‘The role of institutions, ethnic fractionalization and colonization and their impact on economic growth and development in Democratic Republic of Congo, Ethiopia, Eritrea and Kenya.’

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Contents

1 Abstract

In this thesis, we will explore what led to the economic development and growth or lack of, in four African Countries with an imperial history. The countries chosen, have two different modern trajectories, the first of the countries; The Democratic Republic of Congo and Kenya have a history of European colonization, whilst Ethiopia and Eritrea, resisted European colonization. In this study, we will look at the reasons why the countries developed the way they did, what led to their colonization or resistance, how the different type of settlements influenced the already existing formal or informal institutions or led to their creation, and if there is a relationship between introducing these post-modern institutional structures on the economic development of each country and to what extent did that affect economic, political and social growth.

The main idea behind this thesis is to check which existing literature already exists to explain the modern trajectories and to what extent did they go, we will also look at arguments which may lead to current ideas and theories in the formulation of this research. We are aware that this type of research topic is new in the academic world and will be adding to the non-existent research on the African Countries we have chosen.

We will also use the new institutional economics ideas to help explain some of the results we might find.

2 Introduction

Human kind originated in Africa, as revealed by the fossils (Africa´s Future Darkness to Destiny, 2012). According to (Clarke, 2012) the pre-colonial African economy consisted of all sorts of activities. Little was known about the interior hinterland, but the coastal regions of Eastern Africa and Madagascar had more contact with the Portuguese and Arab establishment of trading centers. With the Arab conquest in the 7th century, the coastal region was known as Ifriqiya until around the 15th Century during the Portuguese exploration was the name Africa used. The Coastline became well known in the 18th century and it was only slowly that Africa became known to the outside world and opened its borders for trade (Africa´s Future Darkness to Destiny, 2012).

The earliest economies of Africa provided the foundation of today´s economy with their mix of subsistence and survivalist elements coexisting with modernity. Even before the Greek and the Romans set foot in Africa, there already existed multiple economic transitions like trading amongst communities that planted different crops and engaged in different economic activities, for instance, the Abaluhya and Luo of Kenya who were farmers and fishermen respectively (Soft Kenya, 2012). The past and the present economic interpretations assume that Africa is poor and is poorly managed and yet to be developed. Africa´s present, its varied people, states, and economies reflects the evolving system that has taken place over time. Subsistence economy dominated and still dominates in Africa. By the 19th century, only a few people were better off than their ancestors, with many being even in worse situations. (Africa´s Future Darkness to Destiny, 2012). Africa´s traditional economies did not take part in the European industrial revolution as they were gripped in the constraints of survival at minimum subsistence level. It took very many years for Africa to break away from the chains that held captive its inhabitants at the bare levels of material existence. However, disruptions were observed in the early 19th century when major technologies arrived.

About one millennium ago, migrants from the Guinea heartlands gulf moved south to displace the San people. They were mainly agrarians and pastoralists and their technologies had advanced compared to the other communities. The ancestral community of the San gave way to this powerful influx leading to the Bantu community totally displacing the San and spreading their culture all over the south and eastern Africa. Agrarian and pastoral practice before colonialization, with the discovery of iron smelting, facilitated the vast migration. There were no borders and maps laid down in treaties and therefore the strongest community would conquer the other and declare that land to be theirs. This led to the growth of economies and kingdoms all over Africa. Warfare spread for many centuries due to displacements of tribes, caused by migration of other tribes in search of food, water and pasture. (Clarke, 2012) Hunting and gathering were the main economic activities practiced during that era, which later gave way to agrarianism, feudalism, pre-modern capitalism, market economies and later to modernity itself.

Slavery was also a trade that was long practiced amongst the kingdoms and communities within Africa before the Arabs stepped in to catalyse it even more. The most common post slave mode of exploitation emerged in feudal form, for instance, if a family was not able to pay back their debt. Traditional powers also engaged in forced labour, as well as captured people for local armies. Chiefs and headmen commanded local economic space. Mining on a small non-industrial scale was also carried out, due to the discovery of iron tools, mainly in west African Kingdoms and present-day Zimbabwe. From this small-scale mining followed independent miners which were later followed by larger capitalist mines (Africa´s Future Darkness to Destiny, 2012).

The invasion by the colonialists altered Africa’s history in so many ways. The patterns of thought, ways of living, and patterns of cultural development were forever influenced by the changes in the political structure which were brought along by colonialism. The Atlantic slave trade through the process of imperialism and economic policies that accompanied colonization significantly changed the African economy. The aim of the colonizers was to exploit the human, physical and economic resources of an area to benefit their nation. (The Impact of Colonialism on African Economic Development, 1996). European powers pursued this goal by encouraging and supporting cash crop agriculture system, development of commodity-based trading and building a network to link the economic output of a colony to the demand of the colonizer. Compared to the rest of the world, Africa was very poor in 1885. The continent had backward technology, plow, money, wheel, and writing were also still not used in Africa except for Ethiopia.

Colonialism impacts differed within African states. On GDP per capita, the broad impact is that it increased on the average, compared to the base year of around 1885 (Africa´s Future Darkness to Destiny, 2012). This is because of the introduction of technology such as mining techniques and railways. The European colonialists also integrated their colonies fully into the world trade. As a result, mining and agriculture exports also expanded relative to what they were before colonialization set in. (The Impact of Colonialism on African Economic Development, 1996).

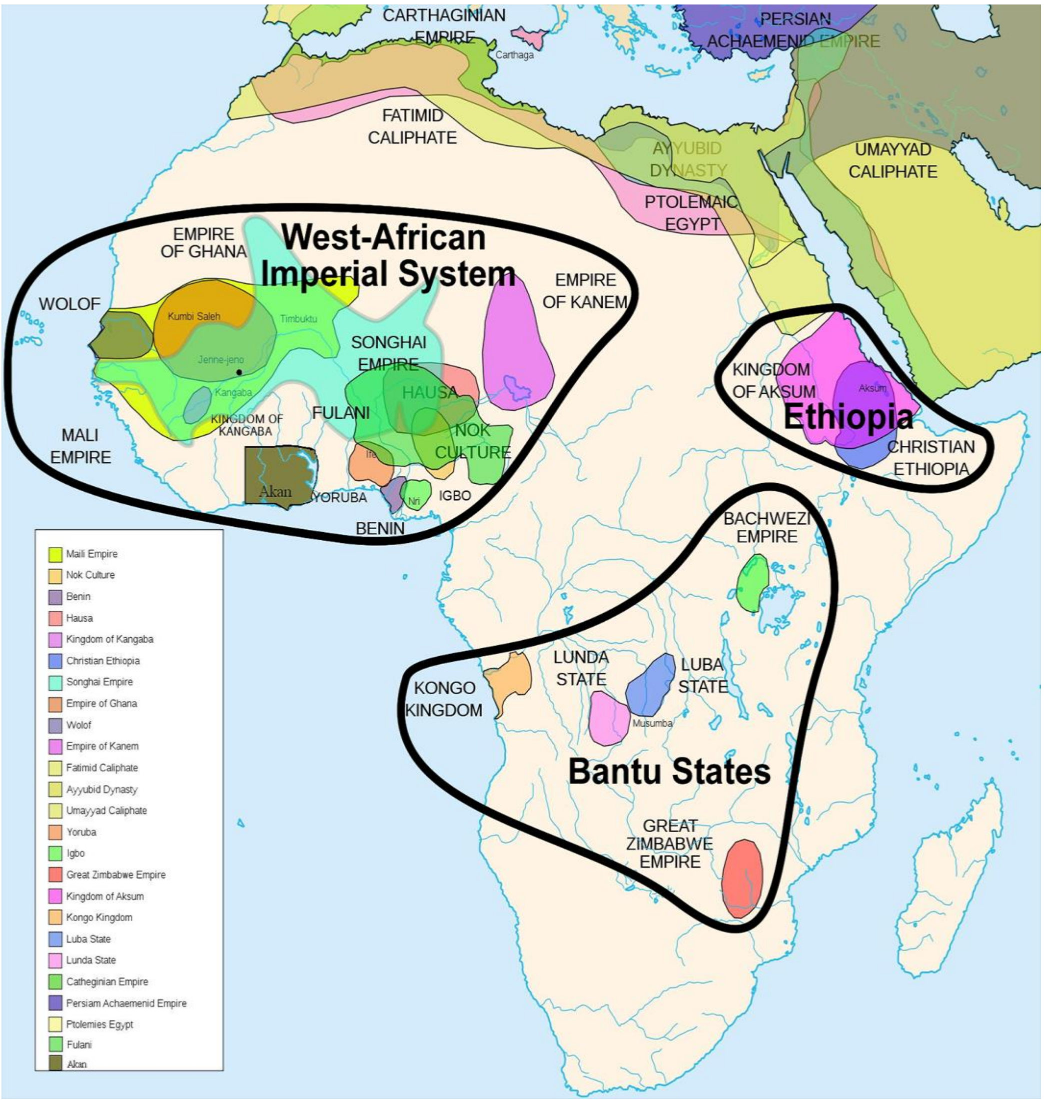


Figure 1: Pre-colonial African Kingdoms, (The Empires of Pre-colonial Africa, 2014)

This map shows the indigenous African empires which spans from about 500 B.C to 1500 A.D, showing that Africa was rich with powerful and vast empires even before the Europeans arrived and that activities such as trade and farming took place and the empires were also a global centre for culture and learning.

3 Methodology of the Literature Review

The question we initially wanted to find out for this thesis was if economic growth and development is affected by formal and informal institutions, colonization or ethnic diversity in Africa. We decided to answer this question using exploratory literature review research in order to assess if there were academics who attempted to explain this topic, if they found anything significant and if we could find empirical evidence that could explain the relationships in our problem statement. In the process of our research, we found that few scholars had published literature reflecting the exact question posed and there are insufficient amounts of data resources available to study the implications of all three factors on economic growth and development before 1960. We then decided to split our research question by applying the strategy of (Carnwell & Daly, 2001), we split the problem statement into three separate concepts and ordered the arguments chronologically for each piece of literature we found. The three difference concepts would encompass the following:

1- Are institutions good or bad for growth and development?
2- Is ethnic fractionalization good or bad for growth and development?
3- Is colonization good or bad for growth and development?

we based our research on a meta-synthesis approach and analysed theoretical frameworks as well as empirical studies to show positive and negative links to our initial questions. We then attempted to bring a more quantitative approach by analysing country economic, social and political indicators provided by data of the World Bank to show trends of growth and development between the years 1960 and 2016. We finally tried to relate the three concepts with the growth and development indicators by qualitatively explaining the trends and if we see a connection between their poor or strong growth and the three concepts described, we backed up our arguments with the literature review and World Bank indicators that analyse the performance of the institutions performance aspects, like the World Government Indicators and Ease of Doing Business Indicators.

4 Chapter I - Literature Review

4.1 Institutions Role on Growth and Development

Throughout history, humans have been able to survive on assembling themselves within a social framework, ruling and governing themselves with the intent to accumulate and maintain resources to survive. For the longest time, the studies of this behaviour in society has been explained through activities of religion, politics and economics. In the classical economic theory, the movement of goods has always been used as an explanation of economic growth and development. One of the first breakthroughs in relating the role of institutions in economic growth and development was by (North, 1991) when he defined institutions in the following way 'Institutions are the humanly devised constraints that structure political, economic and social interaction. They consist of both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct), and formal rules (constitutions, laws, property rights). Throughout history, institutions have been devised by human beings to create order and reduce uncertainty in exchange. Together with the standard constraints of economics they define the choice set and therefore determine transaction and production costs and hence the profitability and feasibility of engaging in economic activity'.

(Scott, 2001) further added to the definition of institutions in his book 'Institutions and Organisations' describing them as 'Social Structures that have attained a high degree of resilience. They are composed of cultural-cognitive, normative, and regulative elements that, together with associated activities and resources, provide stability and meaning to social life. Institutions are transmitted by various types of carriers, including symbolic systems, relational systems, routines, and artifacts. Institutions operate at different levels of jurisdiction, from the world system to localized interpersonal relationships. Institutions by definition connote stability but are subject to change processes, both incremental and discontinuous' in Page 33, of the 2001 edition. His definition emphasized institutional role in affecting economic trajectory, this added to the thought process of the previous theorists and formalised ways in which institutions and growth can be defined.

In more recent years, Acemoglu & Robinson investigated these ideas in a working paper[1] which they wrote on the relationship between institutions and economic growth and explained that the main determinants for income per capita differences across the 25 countries they considered, are mainly due to differences in economic institutions. (Acemoglu & Robinson, The Role of Institutions in Growth and Development, Working Paper No. 10, 2008, S. 5)

However, the authors argue, that not only is institutional reform needed to affect economic growth but working towards political equilibria will most likely lead a country to achieve immediate economic growth. According to Daron Acemoglu and James Robinson 'different collective choices reflect the difference in political collective choices. Different collective choices reflect differences in political institutions and different distributions of political power. As a result, understanding underdevelopment implies understanding why countries get stuck in political equilibria that result in bad economic institutions.' They both argue, that to solve the problem of development, it is imperative to understand the instrument which could be used to push a society from a bad to a good political equilibrium. They highlight the following schematic framework 2005b (Robinson, Acemoglu, & Johnson, 2005) which tries to explain the dynamic relationship between political institutions, political power and economic institutions as well as distribution of resources.

$$
\left.\begin{array}{ccc}
\begin{array}{c}\text{political}\\ \text{institutions}_t\end{array} & \Longrightarrow & \begin{array}{c}\text{de jure}\\ \text{political}\\ \text{power}_t\end{array} \\
& & \& \\
\begin{array}{c}\text{distribution}\\ \text{of resources}_t\end{array} & \Longrightarrow & \begin{array}{c}\text{de facto}\\ \text{political}\\ \text{power}_t\end{array}
\end{array}\right\}
\begin{array}{l}
\Longrightarrow \begin{array}{c}\text{economic}\\ \text{institutions}_t\end{array} \Longrightarrow \left\{\begin{array}{c}\text{economic}\\ \text{performance}_t\\ \&\\ \text{distribution}\\ \text{of resources}_{t+1}\end{array}\right. \\
\\
\Longrightarrow \begin{array}{c}\text{political}\\ \text{institutions}_{t+1}\end{array}
\end{array}
$$

Figure 2: Schematic Framework (Robinson, Acemoglu, & Johnson, 2005)

According to them, since economic institutions are collective choices of society, conflict of interest amongst various groups and individuals over the choice of economic institutions and the political power of distinct

[1] The working paper no.10 of the role of institutions in economic growth and development by Daron Acemoglu and James Robinson comes as an immediate contribution to the call of the commission of growth and development, which is an independent body composed of twenty practitioners from the government, academia and business, chaired by Nobel Prize winner Michael Spence, to examine sustainable economic growth for poverty reduction and to increase the knowledge base of definitions of economic growth from common thought.

groups is the deciding factor. Therefore, they frame political power into two definitions (Robinson, Acemoglu, & Johnson, 2005, S. 390):

a. *de jure (institutional)* ‘power that originates from the political institutions in society. Political institutions, similarly to economic institutions, determine the constraints on and the incentives of the key actors, but this time in the political sphere. Examples of political institutions include the form of government, for example, democracy vs. dictatorship or autocracy, and the extent of constraints on politicians and political elites. For example, in a monarchy, political institutions allocate all de jure political power to the monarch and place few constraints on its exercise. A constitutional monarchy, in contrast, corresponds to a set of political institutions that reallocates some of the political power of the monarch to a parliament, thus effectively constraining the political power of the monarch.

b. *de facto political power* ‘A group of individuals, even if they are not allocated power by political institutions, for example as specified in the constitution, may nonetheless possess political power. Namely, they can revolt, use arms, hire mercenaries, co-opt the military, or use economically costly but largely peaceful protests in order to impose their wishes on society’

The framework 2005b (Robinson, Acemoglu, & Johnson, 2005) highlights that political institutions and distribution of economic resources are two state variables affecting how political power will be distributed and economic institutions chosen. Which means political power is endogenous and susceptible to change over time, hence in certain time periods, a limiting factor to reform.

