transfers	Distance Concept	Decomposable ?	Independent of Income Scale and Population Size ?	Range in interval [0,1] ?
Variance	Strong	Absolute Differences	Yes	No : increases with income	No
Coefficient of Varaiation	Weak	Absolute Differences	Yes	Yes	No
Relative Mean Deviation	Just Fails	0, if incomes on same side of the mean, or 1 otherwise	No	Yes	In [0,2]
Logarithmic Variance	Fails	Differences in (log-income)	No	Yes	No
Equal Shares Coefficient	Just Fails	0, if incomes on same side of the mean, or 1 otherwise	No	Yes	Yes
Gini Coefficient	Weak	Depends on Rank Ordering	No	Yes	Yes
Atkinson's Index	Weak	Difference in Marginal Social Utilities	Yes	Yes	Yes
Dalton's Index	Weak	Difference in Marginal Social Utilities	Yes	No	No
Theil's Entropy Index	Strong	Proportional	Yes	Yes	No
Generalized Entropy	Strong	Power Function	Yes	Yes	No

Source : Cowell, F.A. (2011), p.74
*« Just Fails » means a rich-to-poor transfer may leave inequality unchanged rather than reducing it.

3 INSTITUTIONS AND INSTITUTIONAL ECONOMICS

Institutions have long been kept away from the dominant economic paradigms. From the 1950s to the mid-1980s, the question of institutions did not appear central to the two successive economic mainstreams. The question of institutions has made a more or less triumphant comeback in academic discourses and works as the austerity policies of the Bretton Woods institutions have failed. These failures have been explained, among other things, by the lack of sufficient consideration of the institutional contexts of the different countries. However, these institutions, whose renewed interest is driven by the neo-institutionalist movement, have a different meaning from that identified by the former institutionalists. In any event, before reviewing the different currents of institutionalism, their assumptions and their contribution to economic analysis, it is first necessary to briefly analyze the concept of institution.

3.1 Institutions and Institutional Quality

At the core of the analysis of institutional economics is the notion of institution, which is considered to be the determining factor in the development of any economy.

3.1.1 The Concept of Institution

In general, institution is defined as a set of behavioral rules based on a system of control and enforcement, in order to guide and make individuals' behavior less unpredictable. The literature generally refers to the definition proposed by Douglas North. According to **North (1990)**,

> *« institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction. In consequence, they structure incentives in human exchange, whether political, social, or economic. ».* (North, 1990, p.3)

Besides, institutions reduce uncertainties in everyday life, regulate interactions between individuals and determine how societies evolve over time. However, North makes a clear distinction between institutions that he considers to be a set of rules of the game, and organizations (a group of individuals with a common goal and working to achieve the same result) that he considers to be players : *« the purpose of the rules is to define the way the game is played. But the objective of the team within that set of rules is to win the game - by a combination of skills, strategy, and coordination »* **(North, 1990, pp. 4-5).**

Following Douglas North (1990), the authors claiming to be part of the New Institutional Economy distinguish between formal and informal institutions. Formal institutions are essentially written and explicit and include contracts, political, legal and economic rules. Their execution is carried out by an entity, generally the State or its administrations. On the other hand, informal institutions are not written; they are implicit rules whose execution is endogenously ensured by individuals belonging to the same group or community. Informal institutions include customs, cultural and ideological components, religion, conventions, norms or codes of conduct in society. In contrast to formal institutions that undergo relatively rapid change driven by political or legislative decisions, informal institutions are rooted in the traditions and norms inherited from older generations and evolve in a continuous and incremental way.

In general, empirical analysis of institutions focus mainly on formal institutions, probably because of the difficulties of apprehending and measuring informal institutions. Formal institutions fall into two categories: economic institutions and political institutions. Economic institutions define the rules governing human interaction in the economic field. They include property rights institutions, commercial contracts, institutional constraints governing public and private investment. In contrast, political institutions represent the constitution, laws, democracy, political and civil liberties, in short, all the rules that govern the interactions of individuals in the political domain **(Acemoglu, Johnson, & Robinson, 2005).**

In a country, there can be several types of economic institutions. **Rodrik (2005)** distinguishes between market-creating institutions (e.g. property rights institutions), market-regulating institutions (e.g. regulatory bodies), market-stabilizing institutions (e. g. monetary and fiscal institutions) and market-legitimizing institutions (e. g. social protection and social insurance institutions).

With regard to political institutions, economists' works focus on democratic institutions. In this field, the generally accepted definition of democratic institutions is that of **Schumpeter (1942)**. According to Schumpeter, democratic institutions are institutional arrangements through which political decisions are made, and for which individuals acquire the power to decide through electoral competitions. In practice, democratic institutions are associated with the existence of free and fair elections, the accountability of politicians to voters and the free participation of citizens in political activities **(Acemoglu & Robinson, 2006)**. Moreover, democracy is also considered as a meta-institution, that is, an institution from which other institutions emerge and are consolidated in a country **(Acemoglu et al., 2005; Rodrik, 2000).**

3.1.2 The Determinants of Institutional Quality

Institutions are not homogeneous and static. They vary from one society to another and from one era to another. Several factors can determine the quality of the institutions that prevail in a society at a given time. These factors may be historical, cultural, political or economic.

The historical approach or the theory of institutional difference based on historical factors stipulates that the quality of current institutions is the result of historical events. In other words, historical events at a specific time structure the interactions between individuals and determine the nature of institutions. These institutions persist over time, generating different effects. **Acemoglu et al. (2001)** support this assumption of the historical approach to the analysis of institutional quality. Indeed, these authors show that the former European colonial powers adopted different strategies of colonial exploitation,

and these strategies led to different institutional trajectories in former European colonial countries. Thus, for historical reasons, different countries have inherited different institutions that persist over time.

Proponents of the cultural approach to institutional differences argue that differences between countries in the quality of institutions can be explained by cultural differences or ideological beliefs. Societies choose different institutions because of their different conceptions of "good social values". Not all societies have the same conception of what is good for their members. According to **Weber (1958)**, some societies have cultural values or beliefs that favor the emergence of good institutions while others do not. **Putnam et al. (1993)** indicate that cultural values that foster trust in strangers facilitate collective action, the provision of public goods and the creation of effective institutions. Similarly, **Landes (1998)** argues that cultural values that encourage intolerance and xenophobia are obstacles to economic development and the emergence of good institutions.

According to the political approach to institutional differences, the institutions that prevail in a society at a given time are the result of a conflict of interest between the groups of individuals that make up the society. This approach stipulates that institutions are not chosen by all members of society, but by the group of individuals who control political power as a result of conflicts of interest. This group of individuals builds institutions that maximize their gains and not necessarily the income of the society as a whole. **North (1981)** was the first to theorize the political approach to institutional differences. He argues that it is judicious to apprehend individuals who hold political power as economic agents whose behavior is motivated by the pursuit of personal interests. According to North (1981), there are transaction costs that generate differences between institutions that maximize the income of society as a whole and institutions voluntarily chosen by policy makers to maximize personal gains. Following this logic, **Robinson (1998)** uses the political approach to explain the differences in the quality of economic policies between countries. Similarly, **Fors and Olsson (2007)** use this approach to explain the differences

in the quality of economic institutions between developing countries (former European colonies) in the aftermath of independence.

Ultimately, the economic approach or the theory of institutional efficiency postulates the idea that the decision to set up institutions is an economic choice based on a comparison of the costs and benefits of creating these institutions. According to the proponents of this approach, private property rights institutions are established when the benefits exceed the costs of creating these institutions **(Demsetz, 1967)**. There is another variant of the economic approach based on Coase's theory **(Coase, 1960)**. This version assumes that each society chooses the institutions that maximize the country's overall income. In this context, the application of the Coase Theorem assumes that if the institutions prevailing in a country are beneficial to some and harmful to others, the two groups of individuals can negotiate to improve existing institutions or create new institutions that will produce results that are beneficial to all.

3.2 Institutional Economics

Far from being assimilated to a single school of thought, institutionalism in economics represents a set of reflections with diverse theoretical and methodological foundations that all converge towards a strong idea: institutions, defined as a set of norms, rules, and beliefs inducing a regularity of behavior, are fundamental to the study of economic interactions. Initially, the institutionalist approach developed at the margin of economics. It was marked at the beginning of the 20th century by the works of authors generally classified as belonging to the old institutional economy, such as the works of Veblen and Commons. From the 1970s onwards, institutional economics underwent a major expansion under the impetus of new research grouped under the name of the New Institutional Economics (NIE), including mainly the works of Coase, North, and Williamson.

3.2.1 Old Institutional Economics

In "The Wealth of Nations" (1776), Adam Smith had pointed out the importance of private property rights institutions, the justice system, and the rule of law for good economic performance and therefore for economic development. However, it was in the twentieth century, with the pioneering works of Veblen (1857-1929), Commons (1862-1945) and Mitchell (1874-1948), that institutional economics was formally theorized. Institutionalism has then developed based on darwinism [Darwin, (1809-1882)] and pragmatism [Peirce, (1842-1910)] as two main epistemological foundations.

3.2.1.1 Veblenian Institutionalism

Thorstein Blunde Veblen (1857-1929) is generally considered to be the main pioneer of the American institutionalist movement. Veblen's article entitled "Why is Economics Not an Evolutionary Science"(**Veblen, 1898**), can be considered as the founding text of American institutionalist thought, in that it emphasizes the two unifying elements of this current of thought, namely: institutions and evolution. Veblen's system of thought is based on a severe critique of neoclassical economics, which is the dominant economic thought of his time. Indeed, Veblen simultaneously proposes to redefine the object and method of economics and to give it new foundations based on realistic behavioral hypotheses.

Veblen's criticism (1898) is based on the idea that economic theories are characterized by premises or "preconceptions" that make economics a discipline unsuited to understanding the dynamics of the modern economic system. Veblen starts from the observation that economics, like the natural sciences, is a "realistic" science, that is, it deals with facts that actually occur. But unlike the natural sciences, Veblen considers that the economy is not evolutionary. For **Veblen (1898)**, evolutionary science is a science of process, a science that is interested in change and studies its mechanisms. According to him, it is the preconceptions of normality that prevent economics from becoming an evolutionary science. Thus, the economy can only become evolutionary if it is built around

new preconceptions that Veblen describes as "factual". It consists of analyzing and interpreting the facts as they are in terms of causality, without ever assuming that this relationship should lead to any pre-defined natural state. In other words, it is a question of applying Darwinian principles in the interpretation of socio-economic facts.

In addition to this aspect of economics, it is the hedonistic conception of the individual defended by utilitarianism and marginalism that **Veblen (1898, 1909)** criticizes. Veblen criticizes utilitarian and marginalist theories for mobilizing an unrealistic conception of the individual. The problem, according to Veblen, is that economic theory does not study what is part of its subject of study: the human element. In particular, he criticizes economic theory for considering the individual as given, for not taking into account his history, background, hereditary traits, cultural and institutional facts. Economic processes can only be understood by simultaneously analyzing the individuals and the environment (culture, institutions) in which they operate, as well as the cumulative and evolving interactions that occur in their relationships. All of Veblen's analysis revolves around his theory of behavior. Three key concepts form Veblen's theory of behavior: instincts, habits of thought and institutions. Veblen conceives instincts as universal goals or propensities that are innate in the human agent and that are transmitted in a hereditary way **(Asso & Fiorito, 2004)**. Instincts must be analyzed as propensities to act in a determined way. Propensities are guided by the satisfaction of certain predefined purposes. The characteristic of instinctive propensities is, therefore, to give rise to modes of behavior intended to satisfy them. Thus, instincts need to be put into action by habits. Associated with instincts, habits of thought constitute the essential prerequisite for the existence of human reason. Some of these habits acquire a social dimension by becoming institutions through cumulative causality. The relationship between instincts, habits, institutions, and environment in Veblen's analysis can be summarized as follows:

« On the one hand it is the influence exercised by the institutional framework on the hereditary make-up of individuals that determines human conduct ; on the other hand it is the continuous search of ways and means to satisfy these hereditary tendencies that gives

rise to habits, which in turn become incorporated into a body of culture and originate institutions, social conventions, and human enterprises » (Asso and Fiorito, 2004, p.449)

Thus, **Veblen (1899)** defines institutions as predominant mental habits, widespread ways of thinking about the particular relationships and particular functions of the individual and society. In other words, institutions are the social concretization of certain habits of thought present in individuals in the society. In Veblen's institutionalism, institutions refer to conventions, social norms, a set of ideas identified in time and space. And, in order to become an evolutionary science, it is the evolution of institutions that the economy must study first. Veblen's most exemplary application of his theory of behavior is made in " The Theory of the Leisure Class " (1899). In this book, Veblen shows how certain habits of thought, by perverting the instinct of effective work, lead to the constitution of certain predatory institutions which, according to Veblen, characterized American capitalism at the beginning of the 20th century.

3.2.1.2 Commons's Institutionalism

American economist of the first half of the 20th century, John Roger Commons (1862-1945) is, with Thorstein Veblen, the major figure of American institutionalism. The first theoretical reflections of Commons focus essentially on monetary economics, public economics, and especially the labor economics. In all these fields, Commons analyzes are characterized by a concern to articulate the economic and legal spheres. It was not until 1924, with his book "Legal Foundations of Capitalism", that Commons began to outline his theory. In this book, Commons explains the developments of the legal foundations of the capitalist system, starting with the institution of private property. However, it is only with his book entitled "Institutional Economics" (1934) that Commons's institutional theory is clearly set out.

Most of the theoretical development of Commons aims to reflect the collective and institutional characteristics of economic behavior. First, the analysis of the assumptions of mainstream economics leads him to reinterpret the relative harmony of societies as the

result of a compromise, resulting from collective action, between the scarcity of goods and the interdependence of people. Indeed, for classical economists, harmony between the different individual interests is a presupposition (that is, a transcendental order with regard to human actions), whereas, for Commons, it is a construction or a consequence of collective action, intended to control conflicts **(Commons, 1934).**

Secondly, the investigation of the social field cannot, according to him, be understood on the basis of the isolated behavior of individuals or social groups, but on the basis of a formal typology of the relations contracted between individuals or social groups that he calls transactions. The unit of investigation in traditional economic thinking is either the individual or a group of individuals. Commons intends to break with these approaches and underlines the importance of understanding economic reality in terms of interactions between entities, whether individual or collective. **Commons (1934)** then drew up a typology consisting of three types of transactions which, in his opinion, covered all the activities analyzed in economics. These include bargaining transactions, managerial transactions, and rationing transactions. These transactions are functionally interdependent and constitute a larger set or structure of a higher order: the institution.

Finally, based on this typology of transactions, Commons attempts to define the concept of institution both as a social entity and as a process of action, this concept, being essential to the understanding of economic phenomena. The object of analysis in economics, according to Commons, should not be about individual action, but collective action. As a result, Commons attaches particular importance to the concept of institution, which he defines as "*collective action in control, liberation, and expansion of individual action*" **(Commons, 1934, 73)**. Indeed, institutions are necessary for a certain order to emerge, despite the existence of conflicts of interest. In this perspective, institutions are the "rules of the game" that allow individuals to secure their expectations about actions other individuals will undertake. Institutions control individual action because they implement rules that individuals cannot exceed under penalty of sanctions. But they also liberate and extend this same individual action by ensuring a relative security of individuals'

expectations. By defining rights, placing limits on individual will, specifying regulated fields of exercise of freedom, institutions make the individual behaviors predictable and temporarily contain conflicts.

