

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

**SOMALI'DE YOKSULLUĞUN BELİRLEYİCİLERİ:
HANEHALKI DÜZEYİNDE BİR ANALİZ**

Doktora Tezi

MUSTAFE ABDİ MOHAMED

Istanbul, 2020

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Danışmanı: PROF.DR. MURAT ÇOKGEZEN

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PROLOGUE

Although the determinants of poverty, the effect of remittance on poverty reduction, and economic growth have extensively been studied, it's scarce in Somalia. This dissertation was designed to explore these issues; thus, its objectives are multifold. Accordingly, the dissertation was organized into five chapters, all of which is an independent research article.

The first chapter provides an overview of the theory of poverty and remittance. The second chapter shows the measure and analyzes the poverty status and its determinants in Somalia. The important questions investigated in this part are; what are the major determinants of rural and urban poverty in Somalia? In other words, what are the household characteristics and geographic factors, which determine the rural and urban poverty in the country? How do living standards, and hence poverty, vary between rural and urban areas?

Chapter three examines how remittances affect household expenditure and reduce poverty in Somalia. This study seeks to proffer answer(s) to the following study questions: what is the extent to which remittance helps reduce household poverty? And what is the level of significance in the relationship between remittance and per capita consumption of households? The propensity score matching was used, and the latest survey data from the Somali High-Frequency Survey 2018,

Chapter four analysis the effects of remittances on African countries' economic growth. This chapter analyzed the relationship between remittances and economic growth in African countries during 1996-2019.

Finally, chapter five concludes the paper and provides suggestions for future research. Since all chapters of this dissertation are an independent research article, some explanations and literature are repeated in different dissertation sections.

Each paper is subdivided into five parts. The first section is the introduction part, which focuses on the background, statement of the study, objectives, and research questions. Conceptual frameworks and empirical investigations are developed in part two. The third part deals with the paper's methodology in which data and data sources and model specifications will be stated. Section four & five will be the analysis of the study and conclusion of each paper.

ÖNSÖZ

Yoksulluğun belirleyicileri, göçmen dövizinin yoksulluğun azaltılması ve ekonomik büyüme üzerindeki etkisi kapsamlı bir şekilde araştırılsa da Somali'de çok azdır. Bu tez, bu sorunları keşfetmek için tasarlanmıştır; bu nedenle hedefleri çok yönlüdür. Buna göre tez, tümü bağımsız bir araştırma makalesi olan beş bölüm halinde düzenlenmiştir.

İlk bölüm, yoksulluk ve göçmen dövizini teorisine genel bir bakış sağlar. İkinci bölüm, Somali'deki yoksulluk durumunu ve belirleyicilerini ölçüp analiz ediyor. Bu bölümde analiz edilen başlıca sorular; Somali'de kırsal ve kentsel yoksulluğun başlıca belirleyicileri nelerdir? Başka bir deyişle, ülkedeki kırsal ve kentsel yoksulluğu belirleyen hanehalkı özellikleri ve coğrafi faktörler nelerdir?

Üçüncü bölüm, işçi dövizlerinin hane halkı harcamalarını nasıl etkilediğini ve Somali'de yoksulluğu nasıl azalttığını incelemektedir. Bu çalışma, aşağıdaki çalışma sorularına cevap vermeyi amaçlamaktadır: Göçmen dövizinin hanehalkı yoksulluğunu azaltmaya ne ölçüde yardımcı olduğu? Ve hane halklarının işçi dövizleri ile kişi başına tüketimi arasındaki ilişkinin önemi nedir? Eğilim puanı eşleştirme kullanıldı ve 2018 Somali Yüksek Frekans Anketi'nden en son anket verileri kullanıldı.

Dördüncü bölüm, işçi dövizlerinin Afrika ülkelerinin ekonomik büyümesi üzerindeki etkilerini analiz ediyor. Bu bölümde, 1996-2019 döneminde Afrika ülkelerindeki işçi dövizleri ile ekonomik büyüme arasındaki ilişkiyi analiz ettim.

Son olarak, bölüm beş makaleyi sonuçlandırıyor ve gelecekteki araştırmalar için öneriler sunuyor. Bu tezin tüm bölümleri bağımsız bir araştırma makalesi olduğundan, bazı açıklamalar ve literatür farklı tez bölümlerinde tekrarlanmıştır.

Her kağıt beş bölüme ayrılmıştır. İlk bölüm, arka plana, çalışmanın açıklamasına, hedeflere ve araştırma sorularına odaklanan giriş bölümüdür. Kavramsal çerçeveler ve ampirik araştırmalar ikinci bölümde geliştirilmiştir. Üçüncü bölüm, veri ve veri kaynaklarının ve model özelliklerinin ifade edileceği makalenin metodolojisiyle ilgilidir. Dördüncü ve beşinci bölüm, çalışmanın analizi ve her makalenin sonucu olacaktır.

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Acronyms

AR	Arellano–Bond
GDP	Gross Domestic Product
GMM	Generalized Method of Moments
IV	Instrumental Variable
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Squares
PSM	Propensity Score Matching
SSA	Sub-Saharan African
WB	World Bank
WGI	World Governance Indicator
N.N.	Nearest Neighbor
SHFS	Somali High-Frequency Survey
SLHS	Somaliland Household Survey
IDPs	Internally Displaced Persons
NELM	New Economics of Labor Migration.
CBN	Cost of Basic Needs
FEI	Food Energy Intake
FAO	Food and Agricultural Organization

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CHAPTER ONE

I GENERAL INTRODUCTION

The last century has witnessed remarkable developments in science, technology, and wealth creation. Despite this, poverty in all its appearances remains profound, pervasive, and stubborn. The world is characterized by the division between the 'haves' and the 'have-nots,' As people over the globe awake to face a new day, they do so under very diverse circumstances (Todaro, 1997). While the former leads to untold luxury, the latter suffers from a lack of *decent, healthful, and productive* life.

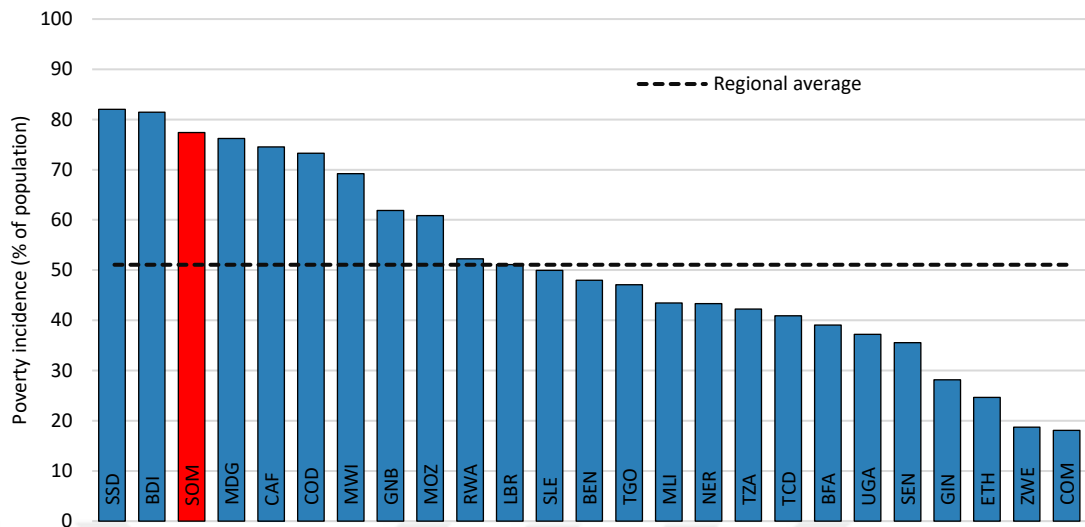
In Latin America, South Asia, and Sub-Saharan Africa, poverty continued to weakening for three decades. Still, the number of poor people has been rising dramatically in Sub-Saharan African countries. During 1990, 56% of Africans were poor, compared to 43% in 2012. Due to population growth, the World Bank data show that the number of individuals living below the poverty line increased from 280 million to 330 million. (World Bank, 2015).

According to Oxfam, 42 individuals hold as much affluence as the 3.7 billion people who make up the more miserable half of the world's population in 2018 compared to 61 people last year and 380 in 2019. Poverty has remained a global problem, and consequently, it has been studied many times at a worldwide level. Like in East Asia, some countries are about to escape from the category of least developed countries, partly for their continuous fight against poverty.

Fourth, seven percent of the sub-Saharan African population, or 501 million people in 2012, live at a rate of \$ 1.90 a day or less. (W.B., 2013) *"Approximately 27.4% of Africa's population was classified as severely food insecure in 2016, which is almost four times as high as any other region. Alarming, food insecurity is on the rise, specifically in sub-Saharan Africa. From 2014 to 2016, food insecurity increased by about 3%"* (FAO, 2017)

Poverty in Somalia varies between 26 and 70 percent in the Somali population, using USD's international poverty line. \$ 1.90 in 2011 PPP and total consumption expenditure. The prevalence of poverty is nineteen percentage points above in Somalia than the low-income states in SSA (fifty-one percent) in 2017. It has the sixth-highest poverty rate in Africa, only after Burundi, Central African Republic, Madagascar, Democratic Republic of Congo, and South Sudan. (Pape, 2017)

Figure 1-1 Poverty incidence (% of the population) in SSA



Source: Own calculation based on World Bank data, 2018.

Somalia regions' urban poverty shows that it varies from 26 (Northeast) to 57 percent (Mogadishu). Poverty in rural areas ranges from 34 percent (North East) to 61 percent (Northwest). The prevalence of poverty is high in Internally Displaced Persons (IDP) settlement where seventy percent of the population is deficient; in addition to that, more than 1.1 million Somalis are thought to be displaced in the country, about 9% of the community. (Pape, 2017)

However, Somalia did not join this track because of the insecurity and inability to reduce persistent poverty. All of us consciously or unconsciously know to some extent what Somali's poverty resembles. The fundamental question that comes to the forefront is not are we destitute, just because we are, but what makes us still poor and what factors determine we be poor

Poverty is not a new issue, and the root of interest is on the way to the beginning of the 17th century. However, the widespread and continuation of poverty, described as mass poverty has increased visibly from the middle of the 18th century (Şenses, 2006). Poverty has become increasingly widespread, with the economic and social crises intensified in the late 20th century. Together with some other globalization influences, the tensions in living standards and opportunities have increased poverty by diversifying human rights and needs (Burkett, 1991).

1.1 Theories of poverty

The theories of poverty and underdevelopment are many and varied, impossible to detail in this work. However, so that the reader has an approximate idea, we will try to group the theories into three main trends: "modernization theories," "dependency theories," and "liberal theories. The former assumes development as the repetition of the historical experience of the industrialized capitalist countries. The second focus their attention on the unequal character of the relations between the center of world capitalism and the periphery. And the third assumes poverty as the inability of an economy to generate jobs and adequate wages that satisfy the basic needs.

1.1.1 Theories of modernization

The supporters of the "modernization theories" analyze poverty from underdevelopment, which they consider the critical element of poverty. The main factors of underdevelopment in developing countries are the scarcity of capital, insufficient savings, the narrowness of the internal market, and the low level of labor productivity. All these factors taken together, do not allow the creation of enough inner impulses for dynamic economic growth. According to these theories, the backward economy is in a state of stagnation. Only the minimum means of subsistence are assured for the bulk of the population, a situation that keeps countries in a permanent state of poverty. They suggested that the leading cause of developing countries' backwardness lies in their internal economy's particularities and not in factors external to it. They thought that underdevelopment could only be overcome through economic growth based on developed capitalist countries' experience.

They assured that without a series of impulses that remove the backward economy from such a state, it would return to its initial state. For them, the conditions to achieve these impulses can be created through the accelerated accumulation of capital, the concentration of investments in individual branches, the maximum stimulation of their economic growth, and attracting large masses of foreign capital.

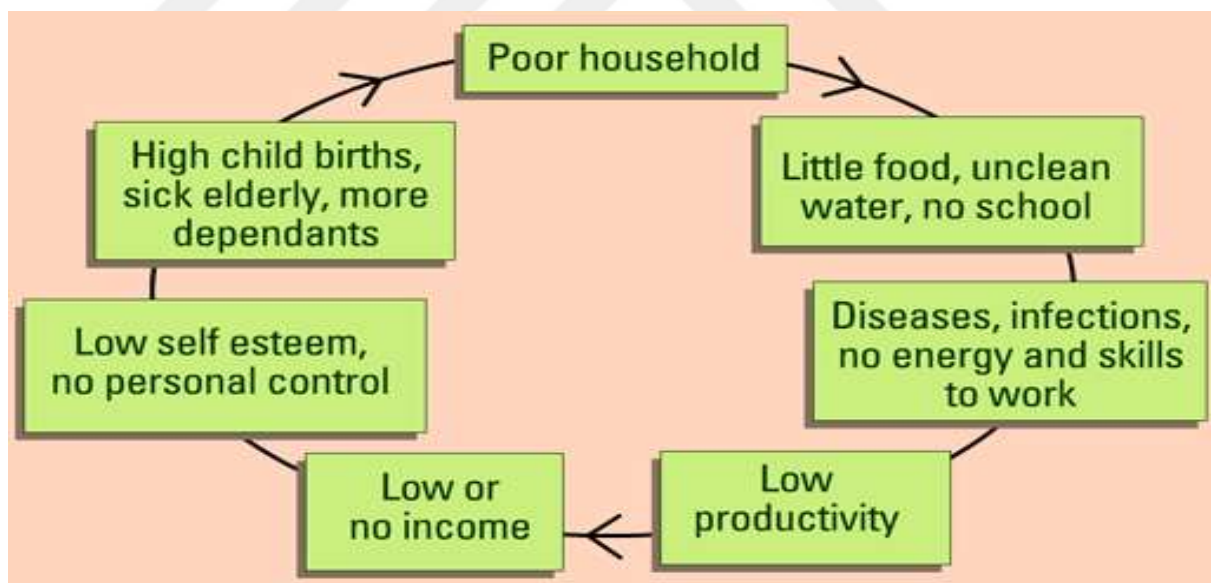
In addition to these economic conditions, these theories' supporters modified a social-political nature to escape poverty. Thus, they proposed transformations in social and political institutions and forms of social behavior; and they recommended the development of social mobility, labor division, and free enterprise. (Tipps, 1973)

1.1.2 The vicious cycle of poverty

This theory starts with the idea that certain economic conditions in low-income countries discourage saving and create vicious circles that determine poverty conditions' persistence. Thus, a person is poor because they do not earn enough to live. They make little because of their low productivity, which occurs because of their low level of qualification, resulting from their lack of money to invest in education, which occurs because they earn little. The same happens with the unemployed; a person is unemployed because few companies to work it. There are few companies to work with because there is little capital to invest, resulting from the low level of savings in society, which occurs because few people are employed.

We return to the beginning of the problem to produce a vicious circle, that is, a man is poor because he is poor. In the case of countries, a similar situation exists: a country is poor because you have little capital for investment, capital is little for the reduced saving capacity of society that results from the low level of real income, which is a consequence of low productivity, which is due to lack of capital.

Figure 1-2 *The vicious cycle of poverty*



The deficiency of capital is the consequence of the low capacity to save, and thus the circle is complete. Likewise, investment is low due to the low incentive to invest in the population's low purchasing power. This is due to their low real income, which is attributable to the low productivity level resulting from the small amount of capital used in production due to the low incentive to invest. Thus, the vicious circle is eternal. In other words, the condition of poverty generates more poverty. (Dasgupta, 1995)

1.1.3 Development in phases

The theories of Walt Rostow first divide the social-economic evolution of any country into five stages through which development is achieved. For Rostow, those stages were: traditional society, the preconditions for take-off, take-off, the process to maturity, and the era of mass consumption. For this author, developing countries should repeat these experiences, albeit in different ways, very similar in their most important features; this is so if they wanted to get out of backwardness and overcome underdevelopment. Alvin Toffler proposes development through growth phases different from those of Rostow. In his opinion, human society develops based on three waves related to the technological development of humanity. For him, these three waves are agrarian civilization, industrial civilization, and super-industrial or post-industrial civilization. This latest wave is based on high technologies, information, and the new form of economic organization that it calls the knowledge economy. It suggests that overcoming poverty and achieving development, underdeveloped countries must overcome industrial civilization. Based on the development of high technologies and knowledge, reach a post-industrial culture to raise their populations' level substantially (Bauer, 1962).

1.1.4 Dependency theories

The dependent approaches arose to oppose the conceptions of modernization since they considered that these Eurocentric theories were not related to developing countries' reality. They believed that the mechanical transplantation of developed countries' experiences would not solve economic backwardness. The dependent school's main variant manifested itself through "structuralist" thinking promoted by a group of economists linked to the Economic Commission for Latin America (ECLAC). Their review was based on the explanation of the unequal character of world capitalism. They considered that our countries were exporters of raw materials and rich countries were exporters of finished products. It generated a "deterioration in terms of trade" of international trade, impeding development, and increased poverty. They understood that to achieve development and overcome poverty; the government had to intervene in the economy to promote industrialization through "import substitution" and complete the so-called "inward development" based on an autonomous capitalism program. (Hays, 1964).

1.1.5 The neoliberal approach

For liberals or neoliberals, poverty is produced by a nation's inability to produce jobs due to distortions in applying the market economy. According to neoliberals, poverty could only be solved through market mechanisms, which can ensure full employment for the population and an adequate wage scale in the long term. For neoliberals, the government is the principle that causes poverty because its participation in the economy compresses private activity, which is the most active part in generating jobs. They argue that the intervening government discourages production and stimulates inefficiency and leisure. It also protects inefficient industries, prevents technological progress, distorts market prices, and invades areas where the private sector is most fertile and efficient. For them, the social policy against poverty must be purely compensatory and focused, aimed at mitigating the changeover's adverse effects from a controlled economy to a free economy and creating conditions for the market to function freely. Therefore, the government's social policy must guarantee public security, education, and health compatible with the market's functioning demands. (DeMartino,2000)

1.1.6 Other theories

Other theories attempt to explain poverty and underdevelopment by natural or cultural disabilities, others by ethnic composition, and some religious beliefs. The Swedish economist, Gunnar Myrdal, believed that the world's poverty problems were economic, political, and moral. They saw help from highly developed countries as an essential condition to overcome poverty. For his part, the Egyptian economist, Samir Amin, believes that an unequal exchange causes poverty in nations. The nations of the North and the South do not have the same capacity to impose themselves on the market set prices. Some economists like Paul Barn, also called neo-Marxists, have tried to demonstrate that contemporary imperialism obstructs capitalism in developing countries, taking financial resources from them and killing the local industry in unequal competition. Finally, they have developed a set of environmental theories that start from the denunciation of development Industrial.

1.1.7 Individual Theory of Poverty

The theory of individualism enlightens poverty because of its internal characteristics and includes personal abilities such as intelligence and personality. This theory indicates that poor people are impoverished because of their inability to contest with others for resources. This theory sees the poor as born with it (i.e., disabled, blind, or deformed), and for that reason, they cannot do anything to change their condition (Rainwater, 1970).

Ted (2007) stated that people are accountable for their poverty situations, and this theory is based on persons' shortcomings. Asen (2002) argues that an individual can work hard and that this commitment and interest are necessary for success.

Individualism theory rests on a belief in the free market system, which is thought to have created everyone's opportunity. Individualistic ideas emphasize rigorous individual work and the obligation to obtain basic needs such as food, housing, and health services (Rank, 2004). The aim here is that some people who are born being lazy do not willingly contribute to tasks that affect their life

In favor of the theory of individual theory, Neo-classical economics argues that the poor are poor because of their choices. The claim stems from the fact that persons aim to exploit their well-being by creating personal decisions and investments. When some people take low returning, this theory holds them responsible for their choices, for example, avoiding adopting a production process that would give rise to output in the future.

1.1.8 Cultural Theory of Poverty

Oscar Lewis first devised the name culture of poverty in 1959 based on his studies in Mexico and Puerto Rico. This theory argues that a series, values, skills, and beliefs mutually created but independently held will lead to poverty throughout the generations (Lewis, 1959).

The culture of poverty cases arises in an economic environment with low salaries, high unemployment rates, and inexperienced. In the absenteeism of intentional backing from the government, the underprivileged population tends to spread up to be a poverty culture. The poor understand that they have an ignorable position in a highly individualized and highly stratified capitalist society, which gives them no hope for upward mobility (Lewis, 1959)

The leading critics are that this theory takes for granted and that the culture itself does not change and is relatively static. When people fall on a poverty culture, poverty reduction interferences will not transform the attitudes and cultural behavior personified in that society. Thus, government support for the poor cannot remove poverty because poverty is integrated into the poor's culture. For this reason, this theory of poverty shifts the accusation of poverty to the poor from economic and social conditions (Bourgois, 2001).

Wilson's (1987 and 1996) research on culture and isolation has led to the notion of ghetto-specific culture. The ghetto-specific culture reveals the influence of social separation and the intensity of deviant conduct between the subclasses in the inner classes.

Wilson also mentioned that the lower classes tend to accept negative behaviors such as welfare dependence and crime because they are socially isolated from economic opportunities and mainstream action. These behaviors make it difficult to get rid of poverty. Rank (2004) revealed that guilt-the-victim ideology is usually focused on the poor's character defects rather than poverty's fundamental cause.

1.1.9 Geographical Theory of Poverty

This theory indicates that poverty is severe in some parts because individuals, cultures, and institutions lack the physical resources necessary to provide income and welfare. As Shaw (1996:29) points out, *"Space is not a backdrop for capitalism, but rather is restructured by it and contributes to the system's survival. The geography of poverty is a spatial expression of the capitalist system."* The literature on why some regions lack behind includes excluding investments, closeness to natural resources, population size, lack of modernization, and other factors. (Rural Sociology Association, 1990). Rural areas are dominated by low technologies, low wages, and a lack of competitive product prices. Lack of infrastructure limits the economic activity that can use these resources. A growing literature shows that advantageous areas continue to grow fast than the disadvantaged regions even during times of economic growth (Niles Hansen (1970)

Neighborhood influence is a concept close to poverty's geophysical effect, defined as the geographical areas where individuals can have a sense of attachment and ownership. For example, numerous findings show that children in poor localities are underprivileged because of the increased risk of adverse environmental and social problems. (Pebley, 2003)

1.1.10 Structural Theory of Poverty

Finally, the structural theory does not criticize the victim for its poverty, such as the previous theories. Still, it looks at the socioeconomic system that has made it possible for individuals to have insufficient resources. Ted (2007) blamed the economic policies and mentioned that it's designed and structured in most cases to see that poor people are always poor and behind, regardless of how competent they are.

People's living standards and social relations are formed by educational amenities, labor market changes, and economic development. Social structures such as gender, power, race, and class determine individuals' fate (Bradshaw, 2007). It is the failure of the systems that cause

poverty in the community—using this theory in explaining poverty aids in targeting issues that drive poverty.

This theory argues that abolishing structural barriers and applying a wide range of socio-economic policies will generate considerable success in reducing poverty. The scope of socio-economic systems that can be adjusted for poverty reduction is to raise wages, provide jobs, provide adequate access to medical care services, expand the safety net, and coordinate social insurance programs (Bradshaw, 2007).

1.2 Economic Measures of Poverty

There is no sole measure of poverty, and all selections have their merit and demerits. Although there are many instruments with some drawbacks, it helps us to see the pattern and scope of poverty in each society. We will look at numerous methods in which economists measure poverty.