However, Ricardo Hausmann argues in his ‘Economic Development as Self-Discovery’ (Hausmann & Rodrik, 2003) that even though economic growth is traditionally based on foreign technology and good institutions, the role of government policy inadvertently affects growth. In this article, Ricardo makes it a point that there must be good relations between public and private institutions to affect growth. ‘There is a role here for government policy, but it is not a simple one. Optimal strategies have to complement the promotion of “new” activities with the pruning of investments that turn out to be high cost ex post. That in turn requires the government to exercise a certain amount of discipline over the private sector. This is a task at which many governments have proved inadequate, but in the absence of a policy framework that is cognizant of this obstacle, adoption of good institutions and openness to foreign technology may well prove insufficient to spark a sustained process of economic transformation and growth’. They conclude that good institutions and an open business environment are not enough for sufficient growth to occur, the right type of reform policy instruments should also be asserted to achieve this effect.

They later give a conceptual framework to empirically confirm their theories and the results show several types of policy changes which could enhance development in a modern or traditional sector. They differentiate between the two sectors on whether costs of production are known. The modern sector is made up of several goods that are currently not produced, and the costs are known after production attempts. The traditional sector is assumed to operate under constant returns to scale, and employs a labour and fixed factor, hence making costs known.

Table 1: Summary of the costs and benefits of applying several types of policies, (Hausmann & Rodrik, 2003)

Changes/Types of policies	***Trade protection***	***Export subsidies***	***Government loans and guarantees***
Increases payoff to innovation by…	…increasing the returns to success and lowering costs	…increasing the returns to success and lowering costs	…lowering the losses in case of failure and lowering costs
Can discriminate between innovators and copycats	No	No, but better at rewarding high productivity activities	Yes
Other distortions to innovation	Biased against export activities		Distorts risk assessments (moral hazard)
Action required to impose discipline	Lowering tariffs	Lowering subsidies	Cut funding

Ricardo and Dani also bring into light that 'corruption' should be accounted for by enforcing good governance, and once in place, economic growth is likely to follow. "Once a developing country government establishes the rules to a fair game and ensures their enforcement, it would be well advised to stand back and enjoy the self-generating growth" (Talbott & Roll, 2001) .

In more a more recent study, (Bhaumik & Dimova, 2011) present empirical evidence from nine countries (Brazil, China, Egypt, India, Indonesia, Malawi, Pakistan, South Africa and Zambia) that institutional quality is a key factor to determine growth in developing countries. However, based on the type of institutions restrictions can inhibit macroeconomic growth but enhance firm performance. For example; restrictive institutions like greater protection of employee rights have negative implications on employment growth but yield production efficiency. The findings however, suggest that there is further need for research of the implications of institutions and classification of institutions to be ‘good’ or ‘bad.

Another study identifies eight countries which have experienced institutional changes at different periods and provide empirical evidence for their different growth trajectories due to discontinuities in their growth over a prolonged period (1870-2008). The countries selected (France, Germany, Japan, South Korea, Switzerland, Taiwan, the UK and the US) are mainly mothers of legal origins, financial centers or newly industrialized economies. The test made focuses on default rules for ten contract types and evidence finds that there is a strong econometric correlation between default rules and economic growth. (Docquier, 2014)

The (Polity IV Project, 2007) project, best provides measurements for political stability indicators and might give an idea on the different aspects argued in the literature, one such indicator is the constrains on executives which is defined as ‘the extent of institutional constraints on the decision-making powers of the chief executive, whether an individual or a collective executive. Limits on the chief executive may be imposed by any “accountability group” in the polity. In Western democracies the executive branch is typically constrained by the legislative and judicial branches of government. Other kinds of accountability groups are the ruling party in a one-party system, a council of nobles or powerful advisors in monarchies, and the military in coup-prone polities’ according to (Marshall & Jaggers, 2007).

(Braunfels, 2014) argues that focusing on countries with low constraints on executives will yield a higher economic growth and development rate, his study (How do Political and Economics Institutions Affect Each Other?, 2014) provides statistical proof that there is a strong correlation between property rights and constraints on executives, where he explains that only reforms with large effects on constrains on executives lead to large effects on property rights, re-confirming (Robinson, Acemoglu, & Johnson, 2005) claims to the ties between economic and political institutions.

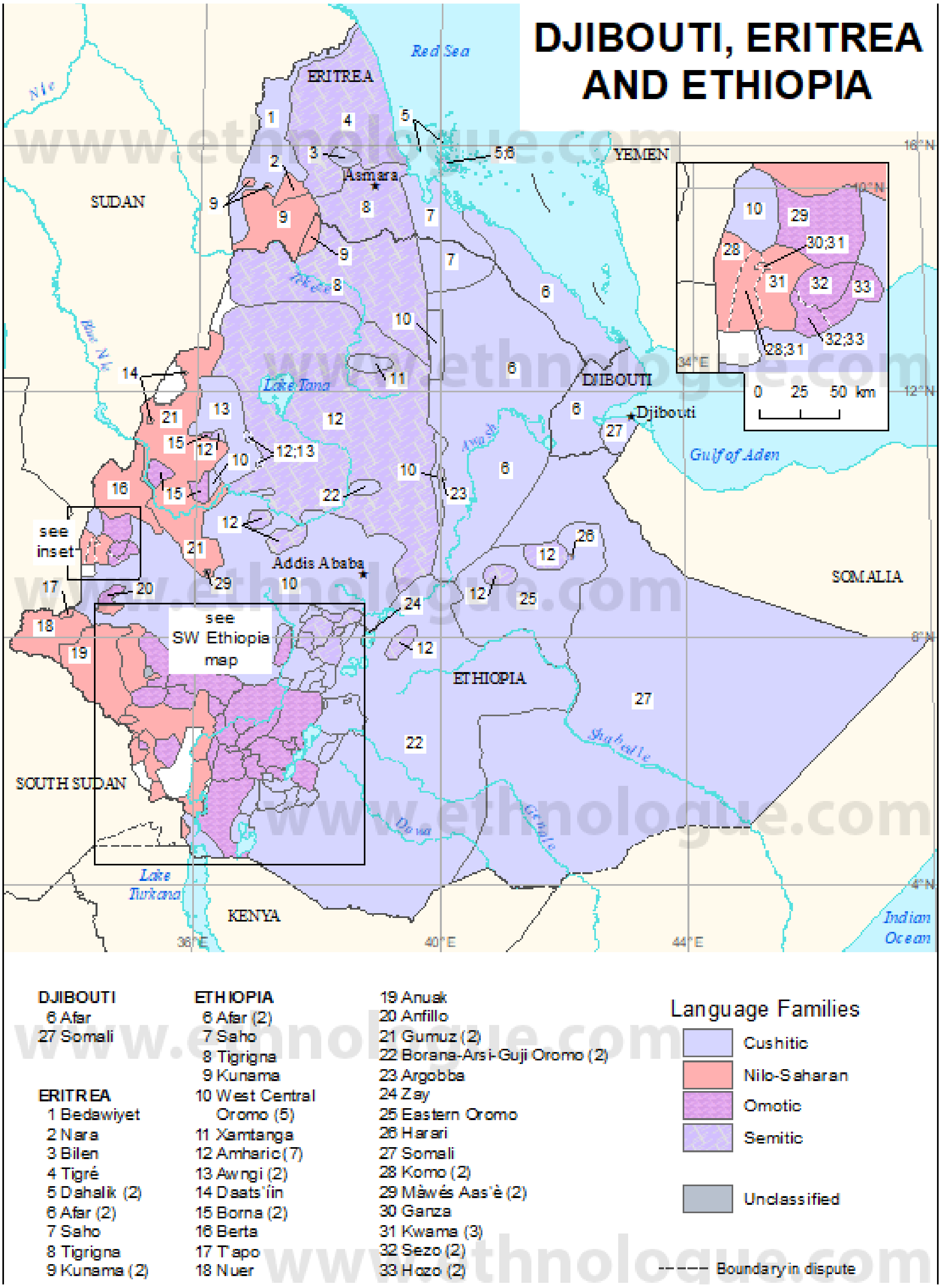
4.2 Ethnic Fractionalization Role on Growth and Development

As (North, 1991) put it, ‘institutions are devised by human beings’, and since *de facto* and *de jure* political powers are factors in which ‘human beings’ are involved in to influence political and economic institutions. It is important to understand the dynamics of power and how it is distributed by human beings in these institutions and whether a difference in the ethnicity of human beings affects economic growth and development. The reason why we have introduced this section of the literature review is to highlight that the four countries we have chosen, Democratic Republic of Congo, Kenya, Ethiopia and Eritrea, consist of a vast number of different tribal groups and ethnicities. See Figure 3: Ethnolinguistic Mappings of Djibouti, Ethiopia and Eritrea, (SIL International Publications, 2018). For example, according to the World Atlas, Ethiopia consists of at least 10 ethnic groups in which most of the population is split up by, Oromo people make up 34.6% of the population while Amhara people 27.1%. (Sawe, 2017). While the Oromo people make up a larger part of the population and are the creators of the Gada system[2], in the book *The Invention of Ethiopia*[3] (Holcomb, 1990, S. 4) asserts that the gadaa system “organized the Oromo people in an all-encompassing democratic republic even before the few European pilgrims arrived from England on the shores of North America and only later built a democracy.

[2] Gada is a traditional system of governance used by the Oromo people in Ethiopia developed from knowledge gained by community experience over generations. The system regulates political, economic, social and religious activities of the community dealing with issues such as conflict resolution, reparation and protecting women’s rights. It serves as a mechanism for enforcing moral conduct, building social cohesion, and expressing forms of community culture. Gada is organized into five classes with one of these functioning as the ruling class consisting of a chairperson, officials and an assembly. Each class progresses through a series of grades before it can function in authority with the leadership changing on a rotational basis every eight years. Class membership is open to men, whose fathers are already members, while women are consulted for decision-making on protecting women’s rights. (Authority for Research and conservation of Cultural Heritage (ARCCH), 2015)

[3]This book was particularly difficult to find, we found a copy at Harvard Library and a very restricted number of copies in online bookstores.

Figure 3: Ethnolinguistic Mappings of Djibouti, Ethiopia and Eritrea, (SIL International Publications, 2018)



Despite Amharic people being the second largest tribe, the Amharic language is the official language of the Republic of Ethiopia (Sawe, 2017). These evidences made it interesting for us to ask the question of whether differences in tribal belonging affects social and political behaviour and how does that appear in economic growth indicators. The first ideas of testing diversity came from ethnolinguistic fractionalization data. Empirical economists picked this up and the term ethnic fractionalization was made popular by (Easterly & Levine, 1997) when they presented an index that tested growth data for 190 countries. They found that there is an inverse relationship between ethnolinguistic fractionalization and GDP per capita growth, they argued that this failure in economic growth was due to ethnic conflict as a result of the borderlines drawn by colonizers. This index became a standard for explaining cross-cultural differences in economic failures and successes. According to (Encyclopedia, 2008) Ethnic Fractionalization' deals with the number, sizes, socioeconomic distribution, and geographical location of distinct cultural groups, usually in a state or some otherwise delineated territory. The specific cultural features might refer to language, skin colour, religion, ethnicity, customs and tradition, history, or another distinctive criterion, alone or in combination. Frequently these features are used for social exclusion and the monopolization of power.' In more recent studies, (Posner, 2004) argues that the ELF Index introduced by (Easterly & Levine, 1997) is not enough to measure the differences in ethnicity and its impact on political and economic success. In his paper (Measuring Ethnic Fractionalization in Africa, 2004) he introduced a new index that measures ethnic fractionalization for ethnic groups which are actively involved in political reconstruction and influence economic transactions in 42 African countries. The index called the PREG (Politically Relevant Ethnic Groups) shows that it is an improvement from the ELF index on a macroeconomic level and consists of more up to date data, the PREG confirms the ELF index findings of a negative correlation between ethnic fractionalization and GDP per capita growth but at different levels based on the political groups analysed. These two papers clearly show that there is a requirement to understand ethnic diversities and how ethnically driven political parties influence political and economic institutions. However, the papers do not include differences in homogeneous or heterogenous environments and do not measure the ethnic or civil violence occurring as a result of a change of government based on ethnic ties. (Montalvo, José, G.; Marta Reynal-Querol, 2005) also confirm that ethnolinguistic fractionalization directly effects growth negatively but is not a good indicator for the likelihood of conflicts to occur. They rather prefer to use 'Ethnic Polarization' as a measurement for the likelihood of conflicts, or the intensity of potential conflict between different ethnicities taking place. In their empirical study they introduce the RQ index which measures ethnic heterogeneity and the potential for civil wars to take place, they find that an increased ethnic polarization index has a negative indirect effect on growth because there is an increased likelihood of civil wars to occur. They also point out that during these civil wars, public consumption increases and the rate of investment decreases, indirectly affecting growth negatively. In a very recent study published in the international economics and economic policy journal, (Karnane, P. & Quinn, 2017) deduce that ethnic fractionalization coupled with corruption increase political instability and therefore indirectly impacting economic growth negatively. However, increased political instability is a direct factor to effect economic growth negatively and they argue that in their data extrapolation that when data for indirect factors affecting political instability are considered, ethnic fractionalization has no significant effects on growth. They further argue that countries with a high degree of ethnic, linguistic or religious heterogeneity are not susceptible to negative economic growth impacts if they have a stable political system in place and emphasize the importance of strong institutions being established to customize policies for diverse groups of people in order to maintain political stability.

These arguments strongly recommend that ethnic federalism is implemented in order to critically neutralize claims that Africa is not able to grow due to ethnic diversification. (Bannon, Miguel, & Posner, 2004) revisit this idea by conducting a survey through Afrobarometer, an independent research organisation, to actualize how Africans perceive their identities, the observations in the survey include the following:

1- Exposure to education, non-traditional occupations, and political competition powerfully affects both whether or not people identify themselves in ethnic terms and the particular ethnic identity they embrace when they do so.
2- The salience of ethnicity and the particular dimension of ethnic identity that matters for individuals can change – not just over the course of years, but even over the course of a few months, particularly at election time.
3- The strong relationship between the intensity of political and economic competition on the one hand and the salience of ethnicity on the other also makes it clear that as African countries institute democratic and market reforms it will become more urgent – not less – for African governments to develop policies and institutional mechanisms that are capable of dealing with ethnic divisions.
4- The misconception of scholars that Africa is an atavism that can be ‘solved’ by political and economic development and that on one hand this disconnect may lie in lingering racism, which leads some to uncritically accepted representations of Africans as backward and tribe-bound, and of Africa as a place where modern aspects of life somehow fail to snuff out pre-modern social attachments. But another part of the answer may lie in the fact that nearly all of the research that documents the association between modernization and deepening ethnic identification is either anecdotal or based on analyses of single countries.