Commons extends this definition by considering that institutions correspond to a continuum ranging from customs to going concern. Custom is considered by Commons as the universal form of institution. These are informal institutions that are the result of the repetition of practices and that condition individual habits. At the opposite pole of this continuum are the "going concerns" that Commons considers to be the modern units of collective action exercising structural regulation of individual interactions and which complement the customs that are characterized by their imprecision. These are organized institutions such as the State, the company, the trade union or society as a whole.

To sum up, although there are some differences in their approaches, for Veblen as for Commons, the institution is a set of representations, routines, rules (moral, social or legal) and conflict resolution modalities that confer a certain identity to a social form or organization and homogenize the behaviors specific to that organization. They argue that institutions have a decisive role in the economy and consider economic activity as the result of voluntary action and strategies of individuals. However, this conception of the institution among old institutionalists differs from the later institutionalist approach driven by the New Institutional Economics.

3.2.2 New Institutional Economics (NEI)

The New Institutional Economics emerged in the 1970s as a result of the works of its three main pioneers [Ronald Coase (1910-2013), Oliver Williamson (1932-...) and Douglas North (1920-2015)] who reintroduced the issue of institutions in the economic analysis. This renewal of the institutionalist current has remained very close to the neoclassical paradigm, in particular by keeping an explanation of individuals' behavior in terms of economic rationality. In this respect, the NIE differs from the Old Institutional Economics as an autonomous current of thought **(Hodgson, 2000).**

However, the NIE moves away from the neoclassical corpus by criticizing three of its main assumptions: on the one hand, economics deals with physical goods and transactions involving these goods (the firm being reduced to a production function), on the other hand, the conduct of these transactions does not itself involve costs, and it is assumed that individuals act in accordance with perfect rationality.

Since the 1980s, two main approaches to the NIE have emerged, based on property rights and transaction costs, which NIE proponents have then attempted to synthesize **(Chavance, 2008)**. The first approach is to consider not only the goods exchanged in their physical materiality but all the rights attached to the various goods, both tangible and intangible. The exchange of these goods is therefore defined as the exchange of the rights attached to their possession. The value of an asset, therefore, depends not only on its material content but also on the various property rights attached to it.

The second cardinal notion is that of transaction costs, which include all the costs generated by the exchange processes, whether it is the search for partners, the actual progress of the transaction, the verification of the quality of the product or service exchanged, the guarantee of compliance with the clauses of the contract concluded, etc. Unlike the neoclassical economy, the NIE, therefore, takes into account the costs involved in using the market as a means of allocation of goods.

The third point on which the assumptions of the neoclassical economy are also abandoned is related to the rationality of the actors involved in the exchange. It is assumed that their rationality is not complete, but restricted by their limited capacity to accumulate and process the necessary information. On the other hand, the NIE maintains the assumption that the individual is motivated by the maximization of his profit. Based on these premises, the NIE stresses the crucial role played by the institutions. While the neoclassical economy considers that institutions are external to market mechanisms, the NIE argues that institutions, particularly formal institutions, constitute a fundamental factor in the process of economic growth, both because they have a direct upward or downward

effect on transaction costs and because they help to specify the property rights available to individuals. In other words, an institutional apparatus is all the more effective because it helps to lower transaction costs and specifies property rights, thus creating incentives for positive economic actions.

3.2.2.1 Transaction Cost Economics

The economy of transaction costs, whose foundations can mainly be attributed to Ronald Coase and its development to Williamson, proposes a model of the firm as an alternative institution to the market. Indeed, in the theoretical context prevailing at the time, the market is considered as an efficient institution leading to socially optimal results. On the other hand, in his article "The Nature of the Firm", **Ronald Coase (1937)** postulates that the market cannot be considered as the exclusive institution in the economy.

Coase's conceptual innovation consists in taking into account market-specific operating costs. According to him, the realization of a commercial transaction involves a certain number of costs related to the search for partners, the negotiation of the exchange and the control of its successful completion. When these costs are significant enough, it may then become economically attractive for the parties involved to replace the market relationship with a hierarchical one based on a relationship of authority. Such a relationship is likely to save a significant portion of transaction costs. For Coase, the firm, therefore, responds to a logic of minimizing the transaction costs that intervene in the markets **(Coase, 1937).**

Following Coase's founding idea, **Williamson (1985)** developed the theory of transaction costs to explain the existence of multiple institutional arrangements adopted by economic agents. He attributes the origin of transaction costs to two different factors: the limited rationality of economic agents and the degree of specificity of the assets subject to the transaction. Williamson considers that individuals are characterized by a limited rationality that induces asymmetry in the distribution of information relating to the transaction, which creates conditions of uncertainty that make it impossible to set up

perfect contracts providing for all contingencies. Also, the specificity of the assets involved in the transaction creates a dependency on exchanges.

All these conditions of uncertainty and dependence on the exchange create risks of opportunism on the part of agents with a favorable position in the transaction. Opportunism is a behavior that consists, for agents benefiting from a favorable asymmetry of information, in diverting the results of the transaction in order to optimize their profits. The level of transaction costs is then a function of three factors: the uncertainty surrounding the transaction, the frequency of these transactions and the specific nature of the assets exchanged. Transaction costs are all the more important as the risk of opportunism (for an agent suffering from an unfavorable information asymmetry) is high. It is therefore wise for this agent to minimize these transaction costs through long-term contracts that internalize the transaction and provide an incentive mechanism for the agent in a position of opportunism.

In Williamson's model, the institution is conceived as an optimal configuration (with regard to transaction costs) of contracts, that is, voluntary agreements between individuals. In this context, the firm is, according to Williamson, an institution that responds to the logic of internalizing the risks of opportunism or eliminating transaction costs. In Williamson's analysis, institutions are efficient in all circumstances in the sense that they allow for an optimal trade-off between transaction costs and organizational costs induced by any hierarchical structure.

3.2.2.2 Property Rights Economics

The first interest of property rights theory is to provide an original solution to the problem of development mechanisms. **North (1973)** postulates that the development of an economy is all the more likely to occur when private interests are mobilized to promote the general interest. Hence, property rights institutions define the rules protecting private agents against the risk of expropriation from the State and other private agents, the rules guaranteeing the execution of contracts between economic agents, as well as the rules

governing the resolution of conflicts related to the execution of these contracts. As a result, in a country where there are good institutions for the protection of private property rights, private investors are assured of the benefits of their investments, which encourages them to increase their investments and allocate their resources efficiently. And that is why, according to **North (1973, 1981)**, property rights institutions are necessary for economic growth and development.

North's work is based on a conception of institutions as an efficient solution to coordination problems. He considers that the primary function of institutions is to reduce the uncertainties that characterize the environment in which human actions take place. Following **Groenewegen et al. (1995)**, the evolution of North's analysis can be summarized in three major phases: First, North attempts to explain the history of economic growth through the institutional context formed by capitalist institutions, using the neoclassical paradigm. Then, by distancing himself from the neoclassical framework, he studies the relationship between growth and effective institutions. Finally, he develops an analysis of the problems that explain the ineffectiveness of certain institutional changes. In this last phase, North introduces the notion of "path dependency" by which historical specificities, power, the learning process and especially culture are taken into account through the concept of "ideology". This concept refers to the mental models and beliefs of individuals that are considered to significantly determine the type of institution and therefore influence economic development. North's analysis thus moves away from Williamson by endogenizing institutions, but moves closer to Veblen and Commons: with the former, it shares an analytical framework of cumulative causality, and with the latter, it emphasizes the importance of negotiation processes and the institutional arrangements that result from them.

4 EMPIRICAL ANALYSIS OF INCOME INEQUALITY IN SUB-SAHARAN AFRICA

Since the 1990s, globalization has revealed two main trends: on the one hand, the increasing openness of emerging markets along with a decreasing degree of trade protection and a greater amplitude of capital flows; on the other hand, an increase in inequalities between and within countries. However, the relationship between globalization and income disparities in developing countries remains unclear. While in the long run free-trade can help to reduce poverty through improved private sector efficiency (**Winters, 2002**), in the short term, trade liberalization has important redistributive effects within the economy and to date, there is no consensus on the accompanying macroeconomic policies to be implemented. Thus, the question of the impacts of globalization on income distribution remains a matter of concern and raises controversy in the theoretical and empirical literature.

4.1 Theoretical Literature Review

The conceptual framework for analyzing the relationship between globalization and income inequality is based on the traditional theory of free trade, which finds its extension in the new theories of international trade. In addition, this theoretical literature is supplemented by the teachings of the U-inverted Kuznets curve, but also by the contribution of Neo-Marxist theories to the understanding of the relationship between globalization and income inequality in the developing countries.

4.1.1 Traditional trade theories: From Ricardo to Hecksher-Ohlin-Stolper-Samuelson (HOSS)

By the end of the eighteenth century, Adam Smith postulated that international trade is mutually beneficial provided that countries specialize in the production of goods for which they have an absolute advantage. However, it was not until the emergence of the

theory of comparative advantages developed by Ricardo that the gains associated with free international trade were more accurately captured. Indeed, models based on this theory stipulate that aggregate gains derive from specialization based on the comparative advantages of each country, which in turn depend on productivity gaps related to technological differences (Ricardo) or factor endowments (Heckscher-Ohlin). These variations between countries can result in a differential in relative prices giving rise to international trade.

The Ricardian model suggests that as trade is liberalized, not only do all countries gain from the exchange but that each individual is better off as a result of the exchange. Therefore, in this model, trade does not influence income distribution. However, in the real world, trade has substantial redistributive effects within each country in such a way that in practice, the benefits derived from trade are quite often distributed very unevenly.

In Ricardo's model, there is only one factor of production, that is, labor. As a result, no one loses out when it comes to trade openness. In contrast, in the Heckscher and Ohlin model, which focuses on trade between developed and developing countries, a distinction is made between skilled and unskilled labor, and the aggregate gains in trade are consistent with a decline in the real wages of those with the relatively rare factor (unskilled work in the developed countries).

The Heckscher-Ohlin model, considered as an extension of the Ricardian model, is the dominant theoretical framework for most studies that attempt to estimate the role of international trade in explaining growing inequality. According to the Heckscher-Ohlin theory, increased trade with developing countries would tend to reduce the demand for low-skilled workers in developed countries as well as their relative wages, all other things being equal. The extent of such an impact on relative wages would depend on how they respond to movements in demand. In countries with flexible wages, increased trade with developing countries would tend to result in lower relative wages for low-skilled workers, while in countries with more rigid wages, increased trade with developing countries would mainly result in higher unemployment among low-skilled workers.

As an extension of the Hecksher-Ohlin theory, the Heckscher-Ohlin-Samuelson (HOS) model and more specifically the Stolper-Samuelson theorem (**1941**) provide the most relevant theoretical framework to analyze and explain the distributional effects of international trade. These theories argue that countries have an interest in specializing in productions using the factors of production with which they are best endowed and that international trade gradually leads to an equalization of factors' remuneration at the global level, and thus to an equalization of development levels between countries.

In effect, the HOS model, which is a traditional neoclassical approach deriving from a global general equilibrium analysis, predicts that trade openness in developed countries will result in increased specialization in the production of the most skilled labor intensive goods and a decline in the real wages of the lowest skilled workers. As a result, the increase in North-South trade sharply reduces the real incomes of unskilled workers and increases inequalities, regardless of how the labor market operates. This decrease is due to the amplification effect revealed by the Stolper-Samuelson theorem. However, at the level of international redistribution, Samuelson shows that at the end of the liberalization process, and at the long-term equilibrium involving the equalization of goods prices, the remuneration of factors of production must also be equalized (provided that the difference in factor endowments between countries is not too significant), as prices and remuneration would be determined by a single relation.

Therefore, the impact of international trade on the price of goods is considerably amplified on factors costs. This finding represents Stolper-Samuelson's theorem, which states that any decrease in the relative price of a good reduces in absolute value the remuneration of the factor it uses intensively and increases in absolute value the remuneration of the other factors. This result illustrates the power of the distributive effects that can be generated in a country as a result of the development of trade. Thus, through the combination of effects on goods prices and factor incomes[7], international trade changes the distribution of income and plays a major role in the evolution of inequality between and within countries. As a result, developing countries with high levels of unskilled labor, compared to industrialized countries, should specialize in labor-intensive activities, and

there is expected to be a reduction in income inequality.

However, the assumptions of the HOSS model are extremely restrictive, therefore limiting the scope of its conclusions. Moreover, empirical evidence rarely corroborates the postulate of traditional theory suggesting that trade openness is beneficial to the poorest in developing countries. Over recent decades, there has been an increasing market liberalization in developing countries without a systematic reduction in wage gaps. This may be explained by the fact that, in contrast to Stolper-Samuelson's theory, trade liberalization is associated with the introduction of technologies requiring more skilled labor in most industries in developing countries **(Attanasio et al., 2004; Goldberg & Pavcnik, 2004, 2007**). This phenomenon tends to show that technological progress widens the wage gap between the different levels of qualification. Another limitation of this approach stems from the fact that in these countries only a minority of the population has a formal paid job. As a result, the study of the link between trade and wage inequality represents only a part of the overall dynamics of income inequality **(Spilimbergo, Londoño, & Székely, 1999**).

The Stolper-Samuelson theorem is also based on the assumption that factors of production are mobile within a country but not internationally. The effective mobility of capital (foreign direct investment, transnational bank loans, portfolio investment, etc.) therefore significantly limits the conclusions of this theorem. In this respect, the increase in FDI to developing countries may appear to be an important factor in exacerbating inequalities (**Lee & Vivarelli, 2006**). In fact, an activity that does not require a highly skilled workforce in a developed country may require a workforce considered relatively skilled in the developing country's labor market **(Feenstra & Hanson, 1996, 1997; Wang & Blomström, 1992; Zhu & Trefler, 2001**).

4.1.2 New theories of international trade

The predictions of the HOSS theory are basically relevant to trade between quite different countries in terms of factor endowments, as is the case between developed countries and developing countries. It is insufficient to predict the distributional effects of trade between countries at similar levels of development. Yet, developed countries trade more with each other than with developing countries and there is an increasing trend towards South-South trade. As a result, the new theories of international trade include theories that take into account these specificities and analyze trade between countries with similar initial resource endowments and a comparable level of technology. Driven by the work of Paul Krugman - laureate of the 2008 Nobel Prize in Economics -, these theories postulate that the abundance of a certain factor in a territory is not enough to explain trade and its distributional effects. They introduce into the analysis the situation of imperfect competition and economies of scale, emphasize government intervention and highlight the importance of product diversification, the size of the domestic market as well as the effects of international market dominance. Despite these specificities contrasting with traditional theories, the new theories lead to more or less similar results, in particular, the increase in wage gaps. Indeed, although the real wages of low-skilled workers may increase as a result of the positive effect of economies of scale, skilled workers are still likely to earn more than lower-skilled workers.