1.2.1 The FGT Measure

The FGT (Foster, Greer, and Thorbecke) family of poverty measure can be managed in an operationally appropriate way of information about the poor; Foster, Greer, and Thorbecke develop it during 1984. (Kimalu et al., 2002)

The FGT is a typical class of poverty measures from which different steps are drawn. It can be further categorized into three different types; the level (Incidence), the depth (intensity), and the severity(inequality) (Jenkins and Lambert, 1997)

$$P_{\alpha} = \frac{1}{n} \sum_{i=1}^q \left(1 - \frac{y_i}{z}\right)^{\alpha}$$

Where P_{α} stand for absolute poverty, α is the FGT parameter, which may be taken as a measure of poverty aversion, $\alpha = 0, 1, 2$. y_i is the total expenditure/ income of household i , expressed in per adult equivalent ($i = 1 \dots n$), z is the poverty line, n is the total sum of households in the sample, and q is the total number of poor households (Households below the poverty line). Based on the FGT formula, we can drive the three below economic poverty procedures: the headcount, the poverty gap, and the poverty severity index.

1.2.2 Headcount Index (Po)

The headcount index is the most regularly utilized poverty index, and it measures the proportion of poverty from the total population (denoted by P₀). On this premise, the poverty rate can be estimated just, partitioning the aggregate populace's quantity of poor. The advantage is that it is anything but difficult to build and get it. This measure does not say the power and profundity of destitution (Siddiqui 2006). The general frame typically gives the headcount list.

On this premise, the construction of poverty incidence is straightforward, dividing the number of poor by the total population. This measure is that it is easy to construct and understand. Nevertheless, this measure does not capture the intensity and depth of poverty (Siddiqui, 2006). The general form usually gives the headcount index

$$P_o = \frac{N_p}{N}$$

N_p is the number of people earning income below the poverty line, and N is the overall population or the sample population. Based on the FGT, P_0 is computed by setting $\alpha=0$ in the FGT measure. This gives

$$P_0 = \frac{1}{N} \sum_{i=1}^N I(y_i < z)$$

Here, $I(.)$ stands for an indicator function which shows as and takes on a value of 1 if the bracketed expression is true and 0 otherwise and, if expenditure (y_i) is less than the poverty line (z), then $I(.)$ equals 1, and the household would be counted as poor. (Poverty Manual, 2005)

1.2.3 Poverty Gap/Depth Index (P₁)

A poverty gap index is calculated, on average, how far the people are short of the poverty line. To the World Bank, the poverty gap or depth index is the mean shortfall from the poverty line (including the non-poor as having zero shortcomings), stated as a percentage of the poverty line. The poverty depth index can be defined as measures of poverty intensity. It shows the degree to which persons, on average, fall below the poverty line.

This index is computed by setting $\alpha=1$ in the FGT estimate. This gives:

$$P_1 = \frac{1}{N} \sum_{i=1}^N \left(\frac{z - y_i}{z} \right) I(y_i < z)$$

The poverty gap computes the poverty shortfall of the population. That is the number of resources obligatory to remove all the poor out of poverty, mainly through targeted cash transfers to close the gap.

1.2.4 Squared Poverty Gap Index or Poverty Severity (P₂)

P₂ is an indicator used to show the severity of poverty by squaring the gap between the poor individual's spending and the poverty line. The index shows more weight to the poorest; it calculates the degree of inequality among the poor, suggesting that transferring income to the poorest from the better-off poor should lower the poverty index (MEDaC, 1999b). It increases more than somewhat with the poverty gap. The larger the poverty severity index measured by P_α = 2, the more significant the poverty gap, which indicates that poverty is severest among the very poor (Kimalu et al., 2002).

This is computed by setting α=2 in the FGT measure. Thus, we obtain:

$$P_2 = \frac{1}{N} \sum_{i=1}^N \left(\frac{z - y_i}{z} \right)^2 I(y_i < z)$$

1.3 Remittance and Poverty

Remittances are funds migrants in the diaspora send to family members in their home country. It refers to money sent by persons living or working outside their homelands to their home country for consumption or direct investments. It can provide credit to entrepreneurs and investors for business and industrial expansion (Efobi et al., 2016). Remittance inflows from foreign countries are more critical and different from other foreign capital inflows as foreign aid because they are stable and more reliable. (Efobi et al., 2016)

Migration occurs mainly to have a better way of life, greater well-being, leaving the poor and other aspirations that link intention to have food, children's education, building a house, buying material things, and saving. The way to achieve these longings is through remittances in the first place, but also learn job knowledge; besides, in this process, the migrant can develop personal skills such as language, personal maturity, acquire habits and values, as well as ways of organizing, seeing and facing life.

1.3.1 What determines the decision to migrate to another country?

The multidimensional nature of international migration and the complexity of the factors that determine it make a multidisciplinary analysis necessary. It can be stated that there is not a single theory from which international migration can be explained but rather a set of approaches that complement each other (Massey, D et al., 1993). From a historical point of view, these theories have evolved, driven, as is logical, by the need to explain new characteristics of the migratory phenomenon, moving from purely economic explanations to those that also incorporate the interaction of social, cultural, and geographical factors in your analysis.

According to neoclassical economic theory -the early 1960s-, at the macroeconomic level, migration is generated by the supply and demand of labor and the consequent real wage differential among the place of origin and destination. At the microeconomic level, migrants decide to leave their place of origin after conducting a cost-benefit analysis, in which migration is seen as an investment in human capital (Massey, D. et al., 1993).

For its part, the theory of dual labor markets –exposed by Michael Piore and other authors at the end of the 1970s- proposes that they are the attractive forces of modern industrial societies, and not the forces of expulsion from the countries of origin, those that explain international migration. The four operating points would be (i) sticky wages, (ii) need for labor for jobs that the "natives" are not willing to do, (iii) need to hire low-skilled labor on a seasonal basis, (iv) and demographic trends that make the demand for low-skilled labor no longer able to be filled by women or young people (Massey, D. el at, 1993; IOM, 2003).

In the 1980s, the World-system theory postulated that international migration resulted from globalization and modern capitalism. It acted as a gigantic mechanism that regulated the global demand and supply of hand of work (IOM, 2003).

In contrast to these positions, the theory of human capital and the new economy of migration for work (NELM) 4 explain the migrant's decision-making process considers education, age, social networks, etc. The NELM also addresses migration within a broader context and identifies it as part of a family strategy to reduce risks and stabilize consumption (smoothing consumption) by diversification of income sources, which protects families in the face of possible crises disasters (Stark, 1991). Under this theoretical approach, the factors that influence the decision to migrate are the average income, unemployment rate and degree of

urbanization, of the place of origin and destination, as well as variables related to the human capital and social networks of the migrant in the place destination (Taylor and Martin, 2001).

1.3.2 Why do migrants' remit?

Among the main consequences of transnational migration are the flight of human capital (brain drain), growth of cultural exchanges and the formation of international communities, transnationalization of labor markets, and the sending of remittances to households in the place of origin (Altamirano, 2003, 2006). A theoretical debate is accompanied by a series of empirical research that seeks to determine the forces that motivate migrants to send remittances to their places of origin. Some authors (Solimano, 2003; Chami et al., 2003) synthesize this debate from three perspectives: altruism, personal interest, and family contracts.

One way of understanding the decision to migrate is under the altruism approach, which states that the main reason why migrants send remittances is the bond of affection and affection that unites them with their family and place of origin. In economic terms, the utility function of the individual depends, among other things, on the utility function of his family. Two facts are predicted from these models. First, remittances fluctuate in a countercyclical manner (increases in times of recession and decreases in times of economic boom) to the extent that they act as compensations to improve the family's financial situation (Chami et al. IMF, 2003; Clark, 2001). There is even evidence that remittances increase significantly in disaster or crises in the country of origin (Gubert, 2002 in Azam and Gubert). Second, that remittances decrease over time due, in part, to the "loose" distance of family ties that unite the migrant to her family (Solimano, 2003). Another possible explanation for the decrease in remittances is that the migrant's contribution is materialized in supporting the migration of other family members, thus ceasing - or decreasing - the sending of remittances.

In contrast, some authors find that personal interest is the main reason for sending remittances. A first explanation is that some migrants leave, at the place of origin, businesses that must be attended to during their absence and entrust the task of leading them to a family member. In this sense, remittances are the working capital of a business that the migrant intends to recover upon his return (Lucas and Stara, 1985 in Chami). From another point of view, remittances can be part of a migrant's portfolio decision, who decides between investing her income in assets of the country of residence or origin (Elbadawi and Rocha, 1992 in Chami;

Solimano, 2003). According to Solimano (2003), remittances can also be a way to ensure the parents' inheritance because of the child's contribution to the family's well-being.

Remittances can also be viewable as part of a family contract in which the migrant rewards the family for the investment it made in their education and training. Furthermore, it could be the payment of the debt contracted by the migrant with their relatives to move out of the country and subsist abroad until their insertion in the labor market (Solimano, 2003; Ilahi and Jafarey, 1999 in Chami).

Finally, and using the theoretical framework provided by the NELM, the decision to remit can be understood as an implicit family contract that aims to diversify the family's sources of income. The purpose of migration is to improve the family's economic situation by sending monetary and non-monetary remittances (commissions). The migrant and family act as a kind of insurance since they help each other to face adverse economic times in the receiving country or the place of origin.

Given the complication of the migratory and the time horizon in which it occurs, it is logical to affirm that the decision to remit can be understood from two or more of the previously mentioned perspectives. Thus, for example, a migrant can finish paying the debt incurred with her relatives and keep sending remittances because, given the job stability achieved in the receiving country, she wishes to invest in assets in her country of origin. Lucas and Stark (1985), based on data for Botswana, found that varied enthusiasms of moderate altruism or "cultured" selfishness prevail in the decision to remit (Azam and Gubert, 2004).

On the other hand, Francois Manchuelle (Azam and Gubert, 2004) analyzes, from a historical and anthropological perspective, migration from Africa to France and concludes that the co-insurance approach between family and migrant is correct. However, He adds that this insurance system protects each other from possible adverse economic shocks and reinforces the family's social status and prestige in the place of origin.

1.3.3 Theories of Remittance

Development Optimistic.

Developmental optimistic views of the 1950 and 1960s: This view assumes that significant capital inflow and industrialization policy to developing nations would speed up economic development and modernization. To them, migration of people usually brings about the transfer of investment capital through remittance. This speeds traditional communities'

exposure to modern knowledge, liberal, rational, and democratic ideals. This inflow through remittance is projected to rise as migrants would be expected to invest considerable capital into their home countries' enterprise.

The Development Pessimistic.

This theory comes from a shift in social science towards structuralistic views (De-Haas, 2007). The proponents argue that it drains human capital resources when educated citizens migrate and do not enhance sustainable development (Adenutsi, 2010). Therefore, migration and remittance are seen as disadvantageous to the economies of the underdeveloped countries. This is because remittance makes both recipient and sending countries dependent on each other (Binford, 2003). Instead of encouraging economic growth, remittance tends to be used as money for unproductive activities. Likewise, it is claimed that remittance would not be spent on developing and increasing investment as the optimistic view would imply but would instead make the investment decisions on behalf of the sender.

The Development Pluralistic.

Development Pluralistic View of the 1980s and 1990s: this is seen as the New Economics of Labor Migration (NELM). From their viewpoints, the migration is a household's behavior to share the risk, given that remittance from abroad serves as income insurance for countries of origin (Karagoz, 2009). Migration is, however, a vital tool for providing capital through remittance that can be used for investment purposes described by imperfect credit and insurance markets that exist in most developing countries (Danmola & Wakili, 2013). Furthermore, remittance is being put in motion by (Taylor & Rozelle 1999) for dynamic development like relaxing investment constraints that most individual households face.

Remittances decision model.

The family loan arrangement theory focuses on the household's decision to remit, which is taken as a pre-migration consideration for accumulated debt by migrants that must be repaid. Thus the remittance that is not classified or explained by the family loan arrangement theory needs to pass through the particular decision process. (Stanton, 1986) assert four unique vital factors included in the decision model to explain the increase in remittance sent to

destination countries. These four individual elements for remittance is further summarized as how to use remittance, size of remittance, the decision to remit, and the pool of remittances

The remittance pool is explained and determined by migrant workers' progress, their earned wages, and other activities carried out in the host country's economy, all of which have a deep relationship with remittances. Thus, a married migrant worker's decision with close ties with family in the destination country extracts a more significant remittance decision. Again, the social and economic situation in a migrant worker's destination country given peculiar family needs often negates migrant workers' decision to remit. The case of low income, low occupational, and education level of often time migrant worker family with such a household crave the decision to remit a more considerable amount to the household. However, such a migrant worker's disposable-based income is sometimes tied to remit (Stanton, 1986). The remit fund's decision comes with certain political risks in factors to the migrant home country, such as non-migrant family employment, household income basis, educational levels, and migrants' occupational status, which increases negatively. There is a strong correlation between remittance and remit. This is due to the operational facility of transferring remittance funds and the externalities of exchange rate variations and related interest rates between the home country and the migrant host country. (Stanton, 1986) Sum up that migration has a positive effect on the decision of migrants to make remittance and usage.

The Basic Needs Theory.

The basic needs theory grew out of the international labor organization (ILO) World Employment Program (WEP) of the 1970s. This activity brought employment and human needs back to the development strategy (Jimi, 2017). To this theory, poverty, which is inherent in underdeveloped worlds, comes with several problems, such as health, education, and others, which restrict people from providing active labor in the society (Schutte, 2016). The theory further explained that imbalance exists between the rich and the developing nations of the world. The developing countries on their own are unable to achieve a significant improvement in the form of a poverty reduction. As such, they require some external assistance in the form of aid from the rich nations. In conclusion, the supporters of this theory often argue that international aid in the form of remittance, grant, loan, and technical cooperation from the developed nations has gone a long way in fulfilling the gap between the high income and low-income countries, all in the effort of reducing poverty prevalence among the poorer nations.

CHAPTER TWO

2 The Determinants of Poverty in Somalia: A Household Level Analysis

Abstract

The civil war and the conflict in 1991 make Somalia among the world's poorest countries. Even by sub-Saharan (SSA) standard, poverty incidence is nineteen percentage points higher in Somalia than the SSA average. Thus, this study aims to examine the factors that determine the probability of poverty in Somalia. For this purpose, the latest household survey of Somalia is used, and the poverty equation is estimated using logistic regression and quantile regression. Our empirical investigation indicates that household size, female household head, illiteracy, and living in rural areas significantly increase a poor household's probability. In contrast, families with at least one employed member, small business as a source of income, remittance, and access to electricity reduce the propensity of being poor. The policy implication that emerges from this study is that stakeholders, including the government, NGO's, and the international community should work together to improve the education system, reduce the high unemployment levels, encourage small business and rebuild the essential infrastructures such as electricity to reduce poverty in Somalia

Keywords: Somalia, poverty, logistic regression, Somali High-Frequency Survey (SHFS)

JEL classifications: I3

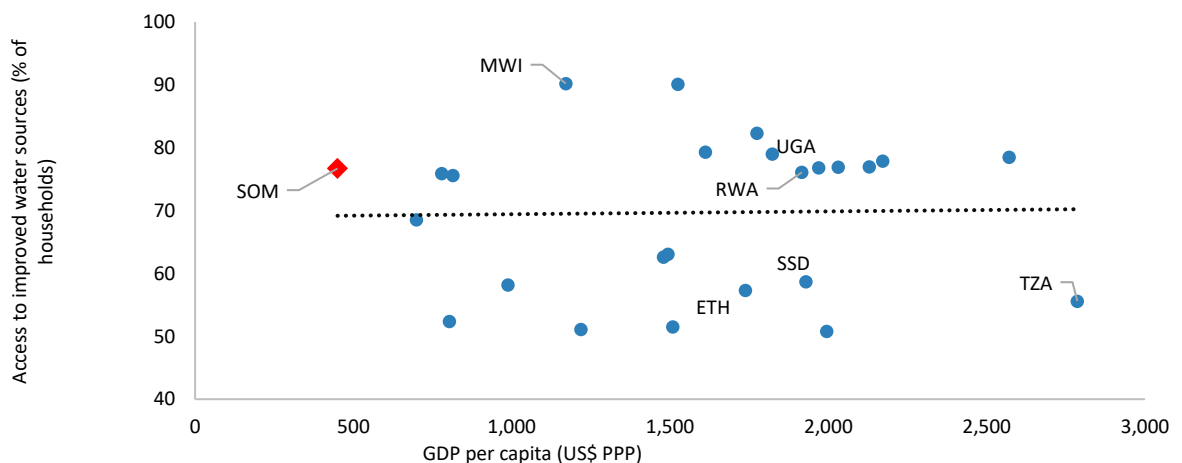
1.1. Introduction

Poverty, a multi-dimensional concept, is a situation that can change according to time and place. If poverty is defined or assessed only by gender or another variable, the judgment to be reached will be incomplete. Poverty is not only an economic phenomenon, but it is also a social condition that people live in, understand, and apply to countless ways to cope (Erdoğan, 2002).

Somalia stems from two decades of political vagueness and economic hardship. The civil war and the conflict that began in 1991 disjuncted the country, weakened political foundations, and created an extensive vulnerability. Conflict exceeded statistical infrastructure and capacity; the conflict-affected the country's statistical foundation due to lack of reliable data, policymakers, and donor's works in a statistical vacuum. Although the Somalis face a devastating struggle to overcome the conflict and fragility's legacy, significant progress is underway to rebuild their institutions. (Randa, 2015)

More than 40% and 90% of Somalis need an improved water supply and better hygiene; this is far below the average of 31% and 75% in low-income African countries. (Pape, 2017)

Figure 2-1 Improved water sources (SSA)



Source: World Bank 2017

Due to the nonexistence of accurate statistics and household surveys, little was known about poverty in Somalia. The absence of data poses a risk to the plan and implementation of policies and programs required to help economic development and assistance in the event of shocks. (World Bank, 2017)

The country is one of the poverty-stricken countries in the world. Currently, the poverty rate is more than seventy percent, and life expectancy is as low as fifty-five percent. Youth unemployment is rampant, and sixty-seven percent of young people are unemployed. (World Bank, 2017)

In line with this, despite the existence of regional administration and Federal government intervention and international organizations working to contribute to poverty reduction, their response is not research-based to see the extent of poverty. Therefore, the prevalence of high poverty incidence in the country aggravated the timely importance of this study. This research will also provide them with appropriate policies and strategies that favor most people to reduce Somalia's poverty.

The study's principal focus is to measure and analyze the poverty status and its determinants in Somalia; what are the major determinants of rural and urban poverty in Somalia? In other words, what are the household characteristics and geographic factors, which determine the rural and urban poverty in the country? How do living standards, and hence poverty, vary between rural and urban areas? And to draw possible research and policy implications to reduce poverty in Somalia. The research work scope is limited to investigate the poverty profile and its determinants using Logit and quantile regression.

Analytical work on determinants of poverty in Somalia is scarce. Most of the accessible studies are conducted before 1990 and focus mainly on measurement questions of poverty. The earliest survey of poverty estimates in Somalia was done by Hopkins, Hicks, and Haaland & Keddemman during 1978/79. They disagreed on a consensus on how to measure the poverty of nomads, farmers, urban. Lack of data, different methodology, nature, and cultural differences between nomadic and farmers' diets are some of their divergences.

This study will update the literature using new data and superior methods of measurements than earlier studies. Very little intervention is done when it comes to poverty reduction in Somalia. Therefore, it is believed that this research will serve as a starting point or exemplary for studying poverty in Somalia. It will also contribute to the Government, CBOs, NGOs, or any involved stakeholders/actors contributing to the country's development.

2.1 Literature Review: Theoretical review

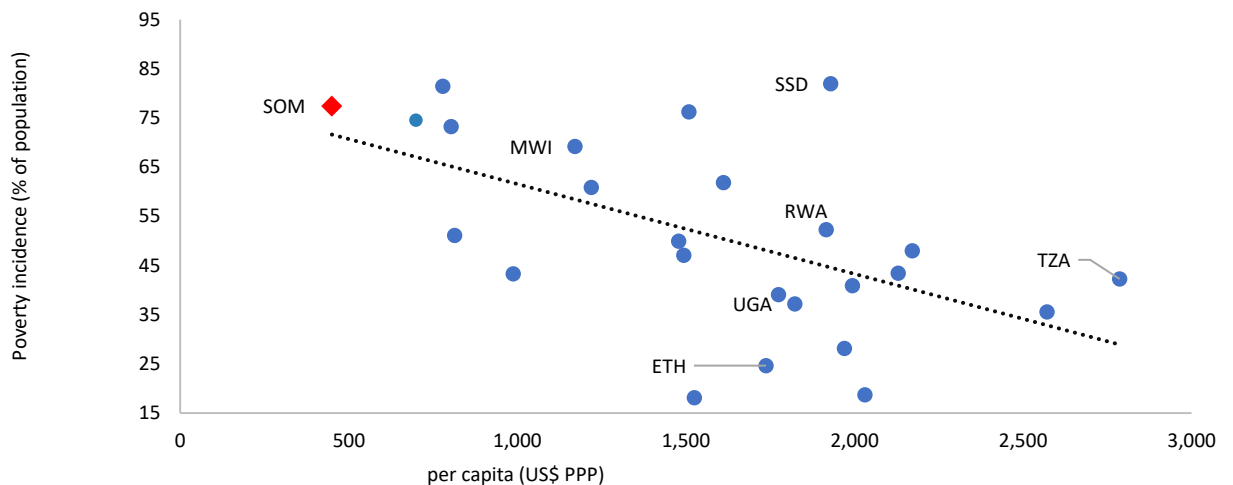
Poverty is not a new issue, and the root of interest is on the way to the beginning of the 17th century. However, the widespread and continuation of poverty, described as mass poverty, has increased visibly from the middle of the 18th century (Şenses, 2006). Poverty has become increasingly widespread with the economic, political, and social crises intensified in the late 20th century. Together with some other globalization influences, the tensions in living standards and opportunities have increased poverty by diversifying human rights and needs (Burkett, 1990: 22).

In most of the literature on poverty, it is seen that poverty includes eleven sets of meanings. These are a) the need or the lack of material b) the deprivation which emphasizes certain kinds of need, like starvation and homelessness, c) Inadequate resources, d) not having a minimum standard of living e) inequality or the disadvantaged poor people e) economic position (class) is the nature and size of the differences between the bottom twenty or ten percent and the rest of society f) Dependency, as Simmel 1908 says that the poor person, is the individual who always gets the aid g) lack of underlying security, h) lack of entitlement, i) exclusion and j) unacceptable economic difficulties (Gordon and Spicker, 1999: 150-157). Each of these implications seems to refer to different approaches to poverty.

Another controversy treated as material and multiple deprivations are that poverty cannot be identified and identified as material. Some sociologists (Haralombos and Halborn, 1995) limit poverty only to material deprivation, while others express multiple deprivations. In addressing numerous denials, it is stated that educational success, the inadequate working environment may be the appearance of poverty and that none of these situations is directly related to the individual's income.

Poverty can be more severe in underdeveloped and developing countries, along with being an economic disease in general in all states. Two fundamental characteristics of poverty living in developing countries are observed. First, millions of people in these countries are born poor, live poor, die pitiful, and transfer poverty to their children. Second, it becomes challenging to overcome and eradicate poverty in developing countries because the poor in these countries live in challenging areas to reach either geographically or in terms of physical security. Social institutions such as strong kinship links prevent these people from meeting other people (Hulme and Shepherd, 2003: 417). This situation prevents them from evaluating economic alternatives and other opportunities.