The mentioned findings give scholars, academics, policy makers and anyone interested in the African economic trajectory new ways to conduct adherent policies or do business. It is very important for researches collecting data to note that preferences of ethnic based political party backing highly depends on the seasonality of elections and is an intermediate cause of violence.

Finally, a more controversial standpoint is given by (Majerovitz, 2015) who shows empirical evidence that ethnic fractionalization is not as major a determinant for poor growth on a macro-level but has sizeable effects on a micro-level political economy. He gives examples that on a micro-level belonging to a tribe gives:

1- Higher accessibility to political and economic institutions which in effect impacts political stability
2- Being in a minority or majority tribe influences economic growth and development by having access to a pool of resources for example: property.

In addition, he concludes that slave trade is potentially one of the reasons why Africa is in the state of underdevelopment today, where the data shows a strong correlation between slave trade exports and direct negative impact on Africa’s growth performance.

4.3 Colonization's Role on Growth and Development

Defining colonization may not be an easy task as it seems. The word has been defined in diverse ways because of a variety of forms of contemporary and historic interactions between different people. According to (Butt, 2013), Colonialism involved a wide range of different practices, carried out to radically diverse cultures, over a prolonged period. When a foreign force confronts an indigenous population already occupying a specific territory, colonialism turns into a violent conflict between two opposing ways of life, with one attempting to impose its will on another. Colonization is also further defined as the practice of invading different territories and land for resource exploitation or settlement. (Colonization and Decolonization: A Manual for Indigenous Liberation in the 21st Century., 2011) and (500 Years of Indigenous Resistance, 2009).

Colonialism exists in several forms depending on the manner in which the practice is being applied to the indigenous people. Some of the most common forms of colonialism include:

a. *Settler Colonialism:* Settler colonialism can be considered as the sort of colonialism that incorporates a bigger scale of immigration. Such a type of colonialism is motivated by factors such as religious drives, political motives as well as economic desires' (Bertocchi & Canova, 2002). The eventual effect brought about by such a mode of colonialism is the replacement of the original population in the colonized area (Bertocchi & Canova, 2002).

b. *Surrogate Colonialism:* Surrogate colonialism refers to the action where the colonial power supports a settlement project in which a great number of settlers in the project do not originate from a similar ethnic background as the ruling power (Ekeh, 1975).

c. *Exploitation Colonialism:* Exploitation colonialism is the sort of colonial activity where several colonists focus on the exploitation of the colonies they occupy (Bertocchi & Canova, 2002). Some of the exploitations included the improper use of natural resources as well as labour for the benefit of their own interests (Ekeh, 1975). Such a mode of colonialism saw the existence of slavery as well as slave trade where the slave labour was exploited for the use of the colonists (Bertocchi & Canova, 2002).

d. *Internal Colonialism:* Internal colonialism can be defined as the sort of colonialism where there is an uneven structural power within the different areas of the state (Bertocchi & Canova, 2002). The exploitative power comes from within the state where certain states consider themselves to be more powerful or important than the inferior states (Ekeh, 1975).

When Considering the overall impact of colonialism on the indigenous people, we cannot neglect the form of society and rules imposed by Europeans. Colonial societies have been defined by their oppressive relationship with the local people. At the hands of colonialism, the continent suffered the worst holocaust and genocides. European Renaissance became the worst experience for the African people. Armed with the gun and compass technology, Europe became a menace against Africa's spears. There was a massive loss of population and skills. For instance, in Ghana, formerly known as the gold coast, 5000 to 6000 people were sold yearly to slavery (Effects of colonialism on Africa's past and present, 2012). The 1884 Berlin treaty plunged Africa into even worse tragedy. The Europeans divided the whole land amongst themselves, except for Ethiopia and left nothing for Africans. Colonial brutality knew no boundaries, for instance, the Belgians in Congo ordered each village to collect a certain amount of rubber, and if they failed, their women were kept hostage, and if this method was still not effective, their right hands were amputated. This sort of treatment led to a reduction of population in the Congo from about twenty million to nine million people over a period of fifteen years. In Namibia, the Herero people after being defeated by the Germans at the battle of Waterberg were driven to the desert where seventy percent of the population died of dehydration. (Pheko, 2012)

Colonized Africans were denied basic rights like the right to land for decent fishing, farming and housing, whereas colonial functionaries honoured for their barbaric acts such as robbing natives of their land. Africans were introduced to inferior levels of education which entangled them in mental enslavement and ensured that they only achieved an education level that could lead them to certain forms of labour (Pheko, 2012). Africans were subjected to school systems that drew them away from their communities and were constantly reminded that white supremacy was righteous and approved by God. Despite the changes and advancements, white supremacy is still deeply rooted in the minds and social institutions of Africans (Hill G. , 2009).

European values of individualism and capitalism also replaced traditional values of collectively and community. The spectacular fashion of cultural life and family was broken and is still broken, and most colonized people admits the inferiority of their culture, for instance, consulting a witch doctor or traditional herbalists are seen as wrong, outdated and ineffective. Men, especially those who converted to the Christian religion are condemned when they marry more than one wife, which was a noble act and was considered right before colonization (Hill G. , 2009). Also, because of the psychological and physical effect of colonialism, internalized crime and violence have been established. Indigenous people suffer from trauma and tend to victimize their own people. This manifest itself in forms of genocides, for instance the genocide in Rwanda, 2017 internal tribal conflicts in Kenya, massive corruption and oppression of the poor in most African countries. (Hill G. , 2009).

Furthermore, Independence gained by French speaking colonies in the 1960's has not stopped the French from seeking to exploit its former colonies further. France's politics in Africa has ensured that Africa still thinks of it as the promised land so that it can continue transferring economic resources from Africa to France. In the colonial period, France mandated free entry of goods to the African markets and imposed tariffs on colonial goods entering France, which had the obvious consequence of exploiting the colonies while enriching France. However, after the 1930 recession, the French transformed the African colonies into consumer markets by easing tariffs for the colonies to allow them to sell with ease on the French markets, earn money, buy French manufactured goods and pay interest on their debts. To avoid competition, France went ahead and forbade their colonies from exporting some goods to foreign markets, making France a monopoly. The market driven economy that was fostered by the colonial system financed colonies with some money, which have later been returned to France. The African independence was the source of many economic shocks, but France managed to stay alive as it paraded its African colonies at the mercy of international speculators (From Colonization to Globalization: Difference or Repitition?, 2009). Economic growth rates became extremely modest and the economy steered further ahead. Incomplete data that exists also shows that educational attainment and literacy level also improved. However, this did not mean that everyone's living standard improved. This differed depending on the colonial power in a country. Most Africans experienced severe deterioration in living standards as a colonialism consequence. Land was confiscated by settler colonialists and Africans forced to move to settlement quarters. As a result, living standards might had fallen by about 50%. Inequality also increased tremendously with the falling African incomes in conjunction with rising average wages (Settles, 1996).

The integration of the African states into the international capitalistic economy enabled African elites to access and consume western products without having to build the productive base of their societies. The basic infrastructure like ports, harbours, roads, telephone, telegraph and railways provided by the colonialists was the major reason to a boost in the African economies. Development of the primary sector of these economies took place during the colonial era. It was during this era that the discovery of mineral potential of many colonies happened and production of cash crops like cocoa, palm, cotton etc. happened. Until now, some states have not had major improvements on the colonial infrastructures. Railways and roads were built in areas with potential minerals and cash crops, to ease exploitation and not to promote accessibility and development. Colonies were made to produce a single cash crop or two with little attempts made to diversify the economy.

Till date, the trend of producing specific cash crops is still ingrained and has not seen any appreciable changes. Africans were persuaded to consume what they don't produce and produce what they don't consume, leading to very little gain from West Africa's poor states as they still rely on imported rice, maize oil etc (What Are the Effects of Colonialism., 2018).

The elites benefitted from colonization while the poor majority barely did. There is also no basis to assume that Africans would have invented modern technology like electricity, motor engine, telephone etc. independently. Therefore, it can also be assumed that if the Europeans had not invaded Africa, it would still have to face the challenges of economic growth and would have to exchange western technology with its raw materials, just like other pre-industrial societies. Africa's portion as a producer of primary products should not be blamed fully on colonialism because it is a large function of unequal underdevelopment. The elites like the chiefs and Kings would still have wanted to consume western products and services, had Africa not been colonized. If during slave trade, chiefs and Kings started wars and sold people in exchange of sweets, beads, second-hand hats and guns, it can only be imagined what actions they would have taken when offered televisions, phones, MacDonald's etc. Undoubtedly, African societies would have still sought out industrialization, even without colonization (What Are the Effects of Colonialism., 2018).

5 Chapter II - Growth and Development Indicators

5.1 GDP per capita (constant US$)

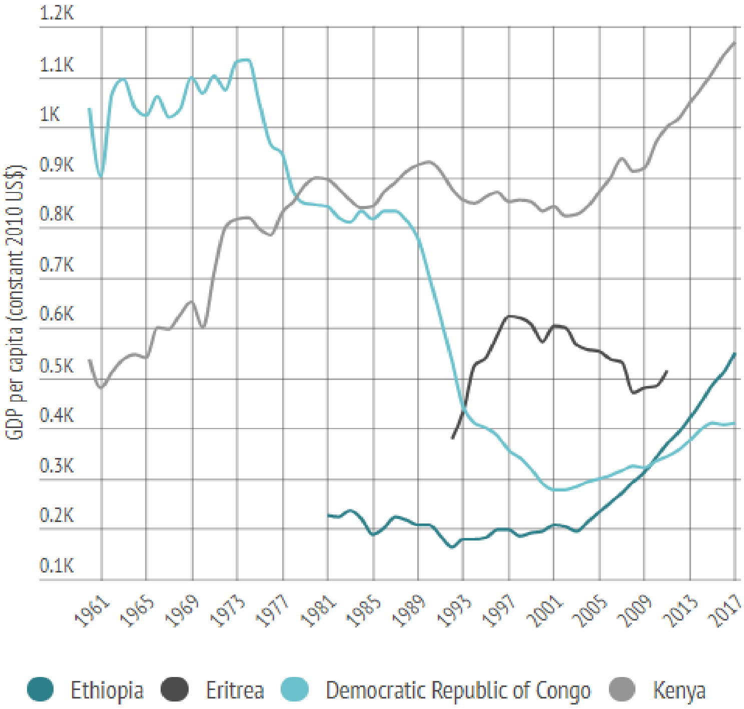


Figure 4: GDP per capita (constant US$), 1961-2017, (The World Bank, 2018)

Generally, the African economy has not been doing well as compared to the rest of the world. Amongst the four countries, Kenya has had the fastest and the most stable growth. DR Congo started off well and was much more stable than the other countries but over time, its GDP kept on falling and is now considered one of the poorest countries worldwide. Despite being endowed with rich natural resources and a diverse population, the country has faced a series of economic crisis since independence which happened mainly during the years of war and conflict. From 1960, GDP per capita dropped from about $1000 to $600 in 1990. This was because of continuous wars and conflicts, weak institutions and sustained mismanagement of the country's wealth. Before the conflict, the economy was propelled by extractive and export activities like agriculture, forestry, energy and mining, which encouraged poor governance system and massive corruption. (Democratic Republic of The Congo: Country Assistance Framework, 2010).

Kenya on the other hand witnessed remarkable economic growth and structural reforms in the late 1970's. The growth was mainly because of import substitution industrialization and land reforms. To encourage secondary manufacturing, the country ensured that import substitution policies were highly protected against imports that brought competition to domestic products and low protection on intermediate products and non-competitive raw materials. (The Impact of Trade Openness on Growth: The Case of Kenya, 2015).

Ethiopia has seen a low GDP growth over the past years, mainly caused by weak *de jure* institutions, conflicts and a terrifying famine that hit the country in 1984, causing hundreds of thousands of citizens to starve to death and led to the freefall of the economy. Ethiopian economy however picked up in 2003 and since then the country has notched up a double digit economic growth rate, with the average growth rate in the past ten years being about 10.9% (Ethiopia's rapid growth: Miracle or mirage?, 2014). The growth has lifted the country from being the second poorest in the world in 2000 to becoming a middle-income country by 2025, if its current growth trajectory continues. Fuelled by a conducive external environment and a substantial public infrastructure investment, the country's growth has been rapid, stable and has managed to reduce poverty from approximately 44% in 2000 to 30% in 2011. (The World Bank, 2018). Ethiopia, as from 2004, became one of the fastest growing non-oil economies in Africa. The country still aims to end poverty and remove the chronic food insecurity which was the main cause of low growth. Ethiopia has emphasized on agriculture, sustained growth, promotion of industrialization, youth empowerment and investment on infrastructure. (Ethiopian Government Portal, 2018). The country's high growth rates are mainly fuelled by agriculture production, government and institutions effectiveness, and the large service sector that has been established. Because of the rapid growth in the public-sector size, financial intermediation, public administration, and retail business activities, services have become one of the largest sectors of the economy. Just like the Ethiopian economy, Eritrea has not been immune from the effects of the long-lasting security challenges and drought that has affected the region and had a negative impact on GDP growth. Economic growth in the region has been unstable with some years witnessing a higher growth as compared to the other years, for instance, 1997, the country experienced a high GDP growth of about 600$ which later declined to about 400$ in 2010. In 2011-2012 period, which is the latest point in which data is readily available, we witness the economy pick up again, mainly stimulated by public projects like 'Bisha' mine project, sound policies and high gold prices at that point. (Recent Developments & Prospects, 2012). Eritrea remains as one of the least developed countries, despite recent growths. Poverty is still widespread in the country with about 65% of the population living in rural areas and 80% depending on subsistent agriculture for their livelihoods. The predominant economic activity is rain fed agriculture, which employs more than two thirds of the population. Agriculture's contribution to the GDP of Eritrea has been moderate and declining due to rudimentary farming and recurrent droughts. (The World Bank, 2018)