4.1.3 Neo-Marxist theories

Neo-Marxist theories analyze the nexus between globalization and income disparities through the dynamics of capitalism. Inequalities and their continuous increase over the past thirty years are not an unforeseen or unpredictable consequence of contemporary capitalism but are inherent in the ordinary functioning of capitalism.

Thomas **Piketty**[8] **(2013)** emphasizes the highly unstable and fundamentally unbalanced nature of capitalism[9], which has as its prime characteristic, in a "normal regime", the production of ever-increasing inequalities in wealth and income. On the basis

of historical facts, Piketty empirically finds that the economic mechanisms specific to capitalist societies naturally lead to the increase in wealth inequalities and that the historical declines in these disparities are related to exogenous shocks to these economic mechanisms. Given the ontological relationship between capitalism and the increasing inequality, the subsequent debate on globalization focuses on whether it accentuates divergence or promotes economic catch-up. The thesis of divergence has long been supported by neo-Marxist authors and system-world theorists. They postulate that globalization is, in fact, nothing but an extension of the capitalist system, which is characterized by a natural tendency towards international expansion.

Describing the theoretical relationship between capitalism and globalization, **Amin (1997)** states tha all parts of this system are integrated through their participation in a global division of labor that focuses on products of mass consumption or their production, in parallel with a degree of commercialization of production not comparable with that of previous periods. If capitalism is a world system, it is because the world economy that underpins it is, in its entirety, governed by this capitalist production system. One of the key factors in the transition from national accumulation to the emergence of global capitalism is the process of delocalization of production initiated by multinational firms. They thus contribute to exporting the social relations of production that characterizes the capitalist mode of production **(Michalet, 1999; Michalet & Quadrige, 1998**).

In the same vein, Arrighi argues that globalization represents the end of a "systemic cycle of accumulation". In fact, since the beginning of the world capitalism, Arrighi has identified four cycles characterized by a stable and rapid expansion of world production and trade, followed by the "financialization" of the economy, an increase in interstate competition for mobile capital and rapid technological and organizational changes. The cycle invariably ends with an over-accumulation crisis marked by a decline in the state and increasing instability in the economic environment in which it operates (**Arrighi, 1999**).

4.1.4 Kuznets' hypothesis (1955)

Nobel Prize in Economics in 1971, Kuznets has provided significant contributions to the explanation of the dynamics of inequality in the context of capitalist accumulation. His work on the relationship between economic growth and the degree of inequality in income distribution, published in 1955, is referred to as the "inverted U-shaped Kuznets curve". Based on empirical observations from the late nineteenth century to the aftermath of the Second World War, for the American, British and German economies, **Kuznets (1955)** suggested that a three-phased relationship exists between economic growth and inequality in the distribution of national income. First, during the initial phases of capitalist development, the intensity of inequality worsens with the growth of gross domestic product per capita, and then stabilizes during a second phase. Finally, in a third stage, at a certain level of per capita income, the relationship becomes negative and the degree of inequality decreases with economic growth. For developing countries, this seemed to mean that an increase in inequality was the price to pay for the initial development impetus, before returning to more tolerable levels as incomes increased.

Within economic theory, the hypothesis of Kuznets has been both controversial and recognized as a universal scheme valid for all countries. Several studies have therefore been conducted with reference to Kuznets' hypothesis. Although most studies conducted before the 1980s tended to corroborate the hypothesis of the U-inverted curve **(Chenery, 1974; Paukert, 1973**), subsequent works have been critical of the theory's ability to capture changes in income inequality **(Anand & Kanbur, 1993; Barro, 2000; H. Li, Squire, & Zou, 1998**). In this vein, **Piketty (2013)** argues that no structural reduction in inequality was observed before the First World War; and that the sharp reduction in income inequality that occurred across the rich countries between 1914 and 1945 was primarily the result of world wars and the violent economic and political shocks they caused. As a result, the contraction of inequalities observed during that period has little to do with the process of inter-sectoral mobility described by Kuznets.

4.2 Empirical Literature Review

In an attempt to empirically validate the theories explaining the dynamics of income inequality, several studies have been carried out, ranging from the analysis of the distributional effects of trade openness and financial liberalization to the study of the impact of institutional quality on income inequality as well as the empirical verification of the Kuznets hypothesis by analyzing the impact of economic growth on income disparities.

4.2.1 Empirical relationship between trade openness and income inequality

To test the impact of trade openness on income inequality, **Calderon and Chong (2001)** conducted a study on a dynamic panel of 102 countries for the period 1960-1990. By integrating variables such as capital intensity control, exchange rate, type of export and volume of trade, they found that trade has an inverse effect on inequalities with regard to the level of development. For developed countries, trade has a positive effect, that is, it contributes to the increase of inequalities. However, this impact has little statistical significance. By contrast, trade openness has a negative and statistically significant effect in developing countries. In this respect, it can be concluded that their results, regardless of whether the impact is significant or not, are in line with the traditional HOS model. Other studies such as that conducted by **Kumar and Mishra (2008)** also suggest that trade openness has led to a reduction in wage inequality between skilled workers and low-skilled workers in India. Moreover, **Lindert and Williamson (2001)** and **O'Rourke (2001)** argue that, although the effects of economic globalization on intra-country inequality remain unclear, economic globalization is a force driving income convergence across countries. In the same vein, Gourdon's study (**2007**) on a panel of 71 countries (including 51 underdeveloped and 20 developed countries) reveals that trade liberalization increases inequalities in countries relatively well-endowed in capital.

On the other hand, many other studies tend to invalidate the predictions of the theory. In effect, using a sample of 34 countries over the period 1978-1994, **Savvides (1998)** estimated the impact of trade restrictions on the GINI index. The findings of his study indicate that trade openness led to an increase in income inequality in developing

countries during the 1980s. Moreover, it reveals that trade policy has not impacted on income inequalities in developed countries. The same result is obtained by **Cox et al. (2005)** estimating the impact of globalization on the GINI index. Besides, the study carried out by **Barro (2000)**, based on a sample of 84 countries, found a similar result, with the difference that his research findings indicate that there is a negative relationship between trade openness and income inequality in the developed countries. **Milanovic (2002)** also studied the relationship between trade openness and income inequality in a sample of 90 countries (including both developing and industrialized countries). To measure the trade openness level, the trade to GDP ratio [(exports+imports)/PIB] is used, while inequalities are measured by the proportion of each decile's income in overall income. The results of his analysis indicate that trade openness has a negative impact on the poor in middle and low-income countries, while in richer countries the impact of openness on the poor is rather positive. This result is similar to that found by **Ravallion (2001)** and tends to indicate that trade openness increases income inequality in poor countries and reduces it in rich countries.

However, while this work confirms or disproves the predictions of the HOSS model, several other studies do not yield conclusive results. In this regard, **Edwards (1997)** analyzed the effects of trade protection on the GINI index from a sample of 43 countries. As a result of this analysis, there is no evidence of a significant impact of trade openness on income inequality in developed countries and developing countries. Similarly, **Li, Squire and Zou'**s analysis **(1998)** leads to the result that trade openness has no significant impact on income inequality in a sample of 85 countries over the 1960-1990 period. Also, the results of **Dollar and Kraay**'s analysis (**2002**) do not show a significant impact of trade liberalization on income inequality in developed and underdeveloped countries. **Goldberg and Pavcnik (2007)** also point out that the empirical evidence on the interaction of trade openness and technological progress and their effects on inequality is ambiguous and inconclusive.

4.2.2 Empirical relationship between financial liberalization and income inequality

Das and Mohapatra (2003) studied the impact of financial liberalization on income inequality from a panel of eleven emerging countries that experienced significant reforms between 1986 and 1995. By using a year-end dummy variable for the major capital account liberalization reforms, they find a pattern suggesting that income inequality increased as a result of liberalization. More specifically, their results indicate that the income share of the top quintile of the population increased significantly at the expense of the income share of the middle class that they defined as the three intermediate quintiles of income distribution. However, their findings suggest that the share of the lowest incomes remained unchanged in the wake of the liberalization process.

In addition, using a panel of 51 countries, **Jaumotte et al. (2013)** analyzed the impact of financial and trade globalization on the rise in income inequality over the period 1981-2003. Their analysis leads to the results indicating that trade globalization reduces inequalities while financial globalization leads to an increase in income inequality. This finding is consistent with recent studies conducted by **Naceur and Zang (2016)**, **De Haan and Sturm (2017)** and **De Haan et al. (2018)**. In contrast to this evidence, the study of **Agnello et al. (2012)**, **Delis et al (2014)** and **Li and Yu (2014)** demonstrates, using the liberalization index developed by **Abiad et al. (2010)**, that financial liberalization contributes to the reduction of income inequality.

Several other studies rather emphasize the impact of FDI on income inequality. As such, in a study covering 53 developing countries, **Pan-Long Tsai (1995)** tested the association between FDI and income inequality measured by the GINI coefficient. His analysis globally reveals that the elasticity of the GINI coefficient to the ratio (FDI/GDP) is positive, implying that FDI accentuates income inequality in developing countries.

In their study, **Feenstra and Hanson (1995)** demonstrate that the rise in wage inequality in industrialized and developing countries is linked to capital flows from industrialized to developing countries. In addition, **Feenstra and Hanson (1997)** also studied the impact of FDI on skilled workers' wage shares in Mexico City from 1974 to 1988. FDI is measured in their study by the establishment of foreign capital assembly units. Their analysis leads to the result that the wage share of skilled workers is higher in regions where FDI are more important. More specifically, in regions where FDI are concentrated, the growth of FDI explains 50% of the increase in the skilled workers' wage share, thus leading to a widening of wage inequalities. This finding is reinforced by that of **Mah Jai S. (2010)** indicating that globalization, through trade liberalization and the flow of FDI, has led to an increase in income inequality in Korea. However, the study carried out by **Milanovic (2002)** on a sample of 90 countries found no evidence of any significant statistical association between FDI and income inequality.

4.2.3 Empirical evidences on the influence of institutional quality on the globalization effects

While it is difficult to highlight a simple and unambiguous relationship between financial globalization and income inequality, there is evidence suggesting the presence of non-linearities or threshold effects in this relation. Moreover, the absence of converging results may be linked to the effects of the quality of institutions that determine the impact of globalization on income disparities. Thus, globalization seems more conducive to growth and the reduction of inequalities when combined with good macroeconomic policies and good governance practices.

In this respect, **Ito (2006)** and **Kose et al (2009)**, demonstrate that there is a certain threshold of financial development and institutional quality from which the country can fully benefit from the advantages of financial liberalization. Below this threshold, foreign capital flows, particularly foreign direct investment and portfolio investments, do not have a significant effect on growth.

In addition, using a sample of 81 countries covering the period 1985-2010, **Law et al. (2014)** analyzed the relationship between financial development and income inequality, focusing on whether the relationship varies according to the level of institutional quality. Through an estimate using the threshold regression method, their results highlight the existence of a threshold effect on the quality of institutions that determines the relationship between financial development and income inequality. Thus, for institutional quality above the threshold, financial development has a significant impact on reducing inequalities. On the other hand, when the quality of institutions lies below the threshold, financial development had no impact on income inequalities.

Also, **Delis et al (2014)** collected data from 87 countries to test the link between banking system liberalization and income inequality over the period 1973-2005. The results of the estimation indicated that banking liberalization significantly reduces income inequality. However, the study revealed that this impact is not significant for countries with low levels of economic and institutional development.

Moreover, estimating a fixed effect model on a panel of 121 countries for the period 1975-2005, **De Haan and Sturm (2017)** analyzed the impact of financial liberalization on income inequality. Their findings revealed that financial liberalization leads to an increase in income inequality. Their results also indicated that the quality of political institutions, unlike the quality of economic institutions, conditions the impact of financial liberalization on income inequality.

4.3 Methodology

Most of the econometric studies assessing the impact of globalization on income inequality from a large sample of countries usually find no evidence of a significant association between globalization and income inequality, thus, illustrating the difficulty of identifying globally validated trends (**Dreher & Gaston, 2008**). The absence of converging results is explained by the multiplicity of possible relationships in the countries selected and it is therefore impossible to find a single pattern (**Rodriguez & Rodrik, 2000**). This

discrepancy in results does not seem to be related to the method used or the choice of the trade openness indicator, but rather to how the sample is composed or split. Thus, the results are more significant when introducing country-related characteristics, whether factor endowments (**Fischer, 2001; Gourdon, Maystre, & Melo, 2008a**) or trade characteristics.

Our analysis is based on panel data related to 25 countries in the SSA region. The sample is composed in such a way as to take into account the specificities of the countries, particularly in terms of institutional quality. Thus, we have drawn two distinct samples, one representing countries with relatively good institutional quality and the other encompassing countries with poor institutional quality. This distinction makes it possible to understand the role of institutions in determining the impact of globalization on income inequality. The distinction between countries with good institutional quality and countries with low institutional quality is made according to the criteria and ranking provided by the CPIA (**World Bank, 2018**) and the Heritage Foundation's Economic Freedom Index.

The Country Policy and Institutional Assessment (CPIA) is an indicator aggregating economic policy performance and institutional quality criteria that the World Bank uses in its development aid allocation decisions. The CPIA index is built around 16 criteria grouped into 4 clusters[10]. It provides information on the quality of institutions on a scale ranging from 1 to 6 indicating respectively the lowest and highest levels of institutional quality.

On the other hand, the Heritage Foundation (2019) proposes an indicator based on a set of 4 categories containing 12 criteria[11] for measuring the quality of the various institutions. Each variable is assigned a score on a scale ranging from 0 to 100, and a high score is synonymous with good institutional quality. From the scores assigned to these 12 variables, an average score is calculated to provide information on overall economic freedom. This score varies between 0 and 100 as indicated in the table below:

Table 4-1

Levels of the Overall Economic Freedom Index (EFI)

Score	100-80	79,9-70	69,9-60	59,9-50	49,9-0
Level of Freedom	Free	Mostly Free	Moderately Free	Mostly Unfree	Repressed

Source : Computed by the author based on 2019 Economic Freedom index https://www.heritage.org/index/, (23.05.2019)

As a result, based on these two criteria, we have set up two groups from a total of 25 SSA countries[12] according to the quality of the institutions. We consider that a country has "relatively good" quality institutions if it registers a CPIA index above 3.2. As the CPIA index is only available for a limited number of countries, we add Mauritius, Botswana and South Africa to this category, which are respectively considered "mostly free" and "moderately free" in the Heritage Foundation's ranking. The countries at the bottom of the table in these two rankings are considered to have low quality institutions.