Figure 2-2 Poverty incidence as a percentage of the population in SSA



Source: World Bank 2017

According to Hobsbawm, the poor society's basic appearance is expressed as "informal" or "parallel" economic shifts of people largely and uncertainly. Men, women, and children involved in such a financial structure try to maintain their lives through small jobs, services, temporary jobs, and small business activities, even if they do not know precisely how. (Hobsbawm, 1996: 470)

2.1.1 Approaches to Poverty

Depending on the perspective considered and the directions to be emphasized, different poverty analyses can be carried out. In a diversity of studies, the first classification can be called objective and subjective poverty; Likewise, we may refer to absolute and relative poverty, depending on the reference used to determine the thresholds. And lastly, we can classify into static studies and dynamic studies.

Most of the poverty classification is unidimensional, such as consumption or income. However, one indicator alone can't capture all aspects of poverty. Multi-dimensional poverty consists of several factors stemming from poor people's poverty experience "(poor health, lack of education, insufficient standard of living, lack of income, poor quality of work, and risk. A measure that can combine a range of indicators to understand the complexity of poverty". Every society and situation can be different, and this gives us to choose the appropriate signs for them(Walker, 1987).

Objective poverty analyses use information collected through variables derived from observations directly measured by the researcher. It gives a degree of neutrality; the widely

used variables are incomes and consumption expenditures of the households. Subjective poverty studies are based on individual conditions, perceptions, and assessment of external conditions (Walker, 1987).

2.1.2 Objective poverty

By applying an objective focus, (also called indirect poverty), both absolute and relative poverty analyses are performed. Absolute poverty is a condition where the individual's basic needs are not fulfilled; in other words, basic food and services are lacking, e.g., food, housing, and clothing. This type of poverty classification can be applied and compared to all the countries and societies. A group or person who is measured poor under this standard is likewise classified worldwide

Relative poverty identifies poverty in the studied community. From this point of view, the person is regarded as poor if they are disadvantaged, either materially or socially, according to other people in their environment. A country can accept poor people as anyone with an annual income of fewer than 4,000 dollars, while another government classifies a poor person who earns less than 2,000 dollars. Therefore, a so-called poor individual in the first country may not be unfortunate if the other country's standards are used.

Poverty is not static and can change over time, and the person can fall into or move out of poverty. Therefore, it is essential to do dynamic poverty studies that address and analyze the population's change and transition within an extended period, not only for specific years.

2.1.3 Subjective poverty

The idea of subjective poverty is grounded on the possibility that individuals are the best judges of their circumstances. Their sentiments must be a specific factor in characterizing welfare and poverty (Mekonnen, 1999b). The approach explicitly acknowledges that poverty lines are subjective judgments that constitute people's socially acceptable minimum living standards in their society (Yohannes, 1996).

Subjective poverty measures are based on answers to the individual's household income and welfare like, what level of income do you consider as minimal? In your view, is the household income adequate to cover the end meet? There is no guarantee for similar individuals in all respects to give similar answers to the same question, and for this reason, it does not provide consistency. (Pradhan and Ravallion, 1997; Mekonnen, 1999, (b)).

Although poverty could be explained in absolute or relative terms, experience and applied research have shown that the most relevant and widely used definition for less developed countries is the absolute poverty line (Ali, 1992). In most developmental literature, the standard measurement of an individual's well-being has become a "living standard." The standard of living reflects certain forms of commodity deprivation in developing countries (Ravallion, 1992). Bigsten and Abebe (2003) pointed out that researchers use income or consumption measures as an appropriate measure of welfare

2.1.4 Multi-dimensional deprivation

Multi-dimensional poverty consists of several factors stemming from poor people's poverty experience (inadequate health, shortage of education, insufficient living standards, lack of income, mediocre work, and risk). A measure that can combine a variety of indicators to understand the complexity of poverty. Every society and situation can be different, which gives the appropriate signs for them. Most of the poverty classification is unidimensional, such as consumption or income. However, one indicator alone can't capture all aspects of poverty.

Multi-dimensional poverty measures can be utilized to make a more far-reaching picture. They uncover who is poor and how they are weak – the scope of various impediments they encounter. Multi-dimensional measures can be separated to expose the poverty level in different territories of a nation and among various sub-gatherings of individuals."

2.1.5 Setting Poverty Lines

In the investigation of poverty, the starting point is the classification of the poor from nonpoor. The poverty line plays a vital role in measuring the various indicators of well-being in a single index (Ravallion, 1992). Though the poverty line's choice is always different from country to country, the standard argument is that there is a minimum level of consumption of goods and services below which it is difficult to sustain our life. Hence, to get the poverty line, it demands meticulous work in that the level and type of goods and services must be precisely identified. The most common methodologies to poverty measurement are the Cost of Basic Needs (CBN) and Food Energy Intake (FEI) methods (Tassew *et al.*, 2008; and Anthony *et al.*, 2009).

2.1.6 Cost of Basic Needs (CBN)

To compute poverty by utilizing the cost of basic needs approach, it requires picking a nutritional requirement for decent health initially. For example, every day, 2250 calories per day, as developed by the FAO, then calculate the cost of meeting this food energy necessity utilizing a typical diet of the general population's habits close to the poverty line (Haughton and Khandker, 2009).

This approach starts with a nutritional threshold selected to reflect minimal needs for a healthy life. Changes are then made by adding for non-food expenditures like housing and clothing. This approach starts with a nutritional threshold chosen to reflect the minimum requirement for a healthy life. Then adjustments are made to non-food expenditures such as housing, clothing, and social values (WBI, 2005; and Morduch J., 2006). The CBN computation utilizes the following main steps (WBI, 2005; Metalign, 2005; and Morduch J., 2006; and Gaurav D., *et al.*, 2006).

- Single out a nutritional requirement for good health
- Specify a consumption bundle that is expected to be satisfactory
- Estimation of the bundle cost of each subgroup
- Add non-food components which are expected to be adequate

mathematically: $P = F + NF$,

Where P is the poverty line, F is the food, and N.F. is the non-food poverty lines

2.1.7 Food Energy Intake Approach (FEI)

This approach places the poverty line as the income or consumption spending level just adequate to meet a predestined food energy intake to an individual. The level of FEI, sharply influenced by so many factors and preferences, activity, age, sex of an individual, and consumption habit, is the most influential. The poverty line now can be constructed after treating these differences and valuing the costs of attaining the predetermined FEI level. This could be computed by finding the consumption spending (income) level at which a person attains the food energy level. Yet, most scholars argue that consumption expenditure will be a better indicator of well-being (Esubalew, 2006).

Therefore, the FEI method is utilized as a substitute technique to construct the researcher's poverty line if price data are not available. As CBN, the objective is to find the level of consumption spending (income) that gives sufficient household food to meet its energy

requirements (WBI, 2005). Tassew et al. (2008) state that this method outways provides monetary value, the direct caloric intake method but failed to yield consistent thresh hold across groups if applied to different periods and regions in the same country.

2.2 Empirical literature: Determinants of Poverty

Analytical work on determinants of poverty in Somalia is scarce. Most of the existing studies are conducted before 1990 and emphasized mainly on measurement topics in poverty. The earliest survey of poverty estimates in Somalia was done by Hopkins, Hicks, and Haaland & Keddeman during 1978/79. They disagreed on measuring the poverty of nomads, farmers, and urban. Lack of data, different methodology, the nature and cultural difference of nomadic and farmers' diets are all but some problems.

According to Hopkins (1978), studies on poverty and basic needs in Somalia using rural price differentials in the Middle Shebelle region survey found that the Somalia's poverty incidence is 49 percent for nomads, 67% for farmers 42% Urban.

Hicks (1978) also used the same data and methodology but found a different figure for the nomads (70%) and almost the corresponding numbers for the farmers and urban.

Haaland and Keddeman (1979) reported the special programming mission to Somalia shows that 70 percent of poverty incidence for the nomads and 75 percent for the farmers, using a livestock census and acreage data converted to Somali Shillings.

Jamal (1981) used the same data from livestock census, acreage data national accounts converted to calories. He develops two different poverty line estimated for the urban and rural (nomads and farmers), using calories for an urban and minimum basket for rural. His study revealed a lower poverty incidence than the other previous studies, 33 percent for Nomads, 34 percent for Farmers, and 5 to 7 percent for the urban. Empirically, there is wide-ranging literature on the elements that contribute to the poverty status of a person. Most of these studies looked at the demographic characteristics of household status.

Booyesen (2002) used binomial and ordered logit analysis while studying South African households' socio-economic status. He used an asset index was used to represent a similar indicator of poverty in South Africa. Geda et al. (2001) found the determinants of poverty variables: the following; the size of households, area of residence (urban or rural), schooling level, and engagement in the farming activity.

The National Economic Council et al. (2001) noted that educational completion, household head's age, land size, and cropping were the main determinants of rural poverty. The research adopted a regression model and analyzed the determinants of poverty in Malawi. According to this study, households headed by older persons in rural areas tend to be poorer than those led by younger.

Dzimbanhete and Dube (2017) explored the determinant of household poverty and factors that negatively affected the household. Gender of the household head, age of the household head, household size, life skills training, distance to nearest economic niche, total cropping area, and maize production; They use a Logistic model to investigate socioeconomic determinants of poverty.

According to Oduro and Aryee (2003), studies on chronic poverty in West African countries also identified the size of land and farm equipment in Côte d'Ivoire as well as literacy and household size in The Gambia as determinants of rural poverty. While most non-poor households in The Gambia have fewer than five members, over 19% of impoverished families have more than 16 members.

Kakawani (1993) discovered that the household size, age, and education level of the head of household are determinants of poverty in Côte d'Ivoire. The larger the family size and the age of the household head of over 45, the more likely the family to fall into poverty. His study also revealed that with the higher level of education attained by the head of the household, deprivation decreases monotonously, implying that knowledge, even up to primary school, can significantly reduce poverty.

Meyer and Nishimwe-Niyimbanira (2016) investigated the relationship between household size and poverty in low-income communities in the Northeastern Free State region of South Africa. They found an unclear relationship between poverty and household size. Indeed, any economic change in the household could restructure its composition. For example, the household's financial situation may encourage the household to have a large household size by having more children or external family members. Schwabe (2004) stated that large households need high incomes to keep their family members out of poverty.

Baiyegunhi and Fraser (2010) have argued that a household headed by an older population is more vulnerable to poverty than youth. Besides, they explained that most older people had to pay for themselves and that, most of the time, there was no one to support them with remittances.

Minot and Baulch (2005) reported that the number of years spent in school significantly reduced the risk of impoverishment. The World Bank (2002) concluded the same thing.

Rukuni and Eicher (1987) researched the equation of food security in southern Africa. They showed that present research focuses on supply in the food equation and how to advance food supply through local production or storage and trade. They stated that most research had neglected the demand for food products. They encouraged comprehensive policies that address both the supply and demand for food products in the long run. However, they believed that short-term mechanisms and systems should be put in place to fight poverty so that people could buy better schemes.

Asogwa et al. (2012) conducted rural farmers' areas in the Benue State of Nigeria in 2012, using a logit regression model approach. He analyzed the determinants of poverty using data from 233 rural farmers. The study found that the determinants of poverty among the farmers were market access, income, household size, the ratio of food expenditure to household spending, access to agricultural extension services, spending on education, size of the farm, credit accessibility, etc.

Lone and Rather (2012) investigated food problems in India and questioned the efficiency of government involvement. On average, 21% of Indians were unsafe, and 25% were poor. While illustrating a poverty line based on all basic needs, they found that two-thirds of Indians were poor. As a result, they stated that food security remained a problem despite the reduction of income poverty.

Table 2:1 Summary of findings from previous studies on poverty

#	Authors	Location and /Year	Period of Observation	Methodology	Main Findings
	Olaniyan O. and Abiodun S.	Nigeria, 2005	1996 General household and consumer survey data	Probit regression Model	Human capital and obtaining formal education reduced the probability of being poor
1.	Asogwa, Okwoche, & Umeh	Rural farmers in Benue State, Nigeria, 2012	Primary data from 224 farm Household	FGT and Tobit regression model	Economic efficiency, household income, dependency ratio, farm size, access to credit are the crucial determinants
2.	Demissie, B, and Tesfahun As.	Ethiopia (4 Zones), 2017	2010/11 Household-Consumption Expenditure surveys	Feasible Generalized Least Squares (FGLS)	H.H. size, head's sex, age, literacy status, marital status, dependency ratio, and agroecology are the

					significant determinants of poverty
3.	Abdulai, Awudu & Anna	Southern Mali, 2001	1994, 1995 and 1996 Farm Household survey	A conditional fixed effects logit model	lower families have fewer chances in non-cropping activities such as livestock rearing and nonfarm work, and hence less diversified incomes
4.	Dartanto, Teguh & Nurkholis	Indonesia, 2013	2005/07 National Socio-Economic Survey	Ordered logit model	Educational accomplishment, the number of H.H. members, physical assets, employment status, health shocks and are the determinants of poverty
5.	Jansen, Ada, Mariana, Stanford, and Yu. 2015	South Africa, 2015	2010/11, National Income Dynamics Study	Multivariate analysis, Probit regressions	The black South Africans persist the racial group most likely to be restricted as poor
6.	Habyarimana Faustin et. Al.	Rwanda, 2017	Rwanda Demographic and Health Survey, 2010	The quantile regression model	Education level, gender, and age of HHH, region, size of the H.H. are significant predictors of poverty.
7.	Islam, Deen, et al	Bangladesh, 2016	Using the Household Survey of 2010,	Probit Model.	Gender and religion do not play a noteworthy role, but age, education, marital status, disability, remittance, region have an impact on poverty condition
8.	Anyanwu J. C.	Rural Nigeria, 2005	1996 General household	Multivariate analysis, Probit Model.	H.H. size and illiteracy had a positive impact on the probability of poverty
9.	Oni O., A., and Yusuf S., A.,	Rural Nigeria, 2007	1996 General household and consumer survey data	3 stage (FGLS) model.	Large HH, male-headed H.H., no formal education, and living in North-Eastern Nigeria were associated with greater expected poverty.
10.	Olaniyan Olarenwaju	Nigeria, 2000	1985, 1992 and 1996 data sets	Probit Regression Model.	Education of household head accounted for the most significant determinant of poverty

Source: Author's review of the literature

2.3 Methodology

2.3.1 Sources of Data.

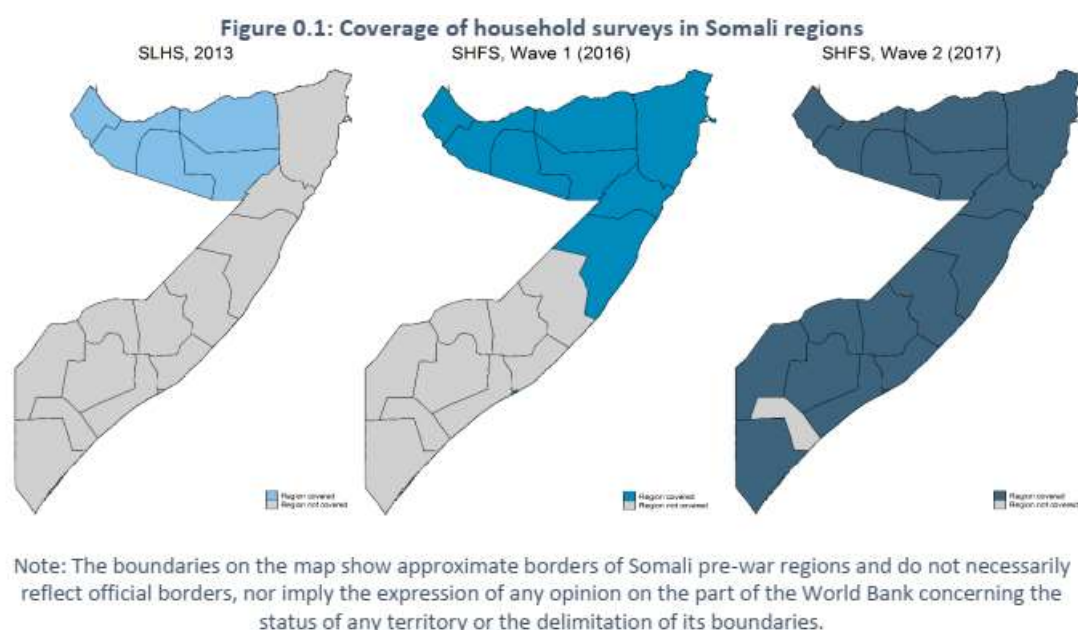
This study utilizes data from the Somali High-Frequency Survey conducted in 2017/18 (SHFS) by the World Bank. The survey achieved more excellent geographical and population coverage than Wave 1 of the Somali High-Frequency Survey (SHFS) collected in 2016, and the Somaliland Household Survey (SLHS) was carried out in 2013. The two previous household surveys produced significant indicators, but their scope was restricted while excluding nomads.

Wave 2 comprised the nomadic population and many households in less secure zones. It targeted nearly 6,400 families dispersed among rural and urban areas. The survey interviewed 6092 households. The data collection sample was drawn randomly based on a multi-level clustered design. This dataset covers information on economic situations, education, employment, services delivery, security, insights, and facts before displacement for displaced households. It also consists of comprehensive information on assets and consumption to estimate poverty based on the Rapid Consumption methodology, as detailed in Pape and Mistiaen (2014). Somali regions are identified according to distinct geographical areas:

Table 2:2 Regional breakdown

Regions	Pre-war region
North-West	Sanaag, Sool, Togdheer, Awdal, and Woqooyi Galbeed.
North-East	Nugal, Bari, and Mudug
Central Regions	Galgaduud, Hiraan and Middle Shabelle.
South West	Bay, Lower Shabelle, and Bakool
Mogadishu	Banadir
Jubbaland	Gedo and Lower Juba.

Figure 2-3 Coverage of the last three household surveys



2.3.2 Model specification and Empirical Strategy

Several different regression methods are used to examine the determinant of poverty. Therefore, there is no agreement on the choices of a model. The types of regression used are; i) linear regression of per capita household income or consumption against a set of independent variables transformed in a logarithmic form; and ii) The second method is the use of probit or logit regression, where the dependent variable is binary (poor & non-poor) (Goaed & Ghazouani, 2001). The logit and probit models do the same job, give similar (though not identical) results, and differentiate them except only in a few cases when we have unbalanced data and a large sample size.

Logit is somehow common since the coefficients can be interpreted in terms of odds ratios. This model estimates the probability that a household is poor or not poor when family characteristics and other variables make its socioeconomic environment. In the logistic model, the determination coefficient is considered pseudo R^2 and does not have the same weight as in the linear model.

The binary logistic model is less limited than linear assumptions, so this model is seen as the appropriate method when a variable can be expressed in binary form. Since the Logit model calculates the logarithm of the probabilities, there are no up or down restrictions. Income is usually the measure of choice in developed countries, while the favored metric in developing

countries is a total of a household's consumption expenditures (Sahn & Stifel, 2003). This paper is designed to evaluate poverty determinants in Somalia with logistics regression and quantile regression for this motive.

2.3.3 Logit Regression Model

Although no economic model is precise in assessing the relationship between the dependent and independent variables and predicts its significance, any study's policy implication depends on how close accurate the specified model is. This brings us to the issue of econometric modeling.

To explore poverty with the variables thought to be significant in explaining poverty, a Logistic regression model was employed. The dependent variable is the dichotomous variable of whether the household is poor (1) or not poor (0). The predictor variables considered in the analysis are demographics (sex, age, household head, family size), education, source of income, area of residence, access to electricity, remittance, and dependency. For this study's purpose, a Logit model was adopted, and the response variable Y_i^* defined by the regression relationship is depicted as follows.

$$Y_i^* = \alpha_i + \beta X_i + \mu_i \quad (1)$$

Where; i stands for households run from 1 to n

Y_i^* is the status of household i

α_i is the intercept term

β is a set of coefficients

X_i is a set of explanatory variables (determinants)

μ_i is a cross-section error term

Y_i^* is unobservable. What we observe is a dummy variable Y_i defined by $Y_i^* = 1$ if $Y_i^* > 0$, $Y_i = 0$, otherwise. Therefore, the variable's response is binary, taking two values, 1 if the household is poor, 0 if not. The likelihood of being poor depends on a set of variables X_i so that

$$\text{Prob}(Y = 1) = F(\beta'X) \quad (2)$$

$$\text{Prob}(Y = 0) = 1 - F(\beta'X) \quad (3)$$

where F is a cumulative distribution function

2.3.4 Quantile Regression.

This research will take a comprehensive theoretical framework to comprehend the determinants of poverty in Somalia. Both the logistic and quantile regressions are employed to examine the relationship between the determinants and the probability of being poor and scrutinizing the covariates' differential effects across the poverty spectrum. The policymaker might be interested in the covariates' impact across the poverty spectrum or its impact on the lowest quantile, helping them develop more specific and target-oriented poverty-reduction policies.

These implications can be achieved by using the quantile regression models, proposed by Koenker and Basset (1978), to describe the effects of variables on the whole distribution of the outcome of interest, making them attractive in these economic applications. This method has newly received a great deal of attention in both theoretical and empirical research. considering the linear regression model and Taking a similar structure, the quantile regression model equation for the τ th quantile is

$$Q_{\tau}(y_i) = \beta_0(\tau) + \beta_1(\tau)x_{i1} + \dots + \beta_p(\tau)x_{ip} \quad i = 1, \dots, n \quad (4)$$

and the $\beta_j(\tau)$'s are estimated by solving the minimization problem

$$MAD = \frac{1}{n} \sum_{i=1}^n \rho_{\tau}(y_i - (\beta_0(\tau) + \beta_1(\tau)x_{i1} + \dots + \beta_p(\tau)x_{ip})) \quad (5)$$

$$\text{Where } \rho_{\tau}(u) = \tau \max(u, 0) + (1 - \tau) \max(-u, 0) \quad (6)$$

Equation 4 shows that the quantile regression technique involves minimizing the weighted sum of absolute errors, where the weights are symmetrical for the median regression case ($\tau=0.5$). For other quantiles, the weights are asymmetrical.

2.4 Discussion and Empirical result

This study has used the probability of being poor (poverty based on consumption per capita) as a dependent variable. The predictor variables measured in the survey are household head characteristics, household characteristics, geographical location, and infrastructure access. The explanatory variables used are related the one's susceptibility to poverty. (see table 2-3)

Table 2:3 Definition of variables

<i>Dependent Variable</i>	<i>Measurement</i>
<i>Poverty</i>	<i>P=1 if poor, 0 otherwise. Poverty estimated based on consumption per capita</i>
<i>Consumption</i>	<i>Per capita household consumption per day</i>
<i>Independent Variables</i>	
Age & Age SQR	Age of the household head in years
Area of residence:	=1 if urban and 0 otherwise
Gender of Household Head	=1 if Male, 0 otherwise
Household Size	Total Members in Household
The household head is education	=1 if HHH is literate and 0 otherwise
Dependency ratio	The ratio of Dependent members to the productive age group
A household has at least one employed member	=1 if has at least one employed member and 0 otherwise
Household source of income:	
- Salaried Labour	=1 if salaried and 0 otherwise
- Small family business	=1 if small family business and 0 otherwise
- Agriculture, fishing & hunting	=1 if agriculture, fishing, and hunting and 0 otherwise
- Aid and remittance	=1 if aid and remittance and 0 otherwise
- Other sources of income	=1 if other sources of income and 0 otherwise
Household has electricity	=1 if has electricity and 0 otherwise
Remittances receipt (internal + international)	=1 if receive remittance and 0 otherwise

The estimation was made with about 6092 households. In each household, the characteristics are assumed to affect all the household members equally. We used the household as a unit of analysis has concluded that all the resources at their disposal are shared equally among household members.