As from 2001, the government of DR Congo took serious measures to break the hyper-inflation, stabilize the exchange rate (after the decision to float the franc in 2001), start collecting taxes and revenues and launch key structural reforms. From 2002-2005, efforts put towards stabilizing the macro-economic situation were fruitful with 12% 12-month inflation, relatively stable exchange rate and an increase of fiscal revenues from approximately 5.9% GDP in 2001 to 11.4% in 2005. The government made structural reforms through adoption of new investment, strengthening of chain expenditure, forestry and mining codes, completion of public enterprises audits etc. (Democratic Republic of The Congo: Country Assistance Framework, 2010). Political uncertainties and the absence of functioning executive during the election period led to performance deterioration from 2005 to end of 2006. The country however is still of great interest to private sector investors with about US$2.7 billion registered since early 2003. Growth has been boosted by the re-establishment of security and the country's re-unification mainly in transport, trade, agriculture and construction sectors. (Democratic Republic of The Congo: Country Assistance Framework, 2010). In the 2013-2014 period, the GDP increased to almost 9% but in 2015, the GDP decelerated again to 6.9%, and to 2.4% in 2016, which was its lowest point since 2001. The decline was in accordance with the shrinking global demand for raw materials and declining prices, mainly for cobalt and copper which accounts for 8% of the country's export revenue. The economic shock led to destabilization in external accounts and a decline in 2016 exchange rates as well as a drop by 31% in exchange rate of the Congolese franc against the dollar, which led to a galloping inflation of about 24%. In 2017, growth was expected to reach about 2,6%, which was fuelled by an increase in commodity prices and national mining production. Because of the persistent increase of inflation rates, the Congolese franc is still expected to continue declining against the dollar. In 2016, public finances also witnessed a decline because of a growing fiscal deficit of -1.6% of the GDP against -0.2% in 2015. The decline in export revenue led to a drop in state revenue. With limited access to domestic and international financial markets, the government had to cut down on public expenditure to manage the deficit and limit the monetary financing by its central bank. (The World Bank, 2018). The government has since launched sectoral reforms to encourage transparency, improve the business environment and strengthen governance especially in the extractive industries (mining, forestry and oil sector). (The World Bank, 2018)

In Kenya, we see economic growth slowing down considerably and become negative in some years, especially in the 1980's and 1990's. In the last half of the 2000's, the growth rate picked up again and has shown an upward trend ever since. The weak GDP growth rate characterized from the late 1970's to the early 1990's was linked to structural weaknesses and external shocks in the economy. For instance, in the late 1970's the country experienced several external shocks, which included the 1973-1974 oil crisis and 1976- 1977 coffee boom, the East African community collapse in 1978 and the 1979 oil crisis shock. The country's growth momentum was shaken by these shocks which led to lower growths. (The Impact of Trade Openness on Growth: The Case of Kenya, 2015). As from the 2000's Kenya has made significant economic, structural and political reforms that has boosted sustainable economic growth. The passage of the new constitution in 2010 that introduced devolution was one of the biggest gains for the country as it ushered a new economic and political governance system. Devolution has strengthened accountability and public service amongst institutions to deliver at local levels. (The World Bank in Kenya, 2017)

Following the 2008 global economic recession, Kenya's economy flattered but resumed in the last three years, hitting 5.8% in 2016, causing Kenya to be labelled as one of the fastest growing economies in Sub-Saharan Africa. A stable macroeconomic environment, low oil prices strong remittance inflows, rebound in tourism and government funded and supported infrastructure development initiative has boosted the economy further. (The World Bank, 2018). The drought that struck the country in 2017, weak credit growth and security concerns caused the GDP to decline to 5.5%. However, medium term growth is expected to bounce back to 5.8% in 2018 and 6.1% in 2019, which depends on the completion of ongoing infrastructural projects, slow credit growth resolution, strengthening of tourism and global economy at large. Through the country's long-term development agenda, documented in the vision 2030, manufacturing, universal healthcare, affordable housing and food security have been given a priority. From its dynamic private sector, skilled workforce, growing youthful population, a new constitution, improved infrastructure to its pivotal role in the East Africa at large, Kenya has the potential to be the strongest economy in Africa. Continuous addressing of challenges such as inequality, poor governance and poverty to achieve a fast and sustained economic growth will transform the lives of ordinary Kenyans and will boost the GDP at large. (The World Bank, 2018).

5.2 Life Expectancy at birth, total (years)

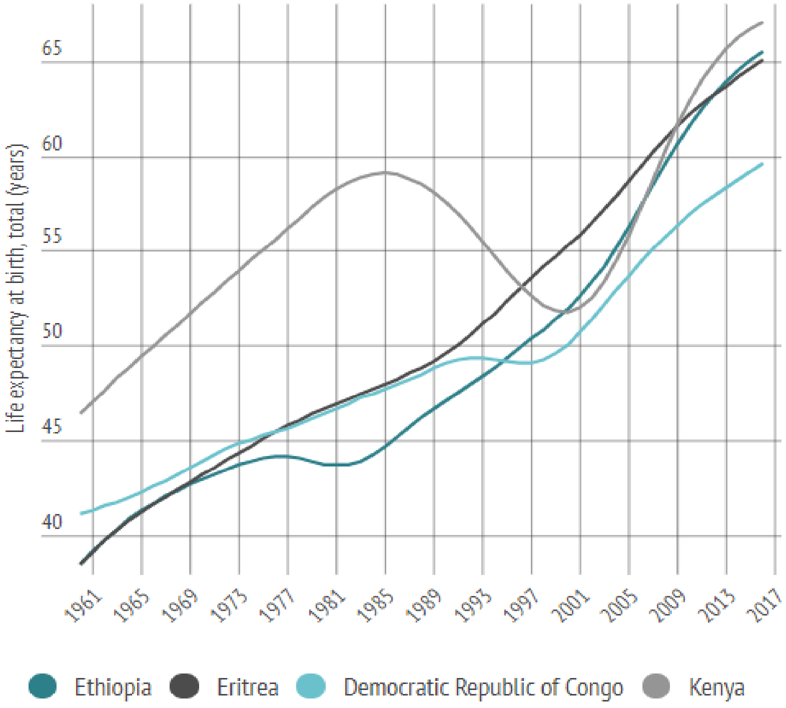


Figure 5: Life expectancy at birth, total (years), 1961-2017, (The World Bank, 2018)

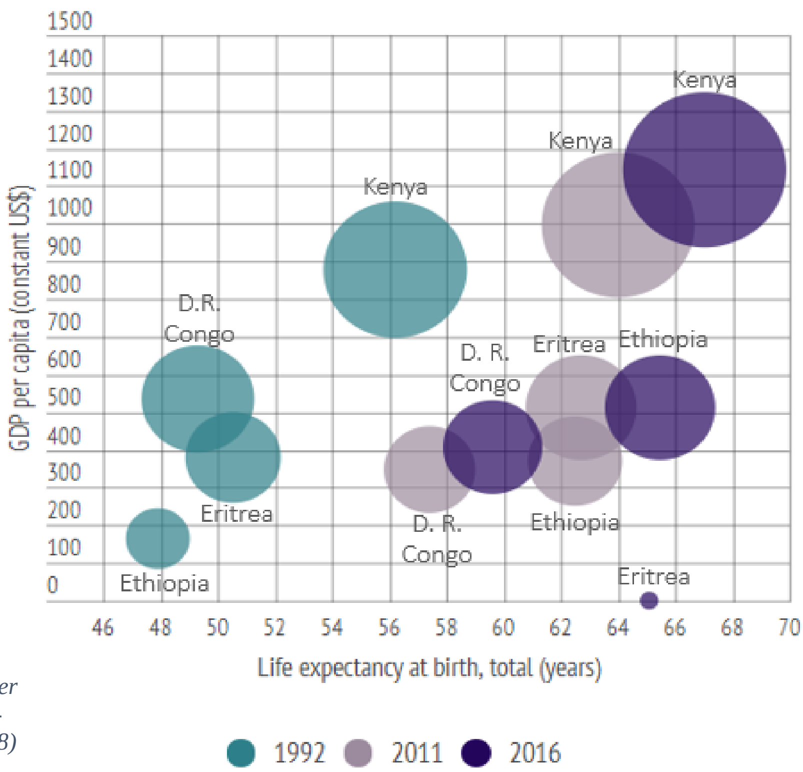


Figure 6: Life expectancy at birth, total (years) to GDP per capita (constant US$), 1961-2017, (The World Bank, 2018)

In Figure 6: Life expectancy at birth, total (years) to GDP per capita (constant US$), 1961-2017, Kenya appears to have the highest life expectancy out of all four countries in the late 20th Century. In the period between 1961 to 1985 Kenya experienced a steep increase in life expectancy from the age of 45 to 59 years. In that period, Kenya was still under the colonialist rule of the British Empire, but in 1944 at the near end of world war II, the Kenyan African Union (KAU) was formed to campaign for African independence. In 1953, The leader of the KAU, Jomo Kenyatta, was charged with managing the Mau Mau, a rebel group determined to remove white settlers from Kenya, and the KAU was banned by the colonialists. However, after an extended period of struggle between the rebel groups, the colonizers and the African independence union, the Kenyan people finally received independence on December 12, 1963 (Rose, 2015). Kenya at that time became a republic and Kenyatta served as the first president of Kenya, Kenyatta brought many changes to Kenya, among these changes was an opening of the labour market to peoples of other African nationalities. This was good for the macroeconomy of the country however, it affected life expectancy greatly as that lead to an influx of the HIV/AIDS epidemic which was sweeping through much of Africa at that time and contributed to a steep decrease in life expectancy. In the early 1980’s, thousands of people eventually died of HIV (An Orphan's Dream, 2010). For Africans’ it was hard to get a treatment for AIDS as the price of the treatments were very high and only when the United Nations World Health Organisation (UNWHO) stepped in in 2001 to provide the amount of care needed to suffice the epidemic did the life expectancy rate start to increase again and in 2005 they negotiated with five big pharmaceutical companies to provide affordable HIV treatments to underdeveloped and lower income economies. Since then, Kenya has been on the path to developing all its goals according the Millennium Development Goals (MDG’s) which are used as an indicator by the United Nations (UN) to track several issues affecting the world, among them are health (HIV/AIDS included) and education (AvertAIDS, 2018). All four of the African countries mentioned unfortunately have some degree of HIV/AIDS prevalent and it is a life-threatening issue for many people. According to IHME Global Burden of Disease latest data from 2016, there are 1.6 million Kenyans, 670,906 Ethiopians, 26,439 Eritreans and 426,241 Congolese living with HIV. Kenya has the second highest rate of population infected with AIDS in the whole of Africa (Roser & Ritchie, 2018).

In that same period between 1961-1985 Ethiopia, Eritrea and the Democratic Republic of Congo were also experiencing a steady increase in life expectancy at birth but not at the accelerated rate as Kenya. This is attributed to the global life expectancy increase as part of medical advancement, particularly in Ethiopia, life expectancy increased from 1961 to 1985 by 12%. According to the Human Development Report, this is due to the declines in deaths caused by HIV, Malaria, infectious diseases and nutrition deficiencies (United Nations Development Programme, 2016, S. 82). The different countries had different trajectories in life expectancy, since they had steady increases over the years, however, famine hit Ethiopia in the late 1980's and many people were evacuated from Amhara and Tigre as a result, some sources say that Mengistu Haile Mariam who was the chairman of the Derg, the military formation created to overthrow Emperor Haile Selassie I in 1974 and dictated Ethiopia from 1977 to 1991, formed policies which endorsed a decrease of aid for famine (Drought, War, and the Politics of Famine in Ethiopia and Eritrea, 1992). The period in which he ruled is referred to as the 'Ethiopian Red Terror' (Tegegn, 2012), as many deaths were conceded during his reign of Terror. During his dictatorship, he brought together a communist one party ruling under the name 'The People's Democratic Republic of Ethiopia, its creation in 1987 led to the dissolution of the Derg and a ruling dominancy of the Worker's' Party of Ethiopia, whose leadership was dominated by surviving members of the Derg. Along with famine, and a case of mismanagement during a huge drought that affected Ethiopia and Eritrea in 1974, both countries underwent wars which took the lives of many people. On one hand, Eritrea was battling Ethiopia for independence after Ethiopia annexed it in 1962 and finally gained independence in 1991. On the other hand, Ethiopia was undergoing civil wars in which lasted from 1974 to 1991, during the reign of Mengistu Haile Mariam, almost 1.4 million Ethiopians lives were lost (Keller, 1992). In 1998

– 2000, the largest war between Ethiopia and Eritrea took place, when Eritrea invaded 'Badme' a border town in the region of Tigre. In 2018, Ethiopia and Eritrea finally agreed on a peace treaty, making the town 'Eritrean'. Wars since have stopped and to seal the peace treaty, the first official commercial flight was launched between Ethiopia and Eritrea in July 2018 as reported in Africa News (Mumbere, 2018).

And last but not least is The Democratic Republic of Congo (Dem. Rep. Congo) which has witnessed a steady increase over the years in its life expectancy at birth despite the previously mentioned epidemics that hit Africa and given that it is speculated that the origin of HIV/AIDS comes from the Dem. Rep. Congo (AvertAIDS, 2018). The first cholera crisis happened in 1994, 36 years after its independence and during the end of Mobutu Sese Seko's presidency, he was the first president of the republic and its dictator for over 3 decades. The crisis took place among the Rwandan refugees in Goma in what was known then as Zaire (the name Mobutu gave to the then Dem. Rep. Congo) and as much as 40,000 cases and 23,400 deaths reported by (United Nations World Health Organization, 2018). Since then there have been several cholera outbreaks, in 1997 also among 90,000 Rwandan refugees (Centers for Disease Control & Prevention (CDC), 1998), in 2011 and according to a UNWHO report 'In January 2018, following intensive rains and flooding events, case numbers increased from less than five to more than 100 weekly reported cases. However, since mid-January, there has been a downward trend in the number of suspected and confirmed cholera cases' (United Nations World Health Organization, 2018).

In Figure 6: Life expectancy at birth, total (years) to GDP per capita (constant US$), 1961-2017, we mapped the life expectancy at birth to GDP per capita to see whether there is a correlation between size of GDP to the ages and there is a slight pattern that the higher the GDP, the higher life expectancy at birth there is. For this figure, we took data from the years 1992, 2011 and 2016 as those seemed to be the most regular years where most four countries had data in the World Bank Data except for Eritrea in 2016 where it doesn't provide GDP per capita. The patterns show that in 1992, 2011 and

2016, Kenya has the highest GDP per Capita and a higher life expectancy at birth age than the rest of the countries. In 2011 there is a small difference in the GDP per capita size for the Democratic Republic of Congo and Ethiopia, however it seems that Ethiopia has a larger life expectancy at birth than The Democratic Republic of Congo.

It would be better to look at GNI per Capita for all four countries in the comparison matrix, since GNI encapsulates all forms of income including foreign aid and remittances, however we found the data sets to be scarce for the time period chosen.