Table 4-2

Classification of the selected countries based on the institutional quality

Panel A : Good and Moderate Institutions Quality		**Panel B : Low Institutions Quality**	
Countries	CPIA /EFI Score	**Countries**	CPIA /EFI Score
Rwanda	4,0 (CPIA)	**Sudan**	2,4 (CPIA)
Senegal	3,8 (CPIA)	**Guinea-Bissau**	2,5 (CPIA)
Cabo verde	3,7 (CPIA)	**Lesotho**	53,9 (EFI)
Kenya	3,7 (CPIA)	**Gambia**	52,3 (EFI)
Tanzania	3,7 (CPIA)	**Guinea**	52,2 (EFI)
Burkina Faso	3,6 (CPIA)	**Malawi**	52,0 EFI)

Ghana	3,6 (CPIA)	**Cameroon**	51,9 (EFI)
Uganda	3,6 (CPIA)	**Sierra Leone**	51,8 (EFI)
Cote d'Ivoire	3,4 (CPIA)	**Niger**	49,5 (EFI)
Ethiopia	3,4 (CPIA)	**Mozambique**	46,3 (EFI)
Nigeria	3,2 (CPIA)	**Djibouti**	45,1 (EFI)
Mauritius	75,1 (EFI)		
Botswana	69,9 (EFI)		
South Africa	63,1 (EFI)		

Sources : The World Bank, CPIA Africa (2018) https://datacatalog.worldbank.org/dataset/country-policy-and-institutional-assessment, (23.08.2019)

The Heritage Foundation, Index of Economic Freedom (2018) https://www.heritage.org/index/ranking, (23.08.2019)

4.3.1 Nature and sources of data

The data used in this study are essentially of a secondary type. They are derived from the World Bank database (World Development Indicators), the SWIID 7.1 database, and the KOF Swiss Economic Institute database. These data cover a set of 25 sub-Saharan African countries divided into two subsets of 14 and 11 countries based on their institutional quality. Most of the sub-Saharan African countries, having started their liberalization process from the 1980s onwards as a result of structural adjustment programs, this liberalization process intensified and accelerated from the 1990s onwards. Thus, given the availability of data, this study covers a 20 years from 1996 to 2015.

The data therefore collected from the different databases are displayed in the form of a panel. Panel data are data relating to a set of entities (individuals, companies, countries, etc.) observed at different time periods. These are therefore two-dimensional data including individuals and time. If we fix the individual observed, we obtain a time series or a longitudinal section. Whereas if we set the period considered, we obtain a cross-section for all individuals.

By using panel data, it will be possible to explore the two sources of variation in statistical information: temporal or within-individual variation and individual or inter-individual variability. The resulting increase in the number of observations ensures better accuracy of estimators, reduces the risk of multi-collinearity and, above all, broadens the scope of the investigation.

According to **Baltagi (2008)**, panel data analysis has several advantages, specifically:

1) Panel data helps to control for individual heterogeneity as they suggest that individuals, firms, and countries are all heterogeneous. Thus, in the analysis, the specificity of each entity can be taken into account.
2) Panel data provide more information, higher variability, less collinearity between the variables, more degrees of freedom and greater efficiency.
3) Panel data allow for a better study and understanding of adjustment dynamics.
4) They allow the detection and measurement of certain effects that are simply undetectable on purely cross-sectional or strictly time-series data.
5) They allow us to better construct and test complex inter and intra-individual behaviors that purely cross-section or time-series data cannot identify.

4.3.2 Variables of the study

The main objective of this study is to empirically assess the effects of globalization factors on income inequality. To this end, we statistically test the impact of a series of independent variables representative of the globalization phenomenon on a dependent proxy variable of income inequality.

4.3.2.1 The Dependent Variable: The Gini Coefficient

The Gini coefficient is the most commonly used indicator to measure income inequality. This index is derived from the Lorenz curve and varies between 0 and 100. The value 0 corresponds to a situation of perfect equality where individuals have an identical income. On the other hand, the value 100 corresponds to an extreme situation of perfect

inequality where all the income is held by an individual. To take into account the impact of redistribution on income, we use the net Gini index which allows us to account for the distribution of income after transfers and taxes. The Gini index data used in this study are obtained from the Standardized World Income Inequality Database (SWIID 7.1). The choice of this database is determined by the fact that it is the largest inequality dataset covering 174 countries over a period from 1960 to 2015.

The SWIID combines data from several other databases, including the LIS Luxembourg Income Study Database (LIS), the United Nations University-World Institute for Development Economics Research database (UNU-WIDER) and the World Income Inequality Database (WIID) database. The SWIID database (**Solt, 2016**) provides a comparable set of standardized estimates of the distribution of market income (gross income) and net income (disposable income) generated through a standardization process that uses Luxembourg Income Study estimates as a reference and gives priority to data from the most reliable sources over less-reliable ones. It also indicates the standard margin of error of the GINI coefficient estimates resulting from the standardization process.

4.3.2.2 The independent variables

The explanatory variables used to capture the important dimensions of the globalization process mainly include trade openness, financial liberalization, and the indicator of the social and political dimensions of globalization. In addition to these key variables, we also include two control variables: GDP growth rate and migrant remittances.

4.3.2.2.1 Growth

The Growth variable refers to the rate of GDP growth. This indicator is used to measure the evolution of the economy from one year to another. Measured in percentage terms, data on this variable are provided from the World Bank's WDI database. The introduction of this variable into the model captures the effects of economic growth on income distribution. Indeed, under the hypothesis of the U-inverted Kuznets curve, income inequality increases with economic growth during the initial phases of economic

development and decreases during the advanced phases. Hence, as our sample is mainly composed of developing countries, we can expect a positive relationship between the Growth variable and the Gini index.

4.3.2.2.2 OPEN

Trade openness is captured in this study by the variable OPEN. This variable is measured by the sum of imports and exports as a percentage of GDP [(Xi+Mi)/GDP]. Data related to this variable are obtained from the World Bank's WDI database. The statistical analysis of the impact of the OPEN variable on the Gini coefficient will allow empirical testing of the predictions of the traditional international trade theory proposed by Hecksher, Ohlin, Samuelson, and Stolper (HOSS). In fact, the HOSS model stipulates that trade openness accentuates inequalities in developed countries and improves income distribution in developing countries. Thus, since our study focuses on developing countries, we can expect that trade openness will be negatively associated with the GINI coefficient.

4.3.2.2.3 FDI

The FDI variable represents the net inflows of FDI as a percentage of GDP. The FDI variable is used in this study as a proxy for financial liberalization. Data on this variable are collected from the World Bank's WDI database. The effects of FDI on income inequality can be analyzed in light of the assumptions of the dependency theories developed by Amin and Prebisch. In this respect, FDI leads to the marginalization of peripheral countries while promoting the formation of an elite class that takes advantage of expanding sectors. The coalition between foreign investors and the local elites seeking to maintain and increase their privileges constitutes an obstacle to the implementation of distributive policies benefiting the lower classes of the population. As a result, FDI would lead to a continuous increase in inequality within countries. This theory contrasts with the theory of modernism, which assumes that the entry of foreign capital, by contributing to stronger economic growth, is conducive to a more egalitarian distribution of income.

4.3.2.2.4 REM

This variable refers to the migrant remittances as a percentage of GDP. It is included in the analysis to grasp the effects of migrant remittances on income distribution. Data on this variable are derived from the central banks of the receiving countries and, more precisely, from their balance of payments. The IMF and the World Bank also publish annual statistics on these financial flows. In this study, we use data from the World Bank's WDI database. These data are compiled by region and by country and published in various reports such as the World Bank's "Migration and Remittances Facebook" report.

Globalization has been associated with an exponential increase in migration flows in recent decades. Along with these migratory flows, remittances transferred by expatriates to their relatives far exceed official development assistance (ODA) and actually represent the second largest source of international exchange flows after foreign direct investments. In fact, between 1980 and 2013, remittances rose from US$25 billion to over US$404 billion, denoting an increase of 1516% (**World Bank, 2014**). For some countries, remittances are a source of external funds two times greater than ODA and represent about two-thirds of total foreign direct investments (**Mohapatra, Ratha, & Xu, 2006**).

With regard to distributional effects, no consensus emerges in the literature on the impact of remittances on income distribution. According to some authors **(Adams & Page, 2003; Mckenzie & Rapoport, 2007**), remittances increase inequality because only wealthy families can afford the migration costs and expect to receive funds in return. On the other hand, other authors (**Durand et al**., **2008**; **Taylor, J.E., Mora, J., and Adams, R.H., 2005**) argue that remittances increase income inequality but only at the beginning of the migration process. Later on, with the generalization of information and the economies of scale of the costs associated with migration, remittances would reduce income inequality. Thus, in the long term, remittances could reach all segments of the population (rich, medium and poor).

4.3.2.2.5 KOFso

This variable is a sub-index of the KOF Globalization Index developed by **Dreher (2006)** and revised by **Gygli et al. (2019)**. This indicator is used as a proxy for the socio-cultural dimension of the phenomenon of globalization. Data on this variable are available in the KOF Swiss Economic Institute database. Concerning the distributional impact of social globalization, there is no formal theory in the literature that can make inferences about the effects that social globalization can have on income inequality. However, considering that globalization, by promoting the interactions and integration of countries can drive a transformation of social norms, **Atkinson (1997)** argues that these changes in social norms can have an impact on the distribution of income. For instance, changes in social norms can affect trade union behavior in such a way as to make wage differentials acceptable. Thus, in view of this argument, it can be expected that social globalization will contribute to increasing income inequality.

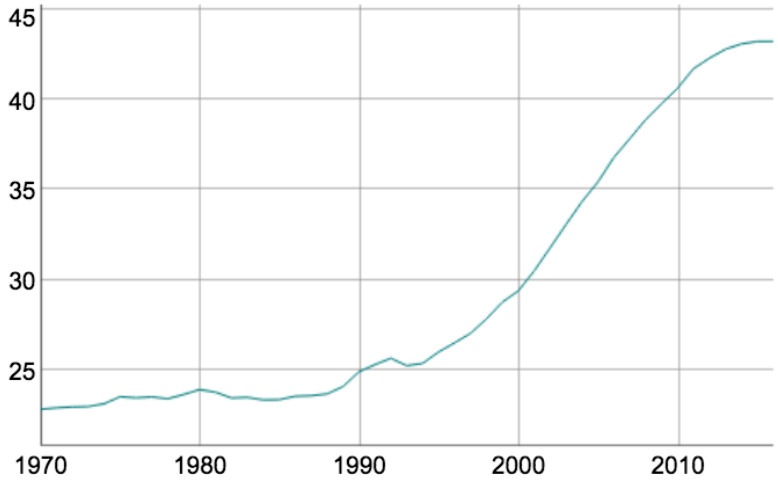

Figure 4-1 Social Globalization in Sub-sahara African Countries (1970-2016)

Source : **Source** : KOF Swiss Economic Institute (2018)
http://www.kof.ethz.ch/globalization/, (**15.08.2019**)

4.3.2.2.6 KOFpo

Similar to the KOF social globalization index, KOFpo is a sub-index of the KOF globalization index. This variable captures the effects of political globalization on income distribution. To measure the political dimension of the phenomenon of globalization, the KOFpo index aggregates *de facto* variables such as the number of Embassies, UN peace keeping missions, International NGOs and *de jure* variables including membership in International organizations, international treaties, and Treaty partner diversity. Although the political dimension is a fundamental aspect of the globalization process, there is no theoretical basis for drawing inferences about its effects on income distribution.

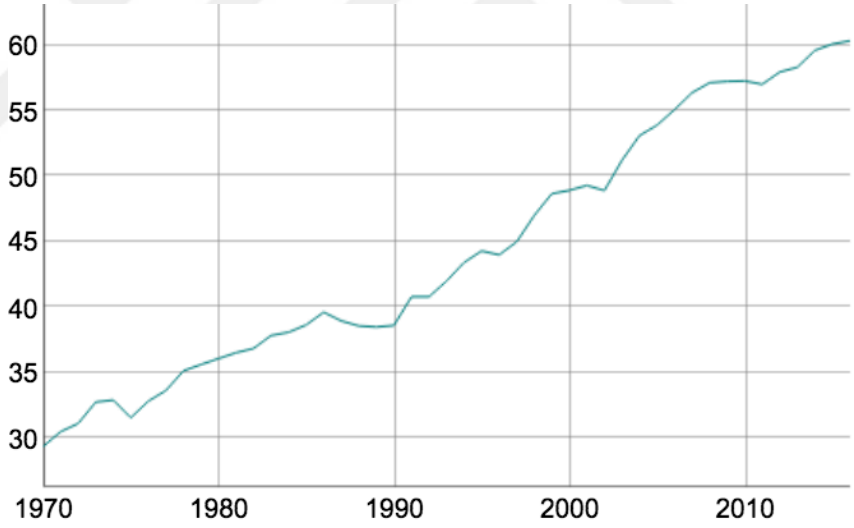

Figure 4-2 Political Globalization in Sub-saharan African Countries (1970-2016)

Source : KOF Swiss Economic Institute (2018)
http://www.kof.ethz.ch/globalization/, (**15.08.2019**)

Table 4-3

Summary Statistics

Variables	Mean	Std. Dev	Min	Max	Source
GINI	45.576	8.179	32.700	62.900	SWIID 7.1
OPEN	68.260	27.202	21.333	132.199	WDI
FDI	2.971	2.458	-0.610	12.667	WDI
KOFso	42.563	15.788	10.809	73.305	KOF SEI *
KOFpo	64.249	16.035	28.759	89.033	KOF SEI*
Growth	5.466	3.746	-7.652	33.736	WDI
REM	2.823	3.822	.01	19.990	WDI

Source : Generated by the Author
*KOF Swiss Economic Institute.

4.3.3 Econometric Model

Based on the analysis of the literature review, we formulated the hypothesis that globalization factors improve income distribution in countries with relatively high institutional quality, whereas they lead to more income inequality in countries with low institutional quality.