2.4.1 Mean Test of Poor and Non-Poor Households

This section performed the mean test of household characteristics (household size, age, dependency ratio, number of children, household head education, electricity in households, and remittances) of poor and non-poor households' category. We estimated the means of various household characteristics of the two groups. We then find the difference between these two means and conduct the mean comparison test using a t-test.

Table 2:4 Demographic attributes of poor households

Household Characteristics	Poor	Non-Poor	Mean Difference
Household size	5.89	4.75	1.14***
Age of the household head	38.55	36.63	1.92***
No. of Children	3.07	2.21	0.86***
Dependency ratio	1.48	1.14	0.33***
HHH education	49.06	57.28	8.18***
Electricity	56.94	70.38	13.44***
Remittances received	15.02	24.00	9.00***

Source: Authors' calculations using SHFS 2017-18.

*Significance level: 1% (***), 5% (**), and 10% (*).*

The value presented for t-tests is the differences in the means between poor and non-poor households.

The household size is an essential factor in determining the poverty status of households. Household size is expected to influence the poverty status of a household. The average household was 5.44 members, with 5.89 members for poor households and 4.75 members for non-poor families. Overall, very low-income families have 1.14 more members than non-poor households. This difference is statistically different at $p < 0.001$.

Studies have shown that the incidence of poverty generally increases with the age of the household head. The average age of household head for the poor households was 38.5, while that of the non-poor households was 36.6, statistically different at $p < 0.001$.

Education permits people to access better economic prospects and progress their overall well-being. Our t-test results indicated that the mean proportion of education in poor households is 49.06 compared to non-poor households of 57.28. Overall, the proportion of

literate members in the households is eight percentage points lower in poor households compared to non-poor ($p < 0.001$)

2.4.2 Empirical Results

This study has used the probability of being poor (poverty based on the 2011 PPP poverty line) as a dependent variable. The explanatory variables used are related to the one's susceptibility to poverty. These include household characteristics such as household head age, area of residence, the gender of household head, households' size, household head literacy, dependency ratio, the household that has at least one employed, source of income (salary, small family business, agriculture fishing, external support, trade and other), remittance, electricity, and land access

Our empirical investigation indicates that household size, being in a female-headed household, and living in rural or nomads significantly raise the probability of a household's poor status. In contrast, literacy, families with at least one employed member, a family whose income source is small-business, remittance, and access to electricity and land reduces the propensity to be poor. The age and the other sources of income, on the other hand, are insignificant determinants of poverty. The logit model reports coefficients of the independent variables in log-odds units. They show the log-odds' anticipated change of being poor for a unit rise in the corresponding explanatory variable, holding all other variables constants. The odds ratios are not discussed in this here but rather marginal effects.

Table 2:5 Result of Logit Model

VARIABLES	National	Rural	Urban	Odd ratio
Age	-0.00158 (0.0135)	-0.0134 (0.0173)	0.0292 (0.0223)	0.998 (0.0134)
Age square	3.66e-05 (0.000153)	0.000119 (0.000199)	-0.000232 (0.000247)	1.000 (0.000153)
Area of residence	0.569*** (0.0763)			1.766*** (0.135)
Gender of Household Head	0.124** (0.0614)	0.152** (0.0766)	0.117 (0.105)	1.132** (0.0695)
Household Size	0.319*** (0.0197)	0.316*** (0.0240)	0.348*** (0.0359)	1.376*** (0.0271)
The household head literacy	-0.166** (0.0656)	-0.0597 (0.0820)	-0.384*** (0.112)	0.847** (0.0555)
Dependency ratio	0.0246	0.0728*	-0.0877	1.025

One employed member in HH	(0.0306) -0.284***	(0.0381) -0.328***	(0.0536) -0.231**	(0.0314) 0.753***
Income: Small family business	(0.0764) -0.199**	(0.104) -0.252***	(0.116) -0.0446	(0.0575) 0.820**
Income: Agriculture fishing & etc.	(0.0772) -0.0420	(0.0884) 0.620**	(0.164) -0.0687	(0.0633) 0.959
Income: External Support	(0.110) -0.0528	(0.269) -0.213	(0.143) 0.344	(0.105) 0.949
Income: Trade	(0.114) -0.112	(0.136) -0.239	(0.223) 0.400	(0.108) 0.894
Income: Other	(0.168) -0.0421	(0.186) 0.0154	(0.404) -0.0734	(0.150) 0.959
Remittance	(0.105) -0.577***	(0.146) -0.518***	(0.163) -0.671***	(0.101) 0.562***
Electricity	(0.0764) -0.737***	(0.0911) -0.931***	(0.144) -0.497***	(0.0429) 0.479***
Land access	(0.0770) -0.234**	(0.107) 0.0199	(0.117) -0.430***	(0.0368) 0.792**
Constant	(0.0922) -0.746***	(0.159) 0.198	(0.117) -1.492***	(0.0730) 0.474***
	(0.278)	(0.358)	(0.461)	(0.132)
Observations	5,938	3,928	2,010	5,938

Standard errors are presented in parentheses

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

2.4.3 Conditional Poverty Profile: Marginal Effects

The marginal effect analysis was done to get the effect of a unit change of each predictor variable on the probability of being poor. The marginal effects measure the instantaneous rates of change of the likelihood of being poor for a unit increase in continuous variables and the discrete changes of dummy variables from 0 to 1. In other words, they measure how the predicted probability of being poor changes as the binary independent variables change from 0 to 1, holding all other variables at their means.

The results show that household poverty is much higher in the rural and nomadic areas than in the urban areas. The household living in rural or nomadic areas was 12.5% poorer than those living in urban areas. Our results are like the research done by Daka, Fandamu (2016), Md. Deen Islam, Jamil Sayeed & Md. Nazmul Hossain (2016) showed that households living in rural negatively significantly raise the probability of being poor.

Men are the reference group of the gender of the household head. Compared to the reference group, the families headed by a woman are 2.6% more likely to be poorer than those headed by a male. Researchers have discussed this phenomenon before; the situation in Somalia is the same as the SSA, where there is discrimination against women in the labor market and education. The literature generally indicates that poverty is higher in female-headed households, and the results obtained in this study also support that women have a higher risk of becoming poverty (Deressa & Sharma, 2014; Buvinic & Gupta, 1997; Biyase & Zwane, 2015; Smajic & Ermacora, 2007; Sekhampu, 2012; Dal, 2013).

When the household's size increases by one person, the probability of that household being poor increases by 0.068. This implies that increasing the household size by one person raises the poverty level of that household by 7%. Our results match, for example, a study done by Anyanwu (2014) that indicated one-person families negatively and significantly reduces poverty while the addition of members to the household progressively increases the probability of being poor.

At the household head education, the reference group is determined as literate. According to the reference group, illiterate those have an increased risk of 3.5% of being poverty. This implies that increasing the proportion of education households by one unit reduces that household's poverty level by 3.5%. This result confirms a high relationship between education and poverty and is consistent with the literature findings that the risk of poverty decreases as the education level increases (Widyanti et al., 2009; Awan et al., 2011; Myftaraj et al., 2014).

Table 2:6 Marginal Effects

VARIABLES	National	Rural	Urban
Age	-0.000334 (0.00285)	-0.00279 (0.00361)	0.00618 (0.00471)
Age square	7.75e-06 (3.23e-05)	2.49e-05 (4.16e-05)	-4.89e-05 (5.21e-05)
Area of residence	0.120*** (0.0159)		
Gender of Household Head	0.0262** (0.0130)	0.0316** (0.0160)	0.0248 (0.0223)
Household Size	0.0676*** (0.00384)	0.0659*** (0.00460)	0.0736*** (0.00696)
The household head education	-0.0351** (0.0138)	-0.0125 (0.0171)	-0.0812*** (0.0235)
dependency ratio	0.00521 (0.00647)	0.0152* (0.00794)	-0.0185 (0.0113)

At least one employed member	-0.0601*** (0.0161)	-0.0684*** (0.0215)	-0.0489** (0.0245)
Income: Small family business	-0.0422** (0.0164)	-0.0531*** (0.0186)	-0.00943 (0.0347)
Income: Agriculture fishing & etc.	-0.00881 (0.0231)	0.119** (0.0470)	-0.0145 (0.0303)
Income: External Support	-0.0111 (0.0241)	-0.0447 (0.0289)	0.0699 (0.0442)
Income: Trade	-0.0236 (0.0356)	-0.0502 (0.0395)	0.0808 (0.0780)
Income: Other	-0.00884 (0.0221)	0.00317 (0.0300)	-0.0156 (0.0344)
Remittance	-0.122*** (0.0159)	-0.108*** (0.0187)	-0.142*** (0.0299)
Electricity	-0.156*** (0.0158)	-0.194*** (0.0216)	-0.105*** (0.0244)
Land access	-0.0495** (0.0195)	0.00415 (0.0333)	-0.0908*** (0.0244)
Observations	5,938	3,928	2,010

Notes: Standard errors are presented in parentheses

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

When the household with at least one employed member increases by one unit, the likelihood of being poor decreases by 0.062. This suggests that one unit's rising households' employment creation reduces that household's poverty level by 6%. These results show the rate at which households' poverty status expands as the proportion of household literacy also increases. This emphasizes the need for putting more effort into the long-term cycle of empowering the Somali population with relevant knowledge and study skills.

On the primary income source, the reference group has been determined as wage/salary earners. According to the reference group, the households whose income comes from the small business were 4.2% richer than those whose income comes from other agriculture sources, finishing, and aid. This finding is also in line with international literature (Rodriguez, 2015; Spaho, 2014).

Our results show that households getting remittances are less expected to be poor, i.e., the non-recipient remittances were 12% poorer than families receiving remittances.

Similarly, our study results indicate that poor households are less likely to access infrastructure and land. The families who were not receiving electricity and land were 15% and 5% poorer than those accessing electricity and land.

2.4.4 Quantile Regression results

The quantiles estimated like household size and residing in rural areas are inversely related to the standard of living measured by consumption expenditure. The variables measuring the household head literacy, remittance, electricity, at least one employed member in the family, and land access are highly significant at all estimated quantiles. These results re-approve the previous results of the logistic regression result.

Table 2:7 Quantile regression

Independent Variables	Quantile			
	0.25	0.5	0.75	OLS
Age	-0.000172 (0.00372)	-0.00497 (0.00553)	-0.00191 (0.00888)	-0.0119 (0.00906)
Age square	-6.90e-06 (4.18e-05)	4.92e-05 (6.21e-05)	3.85e-05 (9.98e-05)	0.000117 (0.000102)
Area of residence	-0.168*** (0.0201)	-0.219*** (0.0298)	-0.296*** (0.0479)	-0.627*** (0.0489)
Gender of Household Head	-0.0193 (0.0171)	-0.0353 (0.0254)	-0.0456 (0.0408)	-0.0736* (0.0416)
Household Size	-0.0603*** (0.00474)	-0.103*** (0.00704)	-0.170*** (0.0113)	-0.188*** (0.0115)
The household head education	0.0814*** (0.0182)	0.108*** (0.0271)	0.142*** (0.0435)	0.169*** (0.0444)
dependency ratio	-0.00695 (0.00806)	-0.0133 (0.0120)	-0.0355* (0.0192)	-0.0223 (0.0196)
At least one employed member in HH	0.0874*** (0.0199)	0.0920*** (0.0295)	0.165*** (0.0474)	0.273*** (0.0483)
Remittance	0.199*** (0.0206)	0.253*** (0.0306)	0.340*** (0.0492)	0.380*** (0.0502)
Electricity	0.163*** (0.0203)	0.246*** (0.0302)	0.307*** (0.0485)	0.156*** (0.0494)
Land access	0.0321 (0.0243)	0.0675* (0.0361)	0.210*** (0.0580)	0.233*** (0.0592)
Constant	1.022*** (0.0766)	1.689*** (0.114)	2.464*** (0.183)	2.801*** (0.186)
Observations	6,030	6,030	6,030	6,030
R-squared				0.106

Notes: Standard errors are presented in parentheses

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

The quantile regression results show that one of the most important variables affecting poverty is an area of residence. The rural/nomadic was negatively related to consumption expenditure, and the coefficients are statistically significant across all quantiles. The household size was negatively associated with consumption expenditure and is significant across all quantiles (80th percentile) and at the OLS conditional mean.

The education variable was first categorically added to the models, and a relative increase was observed in each category. Thus, models were studied only with continuous variables, and categorical variables were not included in the article. From the first twenty-fifth quantile to the seventh fifth quantile, the person's education in charge of the household on the expenditures was positive and statistically significant around 0.08 - 0.14.

On the other hand, the effect of at least one employed household member in the first, second, and third quintiles on the expenditures was around 0.08, 0.09, and 0.16. The coefficient was found to be statistically significant. The land access variable, apart from the bottom 25th quantile, the coefficients are 0.067 and 0.21, respectively, and they are statistically significant. It is seen that those who have access to land spend more than those who do not. When the household's remittance and electricity information is examined, the coefficient is significant and positive across all other quantiles.

2.5 Conclusion and Policy Recommendation

This study's main aim is to explore the factors that determine the probability of poverty in Somalia. For this purpose, the latest household survey of the Somali High-Frequency Survey was used, and the poverty equation is estimated using both logistic and quantile regressions.

Our empirical investigation indicates that household size, been in female household head, and living in rural or nomads, significantly increase the probability of the household's poor status. Meanwhile, literacy, households with at least one employed member, a family whose income source is small-business, remittance, and access to electricity, reduces the propensity to be poor. The age and the other sources of income, on the other hand, are insignificant determinants of poverty

The foremost thing is the steady increase in the chances of escaping a household's poverty as the proportion of household members attains education. It suggests that as educational accomplishment increases, the likelihood of a family to be poor declines. A higher proportion of household members' literacy enhances the household's earning potential of the household, and

consequently, the increased earnings will elevate the household out of poverty. The Somali government should improve quality, boost enrolment, and access primary, secondary, and tertiary education. This noticeably proposes that education for all programs is one appropriate policy choice for the government.

The inflow of international remittance in developing countries has increased dramatically since the 1990s, rising from US\$30 billion in 1990 to US\$325 billion in 2010 (Pekovic, 2017). Somali has also experienced a similar trend, far more extensive in magnitude and growth than in other developing countries.

Our results indicated that only fifty-eight percent of remittance-recipient families in Somalia is poor compared to seventy-one percent of non-recipient households. This result agrees with a study done by Adams and Page, indicating that international remittances significantly lessen the level, depth, and severity of poverty in the developing countries (Adams Jr & Page, 2005).

Based on this analysis, the stakeholders, including the government, NGOs, and the international community, should improve the education system, increase employment levels, encourage small-business and rebuild the essential infrastructures such as electricity to reduce poverty in Somalia. Also, there is a need to reduce the household size by devising policies that control the country's rapidly increasing population growth.

One explanation of why Small Medium Enterprises have not usually been successful in Africa has been the lack of capital, the high cost of borrowing, and banks' unwillingness to lend to small businesses. Startup costs are also high in Somalia. The establishment of the National Institute of Support for Small and Medium Enterprises is necessary, a body of the government's indirect administration, which is mostly accountable for implementing policies and strategies in training and financing small and medium businesses. The institute should be an entity governed by public law, legal capacities, and administrative and financial autonomy.

On the other hand, the financial institutions must maintain specific credit lines for small and medium businesses, and the amount available, and access conditions must be widely disclosed. A significant rise in the budget share could increase the Ministry's capacity for intervention throughout schools. Lower primary education (first four years) should be free and compulsory. The state should develop a new legal of Basic Law of the Education and Teaching System. The law should exempt from any payment for registration, and school supplies social support for all students who attend lower primary education in public schools. The law should

also purpose at broader social inclusion and the concurrent promotion of compulsory schooling. Commonly, most government officials, administrators work without population statistics, making good governance difficult. We call on the urgent reform of the National Statistics of Somalia and not wait only for external assistance to fulfill its obligations.

Our results show that the employment of any member of the household reduces the probability of being poor. This is consistent with a study done by Stier and Lewin. They found out that poverty levels are substantially lower in households in which at least some members participate in the labor market, either on a full-time or on a part-time basis (Stier & Lewin, 2002). The government could seek to support small businesses, encourage new businesses, and provide microfinance to increase their incomes and reduce poverty.



CHAPTER THREE

3 The impact of Remittance on Poverty and household consumption in Somalia: A Propensity Score Matching Approach

Abstract

Somalia, the remittance from the diaspora, is an essential part of the economy, where the inflows indicate more than the sum of the foreign aid and investment together. More than two million Somalis living abroad send 1.3 billion dollars annually to Somalia. The study was set up to examine how remittances affect household expenditure and reduce poverty in Somalia. Specifically, this study aims to investigate how households spend remittances in Somalia using the latest survey data from the Somali High-Frequency Survey 2018, and the equation is estimated using propensity score matching. This study's calculated result showed that remittance recipients' per capita consumption was higher than non-recipient households, and household poverty levels decreased significantly due to remittance.

Keywords: Somalia, households, Poverty, Consumption, poverty Propensity score matching

JEL Classification: I3, I32, F24, P36

3.1 Introduction

Remittances have become an important source of financial capital for external development globally. The recorded remittance received by developing countries is substantially high, based on the estimate by World Bank (2006), official remittance gotten by developing countries rose from US\$31.2 billion in 1990 to US\$221.3 billion for the year 2005, speaking to a yearly development of more than 13 percent. The migrant remittance flows to developing countries in 2016 reached \$429 billion, albeit a decline of 2.4 percent over \$440 billion in 2015. In sub-Saharan Africa, money sent back by foreigners to their home came to a record of \$41 billion in 2017. This shows a 10% rise in remittance from the earlier year, the most significant yearly growth for any world region. (World Bank, 2017).

In the third world nations, migration, whether international or internal, is frequently brought about by people looking for better financial open doors for themselves and their families. When these vagrants discover opportunities in urban areas or abroad, they will, in general, dispatch or send a great bit of their expanded income to relatives back home (Adams, 2006).

When migrants want to send back money to their families, they either use formal or informal procedures. Some use the official routes of money transfer operators (MTOs) and banks, but the language barriers and costs associated with these services can hinder use. As a result, most remittances occur in unofficial channels (Carrasco and Ro, 2007).

Martinez analyzed the remittances coverage and national statistics of the 40 developing countries. He found that the current figures do not reflect the full number of remittance inflows, and most nations need to set up better systems that would license them to boost the developmental effect of remittance inflows. He concludes that a couple of countries only measure remittance through informal channels (Luna Martinez, 2005). On the other hand, there is no general understanding of the most proficient method to compute the international workers' remittances to developing countries. Therefore, the below figure does not reflect the forthcoming volumes of the unrecorded informal routes of remittance.

Table 3:1 Estimates and Forecasts of Remittance Flows

	2010	2016	2017	2018	2019e	2020f	2021f
	(\$ billions)						
Low and Middle Income	343	444	484	526	551	574	597
East Asia and Pacific	96	128	134	143	149	156	163
Europe and Central Asia	38	44	53	58	59	62	64
Latin America and the Caribbean	56	73	81	89	96	99	103
Middle East and North Africa	39	51	57	58	59	61	63
South Asia	82	111	117	132	139	145	150
Sub-Saharan Africa	32	38	42	47	49	51	54
World	470	589	634	683	707	739	768
	(Growth rate, percent)						
Low and Middle Income	11.6	-1.6	9.1	8.6	4.7	4.2	4.0
East Asia and Pacific	19.9	-0.5	5.1	6.8	3.8	4.7	4.5
Europe and Central Asia	5.6	0.1	22.3	8.4	1.8	4.6	4.3
Latin America and the Caribbean	2.5	7.4	10.8	9.6	7.8	3.8	3.6
Middle East and North Africa	18.2	-1.2	12.1	1.6	3.0	2.7	3.2
South Asia	9.4	-5.9	5.8	12.7	5.3	4.1	3.6
Sub-Saharan Africa	11.1	-9.9	9.4	10.7	5.1	5.1	4.9
World	8.6	-1.1	7.7	7.6	3.5	4.6	4.0

Source: World Bank, 2020

Leeson (2007) saw that during the 1980s, Somalia's administration went to expansion to back its degenerate and bankrupt undertakings. Somewhere in the varieties of 1983 and 1990, the typical yearly devaluation of the Somali pushing against the US\$ was more than 100 percent. In specific years devaluation surpassed 300 percent (JairusSimiyu, 2018). Hyperinflation crushed Somalis' investment funds, who figured out how to accumulate unassuming wholes after some time. It likewise weakened the monetary unit as methods for financial computation. Worldwide development offices, concerned with charm Somalia from the impacts of Eastern Europe, filled the shortage with monstrous inflows of outside guide (Kwabena & Asiedu, 2011). During the 1980s, the whole development spending plan and half of its government's current spending plan were financed by external finance (UNDP, 2001).

In 1987, seventy percent of the states' all-out working spending plan was financed along these lines (Kwabena & Asiedu, 2011). The mid-1980s saw a transitory spike in government uses on things like training. Yet, by the late 80s, the heaviness of about 20 years of widespread heresy, restraint, and state control had decreased Somali welfare to horrendously low levels.

Well preceding the government's break down, the rural economy was in ruins, and lack of healthy sustenance and starvation were essential spots.

During the 1980s, Somalia was one of the lowest per capita countries globally (UNDP, 2004). “Toward the part of the bargain government spent short of what one percent of GDP on monetary and social administrations, while military and organization devoured 90 percent of the state's all-out repetitive consumption” (Esquivel & Huerta-Pineda, 2006).

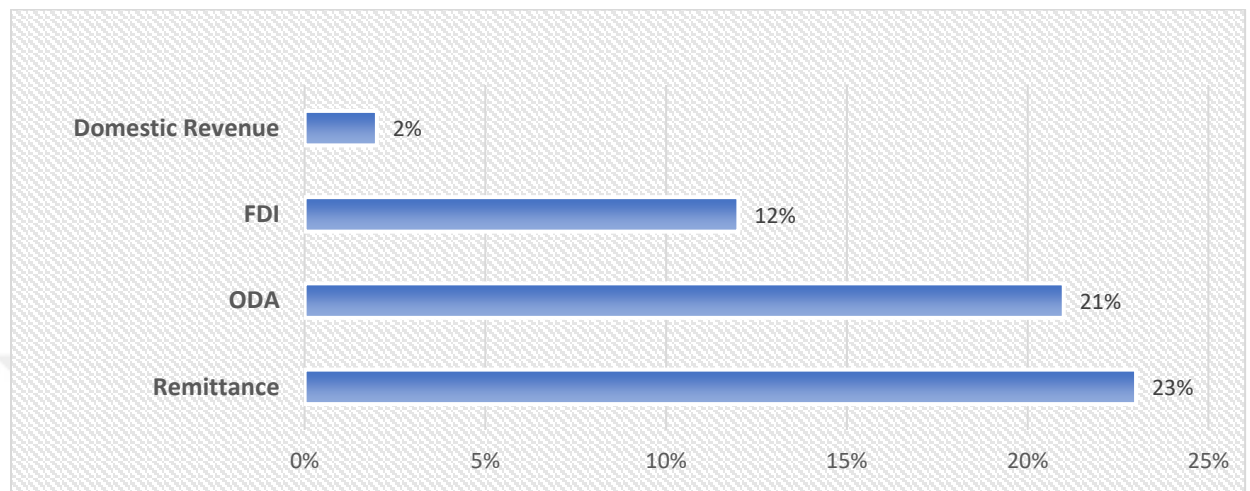
In Somalia, Financial settlements from Somalis living overseas are maybe an exceptional component of the economy even though this was not new. Their centrality developed as a feature of the rising parallel economy during the 1980s. They were evaluated to be worth the US \$370 million yearly, 75% of which originated from laborers in the Gulf nations. This was equivalent to multiple times the Somali-based national wages bill and incompletely clarifies how families at the time had the option to get by on actual government pay rates that secured just 8% of family unit use. The diaspora's size has increased because of the war, and alongside it, the volume of settlements. The source has additionally changed as the Somali Diaspora in Europe, the USA, Canada, and Australia have expanded. Adams (2003) noticed that even though settlements have turned into the fundamental wellspring of hard cash for the nation, the exact proportion of remittance to the level of poverty is still uncertain.