5.3 School enrolment, primary and secondary (gross), gender parity index (GPI)

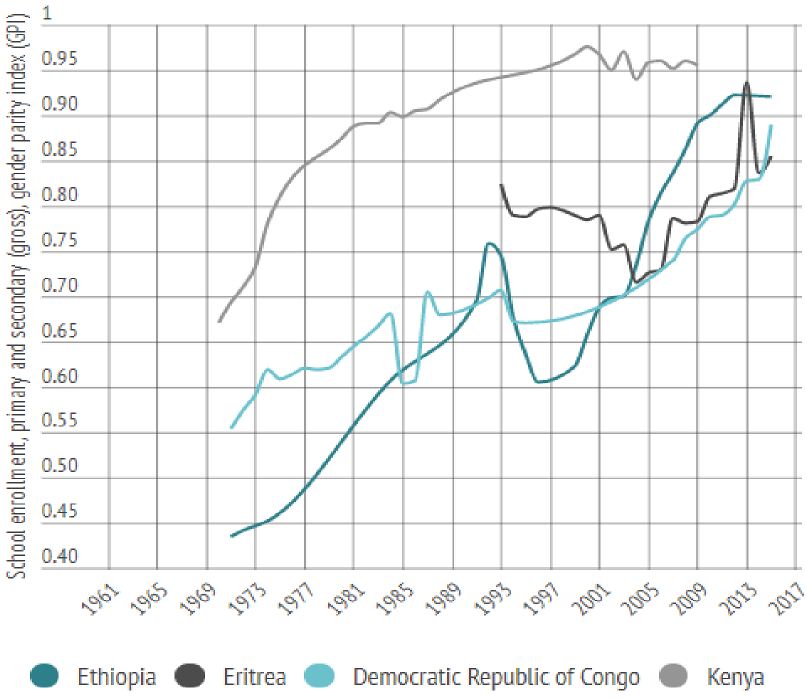


Figure 7: School enrolment, primary and secondary (gross), gender parity index (GPI), 1961-2017, (The World Bank, 2018)

The lack of reliable population statistics, demographic growth and the failings in the education sector poses a challenge to calculate net enrolment rates through the years. According to the (The World Bank, 2018) statistics as shown in Figure 8: Mobile cellular subscriptions (per 100 people) 1961-2017, Kenya shows the highest and constant growing school enrolment rates over the years. DR Congo, Eritrea and Ethiopia have had volatile growths, with some years doing extremely well, and other years the growth declines. For instance, Eritrea saw the highest school enrolment rate in 2013 and later declined sharply in 2014. Kenya compared to the three countries has made a constant and stable progress. The growth has been continuous and has created an increased demand to access to both secondary and tertiary education. The tertiary sector is composed of universities, teacher training colleges, institutes and technical training institutions. Public universities receive funding from the government despite being autonomous. (Survey of ICT and Education in Africa: Kenya Country Report , 2007). The government has also embraced ICT in the education sector support program and went ahead to publish the National ICT strategy for education and training. In addition, many other organizations have actively implemented and supported projects involving ICT education. (Survey of ICT and Education in Africa: Kenya Country Report , 2007).

The education system in all four countries deems it mandatory for children between ages six and twelve to complete primary school, which rarely happens in Congo, Ethiopia and Eritrea, except in some urban areas. DR Congo has witnessed low enrolment rates showing that the country is in a state of crisis. Majority of students attend public sector schools run by religious organizations (Democratic Republic of Congo: Country Assistance Framework, 2010).

In rural areas as compared to urban areas, enrolment rates are low in all four countries. The failing education system has resulted to lower literacy levels. In DR Congo 32% of the adult population are unable to read and write. The education sector has been characterized with low enrolment rates, poor pass rates, inadequate numbers of poorly trained teachers, inappropriately distributed workforce, inadequate teaching materials, unmotivated teachers, inadequate learning spaces, gender insensitive pedagogic practices and weak institutional capacities. Financial strain is the most significant challenge hindering parents from enrolling their children to school. In Kenya, Ethiopia and Eritrea, the state funds the primary education but there are still hidden costs that comes with schooling, for instance, the pupils must buy books, pens, uniforms etc. The state funding for education collapsed for about fifteen years in DR Congo, causing schools to rely on school fees to fund their costs. According to the DR Congo's estimates, households spend about 20% of their income on school fees per child, causing parents to be very selective in educating their children. This is evident in the lower enrolment of girls and for children living in the rural areas. (Democratic Republic of Congo: Country Assistance Framework, 2010).

Apart from school fees, poor quality of services and outcomes at school has also been a major challenge to all four countries, classes are in poor condition, teachers are demotivated and information sources such as books are limited. Parents regard the quality of education as poor investment for their limited income and consequently, children are withdrawn from school. Low funding from the government is the main constraint propelling high fees on the education system. In Ethiopia, Eritrea and Kenya where primary education is free, most parents still prefer taking their children to private schools, because of access to better services and materials. Institutions responsible for learning are still weak in all the countries, and curriculums are not regularly updated, for instance Eritrea's curriculum was last updated in 2004 (Education Policy and Data Centre, 2014). The years of political instability and conflict has also affected one of the most key inputs in the sector, human capital. Some of those to mention are, the 2007 tribal war in Kenya, continuous political wars in DR Congo and the 1998 border conflict between Ethiopia and Eritrea (Community Engagement to Ensure School Enrollment for Eritrean Refugees in Ethiopia, 2014). With the government's commitment to developing the sector in all the countries, growth potential is promising.

International donors have shown interest to support the government implement policies to boost education. In DR Congo, with the commitment of the government and private donors, it is hoped that additional resources may be forthcoming to flatten school fees. To sustain more students in school, it will be necessary for education inputs to meet the continuous rising demand and quality of services improved. This means that teachers will be retrained, and more teachers hired. The strategic management of the sector will also be necessary to improve. (Democratic Republic of The Congo: Country Assistance Framework, 2010)

Kenya, amongst the four countries, has been able to achieve a higher school enrolment rate mainly because of the introduction of free primary education in 2003 that led to an immediate increase of about 1.3 million students enrolled in primary school. The growth has been continuous and has created an increased demand to access to both secondary and tertiary education. (Survey of ICT and Education in Africa: Kenya Country Report , 2007). On the 15th September 2017, The World Bank approved a $200 million International Development Association (IDA) credit to Kenya to help improve learning by about 1.2 million students in public primary and secondary schools. The project is expected to improve the access of quality education to all Kenyans as the country strives in becoming an upper-middle income economy. The project will focus on improving quality of teaching by addressing the challenge of teachers' shortage, expanding retention in upper primary school and ensuring a smooth transition to secondary school and supporting the ongoing revision of the education curriculum to align the education outcomes to the needs of the modern economy. School enrolment is expected to go higher and every child in Kenya is expected to have at least primary education with time. (The World Bank, 2018).

In Eritrea the education trend has been on the rise since independence. The number of schools has increased, and new schools are being opened in the rural areas. With the implementation of policies such as free basic education, significantly, several children are still out of school. The net enrolment rate of children aged 6-10 years at primary school is approximately 81%. At pre-primary level, the problem is more acute where 79% of 5-year old have not started attending school already and at lower secondary school, 70% of children aged 11-13 years are out of school. (Unicef, 2018). In Ethiopia, primary school enrolment has doubled by 90% over the last decade and the government is even working harder to increase access to education in all regions. The General Education Quality Improvement Project (GEQIP) supported by the World Bank Group is in its second phase striving to improve the learning and teaching conditions in 40,000 schools across the country. The program provides grants and supports new policies on teaching, curriculum and assessment of student learning. (Providing Ethiopia's Children with Quality Education, 2015). Due to challenges that still face these countries, school enrolment rates may still be affected but with better governance and increased technology, literacy levels are likely to increase.

5.4 Mobile cellular subscriptions (per 100 people)

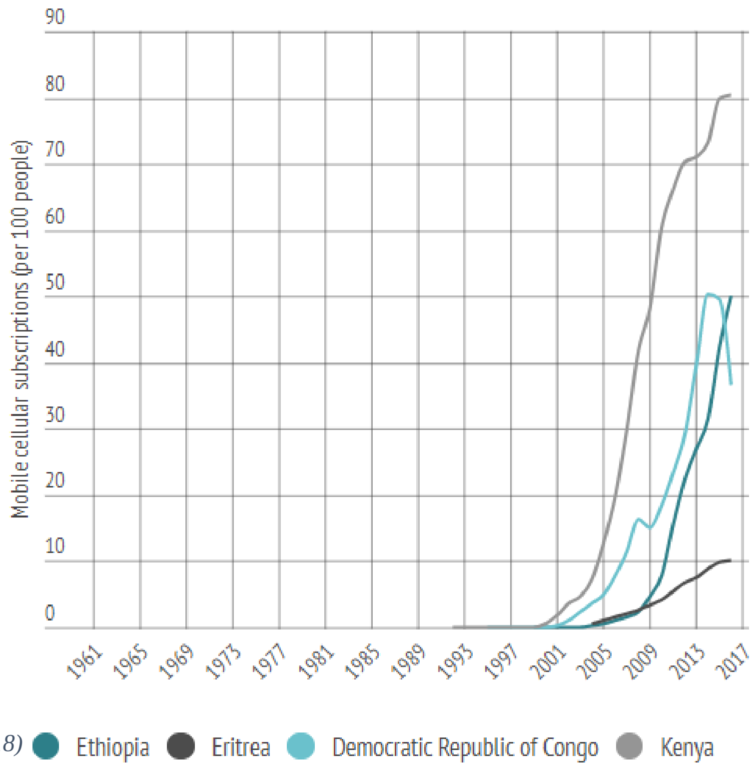


Figure 8: Mobile cellular subscriptions (per 100 people) 1961-2017, (The World Bank, 2018)

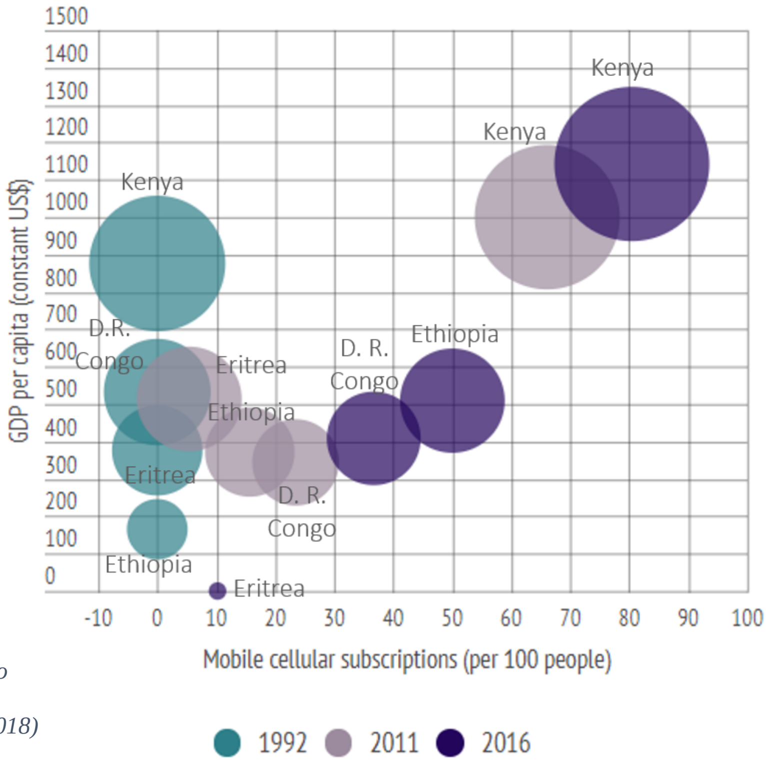


Figure 9: Mobile cellular subscriptions (per 100 people) to GDP per capita (constant US$), 1961-2017, (The World Bank, 2018)

One of the main reasons we chose this indicator was to explain how technology is rapidly changing the way economies work, and that at the total factor productivity, developing countries have a better economic growth rate yield than developed countries due to an increase in innovative ideas because of mass access to technology and the need to create products based on scarce resources. Mobile Subscriptions 'are subscriptions to a public mobile telephone service using cellular technology, which provide access to the public switched telephone network. Post-paid and prepaid subscriptions are included' (International Telecommunication Union, World Telecommunication/ICT Development Report and database, 2018). 'The number of mobile subscribers usually gives an indication of how vibrant the telecommunication sector of a country is. It also shows the rate of growth of the sector. It can help many companies determine their stage of growth and respond strategically to the different challenges that come with each stage. The market share for each player in this field can also be determined using this very important indicator.' (Oteri, Kibet, & Edward, 2015)

In Figure 8: Mobile cellular subscriptions (per 100 people) 1961-2017, data is mainly available at the beginning of the 21st century, when the internet boom and mobile boom is at its highest worldwide. As you can see in the figure above, Kenya has the most people with cellular subscription throughout all the years with data available from 1992 until 2016. In 2016 nearly 80 out of 100 people have cellular mobile subscription in Kenya, by far superseding the other three countries, with Ethiopia close to the lead at 50 people out of 100 with cellular mobile subscription and the Democratic Republic of Congo at 36 out of 100, while Eritrea is at a low 10 out of 100 people with cellular mobile subscription.

To understand how mobile subscribers are accounted for, it is important to assess three areas:

1- The telecommunications market, operators and their market share
2- The mobile market barriers to entry and purchasing power of the buyer
3- Mobile penetration rates

For the first point, the telecommunications market in Kenya is a competitive market, as there are four companies which maintain the key telecoms industry and are working under the regulations of the Communications Authority of Kenya (CA Kenya). In a report published on the 31st of March 2018 by the CA Kenya, 67% of the cellular mobile subscriptions were upheld by Safaricom PLC, and under competitive law, the government de-centralized consumer price valuation. (Communications Authority of Kenya, 2018).

Ethiopia looks much different, as there is a monopoly economy of the telecommunications industry with the stated owned Ethiopian Telecommunications Corporation owning and operating the telecommunications industry. This has eliminated the ability for the consumers to dictate prices, however we can see that cellular mobile subscriptions are close to that of Kenya even though it is a monopoly state, thus confirming that not only operators affect mobile penetration rates but literacy and access to mobile cellular phones. (Abdur Rahman Alfa Shaban, africanews, 2011). Eritrea's telecommunications look quite similar to Ethiopia, except that Eritreans are mostly dependent on mobile services as opposed to fixed lines, in Eritrea there is only one main provider and that is the Eritrea Telecommunications Services Corporation its fixed line extends to most regions and mobile services (EriTel) was jointly founded with a South African Firm 'Ubambo Investment Holdings Ltd', there are a few other internet providers, but still it is the main market leader. (The Telecommunication Development Sector (ITU-D), 2018).

Interestingly enough, The Democratic Republic of Congo remains to be an unsaturated market with great potential for growth, there are five main telecommunication operators including Vodafone, Airtel, Orange, Tigo and Africell. As per the figure above, there are comparatively lower number of subscribers compared to Kenya and Ethiopia opening up a vast market which investors could build on. The Democratic Republic of Congo has been working on introducing new policies to attract investment and ease up the business environment for growth to occur. Unfortunately, since it is in post-conflict state telecommunications was not a main priority until the end of the 2000's, since then the country has planned to increase fibre cables by 4,000 kms and aims to get at least 40 mobile cellular subscriptions per 100 inhabitants by the end of 2018. (National Agency for the Promotion of Investments, 2016).

As for the general forecast of mobile cellular subscriptions and internet usage in Sub-Saharan Africa, this is going to be a vehement boost for GDP per capita as a report by Groupe Spéciale Mobile Association claims that 'By 2022, the mobile economy in the region will generate more than $150 billion (or 7.9% of GDP) of economic value added as countries continue to benefit from improvements in productivity and efficiency brought about by increased take-up of mobile internet in particular' (GSMA Intelligence, 2018). If seriously considered and planned out by each country, economic institutions will be able to thrive, and encouragement of business opportunities will occur. Innovation can be driven from the heart of Sub-Saharan Africa as the cash transactions, especially through m-pesa have proven by far to be one of the most innovative and profitable financial ideas of the century. According to (Central Bank of Kenya, 2017) Kenya total mobile payment transactions brought in 3.574 trillion shillings between July 2016 and June 2017, at an equivalent of 48.76 of the overall GDP, even for developed countries like Germany, who's financial industry is struggling to keep up with innovative disruptions, this is staggering.