4.3.3.1 Specification of the econometric model

To test the hypothesis, we consider a fixed-effects panel model with the following basic structure:

$$Y_{i,t} = \alpha + \beta X_{i,t} + \theta C_{i,t} + \lambda_i + \mu_t + \varepsilon_{i,t}$$

In this equation, i (i=1,...,N) and t (t=1,...,T) indicate country and time respectively. $Y_{i,t}$ represents the proxy variable of income inequality. α represents the vector of constants. $X_{i,t}$ is the vector of the variables of interest of the model. These are the variables that capture the phenomenon of globalization. $C_{i,t}$ corresponds to the vector of the control variables. These are the variables Growth and Rem. β and θ refer to the coefficients of the interest variables and the control variables respectively. $\varepsilon_{i,t}$ denotes the standard error term. Finally, λ_i and μ_t respectively represent the fixed effects related to time and countries. By specifying this descriptive equation, we can write the following fixed-effects model :

$$GINI_{i,t} = \alpha + \beta_1 OPEN_{i,t} + \beta_2 FDI_{i,t} + \beta_3 KOFso_{i,t} + \beta_4 KOFpo_{i,t} + \theta_1 Growth_{i,t} + \theta_2 REM_{i,t} + \varepsilon_{i,t}$$

4.3.3.2 Logarithmic transformation

In order to smooth the model and reduce the large disparities between the variables, we proceed to a logarithmic transformation of the observations. The logarithmic transformation compresses the scales in which the variables are measured, thus reducing a tenfold difference between several values to a double difference. Another advantage of the logarithmic transformation is that the slope coefficient measures the elasticity of Y with respect to X. In other words, this coefficient measures the percentage change of Y relative to a percentage change of X. The final model after the logarithmic transformation is as follows:

$$lgini_{i,t} = \alpha + \beta_1 lopen_{i,t} + \beta_2 lfdi_{i,t} + \beta_3 lkofso_{i,t} + \beta_4 lkofpo_{i,t} + \theta_1 lgrowth_{i,t} + \theta_2 lrem_{i,t} + \varepsilon_{i,t}$$

4.3.4 Model estimation method

In this study, we explore the relationship between globalization and income inequality through the estimation of a fixed-effects panel model. As **Gourdon et al. (2008)** have shown, regressions on the link between trade openness and inequalities that do not control for the effects of variables omitted by the introduction of fixed effects lead to totally biased results. The estimation procedure consists first of applying the unit root test to the variables of the model. The Hausman test is used to specify a fixed-effect or random-effect structure for the data. Then, the diagnostic tests should be performed on the model, including the autocorrelation test, the heteroskedasticity test, and the cross-sectional dependence test. In the event that the diagnostic tests are not conclusive, **Hoechle (2007)** recommends using the Driscoll and Kraay standard errors to correct for estimation bias. In fact, in addition to being autocorrelation and heteroscedasticity consistent, Driscoll-Kraay standard errors are robust to general forms of temporal and cross-sectional dependence.

4.3.4.1 Estimation of the fixed effect model

Estimation of the panel model with fixed effect assumes that individuals and time are heterogeneous and that these individual characteristics can bias the estimates. Under these conditions, the OLS estimate is no longer appropriate as it does not take into account individual and temporal specificities. In such cases, the existence of a probable omitted variable bias may arise.

The individual fixed-effect model has a residue structure that verifies the standard OLS hypotheses. It is, in fact, a classic model with individual dummy variables. In other words, individual effects are treated as parameters to be estimated. Individual fixed effect estimation is used when controlling for omitted variables that differ between individuals but are constant over time. In contrast, time-fixed effect estimation is used if it is assumed that there are unobserved effects that vary over time but not between individuals. To put it another way, one variable may influence another but not in the same way over time. In this case, we introduce constants that change over time.

4.3.4.1.1 Hausman Specification Test

The Hausman specification test is used to select between the fixed effect model and the random effect model. The null hypothesis assuming that the model is a random effect model is tested against the alternative hypothesis stating that the model is a fixed effect model (**Greene, 2008**). Put more precisely, it involves testing the null hypothesis of no correlation between the explanatory variables and the individual errors of the model. In other words, the null hypothesis assumed is that a random effect model is more suitable :

H0 : E (ε_{it} / X) = 0 : Random effect model

Therefore, if the probability of this test (p-value) is lower than the level of significance α (generally 5%), then the null hypothesis is rejected. The model must then be specified with fixed individual effects and the " Within " estimator must be used. Otherwise, the model can be specified with random individual effects. The procedure of this test consists of performing the fixed effect regression, saving the results in memory and then performing the random effect regression and comparing the two using Hausman's statistic.

4.3.4.1.2 Unit root test

The analysis of stochastic characteristics of time series data is a prerequisite for the application of any estimation method. If these characteristics change over time, then the series is considered non-stationary. In this case, traditional inference procedures are no longer valid, and this may lead to spurious regressions. The panel unit root tests are modeled on the time-series stationarity tests. The major difference between the two approaches is that when performing panel tests, the asymptotic behavior of the time dimension T and individual N of the series must be taken into account. Also, panel unit root tests are more powerful and generate more robust results, thus increasing the significance of cointegration parameters and capturing trends and breaks common to the different countries studied. There are many unit root tests for panel data. In this analysis, we use the **Im-Pesaran and Shin (2003)** test. This test has the advantage of being less restrictive by allowing under the alternative hypothesis not only the heterogeneity of the unit root but also the heterogeneity as regards the presence of the unit root in the panel. The null

hypothesis of this test states the following:

$$H_0 : \rho_i = 0 \quad \forall i$$

The alternative hypothesis is that some individuals have a unit root and others do not. It is formulated as follows:

$$H_1 : \rho_i < 0 \quad for \quad i = 1,2,\ldots,N_1$$
$$\rho_i = 0 \quad for \quad i = N_1+1,\ldots,N$$

4.3.4.1.3 Diagnostic Tests

Diagnostic tests consist of testing for serial correlation, heteroskedasticity and cross-sectional dependence.

4.3.4.1.3.1 Testing for serial correlation

Serial correlation tests are used to identify possible autocorrelation of both within-individual residuals and between-individual residuals. In other words, they are used to verify the independence of residuals over time [E (e_{it} , e_{jt}) = 0] as well as their independence between individuals[E (e_{it} , e_{is}) = 0]. There are a large number of tests used to detect the autocorrelation of residuals (**Baltagi & Li, 1991; Wooldridge, 2002**). The null hypothesis of these tests is as follows:

H_0 : E (e_{it} , e_{jt}) = 0 / E (e_{it} , e_{is}) = 0 : No serial correlation

As a result, If the probability of this test (P-value) is lower than the significance level α (generally 5%), the null hypothesis is rejected and therefore the residuals are autocorrelated.

4.3.4.1.3.2 Testing for heteroskedasticity

The regression on panel data suggests that the variance is homoscedastic. This means that the variance of the residuals is constant over time and identical between individuals. To detect heteroskedasticity of residuals, there are several tests such as Breusch and Pagan (1979), White (1980) or Wald type tests. The null hypothesis of these tests states that:

$H_0 : \sigma_\varepsilon = \sigma_\mu = \sigma_\nu$: Homoskedastic or constant variance

Thus, if the probability of this test (P-value) is lower than the significance level α (generally 5%), then the null hypothesis assuming the homoscedasticity of the residuals is rejected. In this case, the between and within estimators are no longer unbiased and effective.

4.3.4.1.3.3 Testing for cross-sectional dependence

The cross-sectional dependence test is used to check whether residuals across individuals are correlated. More precisely, this involves verifying whether a shock on one country in the panel has an impact on another country in the same panel. The cross-sectional dependence also referred to as " contemporaneous correlation ", induces biases on the results of the estimates if it is not corrected. Several tests are used to detect cross-sectional dependence in panel data, including the Breusch-Pagan test, Corrected LM test and the Pesaran CD test. The null hypothesis stipulating that the residuals are not correlated is tested against the alternative hypothesis of correlation of the residuals.

4.4 Results and Interpretation

This section is intended to present the results of the various analyses carried out using the STATA program. The section is structured around two points: on the one hand, the presentation of the results of the various tests and estimates and, on the other hand, the interpretation of these results.

4.4.1 Unit Root Test Results

The analysis of the stochastic properties of the panel was performed in order to avoid the spurious regressions that arise when statistical inferences are made on non-stationary series. For this purpose, the Im-Pesaran-Shin (IPS) unit root test was used. The results of this test are presented in the table below.

Table 4-4

Panel Unit Root Test - Im, Pesaran and Shin (IPS)

Variables	Panel A : Good institutions quality			Panel B : Low institutions Quality		
	IPS Test statistics	Prob	Remark	IPS Test statistics	Prob	Remark
lGini	-3.886***	0.000	Stationary I(0)	-4.068***	0.000	Stationary I(0)
lopen	-7.844***	0.000	Stationary I(0)	-7.310***	0.000	Stationary I(0)
lfdi	-3.803***	0.000	Stationary I(0)	-3.053***	0.001	Stationary I(0)
lkofso	-1.943**	0.026	Stationary I(0)	-7.649***	0.000	Stationary I(0)
lkofpo	-1.987**	0.024	Stationary I(0)	-1.805**	0.036	Stationary I(0)
lgrowth	-6.885***	0.000	Stationary I(0)	-6.217***	0.000	Stationary I(0)
lrem	-1.696**	0.045	Stationary I(0)	-6.371***	0.000	Stationary I(0)

Source : Author's computation

Note : ** shows significance at the 5%level ; *** shows significance at the 1% level

In the results presented in the table above, the p-values associated with the IPS test statistic for each of the variables are less than the respective level of significance. Thus, we reject the hypothesis of unit roots in each of the time series and as a result, all the variables are stationary or integrated of order I (o). Once all the series are stationary at level, we can estimate an econometric model without any risk of spurious regressions.

4.4.2 Hausman test Results

We used the Hausman test to choose between a fixed-effect model and a random-effect model for estimating the parameters of our panel model. The results of this test are summarized in the table below.

Table 4-5

Results from Hausman Test

Model	Hausman Test
Panel A	Chi-square = 15.18
	P-value = 0.0189
Panel B	Chi-square = 12.49
	P-value = 0.0519

Source : Author's computation

As for Panel A, the results of the Hausman test reveal that the probability associated with the test is less than the significance level of 5% (P-value = 0.0189 < 0.05). On the other hand, for Panel B, the p-value is less than the significance level of 10% (P-value = 0.0519 < 0.1). Thus, the null hypothesis of no correlation between the random term and the explanatory variables of the model is rejected at a significance level of 5% and 10% respectively. As a result, the individual fixed effect model is the appropriate model for the estimates.

4.4.3 Diagnostic Tests Results

In order to validate the specified model, diagnostic tests were performed on the models to detect the presence of autocorrelation, heteroskedasticity and cross-sectional dependence. The results of these tests are presented as follows:

Table 4-6

Results from Diagnostic Tests

Model	Modified Wald Test for Groupwise Heteroskedasticity	Wooldridge Test for Autocorrelation	Pesaran Cross-sectional Dependence Test
Panel A	Chi2 (15) = 1092.83 Prob > chi2 = 0.0000	F(1 , 14) = 605.034 Prob > F = 0.0000	Pr = 0.02181
Panel B	Chi2 (11) = 4023.97 Prob > chi2 = 0.0000	F(1 , 14) = 3351.608 Prob > F = 0.0000	Pr = 0.02647

Source : Author's computation

4.4.3.1 Results from serial correlation test

We used the **Wooldridge** test (**2002**) to detect possible autocorrelation of residuals in the model. The null hypothesis of this test assumes no first order autocorrelation. The results indicate that the probabilities associated with the test are less than 1% (p-value = 0 < 0.01). Hence, the null hypothesis is rejected and we conclude that there is autocorrelation of the residuals in the model. Therefore, our fixed-effect model should be corrected for serial correlation.

4.4.3.2 Results from heteroskedasticity test

To check the heteroskedasticity of the residuals, we performed the Modified Wald Test for groupwise heteroskedasticity in the fixed effect regression model. The null hypothesis assumes that the residuals are homoskedastic. From the result of this test, it appears that the probabilities associated with the test are less than 1% (p-value = 0 < 0.01). As a result, we reject the null hypothesis and conclude that the residuals are heteroscedastic. Therefore, we have to correct our fixed effect model for the heteroscedasticity of the residuals.

4.4.3.3 Results from cross-sectional dependence test

The Pesaran CD test was carried out to detect a possible cross sectional dependence in the model. The null hypothesis of this test is that the residuals are not correlated. The Pesaran test result indicates that for both panel A and panel B, the probability associated with the test is less than 5%. As a result, the null hypothesis is rejected and we conclude that there is a cross-sectional dependence in the model that needs to be corrected.

4.4.4 Fixed-effect model estimates

The results of the diagnostic tests reveal the existence of autocorrelation, heteroskedasticity and cross-sectional dependence in the model. In order to control for these problems and avoid bias in estimation, the suitable method is to estimate the fixed-effect model using the Driscoll-Kraay Standard errors as suggested by **Hoechle (2007)**. The result of the estimation of the fixed effect model by the Driscoll-Kraay standard errors is summarized in the table below:

Table 4-7

Estimates of the Fixed-effects Models

Dependent Variable : lgini				
Independent Variables	Panel A		Panel B	
	Coeff (std.err.)	Prob	Coeff (std.err.)	Prob
lopen	**-0.165*****	0.000	**0.139*****	0.000
	(0.024)		(0.008)	
lfdi	**0.020***	0.061	-0.013	0.454
	(0.010)		(0.017)	
lkofso	**0.313*****	0.000	0.025	0.581
	(0.034)		(0.044)	
lkofpo	**-0.135*****	0.000	**-0.095*****	0.001
	(0.023)		(0.023)	
lgrowth	**-0.064*****	0.000	**0.021****	0.040
	(0.014)		(0.010)	
lrem	-0.005	0.403	**-0.009*****	0.000
	(0.006)		(0.002)	
const	4.038***	0.000	3.416***	0.000
	(0.156)		(0.177)	
R^2	0.414		**R^2**	0.450
Prob>F (6 , 19)	0.000		**Prob>F (6 , 19)**	0.000
Observations	266		**Observations**	195

Source : Author's computation

Notes: *, **, *** indicate significance at the 10%, 5% and 1% levels respectively. Driscoll-Kraay standard errors are reported in parentheses.

The results from the fixed effect model estimation highlight the good quality of the model specification and therefore reveal the influence of the selected explanatory variables on income inequality. In effect, the probabilities associated with the Fisher test are less than 1% [Prob F (6, 19) = 0 < 0.01]. This implies that the model is globally significant and can be used for the purpose of economic forecasting. These results also uncover the specific impact of each explanatory variable on income inequality.

4.4.4.1 Impact of trade openness on the Gini index

In panel A which includes countries with good institutional quality, evidence highlights a statistically significant association between trade openness (lopen) and the Gini index. The elasticity of the Gini coefficient with respect to this variable has a negative sign, indicating that an increase in trade openness leads to a decrease in income inequality. This finding is in accordance with the predictions of Hecksher-Ohlin-Samuelson's theory and reinforces the empirical results obtained by **Calderon and Chong (2001)** which also revealed a negative and statistically significant impact of trade liberalization on income inequality in developing countries.

By contrast, in panel B comprising countries with low institutional quality, the results indicate that there is a positive and statistically significant relationship between the variable (lopen) and the Gini coefficient. As a result, an increase in trade liberalization would lead to an increase in income inequality in these countries. This result runs counter to the predictions of the traditional Hecksher-Ohlin-Samuelson model. However, it is consistent with the empirical findings of the studies conducted by **Savvides (1998), Ravallion (2001), Milanovic (2002),** and **Cox et al (2005)**. These studies led to the conclusion that trade openness accentuates inequalities in developing countries.

To sum up, our results uncover the role of institutions in the relation between trade openness and income inequality and highlight a pattern indicating that the impact of liberalization on income distribution may be determined by the institutional quality.

4.4.4.2 Impacts of FDI on the Gini coefficient

From our estimates on the panel of countries with good institutional quality, FDI has a positive and significant impact on the Gini index. This implies that a rise in the volume of FDI increases income inequality in these countries. More specifically, a 1% increase in the volume of FDI would lead to a 0.02% increase in the level of income inequality. This finding tends to support the dependency theory that postulates that FDI exacerbates income disparities in developing countries. From an empirical point of view, this result is similar to that found by **Pang-Long-Tsai (1995)**, showing that the elasticity of the Gini index in relation to the (FDI/GDP) ratio is positive in the developing countries. This is also consistent with the result obtained by **Jai.S. Mah (2010),** which revealed that FDI increases income inequality in Korea. Moreover, the results of our estimates support those of **Feenstra and Hanson (1997)** suggesting that FDI exacerbates wage inequality in Mexico.