Somalia is one of the countries that heavily rely on remittance for its operations. A society experienced a protracted crisis in the 1980s, a decrease in economic activities and war brought about raising the level of poverty, hardship, and weakness. The remittance inflow in Somalia is critical in sustaining the livelihoods of family members, friends, and close associates who remained in the country, especially during the civil war and the aftermath from 1988 to 1992. The majority of the Somalis still living in the country use the acquired remittance resources for health, education, and other socially- improving purposes. (UNDP, 2001).

The aftermath of the civil war in 1988 that led to the ultimate collapse of the Somalia state in 1991 resulted in thousands fleeing the country. In light of these mass movements, over two million Somalis live abroad and in neighboring nations currently. Further, most of these communities still maintain close ties with their families at the homeland. They offer substantial amounts of financial resources for their routine upkeep, commonly referred to as remittances. Presently, remittances remain a critical element for the survival and stability of the Somalia economy. The reported remittances were estimated at US\$ 1.4 billion in 2016 that is more than 23% of GDP, which is more than the recorded official development assistance (ODA), which

is totaled US\$ 1.3 billion in 2016. There are fears over whether remittances have a significant impact on consumption expenditure and hence poverty reduction. (Somali Economic Update, 2017).

Figure 3-1 Financial Flows, 2016 (% of GDP),



Source: Somali Economic Update, 2017)

The decrease in economic activities and war during the 1980s pursued by an extended clash during the 1990s brought about rising poverty, hardship, and weakness (UNDP, 2001). This is reflected in Somalia's declining Human Development Index. The life expectancy remained at 47 years, newborn child death rates remained at 132/1000, maternal death rates remained at 1600/10000, elementary school general enlistment remained at 13.6%, and grown-up proficiency remained 17.1%. GDP per-capita remained at \$795 (UNDP, 2001). An aggregate of 47% of the economically active populace is jobless in Somalia. Infrastructure on health is broken down or nonexistent, social insurance is just inadequately given, and school enlistment rates are the most minimal on the planet. Thus, extraordinary destitution characterized as the extent of the populace living on under 1.5 US \$ every day estimated at purchasing power parity (PPP) for worldwide comparison and aggregation is evaluated as 43.2 percent for Somalia. The individuals who seem to be extremely poor in urban territories are 23.5 percent, and in rural and the nomadic areas stood at 53.4 percent (World Bank, 2016).

Even though Somalia's economy is, to a great extent, subject to remittance, its commitment to a decrease of poverty is obscure. Remittance is anticipated to develop, induce, and stimulate the national economy during the predominant conflict. Research by Maimbo (2006); Kulaksiz & Purdekova (2006); Lindley (2006); Waldo (2006) recognized the expanded

volumes of remittance in an economy characterized by civil unrest. However, the question is the job of remittance in poverty mitigation and Human Development in Somalia, given the untenable low Human Development levels in Somalia. It was against this foundation that this study explored the connection between remittance and Household poverty in Somalia.

Therefore, the study was set up to examine whether remittance affects household poverty levels using the latest survey data from the Somali High-Frequency Survey 2018. Even though Somalia's economy is, to a great extent, subject to remittance, its commitment to a decrease of poverty is obscure. Hence, the critical question is, how do remittances affect household expenditure and reduce Somalia's poverty? Precisely, the objective of this study is to investigate how households spend remittances in Somalia.

This study seeks to answer(s) to the following study questions: what is the extent to which remittance helps reduce household poverty? What is the level of significance in the relationship between remittance and per capita consumption of households? And to what is the extent to which remittance helps in enhancing the standard of living?

This research's broad target shall be to evaluate the influence of remittance on household poverty in Somalia. The specific objectives are to analyze the effect of remittance on per capita consumption in Somalia and investigate the impact of remittance on Somalia's household poverty.

To the best of the writer's understanding and information, no such kind of empirical study has managed this issue in the example of Somalia; however, numerous descriptive analysis was done in Somalia, and comparable studies have been done on different countries. In contrast to various investigations, which mostly collected primary data and focused on specific regions, this paper utilizes a propensity score matching (PSM), which enables the recipient of remittance households to be compared to non-recipient who are similar in terms of their observed characteristics, thereby correcting for self-selection of recipient households, conditional on those observables

This study will update the literature using new data and superior methods of measurements than earlier studies. Minimal studies are done when it comes to remittance in Somalia, and mostly they focus on descriptive analysis. Therefore, it is with the belief that this research will serve as a starting point or exemplary for studying poverty and remittance in Somalia.

The paper is organized into five chapters. The top section is the introduction part, which focuses on the background, statement of the study, objectives, research questions and hypothesis, scope, significance, and study limitation.

Conceptual frameworks and empirical investigations and experiences of countries will be developed in chapter two. The third chapter deals with the paper's methodology in which data sources and model specification will be stated. The fourth chapter deals with the main body of the study, assessed remittance and poverty in Somalia. Finally, chapter five comes with conclusions and recommendations followed by references, appendix, tables, and annex parts.

3.2 Literature Review

3.2.1 Remittance in Somalia

Remittances are funds migrants in the diaspora send to family members in their home country. It refers to money sent by individuals living or employed outside their birth countries to their home country. It can provide credit to entrepreneurs and investors for business and industrial expansion (Efobi et al., 2016). Remittance inflows from foreign countries are more critical and different from other external capital inflows as foreign aid because they are stable and more reliable. (Efobi et al., 2016)

Somalis have traditionally been agro-pastoralists and nomads; the Somalis moved within and beyond their country's borders to hunt pasture and water for their livestock. In 1969, supported by the USSR, military, and later, the USA, Siyad Mohammed Barre took power in a coup (Marchal & Sheikh, 2015). The country experienced an economic boom for the first five years until a severe drought (Dabadheer) happened in 1974 in the northern part of the country, which devastated the livelihood and forced the government to relocate those families to the southern part of the county. The economic downturn and high unemployment forced many Somali to find a better life. Therefore, thousands of Somalis went to the Middle East to work as construction laborers, drivers, guards, and other skilled sectors.

By the end of the 1980s, most dwellers, especially in the cities, had at least one close relative living in the Gulf States. The majority of the individuals were men, single, and with high expectations of returning home. Besides, the basic wages in Somalia stagnated through the 70s; the employees were working in the Gulf States was earning about six times more. In

light of these observations, many Somalis started remitting their earnings to the home country for their families to meet their basic needs.

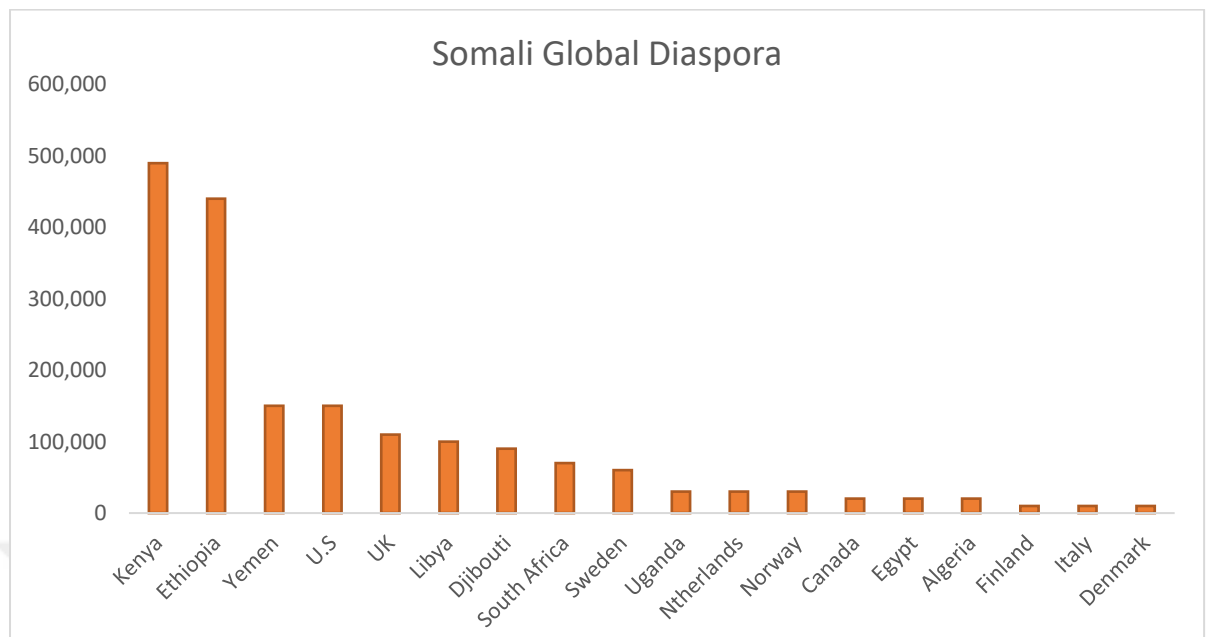
Subsequently, emigration patterns dramatically changed in 1988, due to the outbreak of the civil war. The country collapsed in 1991 due to the increased opposition to the Barre regime and a shrinking economy. This led to a substantial displacement from the country, with many emigrating to Ethiopia, Saudi Arabia, Europe, and the Americas.

Presently, Somalia migrants worldwide remit approximately \$1.3 billion in resources annually (Majid, Abdirahma, & Hassan, 2017). It is imperative to note that these funds exceed the total sum of funds and resources remitted through the humanitarian aid kitty, about \$800 million.

It is critical to note that Somalis' remittances leaving abroad play a substantial role in sustaining the country's economy. Besides, they make an essential contribution to the country's household income through food security sustenance. Characteristically, about 40% of Somalia's population depends on resources that come in remittance from foreign relatives and associates. Besides, Somalia's Gross Domestic Product (GDP) is estimated to be around \$6 billion, with the per capita income being about \$435 (Majid, Abdirahma, & Hassan, 2017).

Somalia's per capita income is the fifth-lowest on a global scale. Besides, Somalia relies heavily on imports to sustain its demand for goods and services. For this reason, its imports directly account for over two-thirds of its GDP. The majority of the two-thirds in GDP are paid for by remittances from transfers made by Somalis living in the diaspora. The total amount of remittances experienced by the country surpasses the overall amount of development and humanitarian aid.

Figure 3-2 Total Number of Somali migrants living outside of Somalia in 2015



Source: PEW Research center,

Note: Estimates rounded to nearest 10,000

3.2.2 Poverty and Remittance

Poverty is a primarily economic and social condition. It manifests itself when people cannot meet their basic needs and do not have access to goods and services essential for life, for instance, food, housing, health, education, recreation, employment, and income savings and assets. There is controversy in the literature regarding the meaning of poverty or things that make one classified as poor. Most people have thought of poverty as a situation where one lacks a given amount of income (usually \$1.25 per day or less/more). Extreme poverty is when people cannot cover their food, nor with all their income, but also suffer at least three social deficiencies (health, education, social security, housing, food, essential services) (Coneval, 2016). Besides, poverty also involves political and cultural aspects, restricting poor people's access to material resources and opportunities created in the environment (Gomes, Petersen, Galvao, 2008). In this sense, it is difficult to reduce poverty only economically, without attending to social aspects such as self-confidence, school training, participation in public affairs, and savings and productive assets. Various circumstances cause the fall, permanence, and exit from poverty. The people involved are different; endowment of resources, training, interests, expectations, and personal traits.

As (Chenery et al., 1979) point out, when the population does not have access and fails to accumulate quality productive assets in a given time. A little part of society's economic benefits, small you can save and collect for the next period, and so on; who owns the assets, they keep most of the product and poverty prolonged in the long term. Public policies must allow poor people to accumulate assets and personal capacities. The environment will enable them to apply them to enter an exit process. Being able to collect assets quality expands and improves various individual skills and generates conditions that allow its users to be the right way for the poor to come out of their situation and build stable lifeways. In this idea, migration can contribute resources so that households can access some assets, capacities, and attitudes. Having resources allows them to have food in the short term and access assets that strengthen them in the long-term (savings, productive investments, personal abilities).

According to DAC guidelines on poverty reduction in 2001, poverty is a multi-dimensional concept; it is people's ability to meet economic, social, and other well-being standards, such as clean water, food, education, and primary healthcare. However, it comprises a different aspect, as listed below.

Economic: The economic aspect of poverty includes the inability of someone to earn an income, which is usually defined, to have assets, and source access to resources like land, tools and animals, forests and fishing water credit, etc. Human well-being: This aspect includes things needed for well-being such as healthcare facilities, schools, shelter, clean water, etc. Even if one earns a reasonable amount of income, it can still be classified as being poor. Political: This aspect includes human rights, such as freedom of speech, freedom to participate in any religion of one's interest, freedom to vote, and to be voted for, etc. Socio-Cultural: This aspect includes the ability to partake in any of one social-cultural activity given that such action does not harm the society

3.2.3 Further Empirical Studies on Remittance and Poverty

Over the years, some fundamental empirical questions were raised in macroeconomics on issues concerning the role of remittance on poverty reduction and others. The reason was that most underdeveloped nations have depended on all kinds of remittance from nationals in developed countries for several decades. In response to these questions, several empirical studies were carried out. The results appear to be indecisive. This section, however, comprises of review of some selected practical works relevant to this study.

Rehman & Naher (2019) tried to investigate relationships between international remittance and poverty in Bangladesh with evidence from household income expenditure survey (HIES) 2010 data with a sample of 12,239 households accessed from the Bangladesh Bureau of Statistics (BBS). The study employed propensity score matching and probit regression. Findings from the study revealed that remittance positively impacts per capita expenditure and consumption of households; however, policymakers are expected to create a vibrant environment for remittance funds to thrive within both home countries and destination countries.

Chukwuone et al. (2012) examined the impact of remittance on poverty by extracting Nigeria's studies and utilizing microdata from the Nigeria National Living standard survey. They use a propensity score matching method multinomial logit method with IV's. Findings from the study show that international and in-country remittance are all instruments in reducing poverty in the country. However, the study's deductions also revealed that remittance comes from external trends to minimize Nigeria's poverty reduction. Therefore, the study recommended that policies be made to use remittance funds to support the necessary infrastructure like water, electricity, and road infrastructure to mitigate poverty among household units.

Employing quantitative and qualitative research methods, Kibikyo & Omar (2012) examined the effect of remittance on poverty and social development within Mogadishu's city in Somalia. They collected both primary and secondary data. Their study findings revealed that the expectations of remittance in reducing poverty are not in doubt as remittance lived according to expectation in reducing poverty, which has led to a resultant effect boosting the incomes and gaining grounds to access healthcare educational services. Worthy of note from the study, remittance is not a contributing factor to employment as it is failed. However, the study recommended that policies' efforts be set aside to encourage remitted funds to employment development.

A similar study conducted by Bulut & Mohammed (2018) also tried to investigate the effects of remittance on poverty reduction in Somalia. The study utilized high-frequency survey data from the World Bank data indicators, UNICEF and IMF; hence, the Ordinary Least Square (OLS) was adopted for estimation. The study found that there is a negative impact of remittance in Somalia and poverty reduction. Thus, they are no tangible impact of remittance of funds from an external source in poverty reduction in Somalia given the ration of the Somalia

poverty headcount. The study recommended that remittance flows into the country should be channeled to the right purpose order than using funds from remittance to fund terrorist groups. Again, the high level of tax attached to remittance should be curbed to reduce the remittance of informal means of fund remittance into the country. Lindley (2006) obtained a similar result but in considering the role of migrant remittance and crises in the Somali society with Hargeisa's specific case. They use both quantitative and qualitative data in making an estimation. Findings revealed that migrant remittance directly impacts the household, especially to females, as one and a half families depend entirely on remittance gains. After the era of crises, funds from remittance have increased per capita household income. It also has increased primary school enrolment within Hargeisa based on results findings. The study recommended that households who receive remittance be better positioned in the exchange rate variation era to access a more significant dividend even in crises.

Research conducted by Banga & Sahu (2014) investigated and compared the impacts of remittance on poverty reduction in over 77 developing countries in Asian and African countries. The study employed the use of household data and adopted the three stages, least-square estimation methods. Findings from the survey revealed that remittance has a positive impact on reducing poverty in other countries conducted. The most crucial remittance effect is more significant felt in countries where economic growth indicators are up to five percent. Therefore, the study recommended that effort be made to improve remittance volume and channel funds into productive engagements sustainable enough to reduce poverty.

Edwin, Mohamed, & Manayo (2018) also accessed the relationship between remittance and household poverty in Mogadishu in Somalia. They collected primary data and both the qualitative and quantitative approaches with a non-experimental case study survey design. They found a direct impact of remittance on the poverty level in Mogadishu. The study recommended that policymakers as the government provide micro-economic policies oriented and create a vibrant environment that would propel the full utilization of funds from remittance into various household needs such as health services and education.

Kokeb & Meseret (2013) carried out a study on the impact of remittance internationally on poverty, household consumption, and Ethiopia investment. The study uses descriptive statistics and Heckman's two-stage selection estimation model. The study found that remittance at the international level has significantly reduced the poverty gap, increasing household consumption on durable and non-durable items and access investments in health, housing, and

education. However, the research recommended that there is a need for remittance funds to be invested in income-generating ventures that are entrepreneurial.

The same line examined Orozco & Yansura (2013), a study on keeping the lifeline open for Somalia's remittance and markets. The study found that given the 2011 drought, which led to Somalia's food crisis, most households entirely depend generously on the remitted fund from Somalia's living in the diaspora, thus creating a link between remittances and household needs in the country. The study recommended that the policymakers and the US regulate the various remittance agencies and make mobile remittance payments accessible to all, thereby removing externalities.

Kamuleta (2014) examined the impacts of remittance on eight developing countries in African. The study found the financial crisis that hit the western states in 2008, which led to global economic depression. The migrating impact was felt more on households whose income and yields depend on nationals' remittance in western countries. Thus, the global recession's effect led to an increase in poverty levels and witnessed a drop in household consumption. However, it's explainable that global interdependence should be encouraged at all levels to drive particular political, social, and economic goals.

Ellyne & Mahlalela (2017) studied the impact of remittance on poverty in African. The study adopted a panel data of 32 countries in Africa by employing the Ordinary least square technique (OLS) estimation technique. The findings from the study show that remittance inflow in African countries is significant in reducing poverty. However, from the study, indicators such as official development assistance (ODA) and export were found to have no impact on poverty reduction. The study recommended reducing transaction costs and attaining transparency funds coming as remittance will get to the recipients of such a fund and positively impact their economic and social status.

Maimbo (2006) conducted a study on the overview of remittance and economic development in Somalia. The study form of various sectors has been affected by the fund from remittance to ridding of the economy's conflict. The study revealed that the private sector and their trade, transfer payments, and service and telecommunication activities have made the economy large. The study examined that activities of over 40 percent of urban households whose income depends on remittance. The study showed a positive impact of remittance and economic development in Somalia by collapsing the emigration and education systems.

However, the study recommended that the government has a lot to do to manage vastness from the private sector and create the remitted fund's political will to contribute meaningfully to the economy.

Verduzco (2008) points out that the possibilities of productive investment from remittances from abroad and other sources (private internal and governmental capital) are a potential factor of regional growth if elements that guarantee investment efficiency are considered. Such as exploiting productive investment niches based on accessibility to local or national markets with elasticity of demand and supply, and government support programs.

So, it is reasonable to expect that international migrant households who receive remittances can complete their food and alleviate their poverty. At the same time, these arrive, others may be able to save and accumulate long-term assets, others more fortunate may be able to get out of there. However, some evidence that assesses a point in time and compares household income (with and without remittances) against the cost of living shows that migration and remittances help reduce poverty in some cases. Still, while evidence is nonexistent in the long term, there is no household monitoring over time to verify the effects.

For example, an analysis performed with survey data on national income household expenditure in Mexico found no positive effects of remittances on poverty, neither in the sample's total households nor among the receiving families. He points out that remittances only replace the income that could be obtained locally and that these are mostly received by non-poor households (Canales, 2008; 2007).

Another study carried out in Chiapas (Peláez, Martínez, and García, 2013) estimates that remittances represent less than 5 percent of income in rural households. These benefits more middle-income households. The study points out that families with remittances do not have different patterns from non-recipients, nor do they spend on other things; they find no evidence that remittances reduce poverty.

In Colombia, Hernández (2008) finds that remittances arrive towards middle and high-income households and very little among low-income families. This makes poverty slightly reduced in areas of more excellent migratory experience and nothing in regions where the poorest households do not have access to international migration; the conclusion is that the effect is nil at the country level.

3.3 Data and Empirical Methodology

In this segment, we explain the research approach that we employ to appraise the impact of remittance on household poverty. In the econometric literature, we find various remittance methods on household poverty analysis (PSM, bivariate probit, OLS, GMM, instrumental quantile regression, etc.). The choice of one of them varies on several criteria, from the characteristics of the data collected to the robustness of the results obtained. The most appropriate methodology is "Propensity Score matching" (Rosenbaun and Robin, 1983).

The essential thought is to expect that getting remittance be like a "treatment," so we may evaluate a normal treatment impact on the likelihood of being in poverty. Thus, we need to consider the possibility of being in poverty for the household that receives remittance against the household that did not receive remittance. The distinction will, at that point, be credited to the presence of remittance. The basic presumption that we are making in employing is that the choice to be dealt with, such as remittance, receive, though not arbitrary, eventually relies on observable factors.

The fundamental idea is to accept that getting remittance is like a "treatment," with the goal that we may evaluate a normal treatment impact on the likelihood of being in household poverty. Indeed, although it is also possible to use another model, the propensity score model has the advantage of reducing the sensitivity of the assumptions made on the model parameters. Besides, in the propensity score model, the approach used is the "with-without remittance" comparison, the possible and practical implementation from SHFS data.

The Propensity Score Matching (PSM) estimators will be developed to correct for non-random selection to pair each treated observations (remittance recipient households) with similar control observations (non-recipient households) on the ground of their propensity scores, and to interpret the outcome of the control observations as the counterfactual outcome of the treatment.

Denote by R_i a dummy variable equal to 1 if individual i is a treated individual (i.e., a Household receiving remittances) and 0 otherwise. Suppose that Y_{1i} is the value of the variable of interest (expenditure patterns as outcome variables), and Y_{0i} is the value of the same variable when households do not receive any remittance (0).