Year to June 30th.	2011	2012	2013	2014	2015	2016	2017
Amount transferred (KSh billion)	919.22	1381.52	1,689.04	2,148.13	2,575.44	3,094.92	3,574.43
Number of agents	46,588	61,313	103,165	120,781	131,761	162,465	165,109
Number of transactions (million)	364.06	507.9	643.01	824.26	1,002.25	1,304.52	1,699.57
Number of 'registered' customers / accounts	17.99	19.8	23.75	25.93	26.5	31.39	34.18

Figure 10: Mobile Money Transfer Services, (Central Bank of Kenya, 2017)

6 Chapter III - Effects of Institutions, Ethnic Fractionalization and Colonization on Growth and Development

In the previous chapter we chose four different indicators that reflect the economic, social and political impacts throughout the years 1961 to 2016 for Ethiopia, Eritrea, Democratic Republic of Congo and Kenya. Since we were not able to find data sources for previous years, we will therefore limit this part of the thesis to explain whether or not the increase or decrease in performance for those four indicators are attributed to colonization, institutions and ethnic fractionalization/polarization. For our analysis, we will use the different arguments outlined in the literature review for a general overview and to verify these results, we will use the World Governance Indicators and Ease of Doing Business Rankings.

6.1 Effects of Institutions on Growth and Development

As mentioned in the literature part of the thesis, we used (North, 1991) and (Scott, 2001) to define institutions and their relation to economic growth. We then used the framework introduced by (Robinson, Acemoglu, & Johnson, 2005) to explain how the conflict of interest between different political parties *de facto* and *de jure* to influence economic institutions is prevalent and that (Hausmann & Rodrik, 2003) argued the importance of the balance between private and public institutions, but also adopting sound policies to stimulate growth.

Looking at the four countries we have chosen, there is no empirical data as of now to test the claims the framework (Robinson, Acemoglu, & Johnson, 2005) introduced. To be able to visualize how these *de facto* and *de jure* institutions might have had an effect on indicator performance. We created our blueprint visualisation for the indicators[4] and mapped them in the following way:

[4] No data was used to map the information, we used a rule of thumb method to qualitatively show what the information might look like if actual data was captured

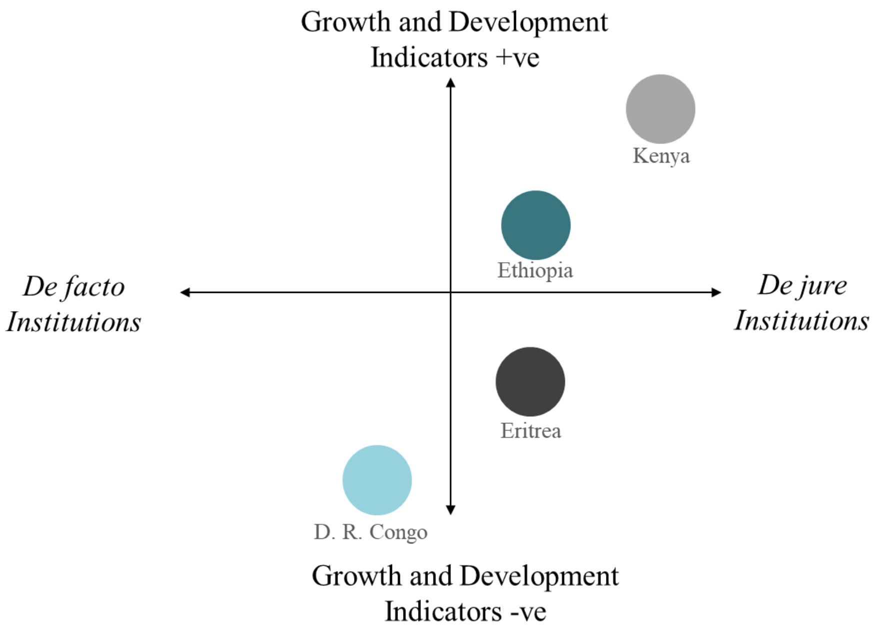


Figure 11: Conceptual Framework for relationship between de facto and de jure institutions and growth and development indicators, (Ollimo & Hall, 2018)

To fill in this matrix, there would be a need to know the degree to which each country is influenced by *de facto or de jure* political power.[5] However, this model is qualitative and would empirical research to test our claims is highly recommended. To further explain the countries performance outcomes and institutional effectiveness, we chose two other scoring methods used by the World Bank; the World Governance Indicators (WGI) and the Doing Business Rankings (DB), to see whether the dimensions we mentioned in our literature review match the countries performance trends. The indicators we chose to measure impact with are as below:

1- Government Effectiveness which '*Reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.*' (World Governance Indicators, 2018)
2- Control of Corruption which '*Reflects perceptions of the extent to which public power is exercised for private gain, including both petty*

[5] Suggested empirical research topic

and grand forms of corruption, as well as "capture" of the state by elites and private interests.' (World Governance Indicators, 2018)

3- Regulatory Quality which '*Reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development*.' (World Governance Indicators, 2018)

4- Political Stability and Absence of Violence/Terrorism which '*measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism.'* (World Governance Indicators, 2018)

5- Ease of doing business Rankings by the world bank, 'Economies are ranked on their ease of doing business, from 1–190. A high ease of doing business ranking means the regulatory environment is more conducive to the starting and operation of a local firm. The rankings are determined by sorting the aggregate distance to frontier scores on 10 topics, each consisting of several indicators, giving equal weight to each topic. The rankings for all economies are benchmarked to June 2017.' [6] (Doing Business Rankings, 2018)

[6] Ease of Doing Business Methodology: http://www.doingbusiness.org/~/media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB18-Chapters/DB18-DTF-and-DBRankings.pdf

Table 2: The World Governance Indicators Dataset), (The World Bank, 2018)Number of data sources on which estimate is based, Percentile rank among all countries (ranges from 0 (lowest) to 100 (highest) rank), Estimate of governance (ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance)

Indicator	Country	Year	Number of sources	Percentile Rank (0 to 100)	Governance Score (-2.5 to +2.5)
Government Effectiveness	Eritrea	1996	1.00	12.02	-1.15
		2011	6.00	5.21	-1.41
		2016	8.00	3.37	-1.69
	Ethiopia	1996	3.00	7.10	-1.21
		2011	10.00	39.34	-0.48
		2016	11.00	28.37	-0.64
	Kenya	1996	3.00	34.97	-0.52
		2011	11.00	35.55	-0.57
		2016	12.00	41.35	-0.31
	Congo, Dem. Rep.	1996	2.00	3.83	-1.65
		2011	9.00	1.90	-1.68
		2016	10.00	5.77	-1.51
Control of Corruption.	Eritrea	1996	2.00	72.04	0.51
		2011	8.00	30.33	-0.63
		2016	9.00	11.54	-1.13
	Ethiopia	1996	4.00	18.82	-0.93
		2011	15.00	28.44	-0.66
		2016	13.00	39.90	-0.44
	Kenya	1996	4.00	10.75	-1.16
		2011	16.00	18.01	-0.95
		2016	15.00	16.83	-0.90
	Congo, Dem. Rep.	1996	3.00	0.00	-1.65
		2011	12.00	2.37	-1.43
		2016	11.00	7.69	-1.33
Regulatory Quality.	Eritrea	1996	1.00	12.50	-1.13
		2011	7.00	0.95	-2.21
		2016	8.00	1.44	-2.19
	Ethiopia	1996	4.00	9.78	-1.30
		2011	11.00	18.01	-1.00
		2016	11.00	11.54	-1.10
	Kenya	1996	4.00	39.13	-0.31
		2011	11.00	45.02	-0.21
		2016	11.00	41.83	-0.30
	Congo, Dem. Rep.	1996	3.00	3.26	-1.76
		2011	9.00	5.21	-1.52
		2016	9.00	7.69	-1.32

Political Stability and Absence of Violence/Terrorism.	Eritrea	1996	2.00	20.21	-0.94
		2011	4.00	21.33	-0.77
		2016	5.00	17.14	-0.88
	Ethiopia	1996	4.00	16.49	-1.05
		2011	8.00	6.16	-1.51
		2016	8.00	7.62	-1.57
	Kenya	1996	4.00	23.94	-0.65
		2011	8.00	12.80	-1.24
		2016	8.00	9.52	-1.33
	Congo, Dem. Rep.	1996	3.00	0.00	-2.68
		2011	6.00	2.37	-2.21
		2016	6.00	4.29	-2.20

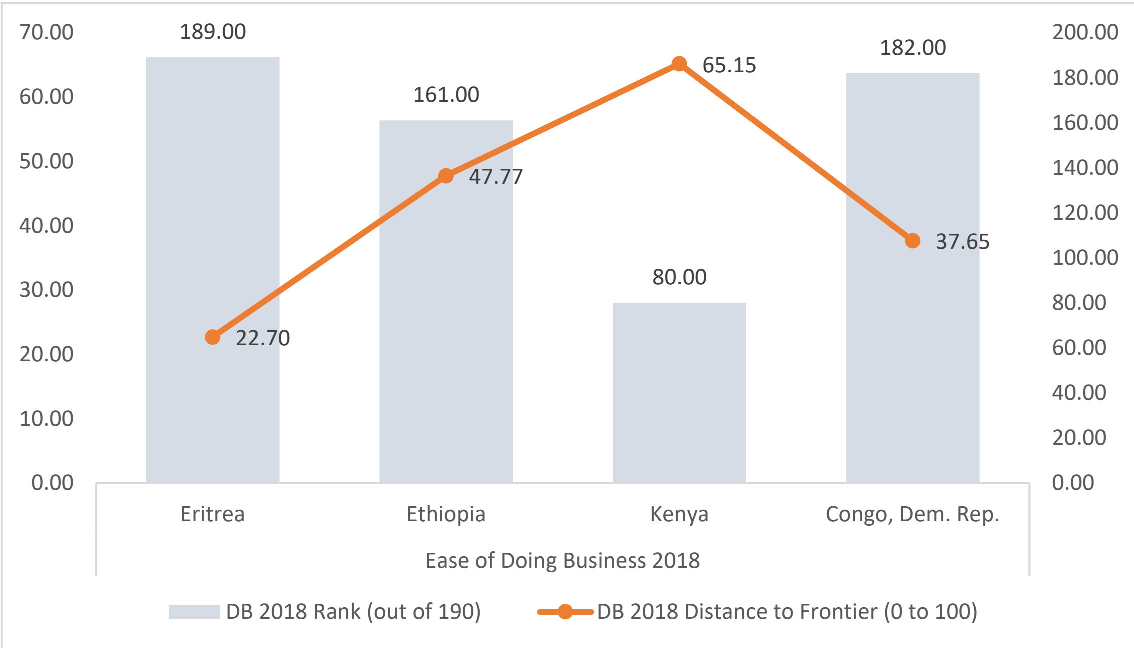


Figure 12: The World Bank: Ease of Doing Business Dataset, DB Rank (out of 190): The closer to 1, the better. DTF Rank (0 to 100): The closer to 100, the better. (The World Bank, 2018)

For Table 2: The World Governance Indicators Dataset), Number of data sources on which estimate is based, Percentile rank among all countries (ranges from 0 (lowest) to 100 (highest) rank), Estimate of governance (ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance), shows, Government Effectiveness, Control of Corruption, Regulatory Quality and Political Stability and Absence of Violence/Terrorism.

In 2016 Kenya and Ethiopia have the highest rankings (out of 100) respectively in *Government Effectiveness* at a rank of 41.35 and 28.27, whereas Eritrea at a low 3.37. Compared to 2011 the rankings increased for Kenya from 35.55 and dropped for Ethiopia and Eritrea from 39.34 and 5.21. Eritrea's ranking in 1996 was 3.56% more than 2016.

These changes explain how Kenya's GDP per capita increased in parallel years especially in 2010 when Kenya adopted a new constitution (Kenya, 2010) , the constitution introduced a new upper house; The legislature and increased the qualification requirements for candidates of the Executive and the Judiciary. It also separates powers between the three arms of government, Executive, Judiciary and Legislature. These changes coupled with other addressed issues enables decreasing corruption as reflected in the indicator *Control of Corruption* at rank 16 for 2016 in Table 1, maintaining political equilibria and solving conflicts of land-grabbing and tribalism. All of these changes attribute to mobilising political institutions as a key factor to pertain political equilibria in a country as (Robinson, Acemoglu, & Johnson, 2005) claim that is the largest factor of conflict in economic transactions. Kenya further proves its' state of growth as observed in the *Ease of Doing Business Rankings* in Figure 12: The World Bank: Ease of Doing Business Dataset, DB Rank (out of 190): The closer to 1, the better. DTF Rank (0 to 100): The closer to 100, the better. as it ranks at a high 80 (out of 190, the closer to 1 the better) and is at a 65.15 Distance to Frontier, meaning doing business in Kenya is highly encouraged by a multitude of institutions. This positive increase is confirmed by looking at the Regulatory Quality ranking of 41.03, and governance score of -0.30, compared to the other three countries that is relatively high, but to gain more foreign investment a higher score should be achieved.

The Democratic Republic of Congo's *Government Effectiveness* rankings increased from 1.90 in 2011 to 5.77 in 2016 and these changes are reflected in GDP per capita increases over the years, some of the reasons it increased was because of implementing new policies in 2001 which were used to break hyperinflation and stabilize the exchange rate. The government collected more taxes to invest in infrastructure and logistics and they enforced hard governance deadlines to ensure the completion of public enterprise audits. (Democratic Republic of The Congo: Country Assistance Framework, 2010). The Democratic Republic of Congo was able to increase GDP per capita growth annual % from 5.9 in 2001 to 11.4 in 2005, confirming the argument (Hausmann & Rodrik, 2003) made that sound policies and good governance are another immediate driver of growth. However, The Democratic Republic of Congo is a complex environment to analyse. The country has had countless wars in the years since it has gained independence and those wars are mainly due to conflict over resources like copper, cobalt and coltan, and especially coltan which is a mineral highly used in mobile phones, laptops and computers (Sutherland, 2011).That is why The Democratic Republic of Congo is still considered one of the poorest countries in the world and you can see that the degree of conflict impact is reflected in the indicator *Political Stability and Absence of Violence/Terrorism* at a staggering rank of 4.29, meaning formal political institutions are working inefficiently to improve economic growth an immediate and high yield. In addition to this, Congo performs poorly in all other World Governance Indicators compared to the other three countries and especially in the *Doing Business Rankings*, it is the second lowest compared to Eritrea in 2018, at 182 out of 190 and a Distance to Frontier of 37.65 which is pretty far from the top.