However, from our estimates on the panel of countries with low institutional quality, we find no evidence of any statistically significant impact of FDI on income distribution. This result is consistent with **Milanovic's (2002)** findings based on a study of a sample of 90 countries suggesting that the association between FDI and income inequality is not significant. Nevertheless, this result, although not conclusive, is intuitive. Indeed, the institutional environment plays a decisive role in the attractiveness of FDI **(Michalet, 1999)**. Foreign investors generally want to operate in an environment characterized by less uncertainty and lower transaction costs and as a result, poor institutional quality has a negative influence on FDI inflows. Thus, the non-significance of the relationship between FDI and income distribution in this panel of countries can be explained by the fact that these countries, due to the poor quality of their institutions, do not have a large stock of FDI.

4.4.4.3 Impact of social globalization on the Gini coefficient

The results of the estimates on panel A show that social globalization has a positive and significant impact on income inequality. Indeed, the elasticity of the Gini coefficient

with respect to the lkofso variable exhibits a positive sign and is significant at the 1% level. This entails that increasing social globalization intensifies income inequalities. This finding is consistent with **Atkinson's (1997)** postulate that transformations or changes in social norms (which may arise as a result of increased integration and interaction between people and countries driven by social globalization) can have an impact on income distribution by influencing, for instance, the behavior of trade union organizations in such a way that they become more tolerable with regard to wage gaps.

On the other hand, the findings indicate that there is no statistically significant impact of social globalization on income distribution in the sample of countries with low institutional quality.

4.4.4.4 Impact of political globalization on the Gini index

Findings highlight a negative relation between political globalization and income inequality for both panel A and panel B. In fact, the elasticity of the Gini coefficient with respect to the *lkofpo* variable has a negative sign and is significant at the 1% level. This evidence suggests that a percentage increase in political globalization improves income distribution by inducing a 0.135% reduction in income inequality in panel A countries and a 0.095% decrease in income inequality in panel B countries.

4.4.4.5 Impact of economic growth on the Gini coefficient

Our estimates on panel of countries with relatively good institutional quality indicate counterintuitively that economic growth reduces income inequality in this sample of countries. The elasticity of the Gini coefficient to the GDP growth rate has a negative sign and is statistically significant at the 1% level. As a result, a percentage increase in the GDP growth rate would lead to a 0.064% reduction in income inequality.

On the other hand, in panel B of countries with low institutional quality, the results show that economic growth increases income inequality. In effect, the association between the logarithm of the GDP growth rate and the logarithm of the Gini coefficient exhibits a

positive sign and is statistically significant at the 5% level. More precisely, this finding suggests that a percentage increase in the GDP growth rate would lead to a 0.021% increase in income inequality. Since the countries in our sample are in the early stages of the development process, this intuitive result is consistent with the hypothesis of the U-inverted Kuznets curve, which states that income inequality increases with economic growth in the early stages of development and decreases in the advanced phases of development.

4.4.4.6 Impact of migrant remittances on the Gini coefficient

Overall, our estimates reveal a pattern suggesting that migrant remittances (*lrem*) improve income distribution. In fact, the sign of the elasticity of the Gini index with respect to the *lrem* variable indicates that remittances have a negative impact on income inequality. Although not significant for panel A countries, this negative impact is statistically significant at the 1% level for panel B. As a result, a percentage increase in the volume of remittances would lead to a 0.009% reduction in income inequality in countries with poor institutional quality. However, it is worth noting that these findings are in contrast to those obtained by **Adams and Page (2003**) and **McKenzie and Rapoport (2007).**

CONCLUSION

The exacerbation of income inequality over the past decades has raised serious concerns and controversies that have revived interest in investigating the socio-economic mechanisms that produce these disparities. Although high levels of within-country inequality are related to the internal dysfunctions of the economy, there is some consensus that the acceleration of the globalization process from the 1980s onwards was accompanied by a global increase in income inequality within and between countries. As a result, during this period, sub-Saharan Africa experienced strong integration into the world economy, economic growth without a catching-up process and an explosion in income inequality. However, the extent of these inequalities remains highly variable from one country to another, suggesting that the quality of the institutions prevailing in different countries could have a significant influence on income distribution. This study, therefore, aimed to analyze the dynamics of income inequality in sub-Saharan Africa from the perspective of globalization and institutional economics.

The work has been structured in such a way as to provide answers to all the questions surrounding the concerns raised in the study. Thus, in Chapter One, we have carried out an in-depth analysis of the phenomenon of globalization together with a presentation of the most notable stylized facts that characterize sub-Saharan Africa in the context of globalization. The second chapter reviewed the concepts related to income, income distribution, and income inequality. The third chapter discussed the notion of institutions, the main features of institutional economics and the contribution of this school of thought to economic analysis. Finally, in Chapter Four, we performed an empirical analysis in order to grasp the impact of the globalization and quality of institutions on income distribution.

To achieve the objective of this study, we have formulated the hypothesis that globalization improves income distribution in countries with relatively good institutional quality and increases inequality in countries with low institutional quality. Based on the

theoretical and empirical literature review presented in Chapter Four, this hypothesis was then tested through a panel data econometric model. The data used in the analysis are collected from the World Bank's WDI database as regards the variables *open, fdi, growth, rem* and from the KOF Swiss Economic Institute's database as regards the variables relative to social and political globalization. The data on the Gini variable is provided by the SWIID database. This database has the advantage over other databases on income inequality because it covers longer periods of time.

The diagnostic tests on the specified model revealed the existence of autocorrelation, heteroskedasticity and cross-sectional dependence, which made it necessary for us to use the Driscoll-Kraay standard errors to correct these problems. Findings from the estimation of the fixed-effect model using Driscoll-Kraay's standard errors indicate that:

Trade openness improves income distribution in countries with relatively good institutional quality but increases income inequality in countries with low institutional quality. This result seems to show that, while it is well established that trade openness influences income distribution, its impact is however determined by the quality of the institutions that prevail in the countries. A similar result is observed with economic growth, which decreases income inequality in countries with good quality institutions and amplifies it in countries with low quality institutions. In addition, an increase in FDI accentuates income inequalities but has no significant effect on income distribution in countries with low quality institutions. It therefore emerges that the distributive impact of FDI depends on the institutional environment, which plays a crucial role in the attractiveness to FDI. While political globalization leads to a reduction in income inequality regardless of the quality of institutions, social globalization accentuates inequalities in countries with relatively good institutional quality. Evidence also suggests that the increase in remittances leads to a reduction in income inequality, although this impact is not significant in countries with relatively good institutional quality.

Each of these main results emphasizes the contribution of this study with regard to the existing literature. Thus, this research allows us to address socio-economic debates

around social justice, income distribution and the dynamics of inequality, which give rise to intense theoretical controversies. It provides an interpretation of the dynamics of inequality based on globalization and institutional economics by identifying factors that can determine the evolution of income disparities and whose control will ensure a more egalitarian distribution of income within and between countries.

In practice, interest in inequality issues is purely fundamental. Convergence towards a more or less egalitarian society is considered as an indicator of economic and social progress. The present study thus provides governments with an additional analytical framework to identify the factors that drive the dynamics of income inequality and hence, to develop effective policies to reduce income inequality, which represents a major challenge to sustainable development objectives by 2030. It also provides a relevant analytical framework on which policy makers in sub-Saharan Africa can rely to accelerate the realization of the vision of a prosperous Africa contained in the African Union's Agenda 2063.

END NOTES

[1] As summarized by Kose et al (2006), indicators of financial openness can be grouped into two types of measures: de jure measures that take into account the removal of legal restrictions and controls on cross-border capital flows, prices, quantities, foreign equity holdings, and de facto measures that effectively monitor countries' integration into the international capital market through flow variables.

[2] The de facto measure quantifies the flows or stocks of foreign assets and liabilities of different countries. In other words, de facto indexes measure the current state of financial transaction liberalization expressed in terms of stock, asset or liability flow ratio or their sum as a percentage of GDP. The major advantage of de facto measures is that they provide sufficient information on the current state of financial liberalization between market participants, regardless of the legal measures taken by political actors.

[3] 1) Freedom to use alternative currencies ; 2) Freedom of exchange in capital and financial markets ; 3) Freedom to trade with foreigners ; 4) Private gross capital flows as a ratio of GDP; 5) Export and import of goods and services as a ratio of GDP; 6) Factor income received as a ratio of GDP ; 7) Factor income paid as a ratio of GNP ; 8) Changes in term of trade ; 9) Inflow of direct investment as a ratio of GDP.

[4] While depth refers to the size of a country's international flows as compared to a relevant measure of the size of its domestic economy, breadth measures how closely a country's distribution of international flows across its partner countries matches the global distribution of the same flows in the opposite direction.

[5] According to the World Bank (2015), this decline is the result of a 57% fall in oil prices between 2014 and 2015, due to both the slowdown in China and the increase in the United States' fuel production, which in turn reduces imports from Africa.

[6] In fact, while manufactured products represent only 18% of the value of exports, fuels alone accounted for 55% of exports in 2010-2015 (ERA, 2017) and 39.7% in 2017 (ERA, 2019).

[7] McCulloch, Winters, & Cirera (2001) provide a comprehensive overview of the various channels through which price changes are transmitted in the economic system and influence household living standards.

[8] Although like Karl Marx, Piketty reveals the fundamentally unbalanced dynamics of capitalism, Piketty's analysis is not Marxist in its principles.

[9] The main force of divergence lies in the fact that the rate of profit r tends to be higher than the growth rate of the economy, leading to the wealth growing at a faster rate than the economy as a whole.

[10] These include: i) Economic management, ii) Structural policies (external trade, public finance), iii) Policies for social inclusion and equity (education, health, gender equality) and iv) Public sector management and Institutions (accountability and transparency) (World Bank, 2018) https://datacatalog.worldbank.org/dataset/country-policy-and-institutional-assessment, (23.08.2019).

[11] These criteria include : 1) Rule of law (property rights, judicial effectiveness and government integrity); 2) Government size (Tax burden, government spending, and fiscal health); 3) Regulatory efficiency (Business freedom, labor freedom and monetary freedom); 4) Market openness (Trade freedom, investment freedom and financial freedom) https://www.heritage.org/index/ , (23.08.2019).

[12] The choice of countries is determined by the availability of data.

REFERENCES

Books

Acemoglu, D., & Robinson, J. A. (2006). *Economic Origins of Dictatorship and Democracy* (Reprint edition). Cambridge: Cambridge University Press.

Adams, R. H., & Page, J. (2003). *International Migration, Remittances, and Poverty in Developing Countries*. World Bank Publications.

Amin, S. (1997). *Les Défis de la Mondialisation* (L'Harmattan). Retrieved from http://www.editions-harmattan.fr/index.asp?navig=catalogue&obj=livre&no=2970&razSqlClone=1

Atkinson, Anthony B., & Bourguignon, F. (2014). *Handbook of Income Distribution*. Elsevier.

Baltagi, B.H. (2008). *Econometric Analysis of Panel Data*. Retrieved from https://www.wiley.com/en-us/Econometric+Analysis+of+Panel+Data%2C+5th+Edition-p-9781118672327

Bauman, Z. (1998). *Globalization: The Human Consequences*. Columbia University Press.

Beck, U. (2000). *What is Globalization?* (New Ed). Cambridge, UK ; Malden, MA: Polity.

Boratav, K. (1965). *Kamu Maliyesi ve Gelir Dağılımı* (A.Ü.S.B.F. Yayınları, No: 196-178, Sevinç Matbaası). Ankara.

Bourguignon, F. (2017). *The Globalization of Inequality*. Princeton University Press.

Case, K. E., Fair, R. C., & Oster, S. E. (2008). *Principles of Economics* (9th edition). Pearson.

Caselli, M. (2012). *Trying to Measure Globalization: Experiences, critical issues and perspectives*. Springer Science & Business Media.

Chavance, B. (2008). *Institutional Economics*. https://doi.org/10.4324/9780203888582

Commons, J. R. (1934). *Institutional economics; its place in political economy,*. New York: The Macmillan Company.

Cowell, F. A. (2011). *Measuring Inequality* (Third Edition). LSE Perspectives in Economic Analysis.

Dreher, A., Gaston, N., & Martens, P. (2008). *Measuring Globalisation: Gauging Its Consequences*. Retrieved from https://www.springer.com/gp/book/9780387740676

Eagleton, T. (1991). *Ideology: An Introduction*. Verso.

Friedman, T. L., & Mandelbaum, M. (2011). *That Used to Be Us: How America Fell Behind in the World It Invented and How We Can Come Back* (1st edition). New York: Farrar, Straus and Giroux.

Fukuyama, F. (1992). *The End of History and the Last Man*. Simon and Schuster.

Gekonge, Christopher. O. (2013). *Emerging Business Opportunities in Africa: Market Entry, Competitive Strategy, and the Promotion of Foreign Direct Investments: Market Entry, Competitive Strategy, and the Promotion of Foreign Direct Investments*. IGI Global.

Giddens, A. (1990). *The Consequences of Modernity | Anthony Giddens* (Standford University Press). Retrieved from http://www.sup.org/books/title/?id=2664

Giddens, A. (2000). *Runaway World: How Globalization is Reshaping Our Lives*. Taylor & Francis.

Greene, W. H. (2008). *Econometric analysis* (6th ed). Retrieved from https://trove.nla.gov.au/version/46638961

Gürsel, S., Levent, H., Selim, R., & Sarıca, Ö. (2000). *Türkiye'de Bireysel Gelir Dağılımı Ve Yoksulluk: Avrupa Birliği ile Karşılaştırma* (TÜSİAD Yayınları). İstanbul.

IMF. (2016). *Inequality, Gender Gaps and Economic Growth: Comparative Evidence for Sub-Saharan Africa*. International Monetary Fund.

Landes, D. S. (1998). *The Wealth and Poverty of Nations: Why Some Are So Rich and Some So Poor* (unknown edition). New York: W. W. Norton & Company.

Marx, K., & Engels, F. (1845). *German Ideology, Part 1 and Selections from Parts 2 and 3* (1st Edition edition; C. J. Arthur, Ed.). New York: Intl Pub Co Inc.

McCulloch, N., Winters, L. A., & Cirera, X. (2001). *Trade Liberalization and Poverty: A Handbook*. Centre for Economic Policy Research.

Michalet, C.-A. (1999). *La séduction des Nations ou comment attirer les investissements*. Paris: Economica.

Michalet, C.-A., & Quadrige. (1998). *Le Capitalisme mondial* (Nouv. éd). Paris: Presses Universitaires de France - PUF.