The treatment effect for individual i measures the difference between the relevant outcome indicator with the treatment and the appropriate outcome indicator without the treatment. It is given by:

$$\Delta Y_i = E[Y_{i1}|R_i = 1] - E[Y_{i0}|R_i = 1] \quad (1)$$

This simple comparison between remittance-receiving and non-receiving households may not offer the treatment's real impact as we intend to select in treatment. More specifically, propensity score matching methods are based on the *conditional independence assumption* (CIA), which states that the untreated state's outcome is independent of treatment participation conditional on a particular set of observable characteristics, denoted by X (Rosenbaum and Rubin 1983).

$$[Y_{i0}, Y_{i1}] \perp R_i | X_i \quad (2)$$

Where, given X_i , the potential outcomes are independent of the treatment status, or after controlling for X_i , the treatment assignment is as good as random.

$$E[Y_{i0}|R_i = 1, X_i] = E[Y_{i0}|R_i = 0, X_i] \quad (3)$$

Here it shows that it is possible to participate conditionally in the propensity score denoted $P(X)$ rather than on observable characteristics X . The propensity score signifies the probability of treatment conditional on a vector of observable characteristics. It is expressed as:

$$P(X_i) = \Pr[R_i = 1|X_i] \quad (4)$$

The estimation of the counterfactual can be presented as:

$$E[Y_{i0}|R_i = 1, P(X_i)] = E[Y_{i0}|R_i = 0, P(X_i)] \quad (5)$$

Therefore, the propensity score matching techniques' objective is to overcome this insufficiency by constructing a comparison group based on the characteristics of the individuals sampled. It is precisely to determine a comparison group from a sample of non-remittance receivers who resemble receivers based on observable characteristics (Clement, 2006). The technique of "propensity score matching" is based on a central hypothesis called the conditional independence hypothesis.

Conditional independence hypothesis

This hypothesis states that the observed results are independent of the phenomenon whose we are seeking impact. To conclude, the average treatment effect for individual i can be measured by:

$$ATT = E[Y_{i0}|R_i = 1, P(X_i)] - E[Y_{i0}|R_i = 0, P(X_i)] \quad (6)$$

The main task lies in estimating propensity scores derived from dichotomous logit or probit models, including covariates X .

In other words, the binary model that will allow us to define the propensity scores will take for variable explained: $R_i = 1$ if the individual has received remittance and 0 otherwise. The explanatory variables are the socio-economic characteristics of the individual.

$$R = X\beta + \varepsilon \quad (7)$$

Where: X stand for a matrix of predictor variables; β is a vector of the parameters to estimate, and ε is a vector of error terms. The quality of the PSM results strongly depends on the robustness of the propensity score estimates. Matching on the ground of the propensity score will enable the recipient of remittance households to be compared to non-recipient who are similar in terms of their observed characteristics, thereby correcting recipient households' self-selection conditional on those observables. There are some techniques within Propensity Score Matching to match participants and nonparticipants:

1. Nearest Neighbor (NN) is one of the commonly used matching procedures, where each treatment unit is matched to the comparison unit with the nearest propensity score. It's normal to select the n (usually $n = 5$) nearest neighbors. It also can be done with or without substitution.
2. Caliper (Radius matching): the nearest neighbor can overstate the difference in propensity scores for a participant group and its nearest neighbor, the non-participant group. It can produce poor matching and could be corrected to impose a maximum distance threshold from the propensity score (caliper). The caliper technique entails matching with replacement.
3. Kernel Matching: One of the risks with the approaches we have just defined is that only a small subset of the non-participants satisfies the criteria to enter the common support and therefore construct the counterfactual result. Nonparametric estimators such

as Kernel use a weighted average of all nonparticipants to construct each participant's counterfactual match.

4. Stratification (Interval Matching): This method divides the common support into diverse strata (or intervals) and computes the program's impact within each interval. Precisely, within each interval, the program result is the mean change between the treated and control observations.

3.3.1 Data sources

The data that is used come from the survey of the Somali High-Frequency Survey (SHFS). The data were collected in December 2017 by the World Bank. It is a nationally representative survey and covers 17 out of the 18 regions of Somalia. Six thousand ninety-two households were surveyed, of which 3021 were female-headed households and 3071 male-headed households.

The database covers different variables of respondents' social, economic, and demographic characteristics. The survey collected information on household's demography characteristics, food & non-food consumption, livestock, durable goods, perceptions and Social Services, displacement, fishing, and catastrophic events and disasters

Table 3:2 Variable Description

	Variable Name	Measurement Unit
Outcome Variables	Poverty	Poverty status; 1 = poor, 0 = non-poor)
	Per capita consumption	Income Per capita
Explanatory variables	Household size	Numbers
	Gender of Household Head	Dummy (1= male, 0= otherwise)
	Age of Household Head	Years
	Education of Household Head	Dummy (1= if literate, 0= otherwise)
	Area of Residence	Dummy (1= Urban, 0= otherwise)
	The proportion of working-age members in the household	Ratio
	Dependency ratio	Numbers
	Ownership of a Bank Account	Dummy (1= yes, 0= otherwise)

	Ownership of a Mobile Money Account	Dummy (1= yes, 0= otherwise)
	The household has at least one employed member	Dummy (1= yes, 0= otherwise)
	Household has electricity	Dummy (1= yes, 0= otherwise)

3.4 Results Presentation and Analysis

This table shows in percentages the distribution of remittance receipts in both urban and rural centers and the entire study population. It shows that overall, there are more households not receiving remittance than those who do. It further indicates that there are more urban households receiving remittance than their rural counterparts.

Table 3:3 Remittance receiving in percentages

Households receiving remittance			
	Overall	Urban	Rural
Households not receiving	81.43	78.96	82.91
Households receiving	18.57	21.04	17.09
Total	100.00	100.00	100.00

Source: Author's computation

The summary data presented in Table 3:4 discloses some attractive differences between the recipient and non-recipient categories of remittances.

The result shows that the mean score of poverty for those receiving was 63 percent for the complete sample and non-recipient household. In comparison, the mean score of poverty remittance recipient households shows 50 percent, that's more than half of the household are below the probable poverty line both in the households.

The means of per capita consumption are significantly different from those without remittances. The mean consumption by households that received remittance was 1.83 dollars per day, %, while households that received no remittance, the mean consumption was 1.46%.

There is no large deviation between the groups for the average household size, gender of household head, and household head age. The household head's mean age is thirty-eight, the average of five members in a household, and the average household head also looks similar.

Although many households didn't own a bank account, those with international remittances have more bank accounts and mobile money accounts, suggesting that households are more likely to be financially inclusive. Finally, the descriptive statistics show that the household who had electricity decreased as they received remittance. The proportion of households who had at least an employed member was large.

Table 3:4 Descriptive Statistics

VARIABLES	All households (N=6092)		Remittances (N=1131)		No-remittances (N=4961)	
	Mean	SD	Mean	SD	Mean	SD
Poverty	0.605	0.489	0.490	0.500	0.632	0.482
Per capita consumption	1.530	1.578	1.833	1.720	1.461	1.535
Household size	5.442	2.045	5.380	2.046	5.457	2.044
Gender of Household Head	0.504	0.500	0.499	0.500	0.505	0.500
Age of Household Head	37.792	11.930	38.064	12.339	37.730	11.835
Literacy of Household Head	1.247	1.901	1.539	2.036	1.184	1.865
Area of Residence	1.287	0.452	1.230	0.421	1.301	0.459
Dependency ratio	1.351	1.141	1.372	1.198	1.346	1.128
Ownership of a Bank Account	0.114	0.318	0.224	0.417	0.089	0.285
Ownership of a mobile money Account	0.678	0.467	0.756	0.430	0.660	0.474
Household has at least one employed member	0.764	0.425	0.740	0.439	0.769	0.421
Household has electricity	0.622	0.485	0.755	0.430	0.592	0.491

Source: Authors' compilation based on SHFS, 2018 survey data

3.4.1 Probit model

Table 3:5 shows the estimates of the Probit model, fit for the treatment variable (Remittance). From the table, predictors household size and gender of the household head had no significant relationship with receiving remittance. Other predictors such as the age of the household head, area of residence, the proportion of working-age members in the household,

dependency ratio, and the household have at least one employed member all had an inverse and significant relationship with receiving remittance. However, having or ownership of a bank account, mobile money account, having electricity, and be literate showed a significant relationship with remittance receipt.

Table 3:5 Estimates from Probit regression

PROBIT ESTIMATES	
	REMITTANCE
Household size	-0.0184 (-1.60)
Gender of Household Head	-0.0223 (-0.54)
Age of Household Head	-0.00511** (2.82)
Literacy of Household Head	0.150*** (3.38)
Aera of residence	-0.206*** (-6.08)
The proportion of working-age members in HH	-0.847*** (-7.59)
Dependency ratio	-0.0918*** (-3.58)
Ownership of a Bank Account	0.475*** (8.28)
Ownership of a Mobile money Account	0.0882* (1.99)
The household has at least one employed member	-0.351*** (-7.39)
Household has Electricity	0.173*** (3.63)
N	6016

Note: t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

3.4.2 Effect of Remittances on Poverty in Somalia

If the families that do not receive remittances have similar sociodemographic features except for remittances, for those receiving remittance, then a difference in poverty between them can be ascribed to remittances. Three matching measures are used for similar or counterfactual observations for each remittance-receiving household and to find robust results

of the effect of remittances on poverty. First, we use the nearest neighbor (NN) match. This criterion finds the closest units in the group that does not receive remittances for each observation of receipt of remittances based on the estimated propensity score. Then we use the Kernel match criteria. Nonparametric matching estimators such as Kernel consider a weighted average for all observations in the group that does not receive remittances to make up the counterfactual match for each observation group that receives remittances.

Finally, we use the stratification matching criterion that divides common support into intervals (or strata) where treatment and control groups are very similar except for remittances under common support. After similar observations that do not receive remittances are compared to observations that receive remittances, the ATET is calculated.

Table 3:6 shows the ATET of receiving remittance in poverty for national, urban, and rural areas with the three types of matching criteria. From the table, it is evident that receiving remittance significantly affects poverty. It illustrates that there is an inverse relationship between receiving remittance and been poverty. The coefficient of ATET shows that receiving remittance reduces the likelihood of being impoverished by about 10% for the complete sample. In comparison, it is 5% in urban areas, and in rural areas, it is 19%.

Table 3:6 Average Treat on the treated (ATET) Propensity score matching results for poverty

VARIABLES	(1) NN	(2) Kernel	(3) Stratification
National	-0.0989*** (0.0307)	-0.114*** (0.0175)	-0.100*** (0.0194)
Urban	-0.0504* (0.0255)	-0.104*** (0.0258)	-0.0879*** (0.0207)
Rural	-0.201** (0.0689)	-0.197*** (0.0285)	-0.182*** (0.0506)
Observations	6,092	6,092	6,092

Note: Standard errors are presented in parentheses

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

The estimates for per capita household consumption are presented below table. The ATET coefficient shows that receiving remittance increases household per capita consumption. For the complete sample, it shows that receiving remittances increases household per capita consumption by about 34% on average, while in urban areas (25%), this figure is substantially

higher and insignificant to rural areas (50%). Therefore, remittances on rural poor households' consumption may be limited or null and need to be investigated further.

Table 3:7 Propensity score matching results for per capita consumption

VARIABLES	(1) NN	(2) Kernel	(3) Stratification
National	0.365*** (0.0321)	0.355*** (0.0810)	0.320*** (0.0550)
Urban	0.213*** (0.0597)	0.314*** (0.0231)	0.274*** (0.0341)
Rural	0.467 (0.550)	0.597 (0.376)	0.519* (0.221)
Observations	6092	6092	6092

Note: Standard errors are presented in parentheses
 * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

3.4.3 Discussion

It is evident from the result that remittance is an essential determinant of households' economic state and well-being in Somalia. Families who received remittance are better-off in terms of per capita consumption. This is so because remittance increases households' income to aid, supplement, and increase their consumption. Furthermore, these households who received these remittances could have more capital to engage in income-generating activities, increasing their income, and improving their consumption. This is backed up by (Morduch, 1994) who states that especially poor households whose consumption can be lessened by shocks that occur on income as a result of the poor business environment and health deteriorations, who may not the needed credit facilities and insurance cover can rely on remittances as a way of smoothing their consumption.

In terms of being poor, remittance can be a viable tool for lifting households out of poverty, as the result shows. This could be through pathways such as participation in economic activities (labor supply) hitherto due to lack of income. Although there is an ambiguity on the role of remittance on labor supply, it could lead to loss of labor skills because labor might substitute its services for leisure because of remittance or lead to a change of employment. For instance, too, from full work to part-time or self-employment, it may not diminish household welfare status. Furthermore, remittances can lead to investments in education and health, which increase labor supply and boost household income, thus reducing poverty and increasing

household consumption. Studies by Rubai & Dilip (2005) and Yang (2004) confirm these assertions.

Although receiving remittances is primarily a function of having productive household members elsewhere, the Probit model results show that households who owned bank accounts were about 80% likely to receive remittance than their counterparts who did not own a bank account. Furthermore, it is evident from our findings that households who have more children are likely not to receive remittances. We intuitively assert they may be due to not having enough to cater to the children's educational requirements and increased intra-household competition that might lead to reduced migration and labor supply. Hence, income generation could lead to remittance transfers since those household heads with literate were more likely to receive remittances than others.

3.5 Conclusion and Recommendation

This research sought to examine the impact of remittance on poverty in Somalia. The findings from the empirical result, which are drawn from our research hypothesis and objectives of the study, are explained to give a better insight if the goals are achieved for the study.

This study's estimated result has shown that the remittance recipients' per capita consumption is greater than that of non-receiver households. As all empirical analysis shows that the household's poverty level has dropped down significantly, this is due to remittance inflows.

A Somalia household's per capita consumption has improved significantly in connection with the analysis using the propensity score matching results. Thus remittance has a significant impact on per capita consumption. It implies as remittance to various households increases, per capita consumption will also increase in the same direction. Generally, the results propose that remittances can be used as a tool to fight poverty in Somalia since remittances affected poverty. Both government and non-government organization may introduce and sustain Poverty alleviation intervention programs such as a cash transfer package that could be targeted more on poor households that do not receive remittances.

In contrast, policies to restructure remittances could be encouraged. The cost of moving remittance has been going down due to technological advancement, but there is no reason they should be substantially higher. The real price of money transfer in the electronic age is meager,

and mobile phone transfer reaches even remote areas. Migrants should pay a flat, low fee to remit their money rather than a percentage. Policymakers can improve payment systems by enacting appropriate regulatory changes.

Remittance also contributes to the improvement of living standards in Somalia. He also shows that more households that receive remittance inflow have access to specific necessary social infrastructure that tends to enhance their measure of living expenses in access to electricity and literacy. Thus, as remittance inflow into Somalia increases, a more excellent household living standard is improved and enhanced.

Lastly, Linking remittance to financial access at the household level. Although receiving remittances is primarily a function of having productive household members elsewhere, the model results show that households who owned bank accounts were about 80% likely to receive remittance than their counterparts who did not own a bank account. More could be done to link remittance to financial products such as savings, access to credit, education, and health accounts. Remittance's benefit could be increased if the recipient could use them to hedge against future hardship, rather than rely on them once hardship strikes. To conclude, if national economic situations improve and a peaceful, favorable environment is developed for better job creation and higher growth, it would be imaginable to reduce from the number of young workers migrating to abroad to a policy of retentive workers who could then contribute directly to the country's economic growth

CHAPTER FOUR

4 Is Remittance a panacea for Economic Growth? Evidence from Africa

Abstract

Remittances are, without a doubt, an essential source of income for recipient families. The migration of people across the world has been in existence over the years. However, the home country's returns in remittance inflow and the effects of economic growth have called for serious attention. In this research, we analyzed the impact of remittances on Economic growth in African countries during 1996 -2019.

The system GMM method, which gives the best estimation result among the dynamic panel data methods, is employed. The results found from this study reveal that remittances improve growth. However, this effect remains very weak and can be justified by these funds' objectives, which are often directed to help migrants' families meet their consumption needs.

4.1 Introduction

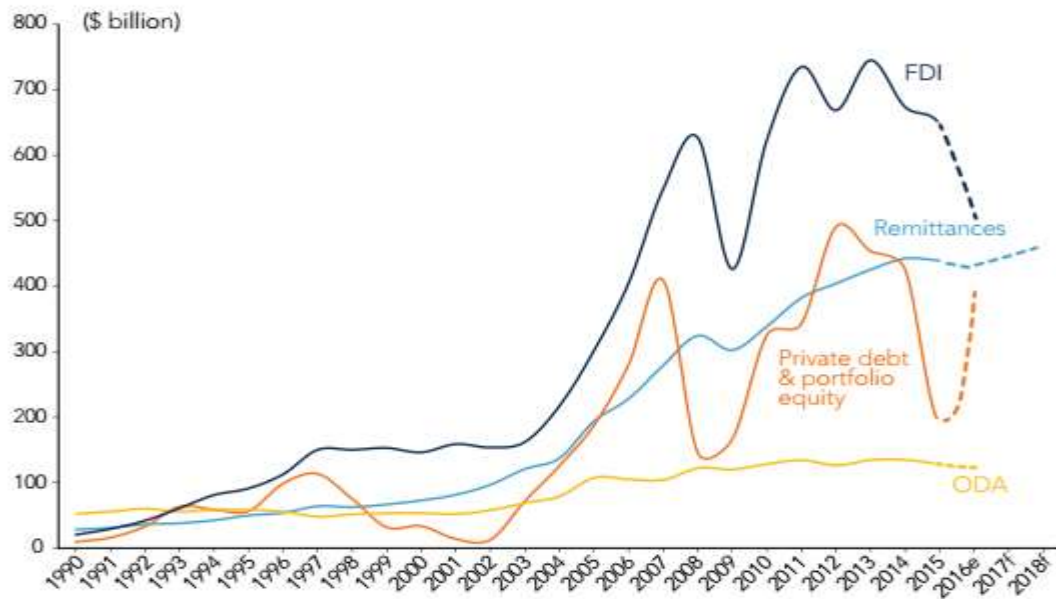
In 2016 alone, migrant Remittance flowed to developing countries amounted to \$429 billion, albeit a decline of 2.4 percent over \$440 billion in 2015(WB, 2017). The remittance flows to developing countries are more than three times the magnitude of official development aid flows and more stable than private capital flows (see Fig.1). The value of remittance and its growth among the low-and middle-income regions have been fluctuating over the years. However, between 2010 to 2019, East Asia and the Pacific recorded the highest remittance inflow, which shows an upward trend. In 2010, East Asia and the Pacific recorded about 96 billion US dollars.

The combined value of the MENA region and Sub-Saharan Africa was about 69 billion US dollars. Other areas like Europe and Central Asia, Latin America and the Caribbean, and South Asia were 38 billion US dollars, 57 billion US dollars, and 82 billion US dollars. The data on Sub Sahara African remittance flows, though likely understated because of informal remittance canals within the region and the fairly weak official data in numerous countries. (World Bank, 2006).

In the past two decades, there has been much talk about Africa's development, while some labeled the term "Africa rising." The fact is that over the past decade, six of the world's ten fastest-growing countries were African. And there is growing debate considering migrant remittances as an instrument for the economic growth of the receiving countries, especially the Third World; in recent years, a series of studies have been conducted, which seek to measure the impact of remittances in various areas of the national economy, namely: income distribution, poverty reduction, economic growth, human capital formation, among others.

For example, Adams, Richard, and Page (2005) estimate that a 10% increase in the emigration rate (with its consequent increases in remittances) generates a reduction of 2.1% in the poverty rate of each country, measured the latter as the percentage of the population living on less than a dollar a day. IMF study in 2000 comprehends that a rise in the remittances / GDP ratio of 2.5 percentage points is statistically associated with a 0.5% drop in the poverty rate. Likewise, Acosta *et al.* (2006) estimate the magnitude of remittances' impact according to each country's development in Latin America and the poverty level. Specifically, these authors find that an increase of 10% in the share of remittances over each country's GDP would reduce the poverty level between 0.04% (developing countries) and 0.5% (rich countries).

Figure 4-1 ODA, FDI, Remittance in Africa



Source: WB 2017

The motives that increase the migration abroad and the workers' remittances are the hasty declines in transportation and telecommunication costs. Because the more often workers can talk to their families or get together with them, the more they will contact and be willing to support their families. On the other hand, the fact that many people are affected by natural disasters and conflicts of some less developed countries is another reason that increases the migration towards abroad and the financial support from them (Amuedo-Dorantes et al., 2007: 1-2). As a result, the factors that motivate remittances and, therefore, the weight of their effects also vary.

Remittances inflow across the region witnessed an appreciable increase in growth rate from 2017 to 2019. Table 2 revealed that Europe and East Asia recorded a 20.9 percent increase in remittances inflow, followed by Sub-Saharan Africa, with a remittance growth rate of about 11.4 percent. It is about 1.2 percent less than the world average growth rate of about 7.0. The region, East Asia, and Pacific with the least remittance growth rate had about 5.8 percent.