As for the case of Ethiopia and Eritrea, they have both experienced more than 20 years of war with each other and within their own borders as a result of ethnic disparities. On one side Ethiopia scores fairly higher than Eritrea in the *Government Effectiveness Indicator*, *Control of Corruption* and *Regulator Quality*, on the other side Eritrea scores the highest out of all four countries in the *Political Stability and Absences of Violence/Terrorism.* Both countries are affected by severe famines and droughts, however, with the help of international aid and large investments in infrastructure projects, Ethiopia and Eritrea have both been able to survive. Ethiopia's economy was hit pretty bad in the 1980's when HIV and a famine took the lives of many people and left the economy dry, military spending under the Derg also contributed to the low GDP per capita rates which Ethiopia was experiencing for more than 10 years, and that's why before the late 2000's you will see in the GDP per capita indicator that Ethiopia was experiencing a very slow growth rate. When the Ethiopian People's Revolutionary Democratic Front (EPRDF), gained power in 1991 after battling the Derg, under the reign of Mengistu Haile Mariam who took the lives of many without trial. The EPRDF encompassed many ethnically diverse political parties which ensured a democratic political system consisting of four main parties based in the Oromo, Amhara, Tigre, Southern Nations, Nationalities and Peoples Regions. For other regions in Ethiopia, the EPRDF works closely with parties that are influenced by them and ensures an ethnically inclusive structure. This is very important as we have already argued in the literature review the importance for Africa to grow by adopting strong and dynamic institutions able to adapt to a variety of ethnicities. GDP per capita after the EPRDF took office confirmed that strong institutions with a politically stable environment enhance economic growth, as you can see in the mid 2000's Ethiopia went from being one of the poorest countries in the world to achieving a high growth rate within a short period of time. It has been able to do so by investing into technologies that assist farmers maintain agricultural profit and publish agricultural protection policies for greater production. 60% of the GDP per capita depends on the agricultural sector, therefore, Ethiopia has also aimed at diversifying its GDP portfolio through financial intermediation in service-based jobs and empowering youth for education and employment. It is worth mentioning that Ethiopia's innovation has enabled it to become one of the first African countries to establish a commodity exchange (Everitt, 2012). The commodity exchange has given farmers as well as distributers the transparency of price, quality and good governance to participate in the market. In less than four years, the Ethiopia Commodity Exchange was able to access 2.4 million farmers at a market capital of 10 million $ (US). This performance is indicator in the Distance to Frontier of the Ease of Doing Business Rankings as Ethiopia is just after Kenya with a 47.77 DTF.

As close as Ethiopia and Eritrea are at the borders, however, their indicators and growth performances vary vastly. While Ethiopia was experiencing turbulent times between the 70' and 80's, Eritrea's GDP per capita was definitely higher. However, in 1997, a famine struck Eritrea leaving it completely devastated and GDP per capita dropped, since then it has been difficult for Eritrea to climb back up and there is not enough empirical data to see its growth pattern. The effects of the events that occurred in 1997, are reflected in the World Governance Indicator's and Doing Business Rankings, as you can see for all scores except *Political Stability and Absences of Violence/Terrorism* Eritrea ranks very low. The poor performance of Eritrea could be attributed to harsh conditions imposed on them during Italian colonization which occurred from 1882 to 1947 and Ethiopian annexation which occurred from 1952 to 1962. Eritreans were not able to operate political and economic institutions and many people were separated from their families as a result of that. The inhibition of people to attend schooling (in the form of home and institutional education) also attributed to the skills gap which was needed to uphold the agricultural highlands of the north. As a result, GDP per capita suffered as the agriculture production wavered and you will see in Figure 7: School enrolment, primary and secondary (gross), gender parity index (GPI), 1961-2017, that since its' independence in 1991 school enrolment rates steeply increased until 2014. Eritrea is still on its' way to recovery; however, it is currently under a single party presidential republican totalitarian dictatorship, which makes it hard for people to live in Eritrea and many seek refuge as a result.

As we tried to bring forth indicators that are internationally used, we also seek knowledge from local sources of information, in a study of its first kind (Measuring political and economic institutions in Ethiopia: c.1888-2016, 2017), the author brings forth data for the first time in Ethiopia's history in the form of political, civil rights and land rights. The results are based on information extracted from legal texts and historical records written in Ge'ez, Amharic and other ancient/tribal languages. (Bedasso, 2017) attempts to quantify legislative measures to show the differences between *de jure* Ethiopia and the modern state, this paper finds that there has been an improvement of political institutions since the end of the 20th century as political parties formed and that land rights have been more extensively improved since the 1960's but at the expense of political voting rights. The author also focuses on the importance of identifying *de facto* and *de jure* institutions and provides a blueprint table of the regimes and institutional types in the figure below.

	1900-1935	1936-1941	1942-1960	1961-1974	1974-1986	1987-1991	1992-1995	1995-2005	2006-present
Regime name	The Solomonic dynasty	Italian occupation	The Solomonic dynasty		Derg's regime		EPRDF's regime		
Regime type	Absolute monarchy		Absolute monarchy		Communist dictatorship		Partial democracy		
Defining feature	Formative age of modern Ethiopia		Restoration and consolidation	Reform and rebellion	Military rule	Belated effort at institutionalization	Transition	Reluctant liberalization	Retreat to de facto one party state

Figure 13: The periodization of political regimes and major developments, (Bedasso, 2017)

As you can see the figure provides an idea of the defining feature of the effects of each regime and the type of institutions they brought on, he refers to the institutions pre- Derg regime as *de jure* institutions and during the regime a start of *de facto* institutions. While this is a major breakthrough for institutional economics studies, we feel there is still a need to further investigate these claims, as the ancient political structures could also contain *de facto* institutions coined to terms at those times. This study is very interesting and provides a roadmap to other African countries with an interest in identifying their own trajectories, especially confined within the space of ethnic federalism. Ethiopia is a great example of a democratic social party system ruled by ethnic based classes, their levels of violence lower compared to other ethnically diverse countries like Kenya, especially during election season.

6.2 Effects of Ethnic Fractionalization on Growth and Development

As mentioned in the literature review, (Easterly & Levine, 1997), (Posner, 2004) and (Montalvo, José, G.; Marta Reynal-Querol, 2005) look into the effects of ethnic fractionalization. However, there seems to be no reliable indicator that international organisations such as the World Bank or the OECD can use to justify or explain differences in income distribution, wealth, access to resources based on ethnic diversity. (Alesina & Ferrara, 2005) attempt to explain differences in income inequality based on ethnic diversity but fail to find a strong relationship between the two and therefore suggest using the OECD's GINI Coefficient as a descriptive analysis for income inequality. The only problem with the GINI-coefficient[7] is that it is based on regions and not ethnicities, hence keeping a bias on ethnolinguistics. In a study released in July 2018 by (Gershman & Rivera, 2018) they test testaments that the previous academics have made by running regression models of the Ethnolinguistic Fractionalization (ELF) and Ethnolinguistic Polarization (ELP) indices against several factors which include access to health, education, electricity and lights, levels of income per capita, wealth and religious diversity. The paper introduces a new dataset that is collected from official censuses and household survey of 36 countries in Sub-Saharan Africa and covering 400 first-level administrative units. The dataset contains ethnolinguistic and religious variation data for each region of the 36 countries. The study finds that when ethnic group data is aggregated, there are stronger relationships between ethnic diversity and differences in access to education, health facilities and electricity, especially when the regression data is adjusted to linguistic distances. However, for levels of income per capita and wealth, the GDP per capita data of the countries is incomplete and does not give a strong indicator of its relationship with aggregate data for ethnic groups, but it suggests that the different levels of income per capita are not necessarily driven by a selected subset of regions. The authors attempted to overcome this hurdle by measuring house-hold level according to the international wealth index (IWI) which is usually used for low and underdeveloped

[7] Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. https://data.worldbank.org/indicator/SI.POV.GINI

economics, but the authors conclude that the results are yield largely insignificant results and prompts a warning against using generalized indices for regional development measurements.

Table 3: Countries, regions, and ethnolinguistic groups, Appendix A. (Gershman & Rivera, 2018)

Country	Regions/Groups	Boundaries	Country	Regions/Groups	Boundaries
Angola	18/10	Current	Kenya	8/29	02/2013
Benin	12/8	Current	Liberia	15/17	Current
Botswana	9/15	Current	Malawi	3/8	Current
Burkina Faso	13/27	Current	Mali	9/16	Current
Cameroon	10/43	Current	Mauritania	13/4	10/2014
Central African Republic	17/9	Current	Mozambique	11/22	Current
Chad	20/19	08/2012	Namibia	13/14	07/2013
Republic of the Congo	12/11	Current	Niger	8/8	Current
Côte d'Ivoire	19/50	08/2011	Nigeria	37/192	Current
Djibouti	6/3	Current	Senegal	11/18	08/2008
Equatorial Guinea	7/5	07/2015	Sierra Leone	4/15	Current
Eritrea	6/10	Current	South Africa	9/11	Current
Ethiopia	11/64	Current	Swaziland	4/3	Current
Gabon	9/8	Current	Tanzania	21/98	04/2002
Gambia	8/9	Current	Togo	5/5	Current
Ghana	10/38	Current	Uganda	4/39	Current
Guinea	8/6	Current	Zambia	9/33	10/2011
Guinea-Bissau	9/13	Current	Zimbabwe	10/19	Current

The table shows the number of groups per region, most of the country datasets are based on current boundaries, as you can see for the countries we focused on in our thesis, there are:

1. 11 different ethnic groups in 12 regions of the Democratic Republic of Congo
2. 64 different ethnic groups in 11 regions in Ethiopia
3. 10 different ethnic groups in 6 regions in Eritrea
4. 29 different ethnic groups in 8 regions in Kenya, however this data is based on boundaries of 2013 and requires to be updated.

As there are no standardised indicators so far used by international development organisations, we would therefore look at the *Political Stability and Absence of Violence/Terrorism* as an indicator of the different number of ethnic groups and their effects on growth and development. Therefore, we mapped the GDP per capita vs the World Governance Indicator Political Stability and Absence of Violence/Terrorism as in the figure below.

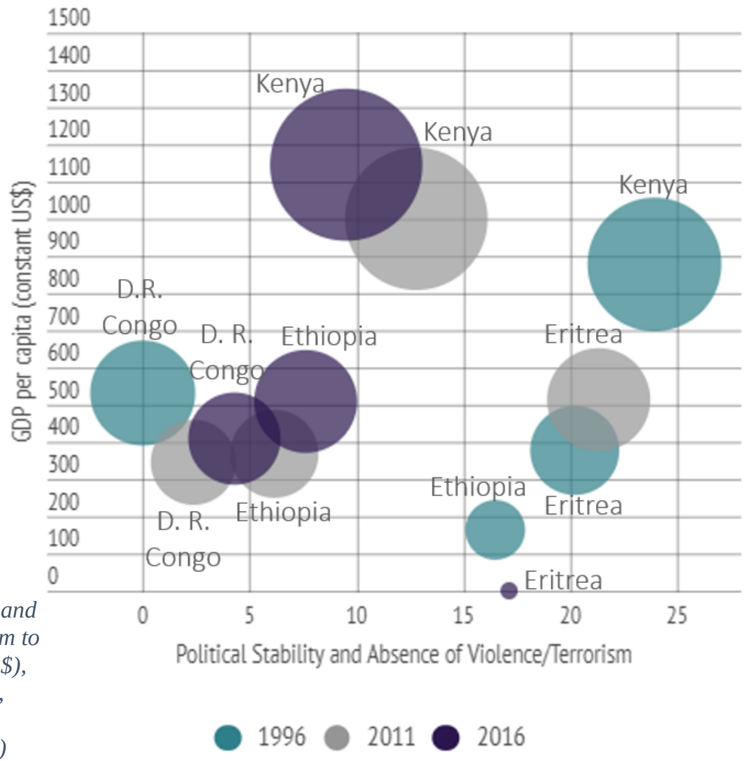


Figure 14: Political Stability and Absence of Violence/Terrorism to GDP per capita (constant US$), 1961-2017, (The World Bank, 2018), Dataset: (World Governance Indicators, 2018)

As you can see, the rank of the countries in 2016 has decreased significantly compared to 2011 and 1996. The data shows that Kenya has the highest GDP per capita out of all four countries but there are irregularities with the size of GDP per capita and the level of *Political Stability and Absence of Violence/Terrorism.* The rank of this indicator differs inconsistently when comparing 1996 and 2016, but for the years 2011 and 2016, the data seems to be similar. When comparing data for only 2011 and 2016, there seems to be a positive correlation between Size of GDP per capita and rank of *Political Stability and Absence of Violence/Terrorism* especially for the Democratic Republic of Congo, Ethiopia, and Kenya. However, since this hypothesis requires further empirical research to test for indirect causes for increase or decrease of the indicators rank and effects on GDP per capita.

6.3 Effects of Colonization on Growth and Development

In general, Africa's growth has compared favourably with that of other developing regions. According to the analysis displayed by GDP per capita (constant US$), Life Expectancy at birth, total (years), School enrolment, primary and secondary (gross), gender parity index (GPI), and Mobile cellular subscriptions (per 100 people) indicators, we see great progress in both colonized and non-colonized countries. In as much as Africa was a poor continent, we still argue that the standard used to measure wealth and poverty varies. Wealth in Africa was measured in form of cattle, number of children, number of wives, cowrie shells, wrappers and the amount of food you had in your granary (Culture, Gender and Development, 2001). Chinua Achebe, in his book (Things fall apart: a casebook., 2003) narrates how important having yam in the granary during all seasons was and only a few hardworking men could afford this. How then, could we accept different measurement standards to define the level of poverty and wealth in a totally different society?

Nevertheless, interpreting the impact of colonialism on countries' performance should not just involve raw numbers but should also consider the counter-factual. As much as authors like (Pheko, 2012) and (Hill G. , 2009) amongst others, argue that colonialism brought more harm than good, raw numbers and facts proves otherwise. Because of colonization, literacy levels have increased, poverty reduced, and life expectancy increased in Kenya and DR Congo. The GDP growth in the colonized states as discussed in chapter five has been able to grow because of the institutions laid forth by the Europeans before they left. Pre-colonial history shows us evidence of progress because of the countries' pioneering abilities, but also several setbacks because of the hard conditions that the population faced during that time (Production Systems in Pre-colonial Africa, 2015). Before and during the 19th century, African inhabitants had different social, economic, and political activities, mainly shaped by the environment they lived in. Yes, they did have different forms of school, medicine and economic activities, but still, their institutions worked for them.

Education in the pre-colonial period was a very important institution. As much as there were no physical classrooms, children and teenagers were taught orally by their elders. Children were taught how to obey their parents and their elders, how to conduct themselves in the presence of visitors and how to carry out their tasks, mainly by their parents or older siblings. Adolescent girls were taught by their mother, aunties, or grandmothers how to cook, take care of children and husbands and most importantly, how to be a good wife. Boys on the other hand were taught by their fathers, uncles, or grandfathers how to build houses, hunt, fight and perform other manly duties. Lessons were carried out around the fire, mainly at night after dinner, or randomly during the day when they had the opportunity to watch their elders. Learning happened through observation, participation in work, legends, proverbs, songs and riddles. Children also learnt proper age communication and common values, with more education happening during initiation into adulthood. Key teachers were selected from very knowledgeable men and women in the society and training was considered a collective community responsibility (Countries and Their Cultures, 2018). As much as education was carried out differently, important information was passed on and made known to everyone.