Micklethwait, J., & Wooldridge, A. (2000). *A future perfect: The challenge and hidden promise of globalization*. Retrieved from http://archive.org/details/futureperfectcha00mick

North, Douglass C. (1990). *Institutions, institutional change, and economic performance*. Cambridge; New York: Cambridge University Press.

North, Douglass C., & Thomas, R. P. (1973). *The Rise of the Western World: A New Economic History*. Cambridge University Press.

North, Douglass Cecil. (1981). *Structure and change in economic history*. Retrieved from http://agris.fao.org/agris-search/search.do?recordID=US201300135379

Piketty, T. (2013). *Capital in the Twenty-First Century* (Reprint edition; A. Goldhammer, Trans.). Belknap Press: An Imprint of Harvard University Press.

Putnam, R. D., Leonardi, R., & Nanetti, R. Y. (1993). *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton University Press.

Robinson, W. I. (2004). *A Theory of Global Capitalism: Production, Class, and State in a Transnational World*. JHU Press.

Schumpeter, J. A. (1942). *Capitalism, socialism, and democracy*.

Sen, A., & Foster, J. E. (1997). *On Economic Inequality* (Enlarged edition). Oxford: Clarendon Press.

Smith, A. (1776). *The Wealth of Nations* (Sixth Printing edition; E. Cannan, Ed.). New York: Modern Library.

Stiglitz, J. E. (2012). *The Price of Inequality: How Today's Divided Society Endangers Our Future* (1st ed.). W. W. Norton & Company.

Stiglitz, Joseph. E. (2003). *Globalization and Its Discontents* (Norton and Company). Retrieved from https://wwnorton.com/books/Globalization-and-Its-Discontents/

Strange, S. (1996). *The Retreat of the State: The Diffusion of Power in the World Economy*. Cambridge University Press.

Todaro, M. P., & Smith, S. C. (2008). *Economic Development* (10th edition). Addison Wesley.

Veblen, T. (1899). *The Theory of the Leisure Class* (New edition edition). New York: Dover Publications Inc.

Waters, M. (1995). *Globalization* (2nd edition). London ; New York: Routledge.

Weber, M. (1958). *The religion of India the sociology of Hinduism and Buddhism*. Retrieved from http://www.aspresolver.com/aspresolver.asp?SOTH;S10020838

Williamson, O. E. (1985). *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting*. Free Press.

Wooldridge, J. (2002). *Econometric Analysis of Cross Section and Panel Data*. Retrieved from https://econpapers.repec.org/bookchap/mtptitles/0262232197.htm

Books Sections

Acemoglu, D., Johnson, S., & Robinson, J. A. (2005). Chapter 6 Institutions as a Fundamental Cause of Long-Run Growth. In P. Aghion & S. N. Durlauf (Eds.), *Handbook of Economic Growth* (Vol. 1, pp. 385–472). https://doi.org/10.1016/S1574-0684(05)01006-3

Arrighi, G. (1999). Globalization, state sovereignty, and the 'endless' accumulation of capital. In *States and Sovereignty in the Global Economy* (Routledge). London ; New York: Smith, A.S.; Solinger, D.J.; Topik, S,C.

Clark, W.C. (2000). Environmental Globalization. In *Governance in a globalizing world* (Brookings Institution Press, p. pp 86-108). Washington, DC: Nye, J.S ; Donahue, J.D.

Coase, Ronald H. (1960). The Problem of Social Cost. In C. Gopalakrishnan (Ed.), *Classic Papers in Natural Resource Economics* (pp. 87–137). https://doi.org/10.1057/9780230523210_6

Rodrik, D. (2005). Chapter 14 Growth Strategies. In P. Aghion & S. N. Durlauf (Eds.), *Handbook of Economic Growth* (Vol. 1, pp. 967–1014). https://doi.org/10.1016/S1574-0684(05)01014-2

Journal Articles and Conference Papers

Abiad, A., Detragiache, E., & Tressel, T. (2010). A New Database of Financial Reforms. *IMF Staff Papers*, *57*(2), 281–302. https://doi.org/10.1057/imfsp.2009.23

Acemoglu, D., Johnson, S., & Robinson, J. A. (2001). The Colonial Origins of Comparative Development: An Empirical Investigation. *American Economic Review*, *91*(5), 1369–1401. https://doi.org/10.1257/aer.91.5.1369

Agénor, P.-R. (2004). Does globalization hurt the poor? *International Economics and Economic Policy*, *1*(1), 21–51. https://doi.org/10.1007/s10368-003-0004-3

Agnello, L., Mallick, S. K., & Sousa, R. M. (2012). Financial reforms and income inequality. *Economics Letters*, *116*(3), 583–587. https://doi.org/10.1016/j.econlet.2012.06.005

Aktan, C. C., & Vural, İ.Y. (2002). Gelir Dağılımında Adalet(siz)lik ve Gelir Eşit(siz)liği: Terminiloji, Temel Kavramlar ve Ölçüm Yöntemleri, Yoksullukla Mücadele Stratejileri. *Ankara: Hak-İş Konfederasyon Yayınları*.

Alesina, A., & Perotti, R. (1996). Income distribution, political instability, and investment. *European Economic Review*, *40*(6), 1203–1228. https://doi.org/10.1016/0014-2921(95)00030-5

Anand, S., & Kanbur, S. M. R. (1993). The Kuznets process and the inequality—Development relationship. *Journal of Development Economics*, *40*(1), 25–52. https://doi.org/10.1016/0304-3878(93)90103-T

Andersen, T. M., & Herbertsson, T. T. (2003). *Measuring Globalization* (SSRN Scholarly Paper No. ID 434540). Retrieved from Social Science Research Network website: https://papers.ssrn.com/abstract=434540

Asso, P. F., & Fiorito, L. (2004). Human Nature and Economic Institutions: Instinct Psychology, Behaviorism, and the Development of American Institutionalism. *Journal of the History of Economic Thought*, *26*(4), 445–477. https://doi.org/10.1080/1042771042000298706

Atkinson, A. B. (1997). Bringing Income Distribution in From the Cold. *The Economic Journal*. https://doi.org/10.1111/j.0013-0133.1997.159.x

Atkinson, A. (1970). On the measurement of inequality. *Journal of Economic Theory*, *2*(3), 244–263. Retrieved from https://econpapers.repec.org/article/eeejetheo/v_3a2_3ay_3a1970_3ai_3a3_3ap_3a244-263.htm

Attanasio, O., Goldberg, P. K., & Pavcnik, N. (2004). Trade reforms and wage inequality in Colombia. *Journal of Development Economics*, *74*(2), 331–366. https://doi.org/10.1016/j.jdeveco.2003.07.001

Baltagi, B. H., & Li, Q. (1991). A joint test for serial correlation and random individual effects. *Statistics & Probability Letters*, *11*(3), 277–280. https://doi.org/10.1016/0167-7152(91)90156-L

Barro, R. J. (2000). Inequality and Growth in a Panel of Countries. *Journal of Economic Growth*, *5*(1), 5–32. https://doi.org/10.1023/A:1009850119329

Calderón, C., & Chong, A., A. (2001). External sector and income inequality in interdependent economies using a dynamic panel data approach. *Economics Letters*, *71*(2), 225–231. https://doi.org/10.1016/S0165-1765(01)00374-3

Chinn, M. D., & Ito, H. (2008). A New Measure of Financial Openness. *Journal of Comparative Policy Analysis: Research and Practice*, *10*(3), 309–322. https://doi.org/10.1080/13876980802231123

Coase, R. H. (1937). The Nature of the Firm. *Economica*, *4*(16), 386–405. https://doi.org/10.1111/j.1468-0335.1937.tb00002.x

Cowell, F. A. (2007). Income Distribution and Inequality. *London School of Economics, and Political Science, The Toyota Centre*.

Cox, H., Mowatt, S., Young, S., Kahai, S. K., & Simmons, W. (2005). The impact of globalisation on income inequality. *Global Business and Economics Review*, *7*(1), 1–15. https://doi.org/10.1504/GBER.2005.006915

Dagum, C. (1998). Repartition personnelle et fonctionnelle des revenus: Une approche intégrée. *Etudes Internationales*, *29*((2)), 239–265.

Das, M., & Mohapatra, S. (2003). Income inequality: The aftermath of stock market liberalization in emerging markets. *Journal of Empirical Finance*, *10*(1), 217–248. https://doi.org/10.1016/S0927-5398(02)00025-7

De Haan, J., Pleninger, R., & Sturm, J.-E. (2018). Does the impact of financial liberalization on income inequality depend on financial development? Some new evidence. *Applied Economics Letters*, *25*(5), 313–316. https://doi.org/10.1080/13504851.2017.1319554

De Haan, J., & Sturm, J.-E. (2017). Finance and income inequality: A review and new evidence. *European Journal of Political Economy*, *50*, 171–195. https://doi.org/10.1016/j.ejpoleco.2017.04.007

Delis, M. D., Hasan, I., & Kazakis, P. (2014). Bank Regulations and Income Inequality: Empirical Evidence. *Review of Finance*, *18*(5), 1811–1846. https://doi.org/10.1093/rof/rft039

Demsetz, H. (1967). Toward a Theory of Property Rights. *American Economic Review*, *57*(2), 61–70.

Dollar, D., & Kraay, A. (2002). Growth is Good for the Poor. *Journal of Economic Growth*, *7*(3), 195–225. https://doi.org/10.1023/A:1020139631000

Dreher, A. (2002). Does globalization affect growth? Evidence from a new index of globalization - First Vrsion. *ETH: Swiss Federal Institute of Technology*, *38*(10), 1091–1110. https://doi.org/10.1080/00036840500392078

Dreher, A. (2006). Does globalization affect growth? Evidence from a new index of globalization. *Applied Economics*, *38*(10), 1091–1110. https://doi.org/10.1080/00036840500392078

Dreher, A., & Gaston, N. (2008). Has Globalization Increased Inequality?*. *Review of International Economics*, *16*(3), 516–536. https://doi.org/10.1111/j.1467-9396.2008.00743.x

Durand, J., K, W., Durand, J., Kandel, W., Parrado, E. A., Douglas, & Massey, S. (2008). International Migration and Development in Mexican Communities. *Demography*, *Vol. 33*(No. 2.), 249–264.

Edwards, S. (1997). Trade Policy, Growth, and Income Distribution. *American Economic Review*, *87*(2), 205–210. Retrieved from https://econpapers.repec.org/article/aeaaecrev/v_3a87_3ay_3a1997_3ai_3a2_3ap_3a205-10.htm

Fajnzylber, P., Lederman, D., & Loayza, N. (2002a). Inequality and Violent Crime. *The Journal of Law and Economics*, *45*(1), 1–39. https://doi.org/10.1086/338347

Fajnzylber, P., Lederman, D., & Loayza, N. (2002b). What causes violent crime? *European Economic Review*, *46*(7), 1323–1357. https://doi.org/10.1016/S0014-2921(01)00096-4

Feenstra, R. C., & Hanson, G. H. (1995). *Foreign Investment, Outsourcing and Relative Wages* (Working Paper No. 5121). https://doi.org/10.3386/w5121

Feenstra, R. C., & Hanson, G. H. (1996). *Globalization, Outsourcing, and Wage Inequality* (Working Paper No. 5424). https://doi.org/10.3386/w5424

Feenstra, R. C., & Hanson, G. H. (1997). Foreign direct investment and relative wages: Evidence from Mexico's maquiladoras. *Journal of International Economics*, *42*(3), 371–393. https://doi.org/10.1016/S0022-1996(96)01475-4

Fischer, R. D. (2001). The evolution of inequality after trade liberalization. *Journal of Development Economics*, *66*(2), 555–579. https://doi.org/10.1016/S0304-3878(01)00174-2

Fors, C. H., & Olsson, O. (2007). Endogenous institutional change after independence. *European Economic Review*, *51*(8), 1896–1921. https://doi.org/10.1016/j.euroecorev.2007.01.010

Foster, J.B. (2001). Imperialism and 'empire'—ProQuest. *Monthly Review*, *Vol. 53*(No 7), pp 1-9. https://doi.org/10.14452/MR-053-07-2001-11_1

Goldberg, Pinelopi K, & Pavcnik, N. (2004). *Trade, Inequality, and Poverty: What Do We Know? Evidence from Recent Trade Liberalization Episodes in Developing Countries* (Working Paper No. 10593). https://doi.org/10.3386/w10593

Goldberg, Pinelopi Koujianou, & Pavcnik, N. (2007). Distributional Effects of Globalization in Developing Countries. *Journal of Economic Literature*, *45*(1), 39–82. https://doi.org/10.1257/jel.45.1.39

Gourdon, J. (2007). *Openness and Inequality in Developing Countries: A New Look at the Evidence* (No. 200709). Retrieved from CERDI website: https://ideas.repec.org/p/cdi/wpaper/895.html

Gourdon, J., Maystre, N., & Melo, J. de. (2008a). Openness, inequality and poverty: Endowments matter. *The Journal of International Trade & Economic Development*, *17*(3), 343–378. https://doi.org/10.1080/09638190802136978

Gourdon, J., Maystre, N., & Melo, J. de. (2008b). Openness, inequality and poverty: Endowments matter. *The Journal of International Trade & Economic Development*, *17*(3), 343–378. https://doi.org/10.1080/09638190802136978

Groenewegen, J., Kerstholt, F., & Nagelkerke, A. (1995). On Integrating New and Old Institutionalism: Douglass North Building Bridges. *Journal of Economic Issues*, *29*(2), 467–475. https://doi.org/10.1080/00213624.1995.11505684

Gygli, S., Haelg, F., Potrafke, N., & Sturm, J.-E. (2019). The KOF Globalisation Index – revisited. *The Review of International Organizations*. https://doi.org/10.1007/s11558-019-09344-2

Hodgson, G. M. (2000). What Is the Essence of Institutional Economics? *Journal of Economic Issues*, *34*(2), 317–329. https://doi.org/10.1080/00213624.2000.11506269

Hoechle, D. (2007). Robust standard errors for panel regressions with cross-sectional dependence. *Stata Journal*, *7*(3), 281–312. Retrieved from https://econpapers.repec.org/article/tsjstataj/v_3a7_3ay_3a2007_3ai_3a3_3ap_3a281-312.htm

Howard, A. (1995). Global Capital and Labor Internationalism in Comparative Historical Perspective: A Marxist Analysis. *Sociological Inquiry*. https://doi.org/10.1111/j.1475-682X.1995.tb00423.x

Hugon, P. (1963). Situation et Signification de la Théorie des Trois Secteurs. *Revue d'histoire Économique et Sociale*, *41*(1), 69–99. Retrieved from https://www.jstor.org/stable/24077790

Im, K. S., Pesaran, M. H., & Shin, Y. (2003). Testing for unit roots in heterogeneous panels. *Journal of Econometrics*, *115*(1), 53–74. https://doi.org/10.1016/S0304-4076(03)00092-7

Ito, H. (2006). Financial development and financial liberalization in Asia: Thresholds, institutions and the sequence of liberalization. *The North American Journal of Economics and Finance*, *17*(3), 303–327. https://doi.org/10.1016/j.najef.2006.06.008

Jaumotte, F., Lall, S., & Papageorgiou, C. (2008). *Rising Income Inequality: Technology, or Trade and Financial Globalization?* 38.