Table 4:1 estimates and growth rate of remittance inflow (US\$ Billions)

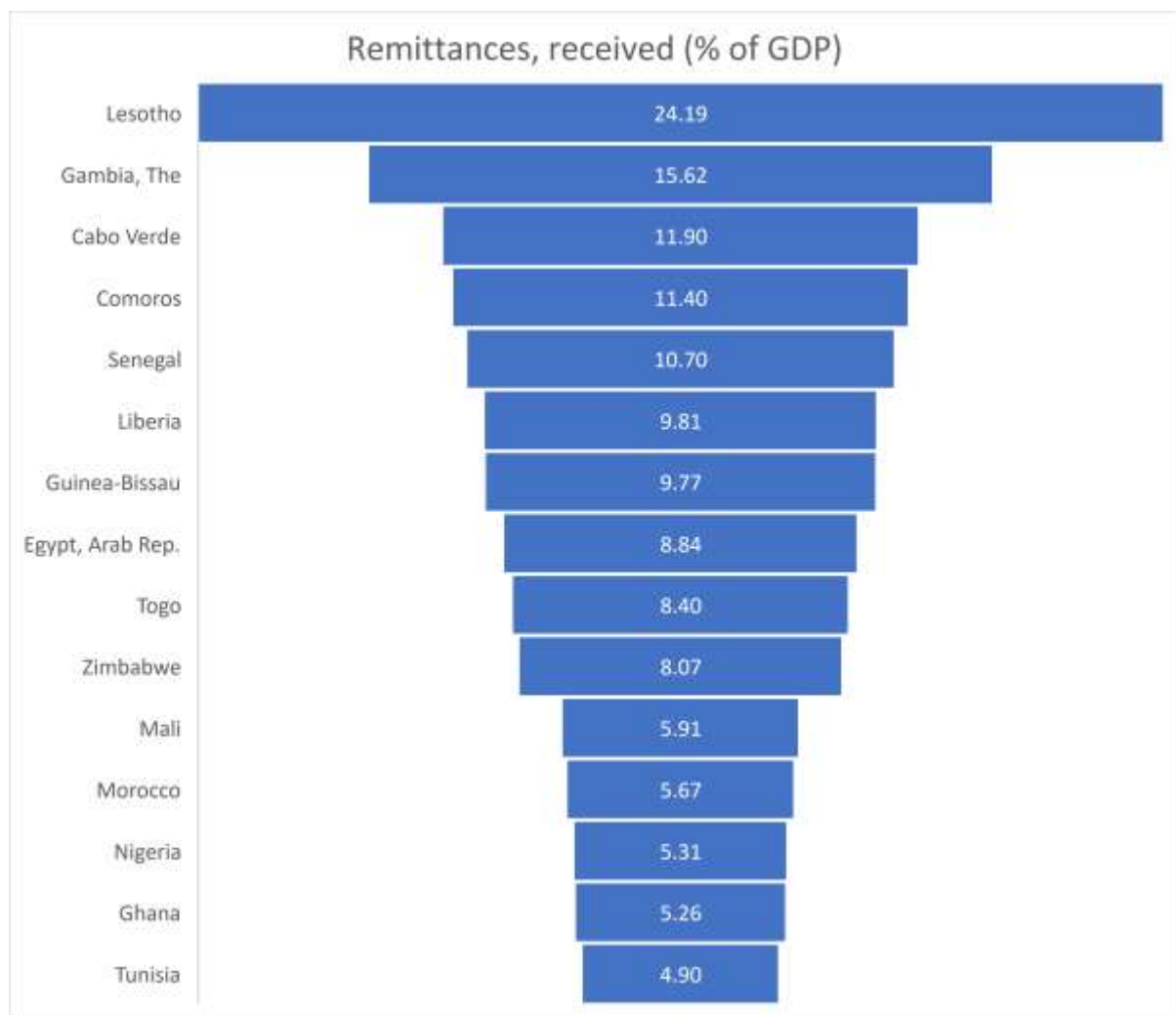
	2010	2014	2015	2016	2017	2018	2019p
Low and Middle Income	341 (11.2)	444 (3.8)	440 (-1.0)	429 (-2.4)	466 (8.5)	485 (4.1)	503 (3.7)
East Asia and Pacific	96 (19.4)	121 (4.9)	126 (3.9)	123 (-2.6)	130 (5.8)	135 (3.8)	140 (3.6)
Europe and Central Asia	38 (4.9)	52 (-5.2)	41 (-21.6)	40 (-2.4)	48 (20.9)	51 (6.0)	53 (4.8)
Latin America and Caribbean	57 (2.6)	65 (4.9)	68 (6.1)	74 (7.5)	80 (8.7)	83 (4.3)	87 (4.2)
Middle East and North Africa	39 (18.2)	54 (7.2)	51 (-5.3)	49 (-4.8)	53 (9.3)	56 (4.4)	57 (3.3)
South Asia	82 (9.4)	116 (4.5)	118 (1.5)	110 (-6.1)	117 (5.8)	120 (2.5)	123 (2.6)
Sub-Saharan Africa	30 (9.7)	37 (5.0)	36 (-2.5)	34 (-4.6)	38 (11.4)	41 (7.0)	43 (5.6)
World	468 (8.4)	598 (3.7)	582 (-2.6)	573 (-1.5)	613 (7.0)	642 (4.6)	493 (3.9)

Source: World Bank (2017b).

Note: *p* stands for provisional remittance. The growth rate of Remittance in these regions are in parenthesis.

In 2018, Sub-Saharan Africa recorded the highest growth rate of remittances, with about 7.0 percent. However, Europe and Central Asia, Latin America, and the Caribbean recorded a 6.0 and 4.4 percent remittance growth rate, respectively. The rise of remittances in the world was around 4.6 percent. With this, it could be observed that the contribution of remittances in these regions remained paramount, and it becomes more pronounced as the year progresses. In 2019, all the areas increased their remittance growth rate with Sub-Saharan Africa, retaining the highest growth rate of about 5.6 percent value. Europe and Central Asia had about 4.8 percent growth rate of remittances inflow, while South Asia recorded the least with a growth rate of about 2.6 percent.

Figure 4-2 Remittances received as % of GDP

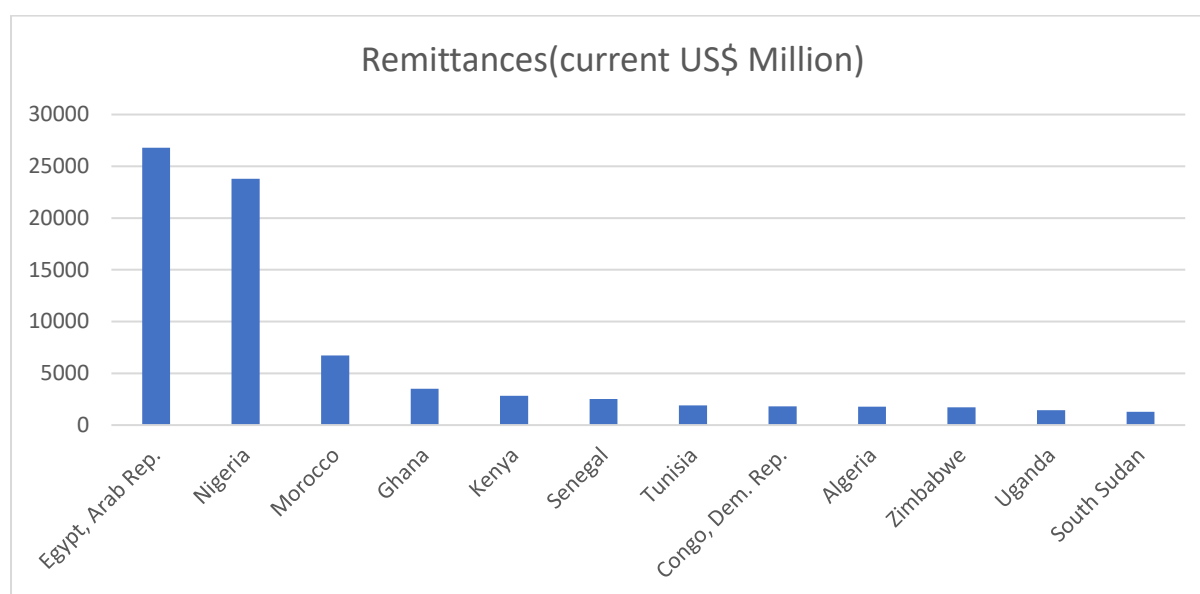


Source: World Bank Development indicator, 2020

Lesotho remittance received was the highest share of GDP in Africa in 2019, while The Gambia is the second highest.

The flow of remittances into African countries differs significantly as some countries record higher inflow at different periods. Figure 4-3 shows the inflow of remittances in the top 12 remittance receivers' countries in Africa. In 2019, according to the World Bank report, Egypt is ranked first among African countries in terms of remittances with a record of more than 27 billion dollars. Nigeria comes second with \$ approximal 24 billion. This is partly because these two countries are large emitters of residents abroad and have a long migration tradition. Morocco comes third in the ranking with 7 billion dollars, coming from the diaspora residing in Europe and the Gulf countries.

Figure 4-3 Top 12 remittance receiver countries in Africa (2019)



Source: World Bank Development indicator, 2020

The migration of people across the world has been existent over the years. However, the home country's returns in remittance inflow and the effects on human development and economic growth have called for serious attention. Remittances inflow serve as a vital source of income to the household. The migrant families are often financially better-off than non-migrant families. The annual real growth rate of Remittance between 1991 to 2008 was 12.9 percent (Yang, 2015).

4.2 Literature review.

4.2.1 Remittance and Development

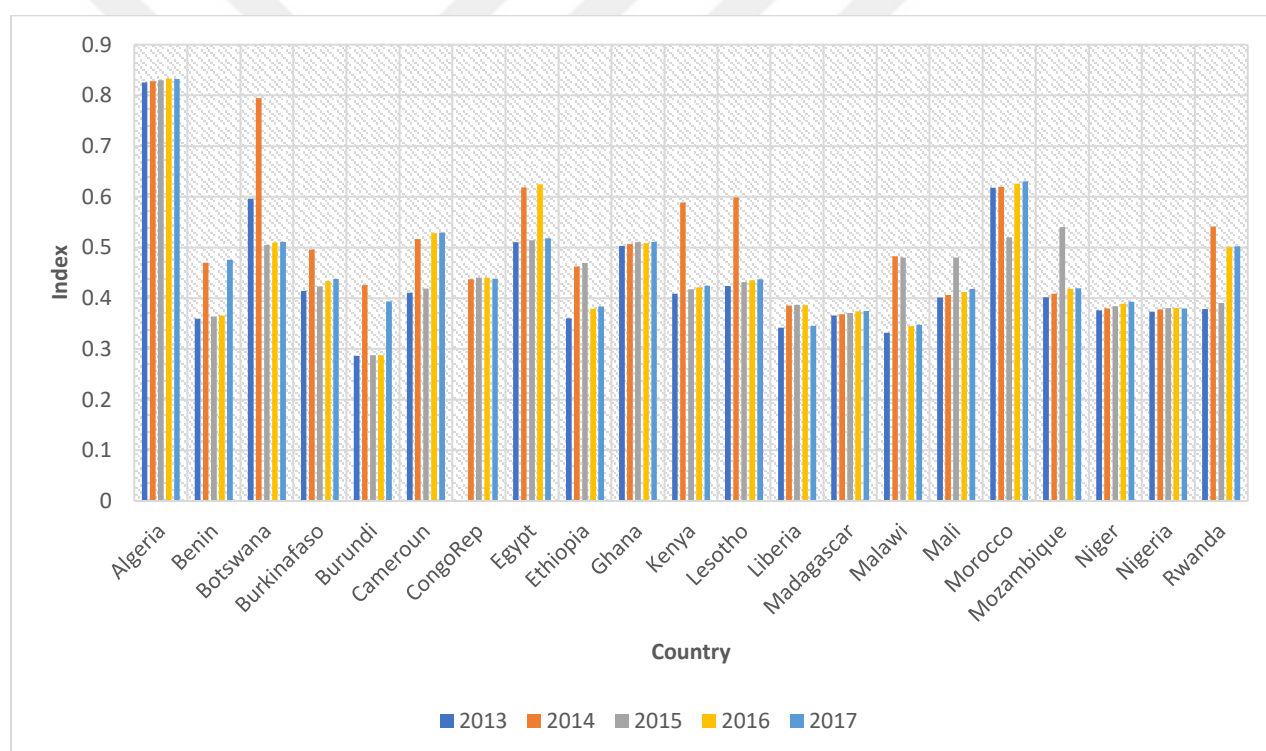
The development required a substantial amount of capital to stimulate economic activities in an economy. Economic development improves the quality of human lives and abilities by raising people's levels of living, self-esteem, and freedom. It is both quantitative and qualitative. The quantitative aspect of development refers to a sustainable process that expands the quantity and variety of goods and services people use to satisfy material wants, e.g., food, health, and housing. A commonly used economic development measure is the growth in gross domestic product per capita (World Bank, 1978).

Human development (HD) is an indispensable part of development. "It is a sustainable process that expands and strengthens people's capabilities, such as reading and writing, avoiding premature death, appearing in public without shame, and enjoying a decent living

standard. The best well-known indicator of human development is the Human Development Index (UNDP, 1990)”. Whether countries of the world would converge somewhat depends on the development of human capital.

In agreement with the work of Sen (1982, 1999), there are several measures of HD, and these measures need not be correlated among themselves. However, one step that now enjoys the most excellent support is the United Nations Development Program (UNDP) Human Development Index (HDI). This index is used to measure national socio-economic development, based on combining education, health, and adjusted log of real income per capita (UNDP, 1990). Figure 2 shows the human development index of selected countries in Africa for the years chosen.

Figure 4-4 Human Development Index



Source: World Bank Development indicator, 2020

Figure 4-4 shows the human development index of selected countries in Africa. It could be observed that Botswana, Egypt, Ghana, and Morocco had medium human development as their values range from 0.50 to 0.799. however, except for Algeria with high human development (i.e., values range between 0.8 to 0.90), other countries in Africa had a low human development index. When looking at the level of human development vis-à-vis remittance inflow, it could be observed that only Egypt with higher remittances influx had a medium

human development index. Other countries with higher remittances inflow had low human development index

Remittance is argued to impact growth, especially in developing countries where the domestic savings rate is low. Several studies have confirmed the link between Remittance and human development. Larsson and Angman (2014) examined the effect of remittances on human development using poverty, education, and governance, among other factors as development indicators. An annual panel data analysis of 99 countries showed a positive relationship between remittances and the extent of human development in developing countries. Remittance serves as a means through which developing countries' households augment savings for investment.

In a disaggregated data analysis, Kashif, Cheong, and Evelyn (2018) investigated the impact of remittances on household-based human development for the Punjab province of Pakistan using the latest Multiple Indicator Cluster (MICS 2014-15) survey. The study conducted a household-based human development index (HHDI) from three dimensions: education, health, and housing. The analysis is also performed for three regions (South, North, and Central) of Punjab. The findings suggest that migrant households are better off than non-migrant households in all three areas but most prominent in South Punjab, the least developed region with the lowest values of HHDI.

Human capital can play an important role in stimulating long-run sustained growth (Romer, 1990). Exploring the effect of remittances on human capital development in terms of educational attainment globally, Mozumber and Islam (2017) use GLS modeling to estimate the impact of remittances on human development. Their study revealed significant positive effects of remittances on average schooling years' changes and secondary enrolment rates in developing countries. Similarly, Ziesemer (2012) observes the total positive impacts of remittances on per capita GDP growth, literacy, and investment level. Calero et al. (2009) conducted a study of the effects of remittances on human development in Ecuador, and the result revealed that remittances increase school enrolment and crowd out child labor. Further studies on the effect of remittances on human development suggest that remittances may contribute to the improved schooling of children, relaxing the credit and liquidity constraints of poor households (see Hanson and Woodruff (2003) in Mexico, Edwards and Ureta (2003) in El Salvador, Lopez-Cordova (2005) in Mexico and Yang (2006) in case of Philippines

4.2.2 Growth and Remittance

As a significant financial resource for most African countries, remittances can positively or negatively affect economic growth. There is no accord in the literature on the direction in which remittances affect economic growth. For example, workers abroad send remittances to their families for financial support, contributing to welfare improvement by raising their household incomes, and reducing poverty. This shows the direct benefit of remittances for households in developing countries; adversely, the consumption expenditures of families with higher income also increase, thus total demand and growth are positively affected by the multiplier mechanism. Yet, family members get a better education, benefit from health services, and as a result, the quality of life improves. In this context, human capital is invested, and indirect contribution is made to long-term economic growth.

Ramey and Ramey (1994) found that one of the channels through which remittances affect growth positively and indirectly decreases volatility. Workers' remittances do not have much volatility against economic growth, such as FDI or foreign direct investments, and offer a stable fund source. Besides, this stability also helps the country borrow at a lower interest rate from international financial markets as it assures future workers' income (Gupta et al., 2007: 3). Especially in recent years, it has been observed in many studies (Aggarwal et al., 2006; Giuliano and Ruiz-Arranz, 2009, etc.) that remittances increase growth by contributing to the development of the financial sector.

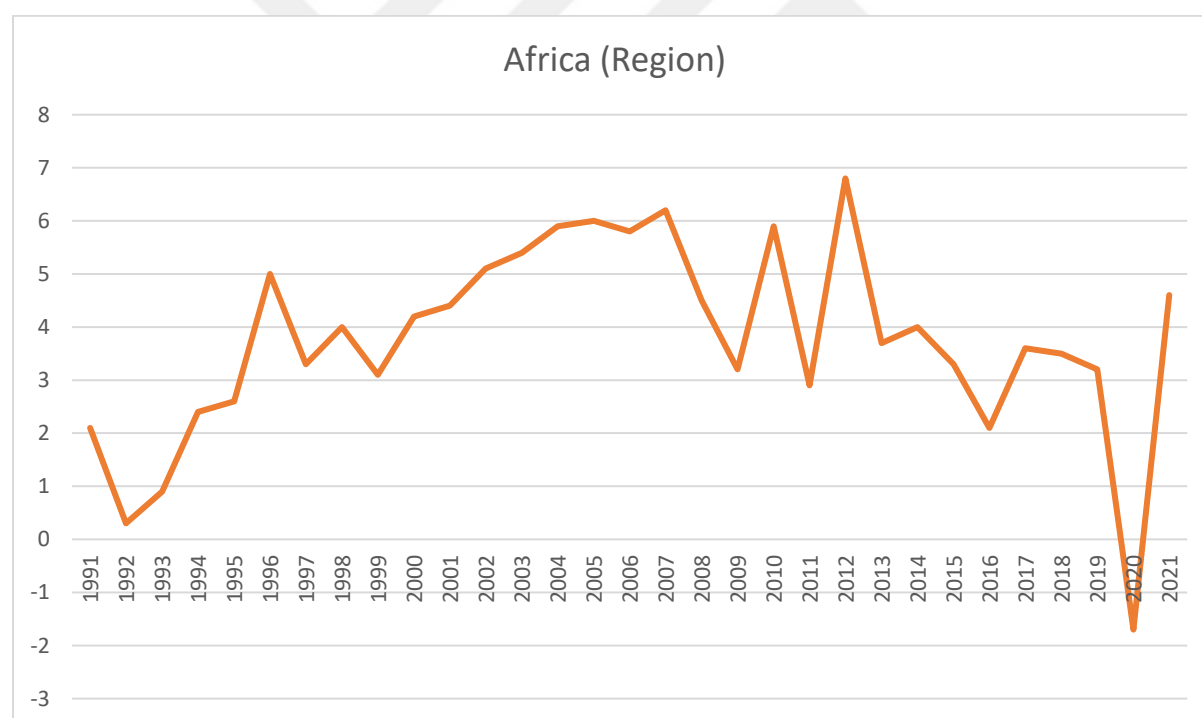
Another positive effect is that remittances contribute to the improvement of the balance of payments. According to Bugamelli and Paterno (2006), which focuses on the fact that remittances contribute to the country's stability through the current account balance, remittances, which are both cheap and stable, prevent investors from panicking with the decrease in international reserves or increase in foreign debt. It can reduce the reverse movements in balance. However, Gupta et al. (2007: 8) argue that all these positive contributions can be seen in countries where remittances are more than 3% of GDP.

When considering the adverse effects of remittances, it is mentioned that it causes people who earn Remittance to become lazy. For example, in this context, Chami et al. (2003) confirmed this argument by finding evidence that remittances reduce work effort. Puri and Ritzema (1999), on the other hand, found that remittances increased the reservation wage and observed that the labor that wanted to work at low wages decreased.

Perkins et al. (2001) focused on the effect of remittances on income distribution. Even though the immigration of educated people increases world production due to their work in countries with high international trade efficiency, it will worsen the income distribution between rich and developing countries. Besides, if the revenues obtained are not invested or used for consumption expenditures, only the multiplier mechanism will work, and therefore the effect of remittances on growth will be limited.

Stahl (1982) emphasized that immigrating abroad requires a financial resource and very low-income families cannot afford it. For this reason, he stated that those who migrated abroad are in a relatively better financial situation and that their families' financial situation will improve with the remittances they send. Thus, inequality and eventually, relative poverty will increase. As a result; In theory, the net effect of workers' remittances on growth, investment, and poverty vary depending on the magnitude of the impact.

Figure 4-5 Real GDP growth (Annual percent change)



Source: World Bank Development indicator, 2020

Lartey et al. (2008), Amuedo-Dorantes, and Pozo (2004), Lopez et al. (2007), is one of the researchers who focused on the indirect but adverse effects of remittances on growth. It is seen that the most emphasized negative impact in the literature is Dutch disease. The "Dutch disease" effect of remittances occurs through the expenditure effect. According to the Dutch

disease problem, assuming that there are two sectors, commercial and non-commercial, in a small economy open to outside, commercial goods' price is determined in international markets. In contrast, the cost of non-commercial goods is defined in the national market. Considering these data, remittances coming to the country will directly increase the household's income. The consumption expenditure of households with increased income will increase. Since commercial goods' price is determined in international markets, the increase in consumer demand will cause non-commercial goods to rise.

Qayyum et al. (2008) investigated the effects of workers' remittances on Pakistan's growth and poverty during 1973-2007 using the ARDL approach. As a result of the study, he revealed that remittance impact positively both poverty and growth. Upadhyaya et al. (2008) examined the effect of workers' remittances on economic growth with 195 observations using panel data from 39 developing countries between 1980 and 2004. In the study, the result shows that the remittances have a positive effect on growth

Giuliano et al. (2006) examine developing countries' interaction with remittances on financial developments and growth. The 1975-2002 periods of 100 countries were analyzed using the GMM method. The empirical practice has revealed that workers' remittances positively affect growth in financially less developed countries. It has been concluded that the incomes that enable the allocation of capital and the lack of financial development are also an investment tool that supports growth in meeting the population's specific credit needs.

Mansoor et al. (2006) revealed that workers' remittances positively affect macroeconomic growth in the long term. Whether it contributes to the recipient country's economic growth is subjected to the country's institutions' quality. As a result of the study made, it has been shown that the estimations made using the dynamic panel method have positive effects on the macroeconomic growth of workers' income.

A cross-sectional study by the World Bank for a sample of 74 middle-income developing countries, Adams and Page (2005), privileges the causality of remittances towards poverty. Indeed, this study shows that both international migration (measured as a proportion of a country's population living abroad) and the level of global remittances (as a proportion of GDP) have a statistically significant effect on poverty reduction. In particular, it is found that, on average, a 10 percent increase in the share of remittances in the gross domestic product leads to an approximately 3.5 percent reduction in the proportion of individuals living below the poverty line (World Bank, 2006). The study similarly finds that growth in migrants'

proportion in a country's population by 10 percent reduces poverty by 1.9 percent. However, the study does not find that countries with higher levels of poverty send more emigrants abroad. The above is explained because emigration has costs, and, as indicated above, the poorest do not emigrate. Indeed, in the Adams and Page (2005) sample, immigrants appear to come from groups with incomes above the poverty line.

Haas (2007) reviewed the empirical literature on the relationship between remittance and various social development dimensions in developing countries. He concluded that migration and remittances would contribute significantly to development through creative policies in functioning markets that aim to improve public services such as health and education by increasing people's welfare level.

Based on the balance sheet data of 37 African countries, Fayissa and Nsiah (2008) analyzed the interaction between workers' remittances and economic growth between 1980 and 2004 through the unbalanced panel data. As a result of the study, a positive and significant relationship was found between the two variables.

Ayşe & Özcan (2011) conducted research to give general information about workers' remittances and determine the possible effect of workers' remittances on growth in the 1996-2009 period, based on 30 developing countries. Using the GMM-System, they analyzed the interaction between growth and workers' income. The model was included inflation rate, public spending, and external debt that affect growth. As a result of a comprehensive examination, it has been determined that there is a positive relationship between workers' remittances and development.

Das and Chowdhury (2011) investigated the interactions between workers' remittances and growth in 11 countries between 1985 and 2009, using the cointegration and pooled mean group approach. As a result of the panel data, a positive relationship was found between variables.

Kundu et al. (2012) focused on the importance of workers' remittances for Bangladesh and its effects on many macroeconomic determinants, especially economic growth. These effects were analyzed with the help of time series between 1976-2010. As a result of the empirical applications, it has been revealed that workers' remittances are statistically significant in both short and long terms and are integrated with economic growth.