In the late colonial and post-colonial period, educational development has been characterized by provision of technical and professional instruction, massive expansion at all education levels, for instance, Gender parity index in Kenya, Ethiopia, Eritrea and DR Congo in 2009 recorded 0.95, 0.90,0.80 and 0.78 respectively, (The World Bank, 2018) and some Africanization of the curricula. The impact of formal education introduced by colonialists has weighed positively on these countries. Education has enabled the possibility of more innovation and overall higher productivity. It has also facilitated faster introduction to new technologies, like mobile cellular data accessibility, which averages to about 45 per 100 people in Kenya, Ethiopia, Eritrea and DR Congo, and which has improved the lives of citizens. For instance, Agriculture, for instance, was mainly subsistent, medicine and technology not advanced and infrastructure basic.

With formal education, technical advanced skills like engineering, architecture and medicine has been introduced and learned by Africans. Barbaric traditions like killing of twins in Nigeria and animal sacrifice during drought has been abolished (Soetan, 2001). Africans have been able to acquire more knowledge that has enhanced their lives, for instance, sex education has helped create awareness and curbed the spread of HIV/Aids, education on environment has enlightened Africans to preserve nature, for example, tree planting has been embraced rather than sacrificing animals to the gods for rain. Medicine is also advanced and as a result to this, population has increased and diseases such us as cholera and Ebola are under control now. Infant mortality rate has decreased, and most women now give birth in hospitals, where precaution measures are taken to save the lives of their new-borns This is credited to strong and effective political and economic institutions. Life expectancy has been on the rise and modern hospitals built in all the countries. Agriculture has advanced due to new research and technologies and has been amongst the main economic drivers. Women empowerment also rose because of formal education and colonization. Ethiopia and Eritrea may not have been colonized but they still had western influence. Their school system and curriculum are similar to the western school system, and it can still be concluded that they borrowed a lot from their colonized neighbouring countries like Kenya and, from the Italians themselves. The question of what school system is the best, still remains debatable. African school system, despite being totally different and structured from the European school system, still worked and held the community and society together. Skills such as building huts, hunting, trading and homemaking were passed on smoothly and were tailored to the needs of the society at that time, and therefore we cannot argue that European education was much more superior than African education. As much as writing, a skill foreign to most Africans during the pre-colonial period was considered superior, we also need to acknowledge that history and culture was still preserved and passed on successfully orally. Culture and rules were engraved in the hearts of Africans and they did not have to refer to any written materials for them to remember how to act.

Before colonization, GDP was not recorded and formally measured. This did not prevent Kingdoms from running smoothly and surviving harsh weather conditions that would affect their livelihood (Africa´s Future Darkness to Destiny, 2012). Their economies were not advanced and diverse and economic activities were largely subsistent in nature, characterized by varying combination of fishing, hunting and gathering and shifting cultivation. Some kingdoms example the Kongo kingdom was endowed with resources and minerals that were never exploited. Farming was the main economic activity, and was fuelled by the discovery of iron tools, which made it simpler. Agricultural technology was simple and domestic livestock was limited to chicken, goats and sheep. Due to lack of modern machinery and inputs, they were at the mercy of the weather and land. Minor changes in weather would cause severe effects on people´s livelihood (Green, 2015). With colonization effects, economies have become bigger and more productive. Agriculture is practiced in large scale and cash crops are one of the main economic drivers. GDP is now recorded formally, and countries can track their performance and make room for improvement. The economy has also expanded and activities such as mining, and service has been introduced in large scale and are contributing largely to the countries' GDPs. Ethiopia and Eritrea, non-colonized countries, have embraced similar technologies that were introduced by colonialists. There is not much difference in the trends of GDP growth in colonized and non-colonized states, for instance. Ethiopia, just like DR Congo had a very low GDP growth in the 1980's, and just like Kenya, Ethiopia's GDP has picked up as from the 20th century. DR Congo, a Belgian colony started off well in the 1960 but has witnessed negative growth and has just started picking up once more. Kenya has managed to maintain a constant growth in GDP as compared to the other countries, because of peace and working institutions. Technologies such as mobile cellular subscription cannot be credited fully to colonization, but the fact that telephone technology was introduced by Europeans, cannot be assumed.

According to the measurable statistics and indicators discussed in chapter five, it is evident that colonization has brought more positive than negative effects. As much as it is argued that Africans were given low quality European education got low quality education and the colonialists made sure that they only got certain skills that would not be a threat to them, it is the same foundations of the European education that has introduced Africa to modern technology and medicine, which has boosted their economies. Yes, Africa had existing social, economic and political institutions, which were well defined and organized, but the systems did not show any signs of improvement, even if they did, it was very slow, for instance the discovery of iron tools by the Bantus that revolutionized Agriculture. Even after the discovery, agriculture was still carried out in small scale and did not help erode hunger during the dry seasons (Production Systems in Pre-colonial Africa, 2015).

Considering that the missionaries came before colonialists and had already established schools and churches can be proof that Africa could still have accessed modern technology even without colonization. Africa itself is a rich continent endowed with natural resources that would be traded for modern technology and education. Europeans invading Africa and forcing them to adapt to their ways rushed Africa into a totally new light, without preparation. Technology and innovation would have been embraced best without force and war. For instance, the missionaries managed to convert several Africans to Christianity and persuade them to join school. Chinua Achebe narrates in his book ‘Things Fall Apart’ how fast people converted to Christianity in Nigeria and how they embraced education introduced by the missionaries. Religion was and is still a highly respected institution (Study Lib, 2018) and if technology continued to spread through the missionaries, the probability of it diffusing even faster would have been high, because Africans viewed religious leaders as trustworthy and right. The more colonialists invaded Africa and used force, the more people resisted and resented their ways. Most parents would not take their children to school because they feared that formal education would turn them away from their traditional ways.

After independence, DR Congo experienced economic shocks we see African economies depreciating and wars and conflicts crawled crawling in and formal institutions shut down completely. Kenya on the other hand, has made continuous progress but at a very slow rate and has also been affected by internal wars, corruption and economic shocks (Study Lib, 2018). This, from our understanding can be attributed to colonization. As discussed in chapter four, (Hill G. , 2009) attributes war and conflict to psychological and physical effect of colonialism, which led to trauma and victimization amongst Africans and manifest itself in forms of genocides. Europeans left abruptly, and Africans were not prepared enough to run the systems that had been established by them. State and country heads and ministers were educated and experienced and when they were leaving, power was handed over to Africans who were not as experienced as them. This would and did affect African economies as corruption crept in, institutions run down, and law and order abandoned. We attribute these happenings to non-familiarity of the new systems by African leaders. Most leaders who took over were used to totally different systems. If Africa was left to develop at its own pace, we believe that the continent would have not gone through the negative effects of colonization such as exploitation, killings, psychological and physical effects, amongst others, as discussed in chapter four, yet modern technology and education could have still been introduced, even though at a much slower pace. Ethiopia and Eritrea, non-colonized states, are not exempted from problems that colonized states face like wars and conflict, hunger, poor economic performance etc. The fact that they had interacted with the Italians who tried colonizing them and being surrounded by colonized states have influenced their institutions, culture and management. How Africa would have turned out to be if they were not colonized remains a mystery. Would actual schools and classrooms be introduced? Would the telephone and modern technology be discovered by the Africans or would it be diffused from more developed countries? With writing already discovered in Ethiopia even before the Europeans stepped in, we believe that Africans could have invented technology just like the outside world did, even though it would take longer.

7 Conclusion

This study has examined the interconnection between institutions, colonization, ethnic fractionalization and polarization and economic growth and development in colonized and non-colonized countries by questioning their effects on economic development. As much as most attention is only paid to economic factors that contributes to development, this paper has focused on more perspectives and contributors to economic growth. African countries tend to have the same development and growth patterns, which have in many occasions been attributed to their poor leadership. We therefore were interested to find out if African economic growth is totally influenced by outside forces or if the power to change their economic situation lies within them.

From our findings and research, we realize that as much as colonization and ethnic fractionalization and polarizations interrupted and affected African development, the continent still has the power to establish strong and sound institutions that will ensure development and stabilize their economies. Institutions are the backbone of the countries' economies and as long as they are respected, economies are automatically boosted. Constitutions and well-defined laws do exist in all these four countries but the question of when they will be completely respected still exists. Until these institutional reforms are effectively imposed, economic growth will continue to lag. Ethnic polarization, which is termed as tribalism at times, has also played a big role in hindering economic growth in Africa. Due to limited and undocumented data, we were unable to incorporate all the possible negative effects that ethnic polarization has caused on economic growth. Africa is a diverse continent with multiple ethnic tribes and the sooner they unite to develop their countries, the more productive their economies will be. Political leaders may often use tribal identities to divide the country leading to war and drop of economic growth overall, but with increased school enrolment and access to education, we predict that tribalism, corruption and conflicts will decrease.

Colonization may have proved to have brought more positive than negative effects, according to existing data, however we argue that Africa would have still likely accessed the technology and positive effects that came along with colonization, without having to experience the dark sides of it. Nevertheless, we give an overview of the facts and mechanisms as well as attempt to give qualitative and objective views of what we believe is true. African countries, based on the analysis done on Kenya, Ethiopia, Eritrea and the Democratic Republic of Congo, tend to have similar institutions, problems and structures, despite being colonized by different powers or not being colonized at all. We tend to link these patterns to similarities in cultural origins that cut across all the countries. Africans are mainly of the Nilote, Bantu, or Cushite origin, and Kenyan citizens for example, are either from these three groups, while Ethiopia and Eritrea are majorly Cushite and Congolese, mostly originate from Bantus. In general, this makes it easy for culture, institutions and structures to diffuse. Colonized countries (Kenya, DR Congo and Eritrea) may have faced slightly different problems during the colonial era, like forced labour, killings and displacement, however, after independence, their trajectories compared to those of non-colonized countries, had similar paths (Ethiopia and Kenya). This still does not justify the argument that colonization brought along more good than harm. As much as existing data shows that colonization stirred African economy, we still believe that it was not necessary, and Africa would have done much better without being colonized, even though it would have taken longer for the region to develop.

Our conclusions are that the case of optimists on the impact of colonization has more quantitative data but that of pessimists still outweighs it as there are clear cases to prove that colonialism did not just disrupt African development and settlement, but it also led to killing and psychological torture, which still affects the countries to date. However, we still find it difficult to totally overlook the tremendous positive effects that came along as a result of colonization. In this case, we tend to uphold the fact that human lives and welfare is much more of important than a rich economy.

We make these arguments accepting that Africa was technologically disabled and poorly developed compared to European standards, but we do not totally agree with the notion that Africa was poor, because poverty and wealth were measured using different standards amongst Europeans and Africans in the pre-colonial period. Nevertheless, now that Africa has been westernized and has adapted to colonial systems and institutions, we acknowledge the fact that it can be considered poor, because it uses similar standards to that of the colonialists to measure poverty and wealth. Other parts of the world for instance Japan, Latin America and Thailand were also considered underdeveloped but are much more prosperous than Africa today.

It is possible for Africa, specifically Kenya, Ethiopia, Eritrea and the Democratic Republic of Congo to change and honour their institutions and move on to better development paths, though it is not fully inevitable that they will do so. Colonization brought with it benefits in terms of technology and implantation of modern institutions, yet, colonised countries have seen slow growth rates due to indirect inhibitors and as a consequence racism, tribalism, discrimination and inequality seriously warped economic and political institutions from performing efficiently. These indirect inhibitors resurfaced when colonial powers left, and many negative side effects like civil wars over land and conflict over incentives appeared and to much dismay outweighed the possibility of accelerated upward economic growth. However, this means for the future Africans, there is a gap to fill, and with proper policy implementation and reforms, colonised countries will be able to thrive.

8 Limitations

The scope of this research was limited to both qualitative and quantitative data. Currently existing quantitative data focuses mainly from the 1960's, i.e. after most African countries gained independence. Moreover, quantitative data is still not consistent even after independence as pre-colonial data is uncounted for, and the most up to date data was also difficult to find, for example, Kenya's school enrolment, primary and secondary (gross), data was lastly recorded in 2009 and Eritrea's GDP per capita (constant US$), in 2012. The inconsistency of data recorded over the years made it difficult for us to analyse the real trends as we had to use assumptions based on past and present data for some years.

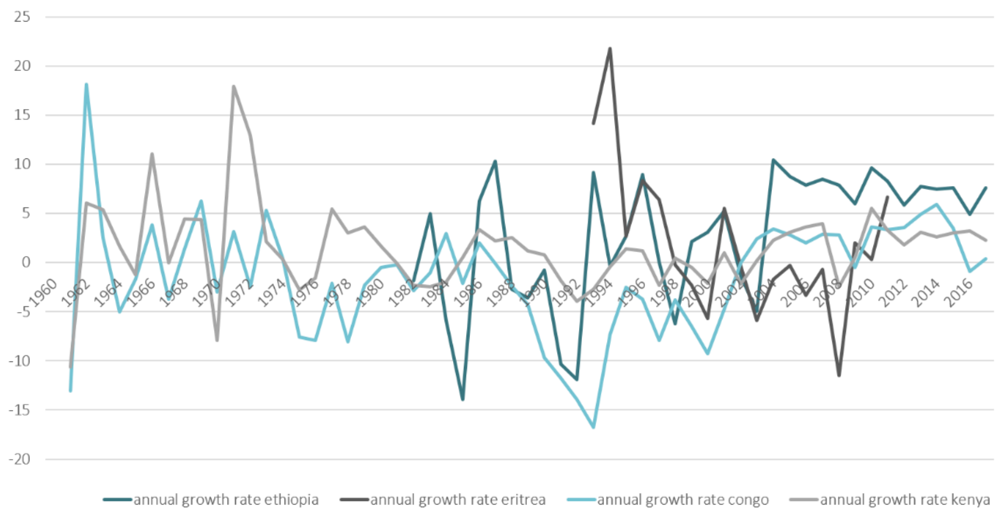
Most qualitative data, especially on pre-colonial Africa has not been collected as there is a limited number of authors who have published literature reviews and the authors from recent times have similar views to those of the past, showing that not so much research is being done on African history. Some data, which is worthy to research is written in other languages such as Amharic, Tygre and French, this poses an issue for non-fluent speakers and especially a limitation for literature contribution to influential journals as most Economic and Political journals are written in English.

We also noticed that most research, papers and reports have been written by non-native people and from our point of view, we would have gained better insight on the research if we had native authors, because the perspective they would be writing from would be different. Doing comparisons of the past and present economic states was also challenging because of lack of documented data for pre-colonial Africa. As one of our authors, Mabel Ollimo is of African origin, she had more knowledge and first-hand information passed down to her from her grandparents and parents about African traditional societies but arguing this information out was challenging because of lack of documented data that could back it up.

Time was also a limitation to us because this topic is complex and given more time, we would have incorporated more data and arguments. Also, we were unable to gain access to databases and libraries designed specifically for the archive of African data and literature, and therefore we had to use the limited materials that we accessed.

9 Appendix

9.1 GDP per capita Annual growth (constant US$)



10 Table of Figures

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