Jaumotte, F., Lall, S., & Papageorgiou, C. (2013). Rising Income Inequality: Technology, or Trade and Financial Globalization? *IMF Economic Review*, *61*(2), 271–309. https://doi.org/10.1057/imfer.2013.7

Jeffrey, A. F., & Romer, D. H. (1999). Does Trade Cause Growth? *American Economic Review*, *89*(3), 379–399. https://doi.org/10.1257/aer.89.3.379

Kadid, A. (2015). New Approachs to Measure the Commercial Openness in the Gravitation Model. *Human and Social Studies Review*, (No. 13), 9–18.

Kluver, R., & Fu, W. (2004). The Cultural Globalization Index. *Foreign Policy*. Retrieved from https://www.academia.edu/18519759/The_Cultural_Globalization_Index_extended_

Kose, A., Prasad, E., Rogoff, K., & Wei, S.-J. (2006). Financial Globalization: A Reappraisal. *Panoeconomicus*, *56*(2), 143–197. Retrieved from https://econpapers.repec.org/article/vojjournl/v_3a56_3ay_3a2009_3ai_3a2_3ap_3a143-197.htm

Kose, M. A., Prasad, E., Rogoff, K., & Wei, S.-J. (2009). Financial Globalization: A Reappraisal. *IMF Staff Papers*, *56*(1), 8–62. https://doi.org/10.1057/imfsp.2008.36

Kumar, U., & Mishra, P. (2008). Trade Liberalization and Wage Inequality: Evidence from India. *Review of Development Economics*, *12*(2), 291–311. https://doi.org/10.1111/j.1467-9361.2007.00388.x

Kuznets, S. (1955). Economic Growth and Income Inequality. *The American Economic Review*, *45*(1), 1–28. Retrieved from https://www.jstor.org/stable/1811581

Lane, P. R., & Milesi-Ferretti, G. M. (2007). The external wealth of nations mark II: Revised and extended estimates of foreign assets and liabilities, 1970–2004. *Journal of International Economics*, *73*(2), 223–250. https://doi.org/10.1016/j.jinteco.2007.02.003

Langel, M., & Tille, Y. (2009). Evaluation de la capacité de différentes mesures d'inégalité à détecter des changements dans une distribution de revenus. *Session 21: Pauvreté, Inégalités, Concentration*. Presented at the Xeme journées de méthodologies statistique Insee.

Law, S. H., Tan, H. B., & Azman-Saini, W. N. W. (2014). Financial Development and Income Inequality at Different Levels of Institutional Quality. *Emerging Markets Finance and Trade*, *50*(sup1), 21–33. https://doi.org/10.2753/REE1540-496X5001S102

Lee, E., & Vivarelli, E. M. (2006). Les conséquences sociales de la mondialisation dans les pays en développement. *Revue Internationale Du Travail*. https://doi.org/10.1111/j.1564-913X.2006.tb00498.x

Li, H., Squire, L., & Zou, H. (1998). Explaining International and Intertemporal Variations in Income Inequality. *The Economic Journal*, *108*(446), 26–43. https://doi.org/10.1111/1468-0297.00271

Li, J., & Yu, H. (2014). Income inequality and financial reform in Asia: The role of human capital. *Applied Economics*, *46*(24), 2920–2935. https://doi.org/10.1080/00036846.2014.916390

Lindert, P. H., & Williamson, J. G. (2001). *Does Globalization Make the World More Unequal?* (Working Paper No. 8228). https://doi.org/10.3386/w8228

Litchfield, J. A. (1999). *Inequality: Methods and Tools*. http://www.worldbank.org/poverty/inequal/index.htm

Lockwood, B., & Redoano, M. (2005). The CSGR globalisation index: An introductory guide. *CSGR Working Paper*, (155).

Mah, J. S. (2010). The impact of globalization on income distribution: The Korean experience. *Applied Economics Letters*, *9*(15), 1007–1009. https://doi.org/10.1080/13504850210149124

Mckenzie, D., & Rapoport, H. (2007). Network effects and the dynamics of migration and inequality: Theory and evidence from Mexico. *Journal of Development Economics*, *84*(1), 1–24. https://doi.org/10.1016/j.jdeveco.2006.11.003

Milanovic, B. (2002). *Can we discern the effect of globalization on income distribution? Evidence from household budget surveys* (No. WPS2876; p. 1). Retrieved from The World Bank website: http://documents.worldbank.org/curated/en/649991468739505273/Can-we-discern-the-effect-of-globalization-on-income-distribution-evidence-from-household-budget-surveys

Naceur, S., Ben, & Zhang, R. (2016). *Financial Development, Inequality and Poverty: Some International Evidence* (SSRN Scholarly Paper No. ID 2754937). Retrieved from Social Science Research Network website: https://papers.ssrn.com/abstract=2754937

Norris, P. (2000). Global Governance and Cosmopolitan Citizens. In *Governance in a Globalizing World* (Brookings Institution Press).

O'Rourke, K. (2001). *Globalization and Inequality: Historical Trends* [CEG Working Paper]. Retrieved from Trinity College Dublin, Economics Department website: https://econpapers.repec.org/paper/tcdtcdceg/20015.htm

Pan-Long, T. (1995). Foreign direct investment and income inequality: Further evidence. *World Development*, *23*(3), 469–483. https://doi.org/10.1016/0305-750X(95)00136-Z

Paukert, F. (1973). Income Distribution at Different Levels of Development: A Survey of Evidence. *International Labour Review*, *108*, 97. Retrieved from https://heinonline.org/HOL/Page?handle=hein.journals/intlr108&id=111&div=&collection=

Potrafke, N. (2015). The Evidence on Globalisation. *The World Economy*, *38*(3), 509–552. https://doi.org/10.1111/twec.12174

Pritchett, L. (1997). Divergence, Big Time. *Journal of Economic Perspectives*, *11*(3), 3–17. https://doi.org/10.1257/jep.11.3.3

Quinn, D. (1997). The correlates of change in international financial regulation. *American Political Science Review*, 91(3): 531–551

Quinn, D., Schindler, M., & Toyoda, A. M. (2011). Assessing Measures of Financial Openness and Integration. *IMF Economic Review*, *59*(3), 488–522. https://doi.org/10.1057/imfer.2011.18

Raab, M., Ruland, M., Schönberger, B., Blossfeld, H.-P., Hofäcker, D., Buchholz, S., & Schmelzer, P. (2008). GlobalIndex: A Sociological Approach to Globalization Measurement. *International Sociology*, *23*(4), 596–631. https://doi.org/10.1177/0268580908090729

Randolph, J. (2001). G-Index: Globalisation Measured. *World Markets Research Centre*.

Ravallion, M. (2001). Growth, Inequality and Poverty: Looking Beyond Averages. *World Development*, *29*(11), 1803–1815. https://doi.org/10.1016/S0305-750X(01)00072-9

Robinson, J. A. (1998). Theories of "bad policy". *The Journal of Policy Reform*, *2*(1), 1–46. https://doi.org/10.1080/13841289808523372

Rodriguez, F., & Rodrik, D. (2000). *Trade Policy and Economic Growth: A Skeptic's Guide to Cross-National Evidence* (Working Paper No. 7081). https://doi.org/10.3386/w7081

Rodrik, D. (2000). Institutions for high-quality growth: What they are and how to acquire them. *Studies in Comparative International Development*, *35*(3), 3–31. https://doi.org/10.1007/BF02699764

Samimi, P., Lim, G.C, & Buang, A.A. (2012). A Critical Review on Synthetic Globalization Indexes. *International Journal of Fundamental Psychology and Social Sciences*, *2*(1), 28–31.

Savvides, A. (1998). Trade policy and income inequality: New evidence. *Economics Letters*, *61*(3), 365–372. https://doi.org/10.1016/S0165-1765(98)00197-9

Scholte, J. A. (2008). Defining Globalisation. *World Economy*. https://doi.org/10.1111/j.1467-9701.2007.01019.x

Scholte, J.A. (2002). What Is Globalization? The Definitional Issue—Again. *CSGR Working Paper*, (No. 109/02).

Solt, F. (2016). The Standardized World Income Inequality Database. *Social Science Quarterly*, *97*(No 5), pp 1267-1281. https://doi.org/10.1111/ssqu.12295

Spilimbergo, A., Londoño, J. L., & Székely, M. (1999). Income distribution, factor endowments, and trade openness. *Journal of Development Economics*, *59*(1), 77–101. https://doi.org/10.1016/S0304-3878(99)00006-1

Stolper, W. F., & Samuelson, P. A. (1941). Protection and Real Wages. *The Review of Economic Studies*, *9*(1), 58–73. https://doi.org/10.2307/2967638

Taylor, J.E., Mora, J., and Adams, R.H. (2005). *Remittances, inequality and poverty: Evidence from rural Mexico*. (No. WPS05-003).

Thorbecke, E., & Charumilind, C. (2002). Economic Inequality and Its Socioeconomic Impact. *World Development*, *30*(9), 1477–1495. https://doi.org/10.1016/S0305-750X(02)00052-9

Veblen, T. (1898). Why is Economics not an Evolutionary Science? *The Quarterly Journal of Economics*, *12*(4), 373–397. https://doi.org/10.2307/1882952

Veblen, T. (1909). The Limitations of Marginal Utility. *Journal of Political Economy*, *17*.

Vujakovic, P. (2010). How to Measure Globalization? A New Globalization Index (NGI). *Atlantic Economic Journal*, *38*(2), 237–237. https://doi.org/10.1007/s11293-010-9217-3

Wang, J.-Y., & Blomström, M. (1992). Foreign investment and technology transfer: A simple model. *European Economic Review*, *36*(1), 137–155. https://doi.org/10.1016/0014-2921(92)90021-N

Winters, L. A. (2002). Trade Liberalisation and Poverty: What are the Links? *World Economy*. https://doi.org/10.1111/1467-9701.00495

Zhu, S. C., & Trefler, D. (2001). *Ginis in General Equilibrium: Trade, Technology and Southern Inequality* (Working Paper No. 8446). https://doi.org/10.3386/w8446

Reports

Chenery, H. (1974). *Redistribution with growth* (No. 9991; p. 1). Retrieved from The World Bank website: http://documents.worldbank.org/curated/en/179731468764958719/Redistribution-with-growth

ERA. (2010). *Economic Report on Africa 2010: Promoting High-level Sustainable Growth to Reduce Unemployment in Africa*. https://doi.org/10.18356/cd79df2f-en

ERA. (2011). *Economic Report on Africa: Governing Development in Africa: The Role of the State in Economic Transformation.* United Nations Economic Commission for Africa.

ERA. (2014). *Economic Report on Africa: Dynamic Industrial Policy in Africa—Innovative Institutions, Effective Processes and Flexible Mechanisms*. United Nations Economic Commission for Africa.

ERA. (2017). *Economic Report on Africa: Urbanization and Industrialization for Africa's Transformation*. United Nations Economic Commission for Africa.

ERA. (2019). *Economic Report on Africa: Fiscal Policy for Financing Sustainable Development in Africa*. United Nations Economic Commission for Africa.

Ernst & Young. (2012). *Looking Beyond the Obvious: Globalization and New Opportunities for Growth. About the 2012 Globalization Index*. Ernst & Young.

GCR. (2018). *The Global Competitiveness Report*. World Economic Forum.

Ghemawat, P., & Altman, S. A. (2016). *DHL Global Connectedness Index 2016: The State of Globalization in an Age of Ambiguity*. Deutsche Post DHL.

ILO. (2010). *Global Wage Report 2010/11: Wage policies in times of crisis* [Report]. Retrieved from http://www.ilo.org/global/publications/ilo-bookstore/order-online/books/WCMS_145265/lang--en/index.htm

ILO. (2011). *A New Era of Social Justice* (p. 10). Retrieved from International Labour Organization website: http://www.ilo.org/ilc/ILCSessions/previous-sessions/100thSession/reports/reports-submitted/WCMS_155656/lang--en/index.htm

Mohapatra, S., Ratha, D., & Xu, Z. (2006). *Remittance trends 2006* (No. 43088; pp. 1–4). Retrieved from The World Bank website: http://documents.worldbank.org/curated/en/212281468137732041/Remittance-trends-2006

UNDP. (2017a). *Human Development Report 2016: Human Development for Everyone*. https://doi.org/10.18356/b6186701-en

UNDP. (2017b). *Income Inequality Trends in sub-Saharan Africa: Divergence, Determinants, and Consequences*. Retrieved from United Nations Development Programme website: https://www.researchgate.net/publication/320912287_Income_Inequality_Trends_in_sub-Saharan_Africa_Divergence_Determinants_and_Consequences

WIR. (2018). *World Inequality Report*. World Inequality Lab.

World Bank (2000), Poverty in an Age of Globalization. http://www1.worldbank.org/economicpolicy/globalizati on/ documents/ povertyglobalization.pdf

World Bank. (2000). *World development report 2000/2001: Attacking poverty* (No. 22684; pp. 1–356). Retrieved from The World Bank website: http://documents.worldbank.org/curated/en/230351468332946759/World-development-report-2000-2001-attacking-poverty

World Bank. (2002). *Globalization, growth, and poverty : building an inclusive world economy*. A World Bank policy research report. Washington, D.C. http://documents.worldbank.org/curated/en/954071468778196576/Globalization-growth-and-poverty-building-an-inclusive-world-economy

World Bank. (2003). *Global economic prospects 2004 : realizing the development promise of the Doha Agenda (English)*. Global Economic Prospects and the Developing Countries (GEP). Washington, DC : World Bank Group. http://documents.worldbank.org/curated/en/348151468127175246/Global-economic-prospects-2004-realizing-the-development-promise-of-the-Doha-Agenda

World Bank. (2005). *Global economic prospects 2006 : economic implications of remittances and migration (English)*. Global Economic Prospects and the Developing Countries (GEP). Washington, DC: World Bank. http://documents.worldbank.org/curated/en/507301468142196936/Global-economic-prospects-2006-economic-implications-of-remittances-and-migration

World Bank. (2014). *Migration and development brief*. Washington, DC.

World Bank. (2015). *An analysis of Issues Shaping Africa's Economic Future*. Washington, DC: World Bank.

World Bank. (2018). *CPIA Africa: Assessing Africa's Policies and Institutions*. Retrieved from World Bank website:

https://openknowledge.worldbank.org/handle/10986/30155 License: CC BY 3.0 IGO

Thesis

Thacker, V.P. (2008). *The Myth of Prosperity: Globalization and the South*. University of Adelaide, Adelaide.

Internet sources

https://datahelpdesk.worldbank.org/knowledgebase/articles/906519 (24.06.2019)

https://datacatalog.worldbank.org/dataset/country-policy-and-institutional-assessment, (23.08.2019).

https://data.worldbank.org/indicator?tab=all (27.06.2019)

http://www.kof.ethz.ch/globalization/, (15.08.2019)

https://www.heritage.org/index/, (23.08.2019).