4.3 Methodology and Data

The study proceeds by testing the effect of remittances on growth. The baseline econometric model is similar to the one in Adams and Page (2005) and Borja (2020) and is presented in Eq. (1).

$$\begin{aligned} \ln GDPPC_{i,t} = & \beta_0 + \beta_1 \ln GDPPC_{i,t-1} + \beta_2 \ln REMIT_{i,t} + \beta_3 \ln SECONDARY_{i,t} + \beta_4 \ln SAV_{i,t} \\ & + \beta_5 \ln GOV_{i,t} + \beta_6 \ln FINANCE_{i,t} + \beta_7 \ln POP_{i,t} + \beta_8 \ln INF_{i,t} + \beta_9 FDI_{i,t} + \alpha_i \\ & + e_{i,t} \dots \dots \dots (1) \end{aligned}$$

where $GDPPC_{i,t}$ refers to the log of GDP per capita for the country i at time t ; $\ln GDPPC_{i,t-1}$ shows the lag of log GDP per capita for the country i at time t . The coefficient of β_2 is expected to be positive, as the growth rate is affected by its previous value.; $\ln REMIT_{i,t}$ is the natural log of per capita remittances; $\ln FINANCE_{i,t}$ represents the natural log of domestic credit to the private sector by country i in period t , and controls for domestic credit effects to the private sector on development. For the education indicators, we include gross secondary school enrolment (% , in the log). We have general government final consumption expenditure (% of GDP, in the log)

Under a panel dataset, the parameter α_i is the unobserved factors specific to the country, and $e_{i,t}$ is the error term. The data used in this research is collected from the World Bank data set "World Development Indicators, September 2020." The data set covers the last 25 years' annual data of 1996–2019.

Table 4:2 Description of variables

Variable	Variable
GDP per capita, expressed in log form	$\ln GDPPC$
Lagged GDP per capita, expressed in log form	$\ln GDPPC_i, t-1$
Remittance (% of GDP), expressed in log form	$\ln REMIT$
Domestic credit to the private sector (% of GDP), in log form	$\ln FINANCE$
Secondary enrolment (% gross), expressed in log form	$\ln SECONDARY$
Saving (% of GDP), expressed in log form	$\ln SAV$
Foreign Direct Investment (% of GDP), expressed in log form	$\ln FDI$
Gov Expenditure ((% of GDP), expressed in log form	$\ln GOV$

Trade ((% of GDP), expressed in log form	lnTRADE
Population growth (%)	POP
Inflation (%)	INF

2.3.4 Econometric Technique and Estimation

In the dynamic panel model, like ours, as stated in equation 1, today's economic growth is assumed to be influenced by previous years' growth. Thus, the growth equation with remittance and other control variables can be written as follows:

$$\ln GDPPC_{it} = C + \gamma \ln GDPPC_{i,t-1} + \delta \ln REMIT_{i,t} + \lambda \ln X_{i,t} + \mu_i + n_t + \mu_{i,t} \dots \dots (2)$$

For $i = 1, 2, \dots N$ and $t = 1, 2, \dots T$

μ_i = country fixed effect, n_t = period effect

Since $\ln GDPPC_{i,t-1}$ in equation 2 is correlated μ_i Estimating the above growth equation using pooled OLS produces a biased estimate. One other to circumvent this problem is to use the difference of the variables than original data as follows:

$$\Delta \ln GDPPC_{it} = \gamma \Delta \ln GDPPC_{i,t-1} + \delta \Delta \ln REMIT_{i,t} + \lambda \Delta \ln X_{i,t} + \Delta n_t + \Delta \mu_{i,t} \dots \dots (3)$$

By differencing the original model, we get rid of country fixed effect μ_i and the constant term C, but it creates another problem: correlation between $\Delta \ln GDPPC_{i,t-1}$ and $\Delta \mu_{i,t}$. This is because $\ln GDPPC_{i,t-1}$ in $\Delta \ln GDPPC_{i,t-1}$ is a function of the $\mu_{i,t-1}$ which is also in $\Delta \mu_{i,t}$. Thus even the above equation (equation 3) cannot be estimated using OLS

In studies utilizing panel-data analysis, endogeneity has been addressed by developing instrumental variables (IV). Borja (2020) use IVs to manage the endogeneity of migration and remittances. He completes a set of regressions (1st stage) to predict remittances. These early-stage analysis results are then used in the 2nd stage of regressions as the IV for remittances.

However, arriving at a good IV that would not be correlated with the error and still capture Remittance is tasking. Thus, the result's quality is affected by the IV used; solving this problem, this study adopts the Generalized Method of Moment (panel GMM). This method helps to avoid the issues of endogeneity and the difficulty of looking for a good IV. The system, therefore, makes use of the lag values of the explanatory variables as the instrument. The GMM model is utilized because it is a broadly applicable parameter estimation strategy that nests the classic moments, linear regression, and maximum likelihood. It allows for the inclusion of the dependent variable's value, which is included as an explanatory variable to take care of

feedback effects. It provides an estimation strategy when the number of restricted moments in the data generation process (DGP) exceeds the number of parameters to be estimated. Rather than satisfy the one-moment condition and violate another, the GMM strategy chooses an estimator that balances each population moment condition against the others, seeking residuals that trade-off violations of one-moment restriction against infringements of the other moment restrictions. GMM estimation offers a straightforward system to test the proposed model specification in models for more moment conditions than model parameters. This is a vital feature that is sole to GMM estimation (Hall, 2005).

In other words, the GMM approach accounts for heterogeneous dynamic panels as it is suitable when the number of cross-section observations is quite large, and the time-series dimension is relatively low, as can be seen in this research. The method produces more consistent estimates for panel data for which time dimension is relatively small compared to the number of cross-sections (Goodman, 2006; Pesaran et al.,1999).

4.4 Discussion and result

Remittances have grown enormously over the past two decades. This article aims to verify the impact of remittance on economic growth through an empirical study conducted in 53 African countries using panel data from 1996 to 2019.

The empirical result is summarized in the below table. Several versions of equation (1) are tested to obtain a model that yields robust results and best fits the data. The first column demonstrates the outcomes obtained using Ordinary Least Squares (OLS) with robust standard errors. This estimator has very restrictive assumptions. It assumes that the error term is not correlated with the explanatory variables. All the variables are exogenous and common to all the countries in the sample, and that there are no unobserved individual effects. Failure to comply with any of these assumptions causes the OLS estimators to be biased.

This estimation allows us to confirm no multicollinearity problems between the regression variables. The average variance inflation factor (VIF)¹ was 1.90. Simultaneously, the maximum value of the remittance variables used reached 2.83, showing that the variables do not have linear relationships that reduce the precision of the coefficients obtained.

¹ See the appendix for the result

The second column controls for individual unobservable effects to eliminate omitted variable bias. These are considered as deterministic parameters, after discarding, through a Hausman test, that they were random effects. The intra-group or fixed effect (FE) method consists of transforming the estimated variables into deviations from each country's mean over time. Although, still the lagged dependent variable is endogenous and correlated to the error term. However, the fixed effect estimator removed country fixed effects; there may still be biases caused by some regressors' endogeneity problems. Another limitation of the fixed effect estimator is that it can't handle the endogeneity of other regressors.

The estimator that addresses endogeneity and country heterogeneities are GMM's differences and the system, taking per capita income, remittance, and population growth as endogenous variables.

Difference GMM transforms the data into the first difference, removing the fixed effect and using the endogenous variable's lagged value to circumvent the problem of endogeneity. The estimation results of our growth equation using difference GMM is presented in the third column of Table 4.3.

The difference GMM estimators were inside the OLS, and FE estimates range for the initial income lag (Roodman 2009) and can be useful for interpretation. The most robust result was achieved with system GMM estimators; given that the system GMM estimators appear to be the least biased, the analysis will be based on the table's last column (estimate 4).

The System's GMM estimator is tested consistently before the coefficients are interpreted; two tests were performed for this purpose. First, the Arellano-Bond test tried whether the model has an autocorrelation problem. AR (1) and AR (2) tests were conducted. Finally, the Hansen test was performed. The existence of 1st order and 2nd order autocorrelation in the model was tested, and AR (1) test statistics were negative and significant as desired; AR (2) test statistics were obtained as insignificant. Thus, according to the findings obtained, it was concluded that while the existence of 1st order autocorrelation was confirmed, 2nd order autocorrelation was not in question.

Finally, according to the Hansen test result conducted to test the instrument variables' integrity, the zero hypotheses cannot be rejected. In other words, the tools used in the model are suitable. Finally, as shown in the lower section of the table, the number of cross-sections (countries) is greater than the number of instruments. Overall, the estimation results of the

system GMM passes all the diagnostic tests, indicating that the estimation result is satisfactory and robust.

Table 4:3 Estimation results of the growth equation

Independent Variables	(1) Pooled OLS	(2) Fixed effect	(3) Difference GMM	(4) System GMM
Lagged GDP per capita	0.995*** (0.00284)	0.960*** (0.0117)	0.979*** (0.00408)	0.968*** (0.00204)
Remittance (% of GDP)	-0.000649 (0.000912)	0.00255* (0.00134)	0.00245** (0.000899)	0.00351*** (0.000941)
Secondary enrolment (% gross)	0.00227 (0.00405)	-0.00180 (0.00778)	-0.00293 (0.00257)	0.0124*** (0.00280)
Saving (% of GDP)	-0.000399 (0.00174)	0.00185 (0.00274)	0.000295 (0.00217)	0.00563*** (0.00181)
Gov Expenditure (% of GDP)	-0.0198*** (0.00406)	-0.0180*** (0.00674)	-0.0194*** (0.00182)	-0.0140*** (0.00115)
Domestic credit (% of GDP)	0.000866 (0.00229)	0.0140** (0.00592)	0.00965*** (0.00212)	0.000305 (0.00144)
Population growth (%)	-0.00888*** (0.00261)	-0.00560 (0.00382)	-0.0216*** (0.00140)	-0.0289*** (0.000905)
Inflation (%)	-0.000818*** (0.000204)	-0.000496* (0.000273)	-0.000575*** (0.000123)	-0.0007*** (8.27e-05)
Foreign Direct Investment (% of GDP)	0.0186*** (0.00444)	0.00584 (0.00575)	0.00751** (0.00295)	0.00879*** (0.00179)
Constant	0.0825*** (0.0251)	0.284*** (0.0783)		0.279*** (0.0102)
R-squared	0.999	0.971		
AR (2) test (p-value)			-1.58 (0.115)	-1.40(0.161)
Hansen J-test (p-value)			20.27 (0.566)	18.97 (0.79)
Observations	432	432	394	432
Number of counties		38	33	38
Number of instruments			31	35

Note: Standard errors are presented in parentheses

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

According to the estimation results obtained from the model, all the variables analyzed on the growth of per capita income was consistent with traditional growth studies and are statistically significant except domestic credit.

The result reveals that the impact of remittances from the African diaspora is significant and positively affects their country of origin's economic growth. However, this effect remains very weak. This can be justified by these funds' objectives, which are often directed to help migrants' families meet their consumption needs. The expectation of a positive and robust significant effect requires these financial resources' orientation towards creative investments of added value and economic growth.

Initial income had a positive and significant effect, which allows us to accept the conditional beta convergence hypothesis of each country towards its steady-state. Population growth and saving had opposite and significant economic growth effects, the first negative, and the second positive. Its impact is negative and significant regarding public spending, highlighting the policies' governments' ineffectiveness applied to economic growth. It is observed that the domestic credit, which is theoretically expected to affect growth positively, does not have a significant effect. The foreign direct investment variable has a positive impact on growth, while inflation affects negatively. Therefore, as expected in theory, increases in the inflation (FDI) rate negatively (positively) affect growth. Finally, only the gross secondary enrollment rate had statistically significant and positive effects on the equilibrium per capita income level.

4.5 Conclusion and Recommendation

Remittances have reached significant dimensions in recent years has attracted the attention of researchers and authorities. The fact that remittances, foreign aid, and capital flows do not have the characteristics of placing the country under political or economic obligations or providing foreign debt to repay in the future further increases its importance. For this reason, studies are conducted to investigate remittances from various angles. In this study, remittances on growth, which is accepted as an essential source of foreign exchange, are questioned, especially in African countries.

The results show that remittance has a positive and significant effect on growth. The estimated model considers most of the determinants of growth to avoid bias due to omitted variables. We also use the system GMM method robust to the question of endogeneity and

measurement errors. Finally, comparing the results of different estimation methods gives us more reassurance about this result's robustness.

The financing needs of significant structuring projects in Africa are enormous. On the other hand, the savings rate remains low to meet these needs due, among other things, to the existence of unattractive and less open financial markets, inadequate financial services, and limited access of most of the people to banking services. As a result, African countries' development financing requires external funding encouragement, particularly funds from the diaspora residing abroad. Thus, remittances from migrants have become a more important source of external finance than official development assistance and foreign direct investment for African countries. In this sense, the analysis of the effect of remittances on economic growth in African countries, the study's subject, appears significant and positive but remains weak and does not constitute a real level of economic development of African countries. The remittances' orientation can justify these results, which are mostly intended for the families of migrants in aid for consumption, and therefore, a low impact on improving economic growth.

African countries need to modernize their financial markets to become attractive and integrate households into the circuit of this market by encouraging them to save part of funds from being directed towards productive investments having a substantial impact on growth. Likewise, it is opportune to promote the African diaspora's return, especially the best talents, to invest their know-how in their country of origin and, consequently, contribute to their country's development.

Migration and remittances are, therefore, possibly a counterpart to broad-based development efforts. But, we claim that they should not be seen as a remedy for growth, as they are linked, among other things, with less work effort, brain drain, and Dutch disease. Besides, remittances cannot replace official capital sources such as aid and investment and cannot be anticipated to contribute to public projects.

CHAPTER FIVE

5 CONCLUDING REMARK

Even though the determinants of poverty, the effect of remittance on poverty reduction, and economic growth have extensively been studied, it's still scarce in Somalia. This dissertation was designed to explore these issues; thus, its objectives are multifold. Accordingly, the dissertation was organized into five chapters, all of which is an independent research article.

The first chapter outlines the theories of poverty and remittance. The second chapter shows the measure and analyzes the poverty status and its determinants in Somalia. Our empirical investigation indicates that household size, been in female household head, and living in rural or nomads, significantly increase the probability of the household's poor status. Meanwhile, literacy, households with at least one employed member, a family whose income source is small-business, remittance, and access to electricity, reduces the propensity to be poor. The age and the other sources of income, on the other hand, are insignificant determinants of poverty

Chapter three examines how remittances affect household expenditure and reduce poverty in Somalia. This study seeks to proffer answer(s) to the following study questions: what is the extent to which remittance helps reduce household poverty? And what is the level of significance in the relationship between remittance and per capita consumption of households? The findings from the empirical result have shown that the household's poverty level has dropped down significantly. This is due to remittance inflows and that the remittance recipients' per capita consumption is greater than that of non-remittance receiver households.

Chapter four analysis the effects of remittances on African countries' economic growth. According to the estimation results obtained from the model, all the variables analyzed on the growth of per capita income was consistent with traditional growth studies and are statistically significant except domestic credit. The results found from this study expose that remittances from the African diaspora are substantial and positively affect their country of origin's economic growth. However, this effect remains very weak. This can be justified by these funds' objectives, which are often directed to help migrants' families meet their consumption needs. The expectation of a positive and robust significant effect requires these financial resources' orientation towards creative investments of added value and economic growth

Since all chapters of this dissertation are an independent research article, this dissertation suggests the following policy recommendation. The Somali government should improve quality, boost enrollment, and access primary, secondary, and tertiary education. This noticeably proposes that education for all programs is one appropriate policy choice for the government. The government could seek to support small businesses, encourage new businesses, and provide microfinance to increase their incomes and reduce poverty. Generally, the results propose that remittances can be used to fight poverty in Somalia since remittances affected poverty. Both government and non-government organization may introduce and sustain Poverty alleviation intervention programs such as a cash transfer package that could be targeted more on poor households that do not receive remittance.

One explanation of why Small Medium Enterprises have not usually been successful in Africa has been the lack of capital, the high cost of borrowing, and banks' unwillingness to lend to small businesses. Startup costs are also high in Somalia.

The establishment of the National Institute of Support for Small and Medium Enterprises is necessary, a body of the government's indirect administration, which is mostly accountable for implementing policies and strategies in training and financing small and medium businesses. The institute should be governed by public law, legal capacities, and administrative and financial autonomy.

On the other hand, the financial institutions must maintain specific credit lines for small and medium businesses, and the amount available, and access conditions must be widely disclosed.

A significant rise in the budget share could increase the Ministry's capacity for intervention throughout schools. Lower primary education (first four years) should be free and compulsory. The state should develop a new legal of the Basic Law of the Education and Teaching System. The law should exempt from any payment for registration, and school supplies social support for all students who attend lower primary education in public schools. The law should also purpose at broader social inclusion and the concurrent promotion of compulsory schooling. Commonly, most government officials, administrators work without population statistics, making good governance difficult. We call on the urgent reform of the

African countries need to modernize their financial markets to become attractive and integrate households into the circuit of this market by encouraging them to save part of funds from being directed towards productive investments having a substantial impact on growth.

Likewise, it is opportune to promote the African diaspora's return, especially the best talents, to invest their know-how in their country of origin and, consequently, contribute to their country's development.

Future studies on this realm are thus to examine further the channels through which remittances may have an indirect growth effect. Remittances sent from abroad to Somalia households show a decrease in poverty and a rise in consumption. However, it is opportune to carry out a study to observe whether the income from remittances is used for luxury spending by households or if they invest with this amount and generate production not to become so dependent on Somalis migrants.

On the other hand, the adverse correlation between remittances and GDP growth is an exciting finding. It would be motivating, in future studies, to investigate, what are the effects of remittances on economies that receive large or small remittance transfers? And, what are the effects of remittances on conflict-affected countries?

This study is not without its limitations; the present study covers the period from 1996 to 2019 and focuses on 53 African countries' data. Indeed, there is a widespread consensus in the literature that the quality of data on remittances is extremely poor, especially over a long period. Therefore, efforts to measure remittance suffer from important limitations as official estimates understate actual flows. In this regard, Reinke (2007) highlights the weakness in global remittances data and the need for specific practical guidance on data sources and compilation methods. To circumvent this shortcoming, our analyses are mainly based on data after 1996. Data are taken from World Development Indicators (WDI; World Bank 2020). The research recommends the future researcher to employ the interval averages years for GMM difference and system estimators, to avoid the idiosyncratic economic dynamics at business cycle frequency, as well as to control for cyclical output movements,

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Appendix

Appendix 1: Descriptive Statistics of poverty in Somalia

	National		Urban		Rural	
Variable	Mean	Std.Dev.	Mean	Std.Dev.	Mean	Std.Dev.
Being below 2011 PPP poverty line	.605	.489	.601	.49	.608	.488
Age	37.792	11.93	39.09	12.426	37.119	11.609
Age square	1570.526	1055.017	1682.362	1126.234	1512.531	1011.409
Area of residence	.658	.474	0	0	1	0
Gender of Household Head	.504	.5	.603	.489	.453	.498
Household Size	5.442	2.045	5.474	1.894	5.426	2.118
The household head is education	.523	.5	.335	.472	.62	.485
Dependency ratio	1.351	1.141	1.405	1.075	1.323	1.173
At least one employed member	.764	.425	.676	.468	.81	.393
Source of Income	2.423	1.67	2.965	1.701	2.145	1.585
Remittance	.186	.389	.138	.345	.21	.408
Electricity	.622	.485	.277	.448	.802	.399
Land access	.138	.345	.270	.444	.070	.255

Appendix 2: Matrix of correlations of Determinates of poverty in Somalia

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1) Poor HH	1.000										
2) Age	0.081	1.00									
3) Area of residence	0.008	-0.078	1.00								
4) Gender	0.017	0.214	-0.143	1.000							
5) Size	0.272	0.228	-0.014	0.021	1.000						
6) Literacy	-0.082	-0.113	0.271	0.176	-0.037	1.000					
7) Dependency	0.142	-0.092	-0.034	-0.074	0.456	-0.038	1.000				
8) Employed member	-0.031	-0.063	0.150	0.070	0.124	0.227	-0.002	1.000			
9) Remittance	-0.115	0.016	0.087	-0.004	-0.017	0.103	0.008	-0.032	1.000		
10) Electricity	-0.135	-0.097	0.515	-0.086	-0.059	0.379	-0.063	0.191	0.130	1.000	
11) Land access	-0.002	0.073	-0.277	0.071	0.046	-0.185	0.021	-0.007	0.004	-0.255	1.000

Appendix 3: Summary of Statistics of Growth and Remittance in SSA

Variable	Obs	Mean	Std.Dev.	Min	Max
GDP per capita	1019	23.118	1.587	18.621	26.896
Lagged GDP per capita	1019	7.231	1.051	5.272	9.93
Remittance (% of GDP)	864	.301	1.785	-8.605	3.986
Secondary enrolment (% gross)	796	4.59	.232	3.151	5.006
Saving (% of GDP)	785	2.651	.982	-5.843	4.422
Foreign Direct Investment (% of GDP)	976	2.429	.39	.489	4.713
Gov Expenditure (% of GDP)	937	2.613	.452	-.049	4.004
Finance (% of GDP)	968	4.189	.46	2.95	5.741
Population growth (%)	1051	.758	.61	-4.564	1.724
Inflation (%)	924	8.324	25.894	-60.496	513.907

Appendix 4: Variance inflation factor

	VIF	1/VIF
Lagged GDP per capita	4.408	.227
Remittance (% of GDP)	2.834	.353
Secondary enrolment (% gross)	2.077	.481
Saving (% of GDP)	2.004	.499
Foreign Direct Investment (% of GDP)	1.537	.651
Gov Expenditure (% of GDP)	1.289	.776
Finance (% of GDP)	1.177	.849
Population growth (%)	1.161	.861
Inflation (%)	1.104	.906
Mean VIF	1.898	.

Appendix 5: Countries List

- | | | |
|---------------------------------|----------------------|-----------------------|
| 1. Zimbabwe | 18. Seychelles | 37. Ghana |
| 2. South Sudan | 19. Liberia | 38. Gabon |
| 3. South Africa | 20. Niger | 39. Eswatini |
| 4. Zambia | 21. Namibia | 40. Eritrea |
| 5. Uganda | 22. Mozambique | 41. Equatorial Guinea |
| 6. Tunisia | 23. Morocco | 42. Congo, Rep. |
| 7. Togo | 24. Mauritius | 43. Congo, Dem. Rep. |
| 8. The Gambia, | 25. Ethiopia | 44. Comoros |
| 9. The Central African Republic | 26. Mali | 45. Chad |
| 10. Tanzania | 27. Malawi | 46. Burkina Faso |
| 11. Sudan | 28. Madagascar | 47. Cameroon |
| 12. Somalia | 29. Libya | 48. Burundi |
| 13. Sierra Leone | 30. Mauritania | 49. Botswana |
| 14. Senegal | 31. Lesotho | 50. Benin |
| 15. Sao Tome and Principe | 32. Kenya | 51. Angola |
| 16. Rwanda | 33. Guinea-Bissau | 52. Cabo Verde |
| 17. Nigeria | 34. Egypt, Arab Rep. | 53. Algeria |
| | 35. Cote d'Ivoire | |
| | 36. Guinea | |

Appendix 6: Matrix Correlation on remittance and growth

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) GDPPC	1.000									
(2) Remit	-0.221	1.000								
(3) Secondary	0.207	-0.083	1.000							
(4) Saving	0.416	-0.258	0.048	1.000						
(5) FDI	-0.052	0.035	0.101	-0.059	1.000					
(7) GOV	0.299	-0.036	0.172	-0.013	0.186	-0.033	1.000			
(8) FINANC	0.476	-0.112	0.320	0.133	0.324	-0.139	0.476	1.000		
(9) INF	0.571	0.080	0.272	0.062	-0.035	-0.409	0.437	0.292	1.000	
(10) POP	-0.672	0.166	-0.203	-0.095	0.040	0.460	-0.272	-0.471	-0.547	1.000